



**cmatic**<sup>®</sup>  
P N E U M A T I C F I T T I N G S

技术样本  
TECHNICAL CATALOG

2026



FITTING

WE BUILD  
FITTINGS

***cmatic***<sup>®</sup>  
PNEUMATIC FITTINGS



- MATIC -

1970



1980



1990

CN

Cmatic公司成立于上世纪70年代初，最初从事精密金属零件的合同制造。在短时间内，公司迅速从小型企业成长为全面发展的工业实体。尽管规模不断扩大，Cmatic始终密切关注市场需求的动态变化，致力于新材料研究和新产品开发。公司的核心业务最终定位在工业自动化接头的设计、开发与制造领域，形成了涵盖多种材料特性和气动应用功能的完整产品体系，同时始终保持着根据客户需求定制个性化解决方案的服务理念。

自1994年起，Cmatic已获得ISO 9001质量管理体系认证。2018年，随着管理体系的持续完善，公司又成功取得了ISO 14001环境管理体系认证和ISO45001职业健康安全管理体系认证。位于意大利工业核心区布里安扎的朱萨诺生产基地，占地面积超过8500平方米，年产接头产品达2000万件，涵盖40余个产品系列和超过5000种规格\*。

\*2024年数据





2000

2020

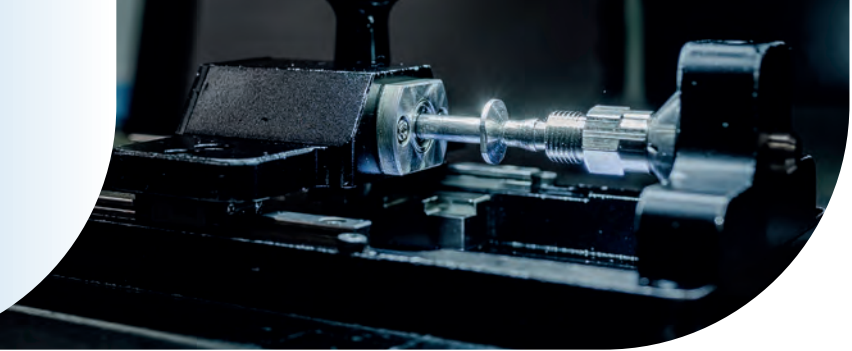
EN

Cmatic was founded in the early 1970s as a contract supplier of precision metal parts. In a short time, the company expanded and evolved from a small business into a full-fledged industrial concern. Despite its increased size, Cmatic never loses sight of the changing demands of the market and focuses its attention on researching new materials and developing new products. The company's core business therefore finds its definitive dimension in the Design, Development and Production of Fittings for Industrial Automation. This has led Cmatic to offer an extensive, complete range of products, both in terms of the variety of materials used and of functionality in every pneumatic application, all without neglecting our willingness to develop custom solutions in collaboration with our clients. Cmatic has been an ISO 9001 certified company since 1994. In 2018, thanks to the continuous development of its Management System, it also achieved ISO 14001 Environmental Management System certification and ISO45001 Occupational Health and Safety certification. The production plant in Giussano, located in the Brianza region of Italy's industrial heartland, covers more than 8500 square metres and produces 20 million fittings divided into more than 40 product lines and over 5000 configurations\*.

\* 2024 Data



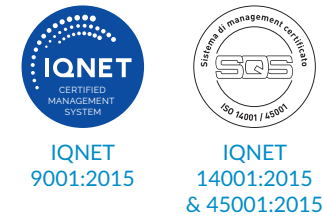
# 认证信息 Certifications



## 产品认证与合规性\* Product Certifications and Compliance\*



## 公司认证 Company Certifications



点击此处下载始终保持最新的认证文件  
Download the always up-to-date certificates here

\*与特定产品系列或单个部件相关的认证  
\* Certifications related to specific product lines or individual units.



CN

“我们的质量源于设计、创新与开发，更重要的是源于持续改进。在我们的实验室中，我们执行严格的产品质量测试，并持续开展研发活动，旨在为客户提供市场上最高标准的产品。”

01  
质量测试

02  
探索新应用

03  
新功能开发

04  
聚焦行业创新

EN

Quality made of design, innovation and development. And, above all, of continuous improvement. In our lab, we carry out stringent product quality tests and constant R&D activities to offer the highest standard on the market to our customers.

01  
QUALITY TESTS

02  
SEARCH FOR  
NEW APPLICATIONS

03  
NEW FUNCTIONS  
DEVELOPMENT


04  
FOCUS ON INDUSTRY  
INNOVATION



# EV10

页面 | Page: 218



 可选尺寸 : Ø 6mm - Ø 8mm - Ø 10mm  
Available sizes: Ø 6mm - Ø 8mm - Ø 10mm

CN

电子比例流量控制  
模拟/数字接口

重复精度:  $\pm 0.5\%$  满量程 | 灵敏度: 最大  $0.25\%$  满量程

电子流量控制器由一个电路板 (PCBa) 组成, 该电路板读取输入的电信号, 进行处理, 并驱动伺服执行器, 推动针阀在孔口内移动, 从而实现与输入信号成比例的线性流量变化。控制接口可为模拟信号 (0-10 VDC) 或符合 MODBUS RS485 协议的数字信号。

EN

Electronic Proportional  
Flow Control with dual Analog/Digital Interface

Repeatability:  $\pm 0,5\%$  f.s. | Sensibility: max  $0,25\%$  f.s.

The electronic flow control consists of a PCBa that reads an electrical input signal, processes it and operates the servo actuator that moves a needle valve inside an orifice to make a linear flow rate change proportional to the electrical input signal.

The command interface can be Analog 0-10 Vdc or Digital according to MODBUS RS485 protocol.



0°-50°C



Max 10 bar



# MV12 & MV21P

页面 | Page: 173 & 179

CN

## 新一代节流阀

Push-to-Lock 节流阀在操作便捷性和可靠性方面代表了当前的先进水平。Push-to-Lock 技术使手动调节流量更加快速，无需使用工具。紧凑型设计显著减少了产品整体尺寸，尤其在垂直方向上，调节流量时高度保持不变。高性能工程塑料本体替代传统金属结构，在重量方面实现了显著优化。

EN

## The new generation of flow controls

Push to Lock flow controllers represent the state of the art in terms of user friendliness and reliability. Push-to-Lock technology makes flow adjustment by hand much faster with no need for tools. The compact design reduces the overall product footprint especially vertically, no height changes during flow setting. The technopolymer body replaces the classic metal structure with consequent improvements in terms of weight.



## 特点



设定系统的人体工学设计  
Ergonomics of the setting system



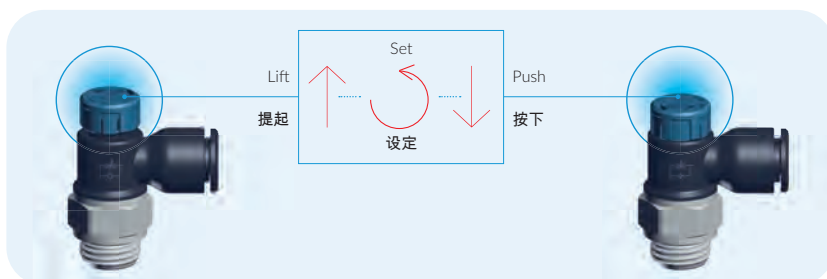
最小垂直占用空间  
Minimum vertical footprint



无需工具  
No tools needed



重量减轻超过 50%  
>50% weight reduction



# XT Clamp solution

MX/PX11 XT | MX/PX15 XT | CX11 XT | OX11 XT | GX30-10 XT | GX30-20 XT

CN

## 针对卫生级应用的卡箍解决方案

卡箍式接头是为所有需要原位清洗（C.I.P）卫生流程的应用场景打造的完美解决方案。该型接头的组装与拆卸十分便捷，无需使用任何工具。接头整体采用不锈钢材质制造，能够确保两个连接表面之间形成安全、光滑和一致的连接。

Cmatic在不锈钢接头与管件的制造领域拥有深厚经验，其产品尤其适用于严苛工况和腐蚀性环境。如今，我们自豪地推出全新产品系列——XT卡箍接头系列，面向制药、生物科技、化妆品、食品饮料、化工等所有对卫生等级有高标准要求的行业领域。XT卡箍接头的尺寸规格全面符合ASME BPE标准规范。

EN

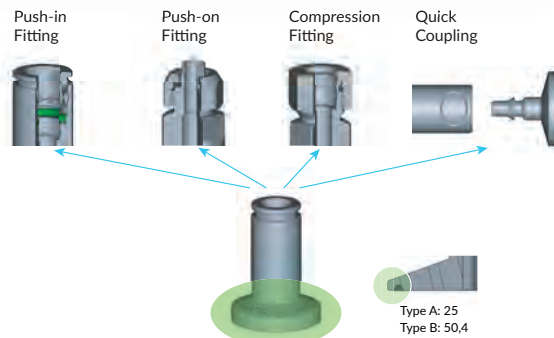
## Clamp Solutions for Sanitary Applications

The Clamp connection style fitting is a perfect solution for all applications requiring the Cleaning in Place (C.I.P) sanitation procedure. The assembly and disassembly of a Clamp fitting is very easy and does not require the use of any tool.

The fitting is made of Stainless steel only and guarantees a secure, smooth, uniform connection between two surfaces.

Cmatic boasts a long experience in the production of Stainless Steel fittings and couplings suitable for harsh aggressive environments and today is proud to expand the product offer to a new range, the XT Clamp line for Pharma, Biotech, Cosmetics, Food & Beverage, Chemical applications and in general all those market segments, where a high degree of hygiene is requested.

The dimension of the XT Clamp is compliant with the ASME BPE norm.



**i** 卡箍式接头的表面处理符合 SF1 级别标准  
The Clamp surface finishing matches SF1 Class



# MY LINE

页面 | Page : 230

CN

## PPSU 快插接头

MY 系列接头已通过 NSF/ANSI 169 认证，可安全用于与水、茶和咖啡的接触。

同时符合 欧盟法规 EU 1935/2004 (MOCA) 的相关要求。MY 系列接头采用 PPSU (聚苯砜) 材料制造，这是一种高性能热塑性聚合物，具有优异的热稳定性、化学稳定性和机械性能，非常适用于食品饮料、工业及医疗等领域。尤其值得一提的是，PPSU 材料出色的耐化学性和耐腐蚀性，使得 MY 系列产品在使用过程中可确保极高的耐久性、性能一致性，并完全避免污染和意外的化学反应风险。

EN

## PPSU Push-in fittings

MY range of fittings is 169 NSF/ANSI certified for contact with water, tea and coffee.

It is also compliant with EU 1935/2004 Regulation (MOCA). MY line of fittings is made of PPSU (Polyphenylsulfone), a high-performance thermoplastic polymer, well-known for its excellent thermal, chemical and mechanical properties that make it an excellent choice for Food and Beverage, industrial and medical applications. Especially the exceptional chemical and corrosion resistance of PPSU enables the MY line to ensure maximum durability, optimal performance consistency, complete absence of contamination and unwanted chemical reactions risks.



### 产品特点

### FEATURES



MY12



MY16



MY21



MY26



MY28



MY29

① 非常适用于半自动和全自动咖啡机  
**Perfect** for semi-automatic and automatic coffee machines.

② 耐用可靠  
**Long-lasting** and reliable.

③ 采用 PPSU 材质：具备卓越的热性能、化学性能和机械性能  
**Made of PPSU:** maximum thermal, chemical, and mechanical performance.

## 1 一般警告事项

- 1.1 选择合适产品并确认其与预期应用的兼容性,完全由系统设计人员/用户或定义该系统技术规范/特性的相关责任人负责。  
系统的运行与安全责任由确认产品兼容性的设计人员承担。  
设计人员有义务检查产品技术参数的任何变更,以防止系统出现故障或失效。  
为确保参考最新的技术数据,建议查阅 **Cmatic** 官方网站([www.cmatic.com](http://www.cmatic.com))上发布的在线目录。
- 1.2 请避免在存在腐蚀性气体、化学品、盐水、水或蒸汽的环境中使用本产品。  
如需在“关键”环境中安装,或与潜在腐蚀性液体接触的情况下使用,请参考本册第 16 页的化学兼容性表。该表列出了我们接头产品中使用的  
所有材料。  
如需识别各产品系列的具体部件,请查阅每个系列的介绍页面。  
表中信息仅供参考,材料的实际表现必须在实际使用条件下进行测试,因为温度、压力和物质浓度等因素可能会显著影响兼容性评估。  
化学兼容性表中的信息不构成任何合同义务,**C.matic** 明确声明不承担任何责任。客户仍有义务自行确认产品的适用性及其是否适用于预期应用。  
**C.matic** 保留随时更新和修改化学兼容性表中信息的权利,恕不另行通知。
- 1.3 产品运行期间,请勿长时间暴露于阳光直射下。;
- 1.4 请勿在存在强烈振动或冲击的环境中使用本产品。
- 1.5 请勿在靠近热源的区域安装本产品。
- 1.6 请勿使用目录中各系列产品技术规格所列以外的流体。
- 1.7 必须严格遵守目录中各系列产品所规定的压力和温度值。若在超出规定范围的压力和/或温度条件下使用产品,可能导致损坏或故障。
- 1.8 严禁拆卸产品或对其进行任何改装和/或加工。此类行为不仅会使产品保修失效,还可能影响产品性能,并对系统及操作人员造成潜在风险。
- 1.9 若产品使用不当,目录中的产品可能具有危险性。安装、调试及维护含有 **Cmatic** 接头的机械或设备,必须由具备经验和专业培训的操作人员进行。在系统未处于安全状态前,请勿进行维护或尝试拆卸产品。
- 1.10 若需拆卸产品,必须事先切断系统的所有电源(包括气源、电源等),并确保已采取上述安全措施。

## 2 产品正确安装的警告与说明:

### 2.1 外螺纹连接件

在安装带外螺纹的接头时,请遵循以下说明:

- 应至少手动旋入螺纹的前几圈,以确保其正确嵌入母螺纹座中。;
- 拧紧时,应使用与接头六角部位尺寸相匹配的扳手/工具。若为内六角结构,使用内六角扳手时需注意避免接触可能损坏的内部部件。
- 过度的拧紧力矩或在非指定部位施力可能导致产品损坏;因此,必须根据螺纹类型严格遵守以下规定的拧紧力矩值

#### A) 拧紧力矩 (Nm)

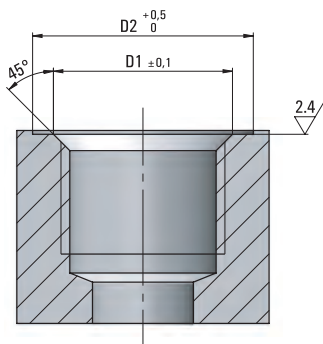
螺纹类型	标准规范	M3x0,5	M5x0,8	M6x1	M7x1	M8x1	M10x1	M12x1,25	M12x1,5	10-32	1/8	1/4	3/8	1/2	3/4
锥形气体螺纹 (带 PTFE)	UNI EN 10226-1										2,5	3,5	6	18	
NPTF 螺纹 (带 PTFE)	ANSI/ASME B1.20.3										11	12	13	18	24
平行气体螺纹 (带 O 型圈)	UNI EN ISO 228-1										1,2	1,5	2,5	3,5	
Easy thread	CMATIC										1,2	1,5	2,5	3,5	
聚甲醛树脂材质的平行气体螺纹 (带 O 型圈)	UNI EN ISO 228-1										1,2	1,5	2,5		
平行气体螺纹 (带塑料垫圈)	UNI EN ISO 228-1										2	3	4	8	
UNF 螺纹 (带 O 型圈)	ANSI/ASME B1.1									0,8					
公制螺纹 (带 O 型圈)	UNI EN ISO 965-1	0,5	0,5	0,8	0,8			1,5	1,5						
锥形公制螺纹 (带 PTFE)	UNI 7707			2,5		2,5	2,5								

MT、RT 和 VT 系列的拧紧力矩:  
请参阅技术目录中相关章节。

### 警告:带 O 型圈的直螺纹

在安装前,必须确保内螺纹已正确加工,以便与外螺纹上的 O 型圈实现良好密封。

下图显示了内螺纹所需的尺寸和表面粗糙度规范:



\*EASY Thread是由Cmatic根据其自身结构标准设计的通用螺纹。

螺纹类型	Ø D1	Ø D2	螺纹类型	Ø D1	Ø D2
G 1/8 - EASY 1/8*	10,3	13,5	M6x1	6,5	9,5
G 1/4 - EASY 1/4*	13,7	16,5	M7x1	7,5	9,5
G 3/8 - EASY 3/8*	17,2	20,5	M10x1	11,5	14,5
G 1/2 - EASY 1/2*	21,6	25,5	M12x1,25	12,9	15,5
G 3/4	27,4	32,5	M12x1,5	12,9	15,5
10-32 UNF	3,2	6	M14x1,5	14,9	17,5
M3x0,5	3,2	6	M16x1,5	16,9	20,5
M5x0,8	5,2	8,5	M22x1,5	22,9	27,5

### 2.2 预涂 PTFE 的锥形螺纹

对于预涂聚四氟乙烯 (PTFE) 的锥形螺纹,需要注意的是,螺纹的前几圈可能未涂覆 PTFE,但这不会影响螺纹的密封性能。

预涂 PTFE 的螺纹密封性始终取决于内螺纹的加工质量;因此,在安装外螺纹前,必须确保内螺纹符合规范。

预涂 PTFE 的螺纹最多可重复使用 5 次。每次装拆后,在再次使用产品前,应检查涂层状况,确保其完整性。

请注意,预涂 PTFE 螺纹最多可重复使用 5 次的前提是内螺纹的实际质量良好,并严格遵守推荐的拧紧力矩。

未遵守上述要求可能会显著降低产品的使用寿命及可重复使用次数。

系统的设计人员/使用者有责任确认 PTFE 涂层与系统及其运行条件的兼容性。

### 2.3 管路连接

当接头与管路连接后,安装完成后可能需要一定程度的方向调整,因此建议根据目录中提供的不同类型接头,选择最适合的型号:

- 可定向接头 (ORIENTABLE fitting): 仅在接头尚未完全拧紧前,允许将管路调整至所需方向。接头拧紧后,若需改变管路方向,必须先松开接头,再重新定位管路。
- 可调向接头: 管件始终可沿其轴线进行小幅度角度调节。不建议进行大角度旋转,特别是在高循环频率的工况下,此类操作会显著缩短接头的使用寿命。
- 旋转式接头 (ROTATING fitting): 管路可在高转速条件下自由旋转。

此分类在目录中每款产品的描述中均有标注,选择适合的接头类型以满足具体应用需求至关重要。若接头在不符合上述规定的使用条件下造成损坏或提前失效,制造商不承担任何责任。

### 2.4 载荷、振动或冲击

为避免因接头断裂和/或软管脱落而导致系统损坏,必须确保接头未承受任何载荷,且不受振动或冲击影响。

同时应确保接头和/或管路未承受拉伸力或扭转力。

### 2.5 清除异物

若产品未存放于原始密封包装中,使用前必须检查接头内部是否清洁,并在必要时通过吹气方式清除可能落入接头内部的污物。

请注意,大多数情况下,接头内部的 O 型圈已涂有润滑剂。任何附着在 O 型圈表面的异物都难以去除,可能会影响接头的气密性。

### 2.6 特殊警告

每个接头系列的章节中可能包含带有符号标识的专用警告和使用说明。 ⚠

### 3 产品存储:

产品必须存放在原始包装中,以保留所有与产品可追溯性相关的信息。

无论何种情况,产品都必须远离灰尘和湿气存放,并且严禁在阳光直射的环境中储存,因为这会导致产品快速老化,尤其是塑料和橡胶部件,从而会影响其功能和耐用性。

请注意,未经过任何电镀表面处理的黄铜接头在时间推移中可能会发生颜色变化。但这不应被视为产品缺陷,也不构成更换产品的理由。

### 4 产品包装与标签:

详见第14页的详细信息。

# General Instructions and Recommendations

EN

## 1 GENERAL WARNINGS:

1.1 Choosing a suitable product and checking its compatibility with the intended application is the sole responsibility of the system designer/user or whoever defines the specifications/technical features of the said system. Responsibility for the operation and safety of the system lies with the designer who has established compatibility with the product. It is the designer who is obliged to check for any changes in product specifications in order to prevent any possible malfunctions or failures in the system. To be sure to consult the latest state-of-the-art data, it is advisable to refer to the data in the catalogue published online at [www.cmatic.com](http://www.cmatic.com).

1.2 Avoid use in environments with corrosive gases, chemicals, salt water, water or steam. In the case of installation in "critical" environments or in contact with potentially aggressive liquids, please refer to the Chemical Compatibility Table on page 16 of this volume. This table contains a list of all the materials used in our fittings. To identify the specific items for each product line, the introductory page of each series should be consulted.

The information in the table is purely indicative and the actual behaviour of the materials must in any case be tested under the actual conditions of use, as factors such as temperature, pressure and concentrations of substances can lead to significant variations in compatibility assessments. The information contained in the Chemical Compatibility Table should not be regarded as a contractual obligation and any liability is expressly disclaimed. The Customer is not released from the obligation to check the suitability of the products and their suitability for the intended application.

C.matic reserves the right to update and modify the information in the Chemical Compatibility Table at any time and without prior notice.

1.3 Do not expose the product to direct sunlight for prolonged periods during its operation;

1.4 Do not use in places subject to strong vibrations or shocks;

1.5 Do not assemble the product in areas exposed to heat sources;

1.6 Do not use fluids other than those listed in the Catalogue specifications of each product series;

1.7 The pressure and temperature values given in the Catalogue for each product series must be strictly adhered to. If the products are used under pressure and/or temperature conditions outside the indicated range, this may lead to damage or malfunctions.

1.8 It is absolutely forbidden to disassemble the product or to perform modifications and/or reworkings on it. Any such actions, in addition to invalidating any product guarantee, may adversely affect operation and expose the system and users to possible risks.

1.9 The products in the Catalogue are potentially dangerous if used improperly. Assembly, commissioning, and maintenance of machines or equipment in which Cmatic fittings are installed must only be carried out by an experienced and trained operator. Do not service or attempt to remove the product until the system has been made safe.

1.10 If it is necessary to remove the product, ensure that the power supply to the system from any source (pneumatic, electric, etc.) has been cut off beforehand, and that the above safety measures have been implemented.

## 2 WARNINGS AND INSTRUCTIONS FOR THE CORRECT INSTALLATION OF THE PRODUCT:

### 2.1 Male threads

In case of a male threaded fitting assembly, please follow the instructions below:

- screw at least the first few pitches of the thread by hand to secure it in the female housing.
- to tighten, use a wrench/tool consistent in size with the hexagonal part on the fitting. In the case of an internal hex, when using an allenkey pay attention to avoid contact with internal components that could be damaged;
- excessive tightening torque or gripping in an area other than the one indicated may result in damage to the product; therefore, the following tightening torques must be strictly adhered to, depending on the type of thread:

#### A) Tightening forces (Nm)

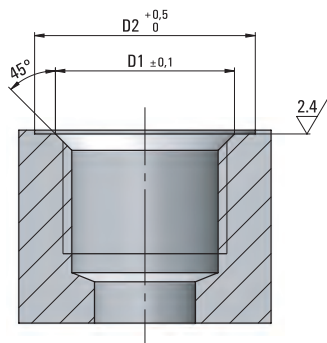
Thread	Standard	M3x0,5	M5x0,8	M6x1	M7x1	M8x1	M10x1	M12x1,25	M12x1,5	10-32	1/8	1/4	3/8	1/2	3/4
Taper gas with PTFE	UNI EN 10226-1										2,5	3,5	6	18	
NPTF with PTFE	ANSI/ASME B1.20.3										11	12	13	18	24
Parallel gas with O-ring	UNI EN ISO 228-1										1,2	1,5	2,5	3,5	
Easy thread	CMATIC										1,2	1,5	2,5	3,5	
Parallel gas in acetal resin with O-ring	UNI EN ISO 228-1										1,2	1,5	2,5		
Parallel gas with plastic washer	UNI EN ISO 228-1										2	3	4	8	
UNF with O-ring	ANSI/ASME B1.1									0,8					
Metric with O-ring	UNI EN ISO 965-1	0,5	0,5	0,8	0,8			1,5	1,5						
Taper metric with PTFE	UNI 7707			2,5		2,5	2,5								

#### B) MT, RT and VT SERIES tightening torques:

Please refer to the relevant sections of the Technical Catalogue.

### WARNING: Parallel threads with oring

Before assembly, make sure that the female part is properly machined to allow perfect sealing with the oring of the male thread. Below a diagram with the dimensional and roughness specifications required for the female part:



Thread	Ø D1	Ø D2	Thread	Ø D1	Ø D2
G 1/8 - EASY 1/8*	10,3	13,5	M6x1	6,5	9,5
G 1/4 - EASY 1/4*	13,7	16,5	M7x1	7,5	9,5
G 3/8 - EASY 3/8*	17,2	20,5	M10x1	11,5	14,5
G 1/2 - EASY 1/2*	21,6	25,5	M12x1,25	12,9	15,5
G 3/4	27,4	32,5	M12x1,5	12,9	15,5
10-32 UNF	3,2	6	M14x1,5	14,9	17,5
M3x0,5	3,2	6	M16x1,5	16,9	20,5
M5x0,8	5,2	8,5	M22x1,5	22,9	27,5

\*The EASY thread is the universal thread designed by Cmatic according to its own construction standards.

### 2.2 Pre teflon-coated taper thread

In the case of pre-Teflon-coated taper thread, it should be noted that the thread may have the first few pitches uncoated without this affecting the sealing capability of the thread. The tightness of the pre-Teflon-coated thread is always determined by the manufacturing quality of the female thread; therefore, it is essential to ensure the conformity of the latter before assembling the male thread. The pre-Teflon-coated thread can be reused up to 5 times. After each assembly-disassembly, before re-using the product, check the condition of the coating to ensure its integrity. Please note that the maximum number of 5 possible reuses of the pre-Teflon-coated thread is closely linked to the actual quality of the female thread and to the strict adherence to the recommended tightening torques. Failure to observe these factors can significantly reduce the service life and number of reuses.

**The system's designer/user is responsible to verify the compatibility of the PTFE coating with the system and its operating conditions.**

### 2.3 Tubing assembly

Once the fitting is connected to a tubing, a certain degree of orientation may be needed after installation for this reason we recommend making the most suitable choice from the various types of fittings in the catalogue:

- **ORIENTABLE fitting:** allows the tubing to be oriented in the desired direction only until the fitting is tightened in place. Thereafter, it will no longer be possible to change the position of the tubing except by loosening the fitting and repositioning the tubing in the desired direction.
- **SWIVEL fitting:** The tubing always has the possibility to move a few degrees along its axis. Wide rotations are not recommended, especially if they are associated with high cyclical, which could significantly reduce the service life of the fitting.
- **ROTATING fitting:** The tubing can rotate even at high rpm.

This classification is given in the description of each product in the catalogue, and it is essential to adhere to it in order to make a suitable choice for the intended use. No liability is accepted for damage or premature degradation due to fittings subjected to conditions of use that do not comply with the above provisions.

### 2.4 Loads, vibrations or shocks

To avoid possible damage to the system due to a broken fitting and/or disconnection of the hose, ensure that no loads are applied to the fittings and that they are not subject to vibration or shock. Also ensure that no tensile or torsional forces are exerted on the fitting and/or tubing.

### 2.5 Removal of foreign bodies

If the product has not been stored in its original sealed packaging, check before use that the fitting inside is clean and, if necessary, remove any traces of dirt that may have fallen inside of the fitting, by blowing air into it. Please note that in most cases, the inner O-rings are lubricated. Any element deposited on the surface of the O-ring is difficult to remove and could compromise the pneumatic seal of the fitting.

### 2.6 Specific warnings

Each section on the individual fitting series may contain specific warnings and instructions for use marked with a symbol 

### 3 PRODUCT STORAGE:

Products must be stored in their original packaging in order to keep all the information necessary for traceability over time.

In any case, the product must always be stored away from dust and moisture, and storage with direct exposure to sunlight must be avoided at all costs, as this would lead to rapid ageing, especially of plastic and rubber parts, affecting thereby their function and durability.

Please note that fittings made of brass and not subject to any galvanic surface protection treatment may change in colour over time. However, this should not be regarded as a product defect or lead to product replacement requests.

### 4 PRODUCT PACKAGING AND LABELLING:

See detailed information on page 14.

# 产品包装与标签

## Product packaging and labelling

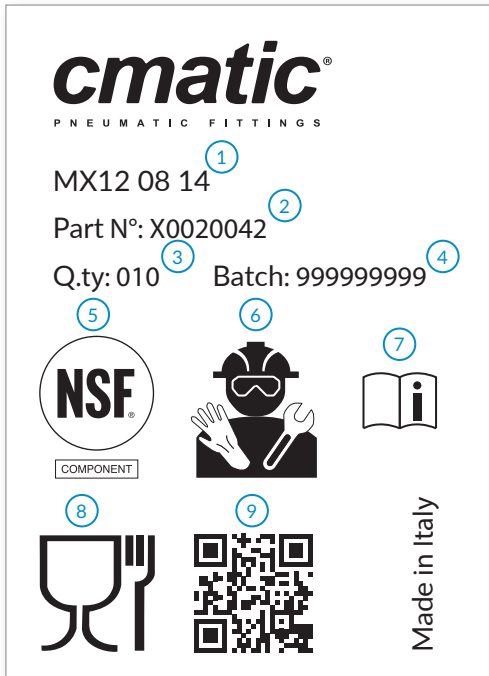


CN

在使用产品之前，必须确保包装完好，袋内的接头在运输过程中未受损。  
 每个包装上都贴有标签，包含不同的图形和字母数字信息。安装人员/使用者必须理解这些信息的含义。  
 为此，以下提供一个标签示例，展示上述数据及其对应含义。用户理解这些内容对于产品的安全和正确使用至关重要。

EN

Before using the product, make sure that the packaging is intact and that the fittings contained in the bag have not been damaged during transport. Each package has a label with different graphic and alphanumeric contents. The installer/user must have understood their meaning. For this purpose, a specimen packaging label is provided below in which the above-mentioned data and related meanings are shown. It is essential for the user to understand these contents for conscious and safe use of the product.



- 1 包装内产品的描述；  
Description of the item contained in the package.
- 2 包装内产品的唯一字母数字部件编号；  
Unique alphanumeric part number of the item contained in the package.
- 3 包装内接头的数量；  
Number of fittings in the package.
- 4 生产批次：这是产品在整个生产链中可追溯的关键要素。如产品出现问题，客户必须提供此信息；  
Production batch: a key element for the product traceability throughout the production chain. In the event of problems with the product, it is essential that the customer provides this information.

- 5 NSF 认证：仅当包装内产品通过 NSF 认证时，标签上才会显示此标志；  
NSF certification: this logo is only present if the item in the package is NSF certified.

- 6 专业用户：此标志提醒该产品仅供经过培训且具备经验的专业人员使用。强调在安装过程中必须佩戴所有必要的个人防护装备，以避免事故或健康风险。  
Experienced user: the presence of this logo is a reminder that the product is only for professional use by trained and experienced persons. It is emphasised that all necessary personal protective equipment must be worn during the installation to avoid in the event of accidents, health hazards.

- 7 此标志提醒在安装和使用产品之前，必须查阅相关技术文档、说明书和警告信息；  
The presence of this logo recalls the need to consult the technical documentation, instructions and warnings relating to the product before proceeding with its installation and use.

- 8 (EC)1935/2004：若标签上显示此标志，表示该产品符合相关欧洲法规，可用于食品接触。  
(EC)1935/2004: this logo, if present, identifies the article as compliant for food contact according to the relevant European regulation.

- 9 二维码：包含用于产品追溯及仓库流转的一系列有用信息。扫码后返回的信息字符串为：部件编号 | 袋数+批次号。  
QR code containing a series of useful information for traceability of the product and its movement in the warehouse. If scanned, it returns the following information string: part number|bags qty+batch number.

# 换算表与图标说明

## Conversion Tables and icons legend

### 换算表 Conversion tables

压力 - Pressure

	Pa	kPa	Mpa	bar	mbar	atm	p.s.i.	mmHg
1 Pa =	1	0,001	0,000001	0,00001	0,01	0,0000099	0.000145	0,00750
1 kPa =	1000	1	0,001	0,01	10	0,00987	0.14504	7,50062
1 Mpa =	1000000	1000	1	10	10000	9,86923	145.03774	7500,61505
1 bar =	100000	100	0,10000	1	1000	0,98692	14.50377	750,06151
1 mbar =	100	0,1	0,0001	0,001	1	0,0009869	0.01450	0,75006
1 atm =	101325	101,32500	0,10133	1,01325	1013,25000	1	14.69595	759,99982
1 p.s.i. =	6894,75729	6,89476	0,00689	0,06895	68,94760	0,06805	1	51,71492
1 mmHg =	133,32240	0,13332	0,00013	0,00133	1,33320	0,00132	0.01934	1

长度  
Length

	m	mm	in	ft
1 m =	1	1000	39.37008	3.28084
1 mm =	0,001	1	0.03937	0.00328
1 in =	0,02540	25,4	1	0,08333
1 ft =	0,30480	304,8	12	1

重量  
Weight

	N	Kg	g	lb	oz
1 N =	1	0,10197	101,97160	0.22481	3.59694
1 Kg =	9,80665	1	1000	2.20462	35.27396
1 g =	0,00981	0,001	1	0.00220	0.03527
1 lb =	4,44822	0,45359	453,59234	1	16
1 oz =	0,27801	0,02835	28,34952	0.06250	1

温度  
Temperature

°K =	°C + 273,15
°C =	(°F - 32) * 5/9
°F =	(9/5 * °C) + 32

### 图标说明 Legend Icons

	工作温度 Working Temperature		流量 Flow Rate		不含硅产品 Silicone Free Product		符合 ISO4414 标准 In compliance with ISO4414 norm
	工作压力 Working Pressure		公称直径 Nominal Diameter		专利/注册设计 Patent/Registered Design		食品接触产品 (EC 1935/2004) Food Contact Product (EC 1935/2004)
	真空 Vacuum		螺纹 Thread		符合欧盟 REACH 法规 In compliance with the EU REACH Regulation		NSF 认证产品 NSF Certified Product
	开启压力 Opening Pressure		涂有 PTFE 的螺纹 PTFE-coated thread		符合 RoHS 指令 In compliance with the RoHS Directive		TUV 认证产品 TUV Certified Product

# 化学相容性表

## Chemical compatibility chart



CN

本表中提供的信息仅供参考。材料的实际反应必须在真实的工作条件下进行测试，因为温度、压力以及不同物质的浓度可能会影响所述的化学相容性。所提供的信息不构成任何合同义务，且明确声明不承担任何责任。客户仍有责任验证产品的适用性及其是否适合预期用途。我们保留在任何时间且无需事先通知的情况下更改信息的权利。

EN

The information given on this chart have to be used as a guide only and the actual materials' reaction has to be tested in the real working conditions considering that temperature, pressure and different substances concentration can affect the mentioned chemical compatibility. The information is not to be considered a contractual obligation and any liability whatsoever is expressly declined. The customer is not released from his obligation to investigate the products fitness and the suitability for the intended application. We reserve the right to change the information at any time and without prior notice.



### LEGENDA | LEGEND | LÉGENDE | LEGENDE



Ottimo  
Very Good



Buono  
Good



Resistenza Limitata  
Limited  
resistence



Sconsigliato  
Not recommended



Dati non disponibili  
Information not available

化学相容性表 / Chemical compatibility chart

MEDIUM		接头 FITTINGS										垫片 SEALS			管道 HOSES				
		铝	碳钢	黄铜	不锈钢 AISI316L	PPOM	PEI	PARA	PBT	PPSU	NBR	FPM/FKM	EPDM	PA 11-12	PA6	PA6.6	LDPE	聚氨酯 酯基	PTFE
Acetaldehyde	乙醛	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●
Acetic Acid (20%)	醋酸 (20%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Acetic Acid (5%)	醋酸 (5%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Acetic Acid (50%)	醋酸 (50%)	●	-	●	-	●	●	-	●	●	●	●	●	●	●	●	●	●	●
Acetone	丙酮	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Acetylene	乙炔	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	-	-	●
Ammonia (10%)	氨水 (10%)	●	●	●	●	●	●	-	-	-	●	●	●	●	●	●	●	●	●
Ammonia Anhydrous	无水氨	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●
Ammonia Aqueous	氨水	-	-	-	-	●	-	-	●	-	●	●	●	●	●	●	●	●	●
Ammonia Gas - Cold	冷氨气	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Ammonia Gas - Hot	热氨气	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Ammonium Acetate	醋酸铵	●	-	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Bicarbonate	碳酸氢铵	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Ammonium Carbonate	碳酸铵	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Chloride	氯化铵	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Fluoride	氟化铵	●	●	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	●
Ammonium Hydroxide	氢氧化铵	●	●	●	●	●	●	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Nitrate	硝酸铵	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Phosphate	磷酸铵	●	-	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Sulfamate	磺酰胺铵	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonium Sulfate	硫酸铵	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ammonium Sulfide	硫化铵	●	-	-	-	-	-	-	-	-	●	●	●	●	-	-	●	-	●
Aniline	苯胺	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	-	●
Animal Fats	动物脂肪	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Anti-Freeze (Alcohol Base)	防冻液 (酒精基)	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	-	-	-
Anti-Freeze (Glycol Base)	防冻液 (乙二醇基)	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	-	-	-
Aqua Regia	王水	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	-	●
Argon	氩气	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-	-
Aromatic Hydrocarbons	芳香烃	●	●	-	●	●	-	-	●	-	●	●	●	-	-	-	●	-	-
Aromatic Solvents (Benzene etc.)	芳香族溶剂 (如苯)	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Arsenic Acid	砷酸	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	-	●
Arsenic Salts	砷盐	-	-	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-
Ascorbic Acid	抗坏血酸	●	-	-	●	-	-	-	-	-	●	-	-	-	-	-	-	-	-
Benzene	苯	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●
Boric Acid	硼酸	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	-	●
Brake Fluid	制动液	●	●	●	●	●	-	-	●	-	●	●	●	-	-	-	●	-	●
Butadiene	丁二烯	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	-	●
Butane	丁烷	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	-	●
Butanol (Butyl Alcohol)	丁醇	●	-	●	●	●	-	-	●	-	●	●	●	●	●	●	●	-	●
Butylene	丁烯	●	-	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	●
Calcium Bisulfate	亚硫酸氢钙	-	●	●	●	-	-	-	-	-	-	-	●	-	-	-	-	-	●
Calcium Bisulfide	硫化钙	●	-	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Calcium Bisulfite	亚硫酸钙	●	-	●	●	●	-	-	-	-	●	●	●	●	-	-	-	-	-
Calcium Chlorate	氯酸钙	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	●	-	-
Calcium Chloride (10%)	氯化钙 (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●
Calcium Hydroxide	氢氧化钙	●	●	●	●	●	●	-	●	-	●	●	●	●	-	-	●	-	●
Calcium Hypochlorite (10%)	次氯酸钙 (10%)	●	●	●	●	●	-	-	●	-	●	●	●	●	-	-	●	-	●
Calcium Nitrate	硝酸钙	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Calcium Nitrite	亚硝酸钙	-	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium Oxide	氧化钙	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	●	-	-
Calcium Silicate	硅酸钙	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Calcium Sulfate	硫酸钙	●	●	-	●	●	-	-	-	-	●	●	●	●	-	-	●	-	-
Calcium Sulfide	硫化钙	●	-	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Carbon Bisulfide	二硫化碳	●	-	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Carbon Dioxide	二氧化碳	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	-	-	●
Carbon Dioxide (dry)	干二氧化碳	●	●	●	●	●	-	-	-	-	-	●	●	-	-	-	-	-	-
Carbon Dioxide (wet)	湿二氧化碳	●	●	●	●	●	-	-	●	-	-	●	●	-	-	-	-	-	-
Carbon Monoxide	一氧化碳	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	-	-
Carbon Tetrachloride	四氯化碳	●	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●	-	●
Carbonated Beverages	碳酸饮料	●	-	-	●	-	-	-	-	-	-	●	-	-	-	-	-	-	-
Carbonated Water	碳酸水	●	●	●	●	●	-	-	-	-	●	●	-	-	-	-	-	-	-
Carbonic Acid	碳酸	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Chloric Acid	氯酸	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Chlorinated Water	氯化水	●	-	●	-	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Chlorine (dry)	干氯气	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	-	●
Chlorine (wet)	湿氯气	●	-	-	●	●	-	-	-	-	-	●	-	-	-	-	●	-	●

化学相容性表 / Chemical compatibility chart

		接头 FITTINGS										垫片 SEALS			管道 HOSES				
MEDIUM	介质	铝	碳钢	黄铜	不锈钢 AISI316L	POM	PEI	PARA	PBT	PPSU	NBR	FPM/FKM	EPDM	PA 11-12	PA6	PA6.6	LDPE	聚氨酯基	PTFE
Chlorine Dioxide	二氧化氯	●	-	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Chlorine Gas	氯气	-	-	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●
Chlorine Water	氯水	●	-	●	●	●	-	-	-	-	●	●	●	●	●	●	●	-	●
Chlorine, Anhydrous liquid	氯	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	-	●
Chloroacetic Acid	氯乙酸	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	-	●
Chlorobenzene	氯苯	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	●	-	●
Chloroethanol	氯乙醇	●	-	-	●	●	●	●	●	●	-	-	-	-	-	-	●	-	-
Chloroform	氯仿	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●
Chromic Acid (10%)	铬酸 (10%)	●	-	●	●	●	●	-	●	-	●	●	●	●	●	●	●	●	-
Citric Acid	柠檬酸	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	●	●	●
Coffee	咖啡	●	-	●	●	●	-	-	-	-	●	●	●	-	●	●	-	-	-
Copper Nitrate	硝酸铜	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	-
Copper Nitrite	亚硝酸铜	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper Sulfate (10%)	硫酸铜 (10%)	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Copper Sulfide	硫化铜	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanic Acid	氰酸	-	●	-	●	●	-	-	-	-	●	●	-	-	-	-	-	-	-
Cyclohexane	环己烷	●	●	-	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●
Cyclohexanol	环己醇	●	●	-	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
D.D.T. (Dichlorodiphenyltrichloroethane)	滴滴涕	-	-	-	-	●	-	-	-	-	●	-	●	●	-	-	●	-	-
Deionized Water	去离子水	●	●	●	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Denatured Alcohol	变性酒精	●	-	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Detergent Solutions	清洁剂溶液	●	-	●	●	●	-	-	-	-	●	●	●	-	-	-	●	-	-
Dibutyl Phthalate	邻苯二甲酸二丁酯	●	●	●	●	●	-	-	●	-	●	●	●	●	-	-	●	-	●
Dichloroethane	二氯乙烷	-	-	●	●	●	-	-	●	-	●	●	●	-	-	-	-	-	-
Diesel Fuel	柴油	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-	●
Dimethyl Phthalate	邻苯二甲酸二甲酯	●	-	-	●	●	-	-	-	-	●	●	●	-	●	●	-	-	●
Dioxane	二噁烷	●	-	●	●	●	-	-	●	●	●	●	●	●	●	●	-	-	●
Dioxolane	二氧戊环	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Diphenil	二苯	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Diphenil Ether	二苯醚	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphenil Oxide	二苯氧化物	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Distilled Water	蒸馏水	●	●	●	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Ethane	乙烷	●	●	●	●	●	-	-	●	-	●	●	●	-	-	-	-	-	-
Ethanol (Ethyl Alcohol)	乙醇	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	-
Ether	醚	●	●	●	●	●	-	-	-	●	●	●	●	-	-	-	-	-	-
Ether Sulfate	醚硫酸盐	-	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	●
Ethyl Acetate	乙酸乙酯	●	●	-	●	●	●	-	●	-	-	●	●	●	●	●	●	●	●
Ethyl Benzene	乙苯	●	●	-	●	●	-	-	-	-	●	-	-	-	●	●	●	-	●
Ethyl Chloride	氯乙烷	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ethyl Chloride Wet	湿氯乙烷	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl Ether	乙醚	●	●	●	●	●	●	-	-	●	●	●	●	●	-	-	●	-	●
Ethyl Sulfate	硫酸乙酯	-	-	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Ethylene Chloride	氯乙烯	●	-	-	●	●	-	-	-	-	●	●	●	-	●	●	-	-	-
Ethylene Glycol	乙二醇	●	●	●	●	●	●	-	●	-	●	●	●	●	●	●	●	●	●
Ethylene Oxide	环氧乙烷	●	●	●	●	●	●	-	●	-	●	●	●	●	-	-	-	-	●
Fatty Acids	脂肪酸	●	●	●	●	●	-	-	●	-	●	●	●	●	-	-	●	-	-
Ferric Chloride	氯化铁	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●
Ferric Hydroxide	氢氧化铁	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Ferric Nitrate	硝酸铁	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	-	-
Ferric Sulfate	硫酸铁	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	-	●
Fluorine	氟	●	●	-	●	●	-	-	●	-	-	●	●	●	●	●	●	-	●
Fluorine (Anhydrous)	无水氟	●	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorine (Liquid)	液氟	●	-	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Fluorine Gas Dry	干氟气	●	-	-	-	●	-	-	-	-	-	-	-	-	-	-	●	-	●
Fluorine Gas Wet	湿氟气	●	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorobenzene	氟苯	●	-	-	-	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Fluorocarbon Oils	氟碳油	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food Oils (vegetable)	食用植物油	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	●	●
Formaldehyde (37%)	甲醛 (37%)	●	●	●	●	●	●	●	●	●	●	●	●	●	-	-	●	-	●
Formic Acid	甲酸	●	●	●	●	●	●	-	●	●	●	●	●	●	-	-	●	●	●
Freon 11	氟利昂11	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Freon 112	氟利昂112	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Freon 113	氟利昂113	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Freon 114	氟利昂114	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-
Freon 114B2	氟利昂114B2	●	●	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-
Freon 115	氟利昂115	●	●	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-

化学相容性表 / Chemical compatibility chart

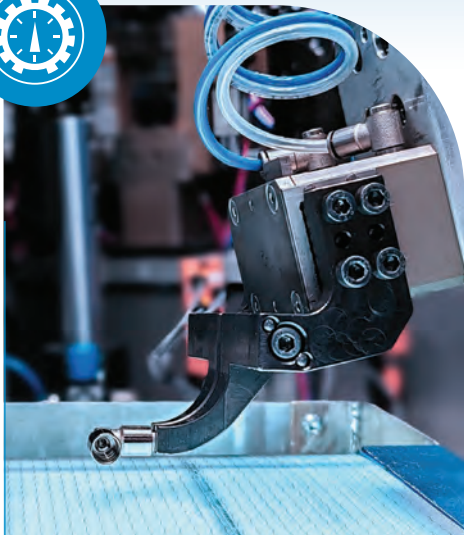
MEDIUM	介质	接头 FITTINGS										垫片 SEALS			管道 HOSES					
		铝	碳钢	黄铜	不锈钢 AISI316L	POM	PEI	PARA	PBT	PPSU	NBR	FPM/FKM	EPDM	PA 11-12	PA6	PA6.6	LDPE	聚氨酯 酯基	PTFE	
Freon 12	氟利昂12	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●	
Freon 13	氟利昂13	●	●	-	●	●	-	-	-	-	●	●	●	●	-	-	-	-	-	
Freon 13B1	氟利昂13B1	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 14	氟利昂14	●	●	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 142B	氟利昂142B	●	-	-	-	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 15	氟利昂15	●	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Freon 152A	氟利昂152A	●	-	-	-	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 21	氟利昂21	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 218	氟利昂218	●	-	-	-	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 21B	氟利昂21B	●	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Freon 22	氟利昂22	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●	
Freon 31	氟利昂31	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 32	氟利昂32	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Freon 502	氟利昂502	●	-	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Fresh Water	淡水	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●	
Fruit Juice	果汁	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Fuel Oils	燃料油	●	●	●	●	●	-	-	●	●	●	●	●	●	-	-	●	-	●	
Gasoline	汽油	●	●	●	●	●	●	-	●	●	●	●	●	●	-	-	-	-	●	
Glucose	葡萄糖	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	●	-	●	
Glycerine	甘油	●	●	●	●	●	●	-	●	-	●	●	●	●	●	●	●	-	●	
Glycolic Acid	羟基乙酸	-	-	-	●	●	-	-	-	-	●	●	●	-	-	-	●	-	-	
Glycols	乙二醇类	●	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●	●	●	
Grease (Ester Base)	脂类润滑脂 (酯基)	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	-	-	-	
Grease (Petroleum Base)	石油基润滑脂	●	●	●	●	●	-	-	-	-	-	-	●	-	-	-	-	-	-	
Grease (Silicon Base)	硅基润滑脂	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Helium	氦气	●	-	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Heptane	庚烷	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Hexane	己烷	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Hexanol	己醇	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Hydraulic Oil (Petroleum Base)	液压油 (石油基)	●	●	●	●	●	-	-	●	-	●	●	●	-	●	●	●	-	-	
Hydraulic Oil (Synthetic Base)	液压油 (合成基)	●	●	●	●	●	-	-	●	-	●	●	●	-	●	●	●	-	-	
Hydrazine	联氨	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	●	
Hydrochloric Acid (10%)	盐酸 (10%)	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	●	●	●	
Hydrocyanic Acid	氢氰酸	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	-	●	
Hydrofluoric Acid (10%)	氢氟酸 (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Hydrogen (gas)	氢气	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●	●	
Hydrogen Peroxide (1%)	过氧化氢 (1%)	-	-	●	●	●	●	-	●	●	●	●	●	●	●	●	●	●	●	
Hydrogen Peroxide (30%)	过氧化氢 (30%)	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	●	●	●	
Hydrogen Sulfide	硫化氢	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●	●	
Ink (Printers)	打印墨水	●	●	-	●	●	-	-	●	-	●	●	●	-	●	●	-	-	-	
Iodine	碘	●	●	●	●	●	●	-	-	●	●	●	●	-	●	●	●	●	●	
Iodoform	碘仿	●	-	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Iso Butane	异丁烷	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Isooctane	异辛烷	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	●	-	●	
Isopentane	异戊烷	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Isopropyl Acetate	醋酸异丙酯	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Isopropyl Alcohol	异丙醇	●	●	●	●	●	-	-	-	-	●	●	●	●	-	-	-	-	●	
Isopropyl Ether	异丙醚	●	●	●	●	●	●	-	-	-	●	●	●	-	-	-	●	-	●	
Isotane	异构烷烃	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Jet Fuel/Kerosene	航空煤油	●	●	●	●	●	●	-	●	-	●	●	●	●	●	●	●	●	●	
Ketones	酮类	●	●	●	●	●	-	-	●	●	●	●	●	-	-	-	-	-	-	
Lactic Acid (20 °C)	乳酸 (20°C)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Lead Acetate	醋酸铅	●	●	●	●	●	-	-	●	-	●	●	●	-	-	-	●	-	●	
Lead Chloride	氯化铅	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Lead Nitrate	硝酸铅	●	-	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Lead Sulfamate	磺酰胺铅	●	-	-	●	●	-	-	-	-	-	●	●	●	-	-	-	-	-	
Linoleic Acid	亚油酸	●	●	●	●	-	-	-	-	-	●	●	●	-	-	-	-	-	-	
Lithium Bromide	溴化锂	-	-	-	-	-	-	-	●	-	●	●	●	-	-	-	●	-	-	
Lithium Chloride	氯化锂	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	-	-	●	
Lithium Hydroxide	氢氧化锂	●	-	-	●	●	-	-	●	-	●	●	●	-	-	-	-	-	-	
Lubricants	润滑剂	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●	●	
Lubricants (Petroleum)	石油润滑剂	●	-	-	●	●	-	-	-	-	-	-	●	-	-	-	-	-	-	
Lubricating Oil	润滑油	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●	●	
Methane	甲烷	●	-	-	●	●	-	-	●	-	●	●	●	●	●	●	●	●	●	
Methyl Acetate	乙酸甲酯	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●	●	●	●	
Methyl Acetone	甲基丙酮	●	●	●	●	●	-	-	-	-	-	●	●	●	-	-	-	-	-	

化学相容性表 / Chemical compatibility chart

MEDIUM	介质	接头 FITTINGS										垫片 SEALS			管道 HOSES					
		铝	碳钢	黄铜	不锈钢 AISI316L	POM	PEI	PARA	PBT	PPSU	NBR	FPM/FKM	EPDM	PA 11-12	PA6	PA6.6	LDPE	聚氨酯基	PTFE	
Methyl Acrylic Acid	甲基丙烯酸	-	-	-	-	●	-	-	-	-	●	●	●	-	-	-	-	-	-	
Methyl Alcohol (Methanol)	甲醇	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Methyl Amine	甲胺	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Bromide	溴甲烷	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Butyl Ketone	甲基丁基酮	●	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Chloride	氯甲烷	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Ethyl Ketone	甲基乙基酮	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methylene Bromide	溴化亚甲基	●	-	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methylene Chloride	二氯甲烷	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Mineral Oil	矿物油	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Motor Oil	机油	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Muriatic Acid	盐酸	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphtha	石脑油	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	萘	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Natural Gas	天然气	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Neohexane	新己烷	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel Acetate	醋酸镍	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel Chloride	氯化镍	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel Nitrate	硝酸镍	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nickel Sulfate (10%)	硫酸镍 (10%)	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitric Acid (10%)	硝酸 (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Nitrogen	氮气	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitromethane	硝基甲烷	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitropropane	硝基丙烷	●	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrous Acid	亚硝酸	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrous Gases	亚硝基气体	-	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nitrous Oxide	一氧化二氮	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Oleic Acid	油酸	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Olive Oil	橄榄油	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Oxygen (Cold)	冷氧气	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ozone	臭氧	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Palm Oil	棕榈油	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Palmitic Acid	软脂酸	●	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Paraffin	石蜡	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Paraformaldehyde	聚合甲醛	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Pentane	戊烷	●	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Perchloric Acid (10%)	高氯酸 (10%)	-	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Perchloroethylene	四氯乙烯	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Petroleum Oil	石油	●	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenol	苯酚	●	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenyl Acetate	苯基醋酸酯	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenyl Ethyl Ether	苯乙醚	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenyl Hydrazine	苯肼	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenyl Sulfonic Acid	苯磺酸	●	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phenylbenzene	苯基苯	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphoric Acid (30%)	磷酸 (30%)	●	-	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phosphorus	磷	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Phthalic Acid	邻苯二甲酸	●	-	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Acetate	醋酸钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Bicarbonate	碳酸氢钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Bisulfate	重硫酸钾	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Bisulfite	亚硫酸氢钾	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Bromide	溴化钾	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Chloride	氯化钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Chromate	铬酸钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Cyanide	氰化钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Hydroxide	氢氧化钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Hypochlorite	次氯酸钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Nitrate	硝酸钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Nitrite	亚硝酸钾	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Permanganate (10%)	高锰酸钾 (10%)	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Phosphate	磷酸钾	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Silicate	硅酸钾	●	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Sulfate	硫酸钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Sulfide	硫化钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potassium Sulfite	亚硫酸钾	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-	-	

化学相容性表 / Chemical compatibility chart

MEDIUM 介质		接头 FITTINGS										垫片 SEALS			管道 HOSES					
		铝	碳钢	黄铜	不锈钢 AISI316L	POM	PEI	PARA	PBT	PPSU	NBR	FPM/FKM	EPDM	PA 11-12	PA6	PA6.6	LDPE	聚氨酯基	PTFE	
Propane (liquefied)	液化丙烷	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Salicylic Acid	水杨酸	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Sea Water	海水	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Silicone Oil	硅油	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Silver Bromide	溴化银	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Silver Chloride	氯化银	●	●	●	●	-	-	-	-	-	●	-	-	-	-	-	-	-		
Silver Cyanide	氰化银	●	-	-	●	-	-	-	-	-	●	●	●	-	-	-	●	●		
Silver Nitrate	硝酸银	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	●		
Sodium Acetate	醋酸钠	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Sodium Acid Sulfate	酸性硫酸钠	●	-	-	●	-	-	-	-	-	●	●	●	-	-	-	-	-		
Sodium Bicarbonate	碳酸氢钠	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Sodium Bisulfate	重硫酸钠	●	●	-	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Sodium Bisulfite	亚硫酸氢钠	●	●	●	●	●	●	●	●	●	●	●	●	-	-	-	●	●		
Sodium Borate (Borax)	硼砂	●	-	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Sodium Carbonate	碳酸钠	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Sodium Chlorate	氯酸钠	●	-	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Sodium Chloride (10%)	氯化钠 (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Sodium Chromate	铬酸钠	●	●	-	●	●	-	-	-	-	●	●	●	-	-	-	●	●		
Sodium Citrate	柠檬酸钠	-	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-		
Sodium Fluoride	氟化钠	●	●	-	●	-	-	-	-	-	●	●	●	-	-	-	●	●		
Sodium Hydroxide (10%) - Caustic Soda	氢氧化钠 (10%) - 烧碱	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●	●	●		
Sodium Hypochlorite (5%)	次氯酸钠 (5%)	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Sodium Hyposulfate	低硫酸钠	●	●	●	●	-	-	-	-	-	●	●	●	-	-	-	-	-		
Sodium Hyposulfite	亚硫酸钠	●	●	●	●	-	-	●	-	-	●	●	●	-	-	-	-	-		
Sodium Nitrate	硝酸钠	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Sodium Nitrite	亚硝酸钠	●	-	-	-	-	-	-	-	-	-	-	●	●	●	●	●	●		
Sodium Perborate	过硼酸钠	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Sodium Peroxide	过氧化钠	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	●		
Sodium Phosphate	磷酸钠	●	-	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Sodium Sulfide	硫化钠	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Steam (< 150 °C)	蒸汽 (<150°C)	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Steam (> 150 °C)	蒸汽 (>150°C)	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Stearic Acid	硬脂酸	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Styrene	苯乙烯	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Sulfamic Acid (10% - 20°C)	磺胺酸 (10% - 20°C)	●	-	-	-	●	-	-	-	●	●	●	●	●	●	●	●	●		
Sulfur Chloride	氯化硫	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	●		
Sulfur Dioxide	二氧化硫	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Sulfuric Acid (30%)	硫酸 (30%)	●	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●	●		
Sulfurous Acid	亚硫酸	●	●	●	●	●	-	-	●	-	●	●	●	-	-	-	-	-		
Tannic Acid	单宁酸	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	●		
Tartaric Acid	酒石酸	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Tetrachloroethane	四氯乙烷	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	●		
Tetrachloroethylene	四氯乙烯	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Tetrahydrofuran	四氢呋喃	●	-	-	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Toluene (Toulol)	甲苯	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Tomato Juice	番茄汁	●	-	-	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Transformer Oil	变压器油	●	-	●	●	●	-	-	●	●	●	●	●	●	●	●	●	●		
Transmission Fluid (Type A)	自动变速器油 (A型)	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-	-	-		
Triacetin	三乙酸甘油酯	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-		
Trichloroacetic Acid	三氯乙酸	●	●	●	●	●	-	-	●	-	●	●	●	-	-	-	-	-		
Trichlorobenzenes	三氯苯	●	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-		
Trichloroethane	三氯乙烷	●	●	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Trichloroethylene	三氯乙烯	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Trichloropropane	三氯丙烷	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	-	-		
Turpentine	松节油	●	-	●	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Urea (5%)	尿素 (5%)	●	●	●	●	●	-	-	●	●	●	●	●	●	●	●	●	●		
Uric Acid	尿酸	●	●	-	●	●	-	-	●	-	●	●	●	●	●	●	●	●		
Valeric Acid	戊酸	●	-	-	-	-	-	-	-	-	●	●	●	-	-	-	-	-		
Vinegar	食醋	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Wine	葡萄酒	●	●	●	●	●	-	-	-	-	●	●	●	●	●	●	●	●		
Xylene	二甲苯	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Zinc Acetate	醋酸锌	●	-	-	-	-	-	-	-	-	●	-	-	-	-	-	-	-		
Zinc Carbonate	碳酸锌	●	-	-	●	-	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc Chloride	氯化锌	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Zinc Hydrosulfite	亚硫酸氢锌	●	●	-	●	●	-	-	-	-	-	-	-	-	-	-	-	-		
Zinc Nitrate	硝酸锌	-	-	-	●	-	-	-	●	-	●	●	●	-	-	-	-	-		
Zinc Sulfate	硫酸锌	●	●	●	●	●	-	-	-	-	●	●	●	-	-	-	●	●		



## 通用气动

GENERAL PNEUMATIC

快插接头 / Push-in Fittings

**MA** p. 27 | **MB** p. 41 | **AP** p. 55 | **AR** p. 63  
**PN(US)** p. 67 | **PE** p. 79

快拧接头 / Push-on fittings

**MC** p. 83

卡套接头 / Compression fittings

**MO** p. 93

标准接头 / Standard fittings

**RA** p. 101 | **PA(US)** p. 113

快换接头 / Quick couplings

**GU** p. 119 | **PU(US)** p. 131 | **GU Safety** p. 135  
**PU Safety(US)** p. 149

多路接头 / Multiple connectors

**CO** p. 157

功能接头 / Function fittings

**MV** p. 171 | **PV(US)** p. 203 | **EV** p. 217



## 食品，化学&制药

FOOD & BEVERAGE,  
CHEMICAL & PHARMACEUTICAL

快插接头 / Push-in Fittings

**AV** p. 221 | **MY** p. 229 | **MF** p. 235 | **MX** p. 241  
**PX(US)** p. 249

快拧接头 / Push-on fittings

**CX** p. 255

卡套接头 / Compression fittings

**OX** p. 261

标准接头 / Standard fittings

**RF** p. 269 / **RX** p. 275

快换接头 / Quick couplings

**GX** p. 281 | **PUX(US)** p. 287  
**GX Safety(US)** p. 291

多路接头 / Multiple connectors

-

功能接头 / Function fittings

**VF** p. 295 | **VX** p.299 | **PVX(US)** p. 311



## 润滑

LUBRICATION

快插接头 / Push-in Fittings

**HP** p. 317 | **MP** p. 323 | **PM(US)** p. 329

快拧接头 / Push-on fittings

-

卡套接头 / Compression fittings

-

标准接头 / Standard fittings

-

快换接头 / Quick couplings

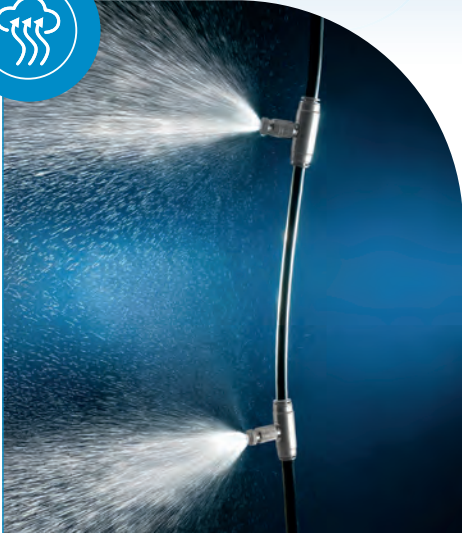
-

多路接头 / Multiple connectors

-

功能接头 / Function fittings

-



## 喷雾

MISTING

快插接头 / Push-in Fittings

**MM** p. 333

快拧接头 / Push-on fittings

-

卡套接头 / Compression fittings

-

标准接头 / Standard fittings

-

快换接头 / Quick couplings

-

多路接头 / Multiple connectors

-

功能接头 / Function fittings

-



## 交通

TRANSPORTATION

快插接头 / Push-in Fittings

**MT** p. 339 | **PT(US)** p. 347

快拧接头 / Push-on fittings

-

卡套接头 / Compression fittings

-

标准接头 / Standard fittings

**RT** p. 355

快换接头 / Quick couplings

-

多路接头 / Multiple connectors

-

功能接头 / Function fittings

**VT** p. 359



## 液压

HYDRAULICS

快插接头 / Push-in Fittings

**QO** p. 363

快拧接头 / Push-on fittings

-

卡套接头 / Compression fittings

-

标准接头 / Standard fittings

-

快换接头 / Quick couplings

-

多路接头 / Multiple connectors

-

功能接头 / Function fittings

-

**AP  
Line**

p.55



“混合” 快插接头  
"Mix" Push-in Fittings

**AR  
Line**

p.63



旋转快插接头  
Rotary Push-in Fittings

**AV  
Line**

p.221



食品行业用高性能黄铜快插接头  
Brass Push-in Fittings

**CO  
Line**

p.157



多路接头  
Multiple Connectors

**CX  
Line**

p.255



316L 不锈钢快拧接头  
316L Stainless Steel Push-on Fittings

**EV  
Line**

p.217



模拟量或者开关量控制的电子比例流量控制  
Electronic Proportional Flow Control

**GU  
Line**

p.119



快换接头  
Couplings

**GU  
Safety**

p.135



安全快换接头  
Safety Couplings

**GX  
Line**

p.281



316L 不锈钢快换接头  
316L Stainless Steel Couplings

**GX  
Safety**

p.291



316L 不锈钢安全快换接头  
316L Stainless Steel Safety Couplings

**HP  
Line**

p.317



250 bar 润滑用快插接头  
High Pressure Push-in Fittings, 250 bar

**MA  
Line**

p.27



快插接头  
Push-in Fittings

**MB  
Line**

p.41



高科技聚合体快插接头  
Technopolymer Push-in Fittings

**MC  
Line**

p.83



镀镍黄铜快拧接头  
Brass Nickel-Plated Push-on Fittings

**MF  
Line**

p.235



食品和饮料应用领域快插接头  
Push-in Fittings for Food and Beverage Applications

**MM  
Line**

p.333



“英寸/NPT” 80bar 雾化用快插接头  
Misting Push-in Fittings

**MO  
Line**

p.93



镀镍黄铜卡套接头  
Brass Nickel-Plated Compression Fittings

**MP  
Line**

p.323



80 bar 润滑用快插接头  
Medium Pressure Push-in Fittings, 80 bar

**MT  
Line**

p.339



工业与商用车辆专用快插式管接头  
Function Fittings for industrial and commercial vehicles

**MV  
Line**

p.171



功能接头  
Function Fittings

**MX  
Line**

p.241



316L 不锈钢快插接头  
316L Stainless Steel Push-in Fittings

**MY  
Line**

p.229



PPSU 材质快插式管接头  
PPSU Push-in fittings

**OX  
Line**

p.261



316L不锈钢卡套接头  
316L Stainless Steel Compression Fittings

**PA  
Line**

p.113



NPT镀镍黄铜标准接头  
Brass Nickel-Plated Standard Fittings, NPT

**PE  
Line**

p.79



“通用”螺纹的Easythread快插接头  
Easythread Push-in Fittings, "Uni" thread

**PM  
Line**

p.329



“英寸/NPT”80bar润滑用快插接头  
Medium Pressure Push-in Fittings, 80 bar Inch/NPT

**PN  
Line**

p.67



“英寸/NPT”快插接头  
Push-in Fittings, Inch/NPT

**PT  
Line**

p.347



“英寸/NPT”DOT快插接头  
DOT Push-in Fittings, Inch/NPT

**PU  
Line**

p.131



NPT快换接头  
NPT Couplings

**PU  
Safety**

p.149



NPT安全快换接头  
Safety Couplings, NPT

**PUX  
Line**

p.287



NPT 316L不锈钢快换接头  
316L Stainless Steel Couplings, NPT

**PV  
Line**

p.203



“英寸/NPT”功能接头  
INCH/NPT Function Fittings

**PVX  
Line**

p.311



“英寸/NPT”316L不锈钢功能接头  
316L Stainless Steel Function Fittings, Inch/NPT

**PX  
Line**

p.249



“英寸/NPT”316L不锈钢快插接头  
316L Stainless Steel Push-in Fittings, Inch/NPT

**QO  
Line**

p.363



350 bar液压用快插接头  
Push-in Fittings for Hydraulics, 350 bar

**RA  
Line**

p.101



镀镍黄铜标准接头  
Brass Nickel-Plated Standard Fittings

**RF  
Line**

p.269



食品和饮料应用领域标准接头  
Standard Fittings for Food and Beverage Applications

**RT  
Line**

p.355



工业与商用车标准管接头  
Standard Fittings for industrial and commercial vehicles

**RX  
Line**

p.275



316L不锈钢标准接头  
316L Stainless Steel Standard Fittings

**TOOLS**

p.369



工具  
Tools

**TUBINGS**

p.375



管路  
Tubings

**VF  
Line**

p.295



适用于食品与饮料行业的功能接头  
Push-in Fittings for Food and Beverage Applications

**VT  
Line**

p.359



工业与商用车功能接头  
Function Fittings for industrial and commercial vehicles

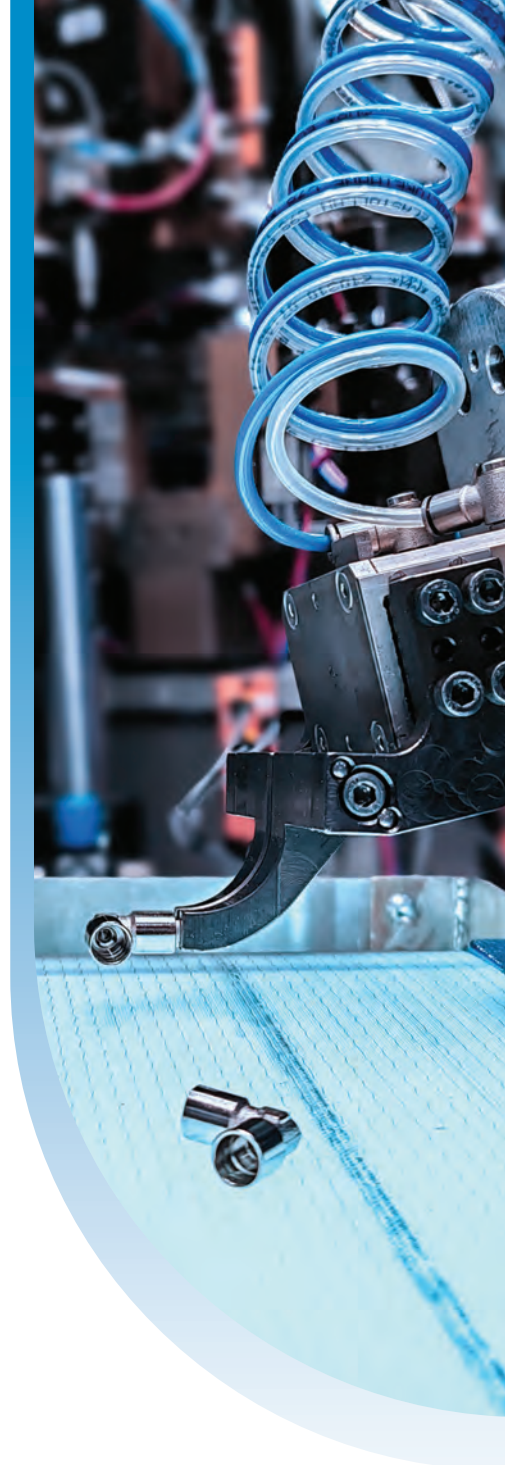
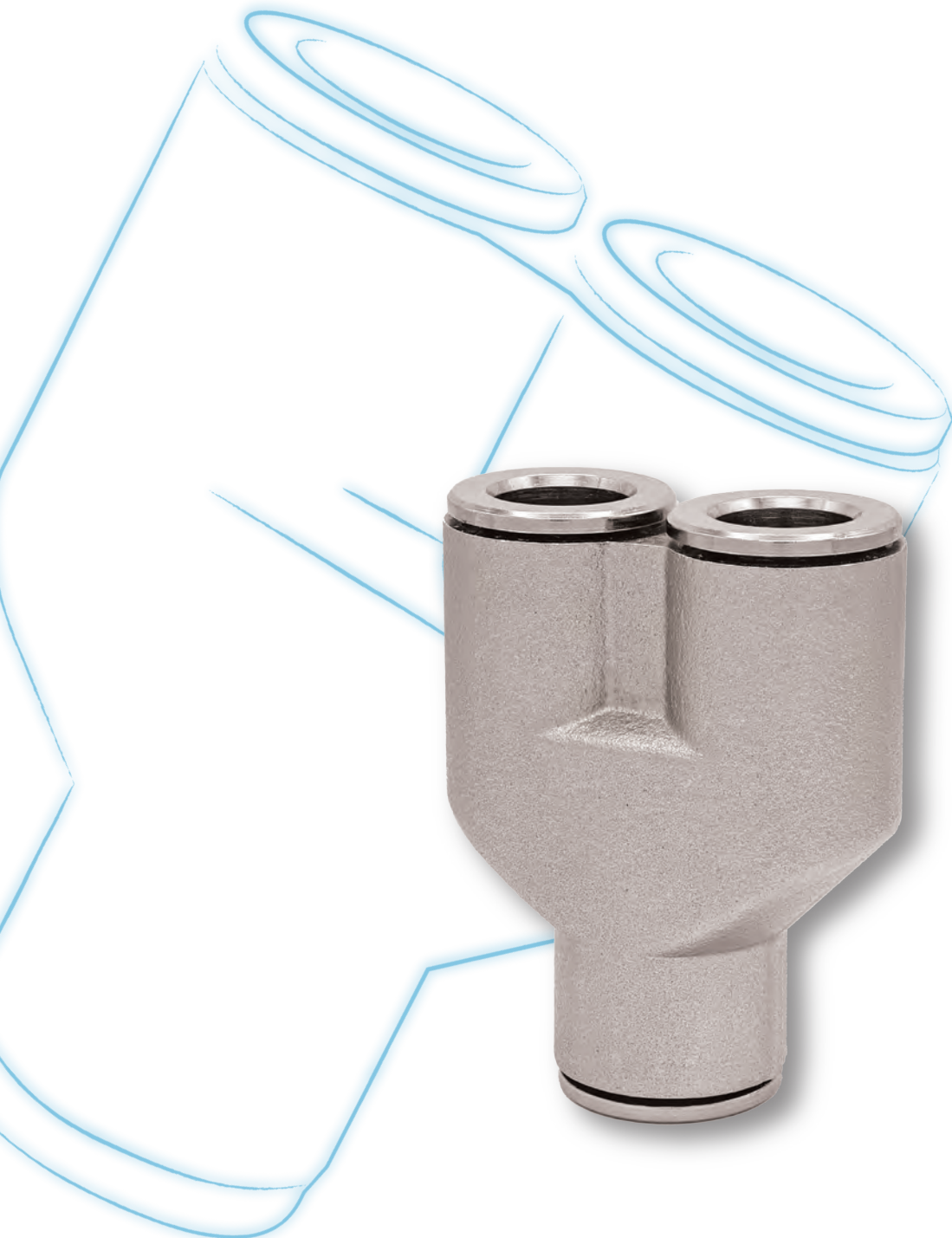
**VX  
Line**

p.299



316L不锈钢功能接头  
316L Stainless Steel Function Fittings





## MA LINE



CN

EN

### 快插接头

MA系列的快插式管接头完全由黄铜制成，适用于不同工业应用场景中的快速连接；这些管接头结构坚固、设计紧凑，能持久保证高性能表现。所有MA管接头均采用电解镀镍工艺处理。

### Push-in Fittings

The push-in fittings of the MA line are completely made of brass and they are suitable for quick connections in different industrial applications; they are robust, compact and guarantee high performances in time. All MA fittings are electrolytic nickel-plated.

# MA Line

1 本体 Body	2 释放环 Release ring	3 支撑环 Holding ring	4 卡爪 Gripping ring	5 保护环 Protection ring	6 密封圈 Seals
黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated		缩醛树脂 Acetal resin	(POM) (POM)	AISI 301 不锈钢 Stainless steel AISI 301	缩醛树脂 Acetal resin
				(POM) (POM)	NBR NBR



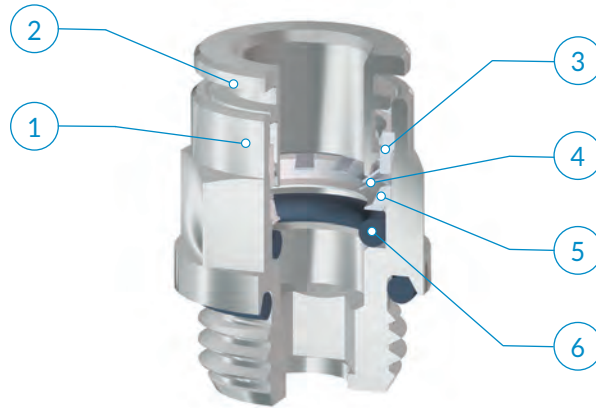
-20 ÷ 80° C



20 bar



-99 KPa



针对R型螺纹  
for "R" threads

	M3x0,5	M5x0,8	M6x1	M7x1	M12x1,25	M12x1,5	G1/8	G1/4	G3/8	G1/2	G3/4	R1/8	R1/4	R3/8	R1/2	
3	•	•														
4		•	•	•			•	•				•	•			
6		•	•	•	•	•	•	•	•	•		•	•	•		
8							•	•	•	•		•	•	•	•	
10							•	•	•	•		•	•	•	•	•
12								•	•	•			•	•	•	•
14									•	•				•	•	•
16										•	•					•

### 建议的连接管路:

PA11、PA12、PA6、PE聚乙烯、PU聚氨酯 (98 Shore A)。

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 直径从12到 16 mm。

### 应用领域:

气动系统。

### Recommended tubings:

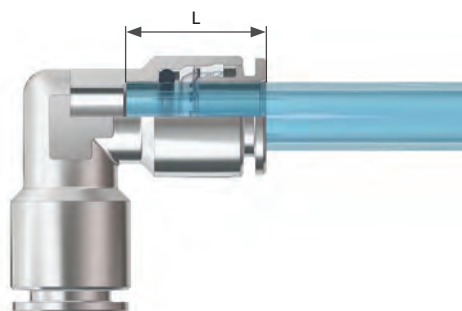
PA11, PA12, PA6, Polyethylene PE, Polyurethane PU (98 Shore A)

### Acceptable Tolerances on the tubings:

+/- 0,07 mm up to Ø 10 mm  
+/- 0,1 mm from Ø 12 up to Ø 16 mm

### Application fields:

Pneumatic circuits



OD	L
3	9,8
4	13,2
6	16,1
8	16,2
10	18,3
12	19,5
14	22,5
16	22,5

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。使用金属管路连接时,需要通过专用设备 (TINC) 在管路上开槽。开槽尺寸需要考虑管路直径,以保证可靠的连接。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval. In case of use with metal hoses, make a groove all around the tube diameter with a suitable tool (TINC).The groove must be made according to the tube diameter so that the fitting collect can better grip onto it.

2

将管路插入接头,到底为止。

2

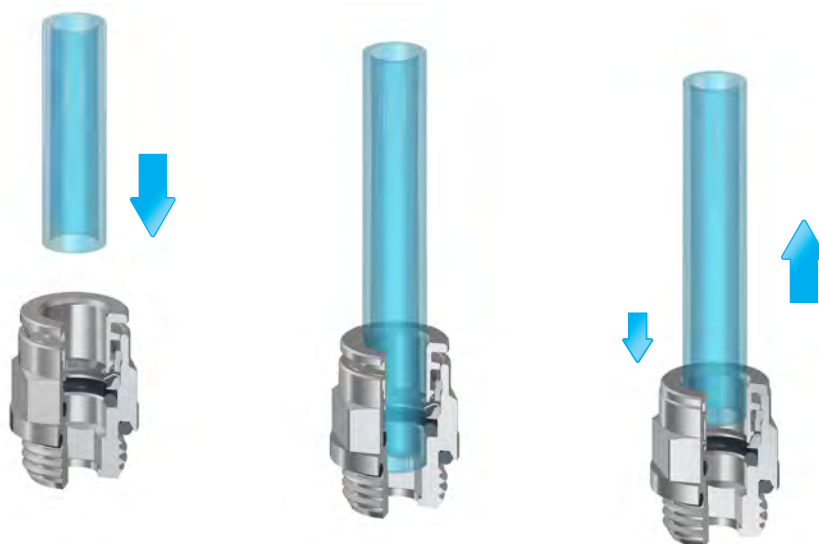
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

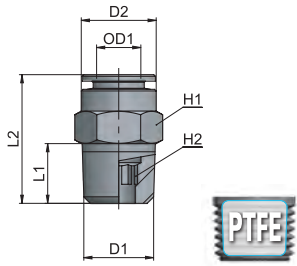


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. Recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MA 11

外锥螺纹直接头

Taper straight, male

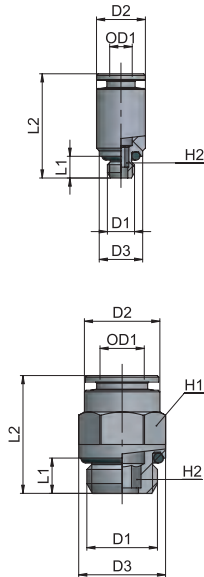


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	9	7,5	16	10	3	6,0
11 04 14	4	R1/4	9	11	20,5	14	3	16,1
11 06 18	6	R1/8	11,9	7,5	21	12	4	9,3
11 06 14	6	R1/4	11,9	11	20,5	14	4	14,1
11 06 38	6	R3/8	11,9	11,5	21	17	4	25,5
11 08 18	8	R1/8	13,9	7,5	25	14	6	13,6
11 08 14	8	R1/4	13,9	11	23,5	14	6	14,3
11 08 38	8	R3/8	13,9	11,5	22,5	17	6	24,0
11 08 12	8	R1/2	13,9	14	25	22	6	50,3
11 10 18	10	R1/8	15,9	7,5	28	16	6	19,2
11 10 14	10	R1/4	15,9	11	30,5	16	8	20,2
11 10 38	10	R3/8	15,9	11,5	24	17	8	20,0
11 10 12	10	R1/2	15,9	14	27	22	8	47,5
11 12 14	12	R1/4	18,9	11	32	19	8	28,5
11 12 38	12	R3/8	18,9	11,5	27,5	19	10	24,8
11 12 12	12	R1/2	18,9	14	27,5	22	10	42,3
11 14 38	14	R3/8	21,9	11,5	35,5	22	10	40,1
11 14 12	14	R1/2	21,9	14	32,5	22	12	39,5

## MA 12

外直螺纹直接头

Parallel straight, male



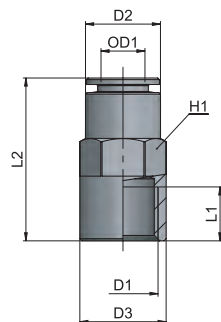
类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 03 M3	3	M3x0,5	6,5	5,6	3	15,5	-	1,5	1,4
12 03 M5	3	M5x0,8	6,5	7	4	15,8	-	2	2,1
12 04 M5	4	M5x0,8	9	8	4	19	-	2,5	4,4
12 04 M6	4	M6x1	9	9	4,5	19,5	-	3	4,3
12 04 M7	4	M7x1	9	9	5	20	-	3	5,0
12 06 M5	6	M5x0,8	12	8	4	22,2	-	2,5	8,6
12 06 M6	6	M6x1	12	9	4,5	22,8	-	3	8,9
12 06 M7	6	M7x1	12	9,1	5	23	-	3	9,4

类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 04 18	4	G1/8	9	13	5	16,5	9	3	6,3
12 04 14	4	G1/4	9	16	6,5	18,5	9	3	12,0
12 06 M12x1,25	6	M12x1,25	11,9	15	6,5	21	12	4	11,5
12 06 M12x1,5	6	M12x1,5	11,9	15	6,5	21	12	4	11,5
12 06 18	6	G1/8	11,9	13,5	5	19,5	12	4	9,2
12 06 14	6	G1/4	11,9	16	6,5	19,5	12	4	12,3
12 06 38	6	G3/8	11,9	20	7	20,5	12	4	20,6
12 06 12	6	G1/2	11,9	25	8,5	22,5	12	4	35,0
12 08 18	8	G1/8	13,9	14,5	5	23,5	13	6	11,5
12 08 14	8	G1/4	13,9	16	6,5	21,5	14	6	13,8
12 08 38	8	G3/8	13,9	20	7	21	14	6	20,1
12 08 12	8	G1/2	13,9	25	8,5	23	14	6	34,3
12 10 18	10	G1/8	15,9	13	5	26,5	15	8	16,8
12 10 14	10	G1/4	15,9	16,5	6,5	27,5	15	8	16,8
12 10 38	10	G3/8	15,9	20	7	25	16	8	22,0
12 10 12	10	G1/2	15,9	25	8,5	25,5	16	8	34,5
12 12 14	12	G1/4	18,9	21	6,5	28,5	19	8	25,8
12 12 38	12	G3/8	18,9	21	7	28,5	19	10	29,0
12 12 12	12	G1/2	18,9	25	8,5	26,5	19	10	36,1
12 14 38	14	G3/8	21,9	25	7	32	22	10	37,0
12 14 12	14	G1/2	21,9	25	8,5	32	22	12	42,4
12 16 12	16	G1/2	23,7	28	8,5	34,5	25	13	51,1
12 16 34	16	G3/4	23,7	32	9,5	32	24	13	68,2

## MA 13

内螺纹直接头

Female straight



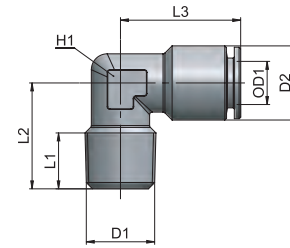
类型	OD1	D1	D2	D3	L1	L2	H1	g $\Delta$
13 04 18	4	G1/8	9	13	7	23,5	9	10,0
13 06 18	6	G1/8	11,9	14	7	26	12	15,0
13 06 14	6	G1/4	11,9	16	10	30	12	18,5
13 08 18	8	G1/8	13,7	16,2	7	26	14	17,5
13 08 14	8	G1/4	13,9	16	10	30	14	20,2
13 08 38	8	G3/8	13,9	20	11	31	14	25,9
13 10 14	10	G1/4	15,9	18,5	10	32	16	24,4
13 10 38	10	G3/8	15,9	20	11	33,5	16	30,3
13 10 12	10	G1/2	15,9	25	11	36,5	16	45,0
13 12 38	12	G3/8	19	23,1	11	34	20	38,3
13 12 12	12	G1/2	18,8	25	11	37	19	50,9

MA 14

外锥螺纹弯管接头

Taper elbow fitting, male

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
14 04 18	4	R1/8	9	7,8	15	17,5	8	8,1
14 04 14	4	R1/4	9,1	10	19	17,5	10	13,9
14 06 18	6	R1/8	12	8,2	15,5	20,5	10	13,2
14 06 14	6	R1/4	12	10	19	20,5	10	16,7
14 08 18	8	R1/8	14	7,5	19	22,5	12	19,6
14 08 14	8	R1/4	14	10,5	20	22,5	12	22,6
14 10 14	10	R1/4	16	9,5	22	25	14	27,4
14 10 38	10	R3/8	16	10,8	22,5	25	14	31,5

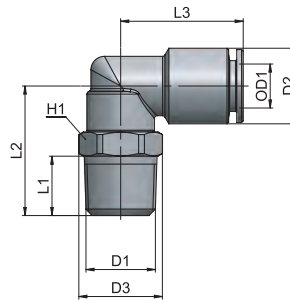


MA 15

可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
15 04 18	4	R1/8	9,1	11,2	7,5	17,85	19,5	10	10,8
15 04 14	4	R1/4	9,1	15,5	11	24,2	19,5	14	20,9
15 06 18	6	R1/8	12	14,5	7,5	20,2	22	13	20,0
15 06 14	6	R1/4	12	15,5	11	24,2	22	14	24,0
15 06 38	6	R3/8	12	20	11,5	25,2	22	18	31,0
15 08 18	8	R1/8	14	14,5	7,5	20	22,5	13	23,0
15 08 14	8	R1/4	14	15,5	11	24	22,5	14	26,4
15 08 38	8	R3/8	14	20	11,5	27	23	18	39,2
15 08 12	8	R1/2	14	24,5	14	31	23	22	54,4
15 10 18	10	R1/8	16	20	7,5	26,5	23	16	33,2
15 10 14	10	R1/4	16	20	11	26,5	26	18	37,5
15 10 38	10	R3/8	16	20	11,5	27	26	18	41,0
15 10 12	10	R1/2	16	24,5	14	31	26	22	55,7
15 12 14	12	R1/4	19	22,5	11	30	28,5	20	62,3
15 12 38	12	R3/8	19	22,5	11,5	30,5	28,5	20	62,8
15 12 12	12	R1/2	19	24,5	14	33,5	28,5	22	71,5
15 14 38	14	R3/8	22	22,5	11,5	30,5	32	20	66,2
15 14 12	14	R1/2	22	24,5	14	33,5	32	22	74,6

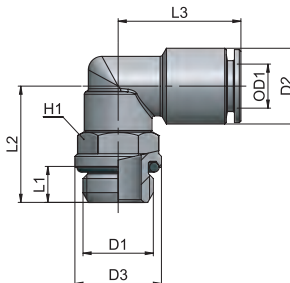


MA 16

可调向外直螺纹弯管接头

Parallel swivelling elbow fitting, male

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
16 03 M3	3	M3x0,5	7	7,9	3	13,2	14	7	5,5
16 03 M5	3	M5x0,8	7	7,9	4	13,7	14	7	7,1
16 04 M5	4	M5x0,8	9,1	10	4	14	17,5	9	8,8
16 04 M6	4	M6x1	9,1	10	4,5	14,5	17,5	9	8,7
16 04 18	4	G1/8	9,1	14,5	5	18,2	19,5	13	15,7
16 04 14	4	G1/4	9,1	16	6,5	21,7	19,5	13	19,0
16 06 M5	6	M5x0,8	12	10	4	14	20,5	9	12,3
16 06 M6	6	M6x1	12	10	4,5	14,5	20,5	9	12,0
16 06 M12x1,25	6	M12x1,25	12	15	6,5	21,7	22	13	22,0
16 06 M12x1,5	6	M12x1,5	12	15	6,5	21,7	22	13	21,5
16 06 18	6	G1/8	12	14,5	5	18,2	22	13	18,5
16 06 14	6	G1/4	12	16	6,5	21,7	22	13	22,0
16 06 38	6	G3/8	12	20	7	22,2	22	13	27,7
16 06 12	6	G1/2	12	25	8,5	24,2	22	13	37,2
16 08 18	8	G1/8	14	14,5	5	18	22,5	13	22,0
16 08 14	8	G1/4	14	16	6,5	21,5	22,5	13	25,5
16 08 38	8	G3/8	14	20	7	25,5	23	16	36,0
16 08 12	8	G1/2	14	25	8,5	27,5	23	16	41,0
16 10 18	10	G1/8	16	18	5	20,5	26	16	30,8
16 10 14	10	G1/4	16	18	6,5	22	26	16	32,5
16 10 38	10	G3/8	16	20	7	25,5	26	16	39,5
16 10 12	10	G1/2	16	25	8,5	27,5	26	16	43,2
16 12 14	12	G1/4	19	22,5	6,5	25,5	28,5	20	58,5
16 12 38	12	G3/8	19	22,5	7	26	28,5	20	56,0
16 12 12	12	G1/2	19	25	8,5	30,5	28,5	20	65,1
16 14 38	14	G3/8	22	22,5	7	26	32	20	59,0
16 14 12	14	G1/2	22	25	8,5	30,5	32	20	68,5
16 16 12	16	G1/2	24	27	8,5	33	36,5	25	105,2
16 16 34	16	G3/4	24	32	9,5	35	36,5	25	113,8

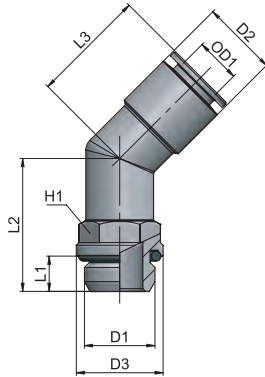


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MA 16-45

可调向外直螺纹45°管接头

Parallel Swivelling Elbow Fitting, male 45°

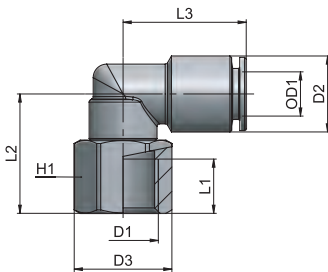


类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
16 06 18 45°	6	G1/8	12	12,8	5	21	21	13	24,1
16 06 14 45°	6	G1/4	12	16	6,5	24,5	21	13	27,9
16 08 18 45°	8	G1/8	14	12,8	5	21	21	13	24,6
16 08 14 45°	8	G1/4	14	16	6,5	24,5	21	13	28,3
16 10 14 45°	10	G1/4	16	16	6,5	23	25	13	40,5
16 10 38 45°	10	G3/8	16	20	7	26,5	25	16	45,3
16 12 38 45°	12	G3/8	20	20	7	26	25	16	68,2
16 12 12 45°	12	G1/2	20	25	8,5	30,5	25	20	76,3

## MA 17

可调向内螺纹直角接头

Swivelling elbow fitting, female

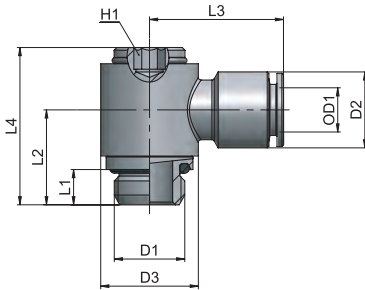


类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
17 04 18	4	G1/8	9,1	14,5	6,5	17,9	19,5	13	17,3
17 06 18	6	G1/8	12	14,5	6,5	17,9	22	13	19,7
17 06 14	6	G1/4	12	18	10	22,2	22	16	25,4
17 08 18	8	G1/8	14	14,5	6,5	17,7	22,5	13	23,1
17 08 14	8	G1/4	14	18	10	22	22,5	16	29,1
17 10 14	10	G1/4	16	18	10	23	26	16	35,6
17 10 38	10	G3/8	16	22,5	10,5	25	26	20	43,5

## MA 18

可调向单通铰接头

Swivelling fitting with banjo ring

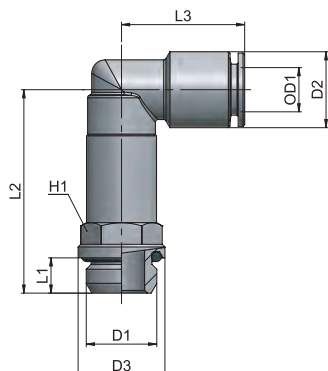


类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g $\Delta$
18 03 M3	3	M3x0,5	6,8	7	3	8,5	14	14	2	4,6
18 03 M5	3	M5x0,8	6,8	7	4	9,5	14	15	2	8,1
18 04 M5	4	M5x0,8	9	10	4	11	18,5	19,1	3	10,1
18 04 18	4	G1/8	9,1	14	5	15	20,5	25,5	4	22,2
18 06 M5	6	M5x0,8	12	10	4	11	21,5	19,1	3	13,3
18 06 18	6	G1/8	12	14	5	15	22,5	25,5	4	24,4
18 06 14	6	G1/4	12	18	6,5	17,5	24	29	5	39,3
18 08 18	8	G1/8	14	14	5	15	23,5	25,5	4	25,7
18 08 14	8	G1/4	14	18	6,5	17,5	24,5	29	5	39,1
18 10 14	10	G1/4	16	18	6,5	17,5	27	29	5	43,6
18 10 38	10	G3/8	16	22	7	19,5	29	32,5	6	62,2
18 12 38	12	G3/8	19	22	7	19,5	29,5	32,5	6	69,0
18 12 12	12	G1/2	19	26	8,5	24	31,5	39,6	8	114,8

## MA 19

可调向加长型直外螺纹弯管接头

Swivelling extended elbow fitting, male, parallel



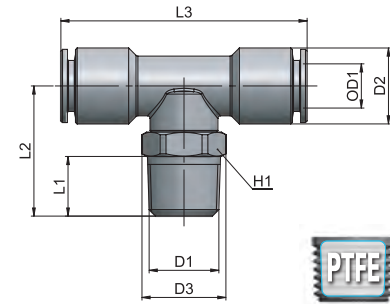
类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
19 04 18	4	G1/8	9,1	14,5	5	29,2	19,5	13	25,6
19 06 18	6	G1/8	12	14,5	5	32,2	22	13	30,5
19 06 14	6	G1/4	12	16	6,5	35,7	22	13	30,9
19 08 18	8	G1/8	14	14,5	5	34	22,5	13	35,7
19 08 14	8	G1/4	14	16	6,5	37,5	22,5	13	36,0

MA 20

可调向锥螺纹正T型三通接头

Swivelling T fitting, taper

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g Δ
20 04 18	4	R1/8	9,1	14,5	7,5	20,2	39	13	21,5
20 04 14	4	R1/4	9,1	15,5	11	24,2	39	14	25,6
20 06 18	6	R1/8	12	14,5	7,5	20	44	13	26,3
20 06 14	6	R1/4	12	15,5	11	24	44	14	30,4
20 08 18	8	R1/8	14	14,5	7,5	20	45	13	31,3
20 08 14	8	R1/4	14	15,5	11	24	45	14	35,5
20 08 38	8	R3/8	14	20	11,5	27	46	18	49,1
20 10 14	10	R1/4	16	20	11	26,5	52	18	50,0
20 10 38	10	R3/8	16	20	11,5	27	52	18	51,6
20 12 38	12	R3/8	19	22,5	11,5	30,5	57	20	80,0
20 12 12	12	R1/2	19	24,5	14	33,5	57	22	83,5

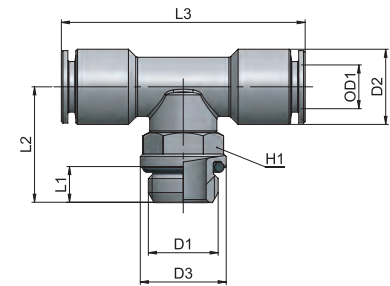


MA 21

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g Δ
21 04 18	4	G1/8	9,1	14,5	5	18,2	39	13	20,2
21 04 14	4	G1/4	9,1	16	6,5	21,7	39	13	23,9
21 06 18	6	G1/8	12	14,5	5	18	44	13	25,2
21 06 14	6	G1/4	12	16	6,5	21,5	44	13	29,1
21 08 18	8	G1/8	14	14,5	5	18	45	13	30,7
21 08 14	8	G1/4	14	16	6,5	21,5	45	13	34,1
21 08 38	8	G3/8	14	20	7	25,5	46	16	46,4
21 10 14	10	G1/4	16	18	6,5	22	52	16	44,4
21 10 38	10	G3/8	16	20	7	25,5	52	16	48,7
21 12 38	12	G3/8	19	22,5	7	26	57	20	75,3
21 12 12	12	G1/2	19	25	8,5	30,5	57	20	82,0

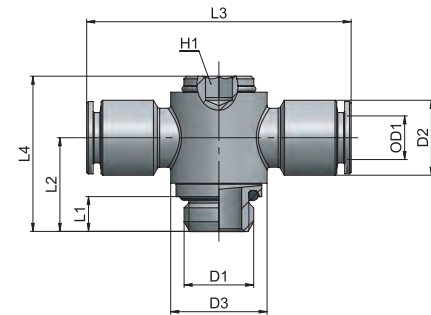


MA 22

可调向两通铰接接头

Swivelling fitting with double banjo ring

类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g Δ
22 04 M5	4	M5x0,8	9	10	4	11	38	19,1	3	13,8
22 04 18	4	G1/8	9	14	5	15	41	25,5	4	27,4
22 06 M5	6	M5x0,8	12	10	4	11	43	19,1	3	19,9
22 06 18	6	G1/8	12	14	5	15	45	25,5	4	32,1
22 06 14	6	G1/4	12	18	6,5	17,5	48	29	5	45,8
22 08 18	8	G1/8	14	14	5	15	47	25,5	4	34,1
22 08 14	8	G1/4	14	18	6,5	17,5	49	29	5	46,5
22 10 14	10	G1/4	16	18	6,5	17,5	54	29	5	55,2
22 10 38	10	G3/8	16	22	7	19,5	58	32,5	6	72,4
22 12 38	12	G3/8	19	22	7	19,5	59	32,5	6	79,0
22 12 12	12	G1/2	19	27	8,5	24	63	39,6	8	124,7

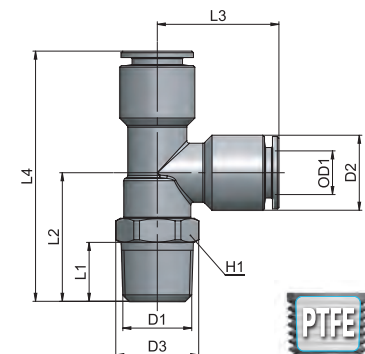


MA 23

锥螺纹直T型三通接头

Lateral run T fitting, taper

类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g Δ
23 04 18	4	R1/8	9,1	14,5	7,5	20,2	19,5	39,7	13	22,0
23 04 14	4	R1/4	9,1	15,5	11	24,2	19,5	43,7	14	25,5
23 06 18	6	R1/8	12	14,5	7,5	20,2	22	42,2	13	27,5
23 06 14	6	R1/4	12	15,5	11	24,2	22	46,2	14	31,0
23 08 18	8	R1/8	14	14,5	7,5	20	22,5	42,5	13	31,0
23 08 14	8	R1/4	14	15,5	11	24	22,5	46,5	14	35,0
23 10 14	10	R1/4	16	20	11	26,5	26	52,5	18	50,0
23 10 38	10	R3/8	16	20	11,5	27	26	53	18	51,0
23 12 38	12	R3/8	19	22,5	11,5	30,5	28,5	59	20	75,0
23 12 12	12	R1/2	19	24,5	14	33,5	28,5	62	22	83,5

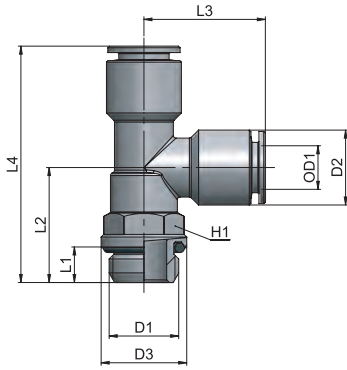


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MA 24

直螺纹直T型三通接头

Lateral run T fitting, parallel

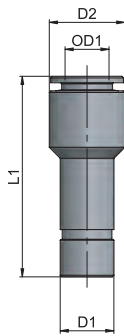


类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g $\Delta$
24 04 18	4	G1/8	9,1	14,5	5	18,2	19,5	37,7	13	20,5
24 04 14	4	G1/4	9,1	16	6,5	21,7	19,5	41,2	13	24,0
24 06 18	6	G1/8	12	14,5	5	18,2	22	40,2	13	26,0
24 06 14	6	G1/4	12	16	6,5	21,7	22	43,7	13	29,5
24 08 18	8	G1/8	14	14,5	5	18	22,5	40,5	13	30,0
24 08 14	8	G1/4	14	16	6,5	21,5	22,5	44	13	33,5
24 10 14	10	G1/4	16	18	6,5	22	26	48	16	44,0
24 10 38	10	G3/8	16	20	7	25,5	26	51,5	16	49,0
24 12 38	12	G3/8	19	22,5	7	26	28,5	54,5	20	73,0
24 12 12	12	G1/2	19	25	8,5	30,5	28,5	59	20	77,0

## MA 25

减径接头

Reducer

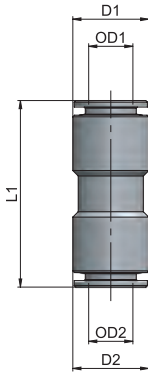


类型	OD1	D1	D2	L1	g $\Delta$
25 03 04	3	4	6,5	27,5	2,5
25 04 06	4	6	9	33,5	7,0
25 04 08	4	8	9	33,5	10,0
25 04 10	4	10	10	31,5	15,0
25 04 12	4	12	12	32,5	24,5
25 06 04	6	4	12	35,5	10,0
25 06 08	6	8	12	35	11,5
25 06 10	6	10	12	36,5	16,5
25 06 12	6	12	12	35,5	22,2
25 06 14	6	14	14	37,5	25,0
25 08 06	8	6	14	39,5	13,5
25 08 10	8	10	14	37	15,0
25 08 12	8	12	14	39	23,0
25 08 14	8	14	14	38,5	31,5
25 10 12	10	12	16	42	20,0
25 10 14	10	14	16	42	29,5
25 12 14	12	14	19	43	24,0
25 14 16	14	16	22	49,5	45,0

## MA 26

对接接头

Union

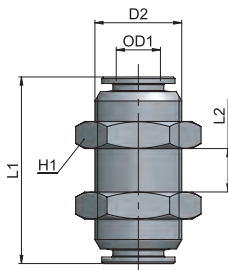


类型	OD1	OD2	D1	D2	L1	g $\Delta$
26 03 03	3	3	6,5	6,5	22,5	2,7
26 04 04	4	4	9	9	28	6,8
26 06 06	6	6	12	12	33,6	14,2
26 06 04	6	4	12	12	31	14,7
26 08 08	8	8	14	14	34	17,6
26 08 06	8	6	14	14	34	21,0
26 10 10	10	10	16	16	38,6	22,5
26 10 08	10	8	16	16	36,5	25,2
26 12 12	12	12	19	19	41	37,0
26 12 08	12	8	19	14	39	31,4
26 12 10	12	10	19	16	40,5	33,9
26 14 14	14	14	22	22	47	47,2
26 14 12	14	12	22	19	44,5	44,0
26 16 16	16	16	24	24	47	63,2
26 16 12	16	12	24	19	44,5	52,0
26 16 14	16	14	24	22	47	60,0

## MA 27

穿板对接接头

Bulkhead union



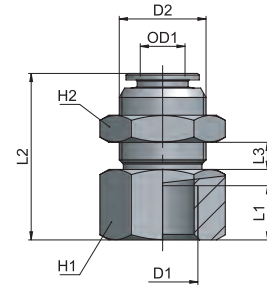
类型	OD1	D2	L1	L2	H1	g $\Delta$
27 03 03	3	M8x0,75	21	8	12	14,5
27 04 04	4	M12x1	28	11	16	23,5
27 06 06	6	M14x1	34	16	18	33,0
27 08 08	8	M16x1	34	16	20	39,5
27 10 10	10	M18x1	39	19	22	51,5
27 12 12	12	M20x1	41	20	24	60,0

MA 27-F

内螺纹穿板接头

Bulkhead union, female

类型	OD1	D1	D2	L1	L2	L3	H1	H2	g $\Delta$
27 06 18 F	6	G1/8	M14x1	7	26,5	9	18	18	33,6
27 06 14 F	6	G1/4	M14x1	10	30,5	9	18	18	35,2
27 08 18 F	8	G1/8	M16x1	7	26,5	9	20	20	41,5
27 08 14 F	8	G1/4	M16x1	10	30,5	9	20	20	45,3
27 10 38 F	10	G3/8	M18x1	11	33	10	22	22	51,8

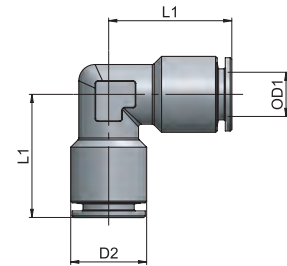


MA 28

直角对接接头

Union elbow

类型	OD1	D2	L1	g $\Delta$
28 03 03	3	7	12,8	4,5
28 04 04	4	9	17,5	9,0
28 06 06	6	12	20,5	16,5
28 08 08	8	14	22,5	22,0
28 10 10	10	16	25	29,5
28 12 12	12	19	26,5	48,5
28 14 14	14	22	31,5	58,0
28 16 16	16	24	36,5	90,6

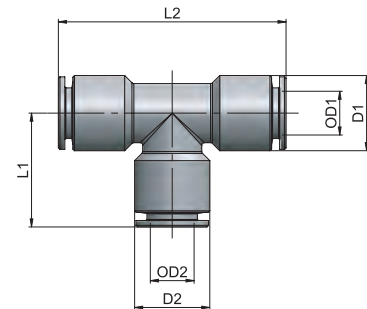


MA 29

正T型三通对接接头

Union T

类型	OD1	OD2	D1	D2	L1	L2	g $\Delta$
29 03 03	3	3	7	7	12,8	25,6	5,6
29 04 04	4	4	9	9	17,5	35	12,5
29 06 06	6	6	12	12	20	40	22,3
29 06 04	6	4	12	9	18	40	19,9
29 08 08	8	8	14	14	21	42	28,0
29 08 06	8	6	14	12	20,5	42	27,5
29 10 10	10	10	16	16	24,5	49	39,2
29 10 08	10	8	16	14	23	49	38,4
29 12 12	12	12	19	19	26	52	61,3
29 12 10	12	10	19	16	26	52	60,3
29 14 14	14	14	22	22	30,5	61	77,1
29 16 16	16	16	24	24	34,5	69	124,0

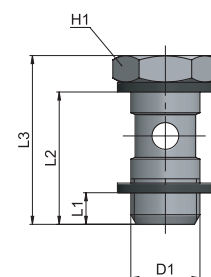


MA 31

单层铰接螺栓

Simple screw

类型	D1	L1	L2	L3	H1	g $\Delta$
31 00 M5	M5x0,8	4,1	14,3	18,5	8	2,5
31 00 18	G1/8	4,4	21,2	27	14	13,4
31 00 14	G1/4	5,9	24,7	31,5	17	27,8
31 00 38	G3/8	6,4	28,2	36	20	43,0
31 00 12	G1/2	7,5	33,5	41,5	26	81,1

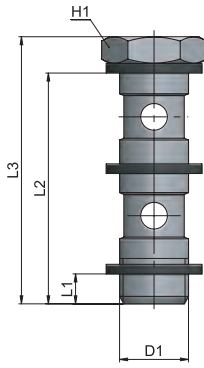


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MA 32

双层铰接螺栓

Double screw

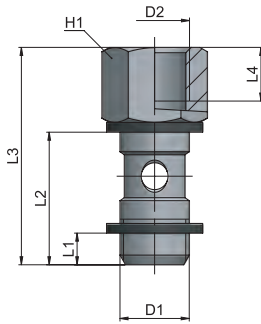


类型	D1	L1	L2	L3	H1	g $\Delta$
32 00 18	G1/8	4,1	37,7	43,5	14	19,5
32 00 14	G1/4	5,6	43,2	50	17	38,5
32 00 38	G3/8	6,1	49,7	57,5	20	63,5
32 00 12	G1/2	7	59	67	26	117,0

## MA 33

内外螺纹单层铰接螺栓

Screw, male female

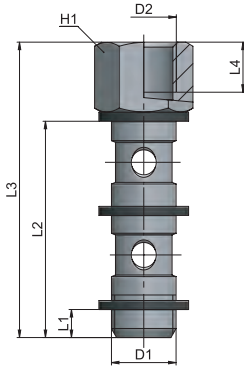


类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
33 00 18	G1/8	G1/8	4,4	21,2	35	6,2	14	19,5
33 00 14	G1/4	G1/4	5,9	24,7	40,5	10	17	32,5
33 00 38	G3/8	G3/8	6,4	28,2	45	10	20	47,0

## MA 34

内外螺纹双层铰接螺栓

Double screw, male female

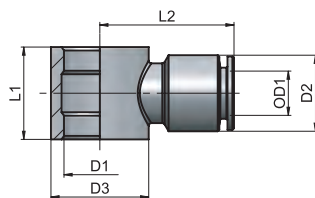


类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
34 00 18	G1/8	G1/8	4,1	37,7	51,5	6,2	14	26,0
34 00 14	G1/4	G1/4	5,6	43,2	59	10	17	44,0
34 00 38	G3/8	G3/8	6,1	49,7	66,5	10	20	66,0

## MA 35

单通铰接接头本体

Single banjo ring



类型	OD1	D1	D2	D3	L1	L2	g $\Delta$
35 04 M5	4	M5	9,1	10	9	18,5	7,7
35 04 M5 /R	4	7	9,1	10	10	18,5	6,6
35 04 18	4	10	9,1	14	15	20,5	13,5
35 06 M5	6	M5	12	10	9	21,5	10,9
35 06 M5 /R	6	7	12	10	10	21,5	10,1
35 06 18	6	10	12	14	15	22,5	15,5
35 06 14	6	13,2	12	18	17	24	21,6
35 08 18	8	10	14	14	15	23,5	16,7
35 08 14	8	13,2	14	18	17	24,5	22,8
35 08 38	8	17	14	22	20	26,5	32,7
35 10 14	10	13,2	16	18	17	27	27,2
35 10 38	10	17	16	22	20	29	34,5
35 12 38	12	17	19	22	20	29,5	38,8
35 12 12	12	21	19	26	24	31,5	56,9

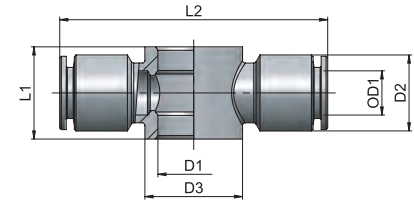
/R = 仅用于流量调节阀 - For flow controls only

MA 36

两通铰接头本体

Double banjo ring

类型	OD1	D1	D2	D3	L1	L2	g $\Delta$
36 04 M5	4	M5	9	10	9	37	10,9
36 04 18	4	10	9	14	15	41	18,0
36 06 18	6	10	12	14	15	45	23,0
36 06 14	6	13,2	12	18	17	48	28,7
36 08 18	8	10	14	14	15	47	25,3
36 08 14	8	13,2	14	18	17	49	29,7
36 08 38	8	17	14	22	20	53	42,5
36 10 14	10	13,2	16	18	17	54	37,9
36 10 38	10	17	16	22	20	58	44,5
36 12 38	12	17	19	22	20	59	51,3
36 12 12	12	21	19	27	24	63	67,2

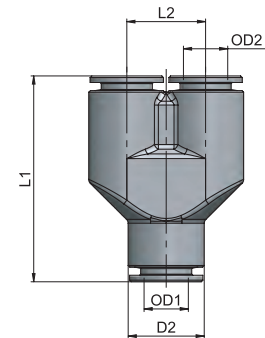


MA 37

Y型接头

Y fitting

类型	OD1	OD2	D2	L1	L2	g $\Delta$
37 03 03	3	3	6,8	25	7,5	7,9
37 04 04	4	4	9	29,5	9,5	14,3
37 06 06	6	6	12	36,5	12,5	33,3
37 06 04	6	4	12	34,1	11	36,1
37 08 08	8	8	14	37,5	14,5	44,1
37 08 06	8	6	14	37,5	14,5	51,1
37 10 10	10	10	16	44,5	16,5	62,7
37 10 08	10	8	16	44	16,5	74,9
37 12 12	12	12	19	49	19,5	95,8

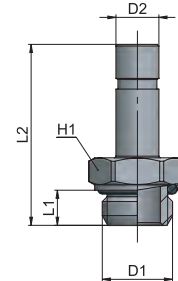


MA 38

螺纹型尾管接头

Stem adaptor

类型	D1	D2	L1	L2	H1	g $\Delta$
38 04 M5	M5x0,8	4	4	26	9	3,2
38 04 18	G1/8	4	5	28	13	7,3
38 04 14	G1/4	4	6,5	29,5	16	12,4
38 06 M5	M5x0,8	6	4	28	9	5,9
38 06 18	G1/8	6	5	30	13	8,5
38 06 14	G1/4	6	6,5	32,5	16	13,7
38 08 18	G1/8	8	5	31	13	9,4
38 08 14	G1/4	8	6,5	33,5	16	14,5
38 10 14	G1/4	10	6,5	34,5	16	15,5
38 10 38	G3/8	10	7	35	20	22,0
38 12 38	G3/8	12	7	38	20	23,6
38 12 12	G1/2	12	8,5	39,5	25	38,0

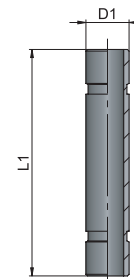


MA 39

接头连接杆

Extention piece

类型	D1	L1	g $\Delta$
39 00 04	4	35	2,7
39 00 06	6	40	5,1
39 00 08	8	42	8,0
39 00 10	10	50	11,8
39 00 12	12	53	15,3
39 00 14	14	54	18,8

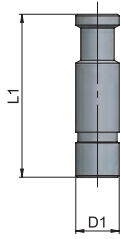


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MA 40

堵头

Plug

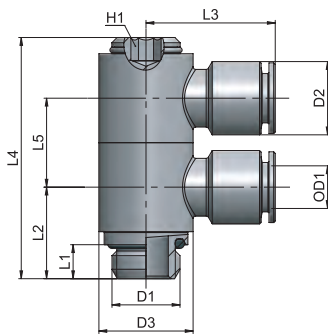


类型	D1	L1	g $\Delta$
40 00 03	3	20	1,0
40 00 04	4	25	2,3
40 00 06	6	25	3,7
40 00 08	8	30	7,2
40 00 10	10	35	11,8
40 00 12	12	40	18,2
40 00 14	14	40	26,2
40 00 16	16	40	32,5

## MA 41

可调向双层单通铰接头

Swivelling fitting with two banjo rings

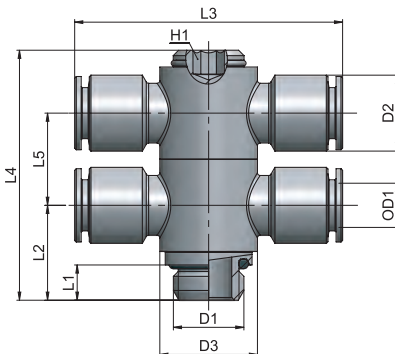


类型	OD1	D1	D2	D3	L1	L2	L3	L4	L5	H1	g $\Delta$
41 04 M5	4	M5x0,8	9	10	4	11	18,5	29,2	10	3	18,5
41 04 18	4	G1/8	9,1	14	5	15	20,5	40,4	15	4	40,0
41 06 18	6	G1/8	12	14	5	15	22,5	40,4	15	4	46,0
41 06 14	6	G1/4	12	18	6,5	17,5	24	46,1	17	5	69,5
41 08 18	8	G1/8	14	14	5	15	23,5	40,4	15	4	50,0
41 08 14	8	G1/4	14	18	6,5	17,5	24,5	46,1	17	5	69,5

## MA 42

可调向双层两通铰接头

Swivelling fitting with two double banjo rings

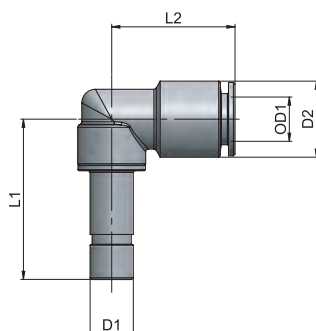


类型	OD1	D1	D2	D3	L1	L2	L3	L4	L5	H1	g $\Delta$
42 04 M5	4	M5x0,8	9	10	4	11	38	29,2	10	3	25,0
42 04 18	4	G1/8	9	14	5	15	41	40,4	15	4	50,0
42 06 18	6	G1/8	12	14	5	15	45	40,4	15	4	59,0
42 06 14	6	G1/4	12	18	6,5	17,5	48	46,1	17	5	82,0
42 08 18	8	G1/8	14	14	5	15	47	40,4	15	4	61,0
42 08 14	8	G1/4	14	18	6,5	17,5	49	46,1	17	5	83,5

## MA 43

带尾管直角接头

Plug-in elbow



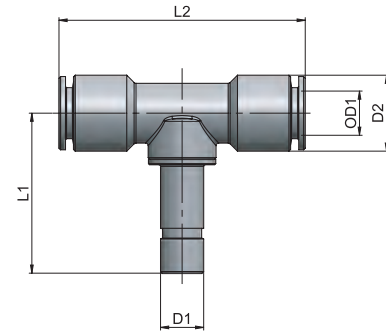
类型	OD1	D1	D2	L1	L2	g $\Delta$
43 04 04	4	4	9,1	25,7	19,5	14,0
43 04 06	4	6	9,1	29,7	19,5	15,0
43 06 04	6	4	12	25,7	22	17,0
43 06 06	6	6	12	29,7	22	17,0
43 06 08	6	8	12	29,7	22	17,5
43 08 06	8	6	14	29,5	22,5	20,5
43 08 08	8	8	14	29,5	22,5	20,5
43 10 10	10	10	16	33,5	26	30,0

MA 44

带尾管正T型接头

Plug-in T

类型	OD1	D1	D2	L1	L2	g	$\Delta$
44 04 04	4	4	9,1	25,7	39	18,5	
44 04 06	4	6	9,1	29,7	39	19,5	
44 06 06	6	6	12	29,5	44	24,5	
44 06 08	6	8	12	29,5	44	24,5	
44 08 08	8	8	14	29,5	45	29,0	
44 08 10	8	10	14	33,5	46	38,5	
44 10 10	10	10	16	33,5	52	41,0	

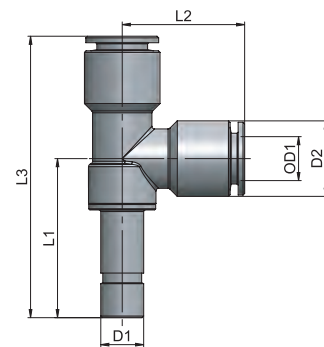


MA 45

带尾管直T型接头

Plug-in run T

类型	OD1	D1	D2	L1	L2	L3	g	$\Delta$
45 04 04	4	4	9,1	25,7	19,5	45,2	18,5	
45 04 06	4	6	9,1	29,7	19,5	49,2	20,0	
45 06 06	6	6	12	29,7	22	51,7	25,0	
45 06 08	6	8	12	29,7	22	51,7	25,5	
45 08 08	8	8	14	29,5	22,5	52	30,0	
45 10 10	10	10	16	33,5	26	59,5	41,0	

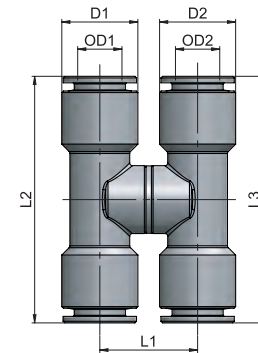


MA 46

可调向十字型接头

Swivelling cross fitting

类型	OD1	OD2	D1	D2	L1	L2	L3	g	$\Delta$
46 04 04	4	4	9,1	9,1	18,4	39	39	31,0	
46 04 06	4	6	9,1	12	18,4	39	44	36,0	
46 06 06	6	6	12	12	18	44	44	41,0	
46 06 08	6	8	12	14	18	44	45	46,5	
46 08 08	8	8	14	14	18	45	45	50,0	

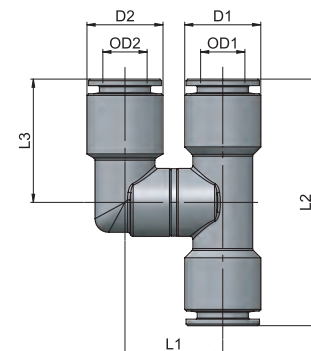


MA 47

可调向Y型接头

Swivelling Y fitting

类型	OD1	OD2	D1	D2	L1	L2	L3	g	$\Delta$
47 04 04	4	4	9,1	9,1	18,4	39	19,5	27,0	
47 04 06	4	6	9,1	12	18,4	39	22	29,5	
47 06 06	6	6	12	12	18,2	44	22	34,5	
47 06 08	6	8	12	14	18	44	22,5	37,5	
47 08 08	8	8	14	14	18	45	22,5	42,0	



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

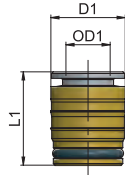
# MA 10

## 埋入式接头

MA10埋入接头的优良结构设计，使得同一规格接头能够同时适用于塑料，铝和黄铜等不同基座材质。

## Press-in cartridge

The new construction features of the cartridge MA10 allow for one single cartridge version to be assembled in plastic, aluminium as well as brass bodies.



类型	OD1	D1	L1	g $\Delta$
10 04 00	4	9,3	14,5	3,6
10 06 00	6	11,5	16,5	5,7
10 08 00	8	13,7	17	7,9
10 10 00	10	15,8	19	10,3

### 钻孔示意图

1 按照提供的说明和钻孔方法来加工埋入孔

2 手动将接头按压入埋入孔，再使用埋入工具进行压装，直至底部，这样就确保了正确安装

可根据要求提供“钻孔和安装工具”

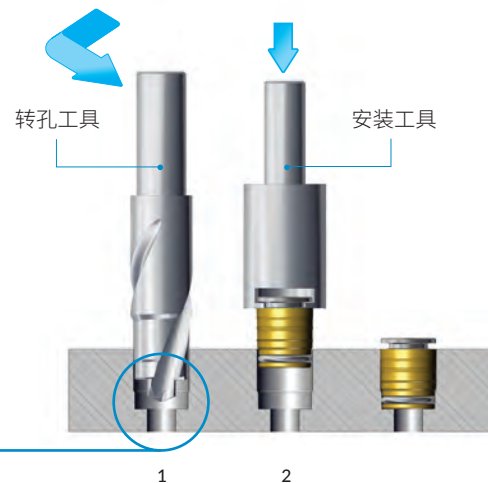
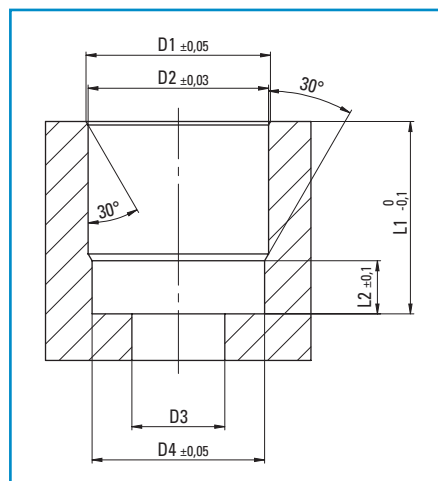
### Cartridge seat drilling plan

1 Drill the cartridge seat, following the instructions given.

2 Manually press the cartridge into the seat and by means of the Assembly tool push it all the way down until it bottoms; this will guarantee the proper cartridge assembly.

“Drilling and Assembly Tool” available upon request.

类型	D1	D2	D3	D4	L1	L2
4	9,5	9,2	3	8,6	12	3,2
6	11,7	11,4	5	10,8	14	4
8	13,9	13,6	7	13	14,5	4
10	16	15,7	9	15,1	16	4





## MB LINE



CN

### 高级合成树脂快插接头

MB系列快插式管接头由采用聚甲醛树脂 (POM) 技术的高分子聚合物制成, 该材料以其优异的尺寸稳定性、刚性、耐疲劳性及耐腐蚀性而著称。这些特性能够有效弥补金属与传统塑料材料之间的性能差距。

EN

### Technopolymer Push-in Fittings

The push-in fittings of the MB line are made of a Technopolymer belonging to the Acetal Resins Family (POM) also well known for the dimensional stability offered, stiffness, fatigue and corrosion resistance. These features can bridge the gap between metal and the traditional plastic materials.

# MB Line

1 本体 Body	2 释放环 Release ring	3 卡爪 Gripping ring	4 支撑环 Holding ring	5 保护环 Protection ring	6 螺纹体 Threaded screws	7 密封圈 Seals
缩醛树脂 Acetal resin	(POM) (POM)	AISI 301 不锈钢 Stainless steel AISI 301	缩醛树脂 Acetal resin	(POM) (POM)	缩醛树脂 Acetal resin	(POM) (POM)
					黄铜镀镍 UNI EN 12164 CW614N Brass UNI EN 12164 CW614N, nickel plated	NBR NBR



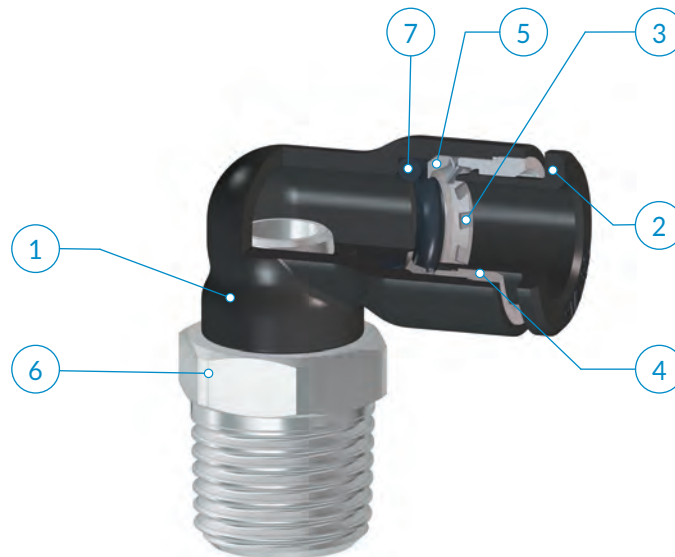
-20° ÷ 70°C



18 bar



-99 KPa



针对“R”型螺纹  
for “R” threads

	M5x0,8	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
4	•	•	•			•	•		
6	•	•	•			•	•		
8		•	•	•		•	•	•	
10			•	•		•	•	•	
12				•	•			•	•
14				•	•			•	•

### 建议的连接管路：

PA11、PA12、PA6、PE聚乙烯、  
PU聚氨酯 (98 Shore A)。

### 可接受的管路公差：

+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 直径从 12 到 14 mm。

### 应用领域：

气动系统。

### Recommended tubings:

PA11, PA12, PA6, Polyethylene PE,  
Polyurethane PU (98 Shore A)

### Acceptable Tolerances on the tubings:

+/- 0,07 mm up to Ø 10 mm  
+/- 0,1 mm up to Ø 14 mm

### Application fields:

Pneumatic circuits



OD	L
4	13,4
6	16,3
8	16,5
10	18,5
12	20,3
14	23

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

将管路插入接头,到底为止。

2

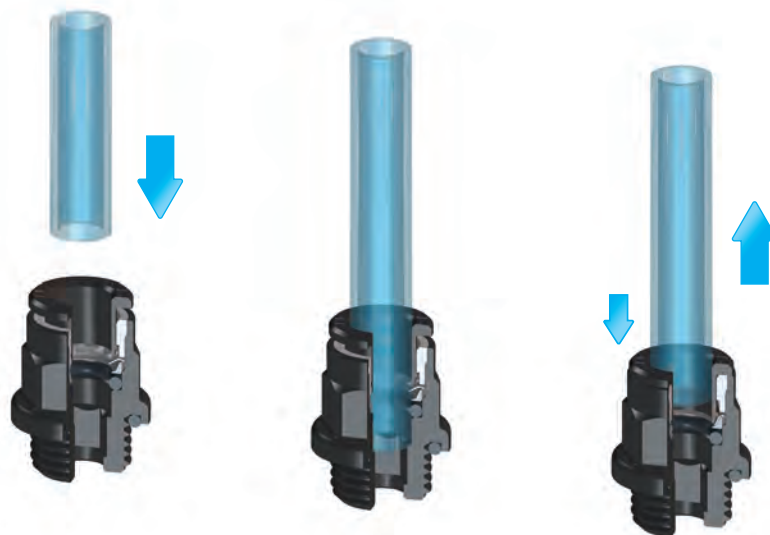
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

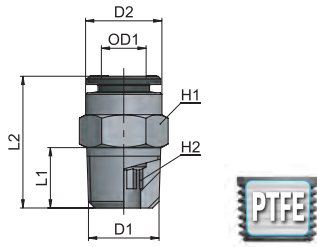


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## AP 11

### 外锥螺纹直接头

Taper straight, male

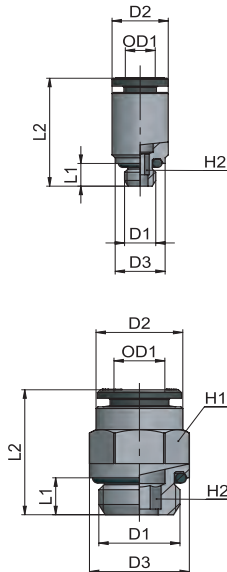


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	9	7,5	16	10	3	5,1
11 04 14	4	R1/4	9	11	20,5	14	3	15,3
11 06 18	6	R1/8	11,9	7,5	21,5	12	4	7,5
11 06 14	6	R1/4	11,9	11	21	14	4	12,9
11 06 38	6	R3/8	11,9	11,5	21,5	17	4	24,4
11 08 18	8	R1/8	13,9	7,5	25,5	14	6	11,5
11 08 14	8	R1/4	13,9	11	24	14	6	12,1
11 08 38	8	R3/8	13,9	11,5	23	17	6	22,3
11 08 12	8	R1/2	13,9	14	25,5	22	6	48,3
11 10 18	10	R1/8	15,9	7,5	28	16	6	16,9
11 10 14	10	R1/4	15,9	11	30,5	16	8	18,2
11 10 38	10	R3/8	15,9	11,5	24	17	8	18,5
11 10 12	10	R1/2	15,9	14	27	22	8	45,4
11 12 14	12	R1/4	18,9	11	32,5	19	8	26,1
11 12 38	12	R3/8	18,9	11,5	28	19	10	21,6
11 12 12	12	R1/2	18,9	14	28	22	10	38,6

## AP 12

### 外直螺纹直接头

Parallel straight, male



类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 04 M5	4	M5x0,8	9	8	4	19	-	2,5	3,5
12 06 M5	6	M5x0,8	12	8	4	22,7	-	2,5	7,2
12 06 M12x1,5	6	M12x1,5	11,9	15	6,5	21,5	12	4	11,4

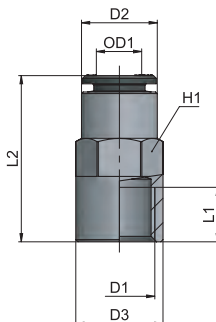
  

Type	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 04 18	4	G1/8	9	13	5	16,5	9	3	5,3
12 06 18	6	G1/8	11,9	13,5	5	20	12	4	7,6
12 06 14	6	G1/4	11,9	16	6,5	20	12	4	11,5
12 06 38	6	G3/8	11,9	20	7	21	12	4	19,2
12 06 12	6	G1/2	11,9	25	8,5	23	12	4	33,8
12 08 18	8	G1/8	13,9	14,5	5	24	13	6	9,8
12 08 14	8	G1/4	13,9	16	6,5	22	14	6	12,1
12 08 38	8	G3/8	13,9	20	7	21,5	14	6	18,4
12 08 12	8	G1/2	13,9	25	8,5	23,5	14	6	32,8
12 10 18	10	G1/8	15,9	13	5	27	15	8	14,5
12 10 14	10	G1/4	15,9	16,5	6,5	27,5	15	8	15,0
12 10 38	10	G3/8	15,9	20	7	25	16	8	19,8
12 10 12	10	G1/2	15,9	25	8,5	25,5	16	8	32,5
12 12 14	12	G1/4	18,9	21	6,5	29	19	8	23,0
12 12 38	12	G3/8	18,9	21	7	29	19	10	25,7
12 12 12	12	G1/2	18,9	25	8,5	27	19	10	33,3

## AP 13

### 内螺纹直接头

Female straight



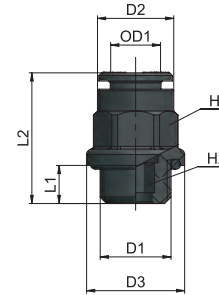
类型	OD1	D1	D2	D3	L1	L2	H1	g $\Delta$
13 04 18	4	G1/8	9	13	7	23,5	9	9,0
13 06 18	6	G1/8	11,9	14	7	26,5	12	14,1
13 06 14	6	G1/4	11,9	16	10	30,5	12	17,2
13 08 18	8	G1/8	13,7	16,2	7	26,5	14	16,5
13 08 14	8	G1/4	13,9	16	10	30,5	14	18,5
13 10 14	10	G1/4	15,9	18,5	10	32	16	22,0
13 10 38	10	G3/8	15,9	20	11	33,5	16	27,8

MB 12

外直螺纹直接头

Parallel straight, male

类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 04 18	4	G1/8	9,5	15	6	21	10	3	2,3
12 06 18	6	G1/8	11,5	15	6	24	12	4	2,7
12 06 14	6	G1/4	11,5	18	7	24	12	4	3,0
12 08 18	8	G1/8	14	15	6	25,5	14	6	2,9
12 08 14	8	G1/4	14	18	7	24	14	6	3,8
12 08 38	8	G3/8	14	22	7	24	14	6	5,9
12 10 14	10	G1/4	16	18	7	27	16	8	4,0
12 10 38	10	G3/8	16	22	7	25	16	8	6,2

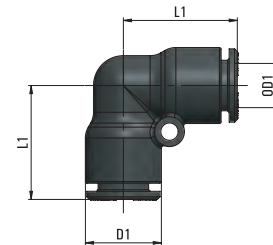


MB 14

直角对接接头

Union elbow

类型	OD1	D1	L1	g $\Delta$
14 04 04	4	9,5	15,5	2,2
14 06 06	6	11,5	19,5	3,8
14 08 08	8	14	21	4,9
14 10 10	10	16	24	6,3
14 12 12	12	19	27	9,6
14 14 14	14	22,5	30,5	15,5

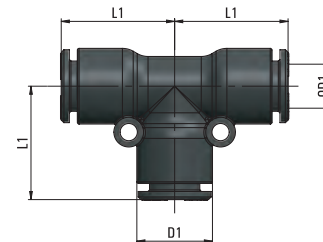


MB 15

正T型三通对接接头

Union T

类型	OD1	D1	L1	g $\Delta$
15 04 04	4	9,5	15,5	2,5
15 06 06	6	11,5	19,5	4,6
15 08 08	8	14	21	7,1
15 10 10	10	16	24	8,7
15 12 12	12	19	27	12,3
15 14 14	14	22,5	30,5	21,7

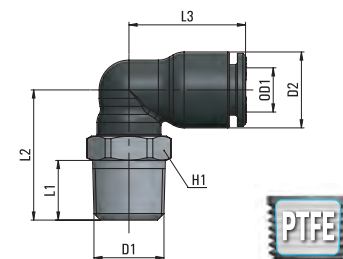


MB 16

可调向外锥螺纹弯头

Taper swivelling elbow fitting, male

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
16 04 18	4	R1/8	9,5	7,5	17	16	10	6,4
16 04 14	4	R1/4	9,5	11	20,5	16	14	11,5
16 06 18	6	R1/8	11,5	7,5	18,8	20,5	12	8,4
16 06 14	6	R1/4	11,5	11	23,3	20,5	14	13,6
16 08 18	8	R1/8	14	7,5	19,5	21,5	12	9,0
16 08 14	8	R1/4	14	11	24	21,5	14	14,1
16 08 38	8	R3/8	14	11,5	24,5	21,5	17	19,0
16 10 14	10	R1/4	16	11	25,5	24,5	16	17,3
16 10 38	10	R3/8	16	11,5	26,5	24,5	17	21,7
16 12 38	12	R3/8	19	11,5	28,5	28,5	20	32,8
16 12 12	12	R1/2	19	14	31,5	28,5	22	41,4
16 14 38	14	R3/8	22,5	11,5	29,5	32,3	20	34,6
16 14 12	14	R1/2	22,5	14	32,5	32,3	22	43,2

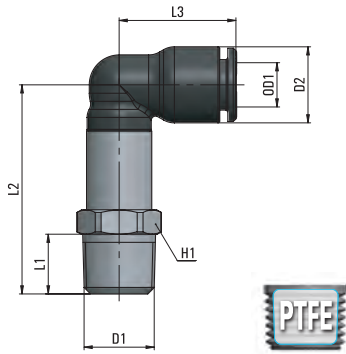


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MB 17

加长型可调向外直螺纹弯头

Extended swivel elbow, taper

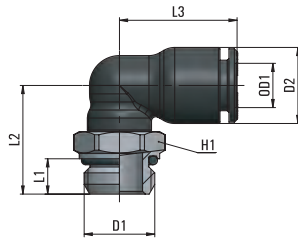


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
17 04 18	4	R1/8	9,5	7,5	26	16	10	10,0
17 04 14	4	R1/4	9,5	11	30	16	14	16,1
17 06 18	6	R1/8	11,5	7,5	33,3	20,5	12	17,6
17 06 14	6	R1/4	11,5	11	37,8	20,5	14	20,5
17 08 18	8	R1/8	14	7,5	34	21,5	12	18,0
17 08 14	8	R1/4	14	11	38,5	21,5	14	20,8
17 08 38	8	R3/8	14	11,5	39	21,5	17	27,4
17 10 14	10	R1/4	16	11	41,9	24,5	16	36,4
17 10 38	10	R3/8	16	11,5	42,9	24,5	17	35,1

## MB 18

可调向外直螺纹弯头

Parallel swivelling elbow, male

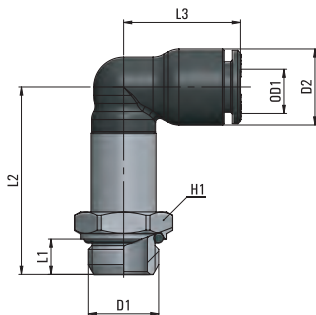


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
18 04 M5	4	M5x0,8	9,5	4	14,8	16	9	4,6
18 04 18	4	G1/8	9,5	5	15	16	12	7,1
18 04 14	4	G1/4	9,5	6,5	17	16	15	11,1
18 06 M5	6	M5x0,8	11,5	4	15,3	20,5	12	7,9
18 06 18	6	G1/8	11,5	5	17,3	20,5	12	7,9
18 06 14	6	G1/4	11,5	6,5	19,3	20,5	15	12,5
18 08 18	8	G1/8	14	5	18	21,5	12	8,8
18 08 14	8	G1/4	14	6,5	20	21,5	15	12,0
18 08 38	8	G3/8	14	7	21,5	21,5	20	21,4
18 10 14	10	G1/4	16	6,5	21,5	24,5	16	15,6
18 10 38	10	G3/8	16	6,5	23,5	24,5	20	22,8
18 12 38	12	G3/8	19	7	24	28,5	20	26,2
18 12 12	12	G1/2	19	8,5	28,5	28,5	20	33,8
18 14 38	14	G3/8	22,5	7	25	32,3	20	28,8
18 14 12	14	G1/2	22,5	8,5	29,5	32,3	20	36,5

## MB 19

加长型可调向外直螺纹弯头

Swivelling extended elbow fitting, male, parallel



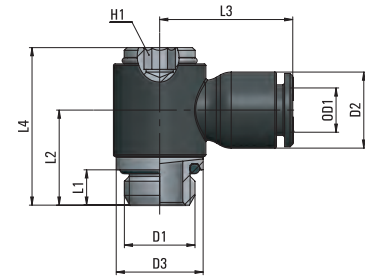
类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
19 04 M5	4	M5x0,8	9,5	4	23,8	16	9	9
19 04 18	4	G1/8	9,5	5	24	16	13	13
19 04 14	4	G1/4	9,5	6,5	26	16	16	16
19 06 M5	6	M5x0,8	11,5	4	29,8	20,5	12	12
19 06 18	6	G1/8	11,5	5	31,8	20,5	13	13
19 06 14	6	G1/4	11,5	6,5	33,8	20,5	16	16
19 08 18	8	G1/8	14	5	32,5	21,5	13	13
19 08 14	8	G1/4	14	6,5	34,5	21,5	16	16
19 08 38	8	G3/8	14	7	36	21,5	20	20
19 10 14	10	G1/4	16	6,5	36,9	24,5	16	16
19 10 38	10	G3/8	16	7	38,9	24,5	20	20

MB 20

可调向单通铰接头

Swivelling fitting with banjo ring

类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g	$\Delta$
20 04 M5	4	M5x0,8	10	9	4	12	17,6	19,1	3	5,4	
20 04 18	4	G1/8	9,7	13	5	15	19,1	25,5	4	12,2	
20 06 M5	6	M5x0,8	12	9	4	12	19	21,5	3	5,9	
20 06 18	6	G1/8	12	13	5	15	22,7	25,5	4	12,8	
20 06 14	6	G1/4	12	16	6,5	17,5	24,3	29,0	5	21,8	
20 08 18	8	G1/8	14	13	5	14,9	23,0	25,5	4	13,0	
20 08 14	8	G1/4	14	16	6,5	17,5	29	24,6	5	22,2	
20 08 38	8	G3/8	14	20	7	19,5	26,5	32,5	6	34,9	
20 10 14	10	G1/4	16	16	6,5	17,5	29	27	5	22,5	
20 10 38	10	G3/8	16	20	7	19,5	28,5	32,5	6	35,5	

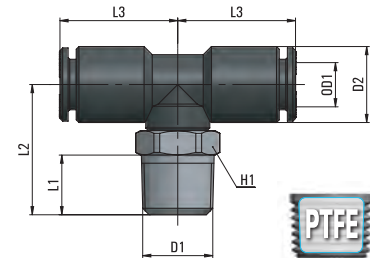


MB 21

可调向锥螺纹正T型三通接头

Swivelling T, taper

类型	OD1	D1	D2	L1	L2	L3	H1	g	$\Delta$
21 04 18	4	R1/8	10	7,5	17	15,7	10	7,4	
21 04 14	4	R1/4	10	11	20,5	15,7	14	13,8	
21 06 18	6	R1/8	12	7,5	18,8	20,2	12	10,0	
21 06 14	6	R1/4	12	11	23,3	20,2	14	15,2	
21 08 18	8	R1/8	14	7,5	19,5	21,7	12	11,2	
21 08 14	8	R1/4	14	11	24	21,7	14	16,3	
21 08 38	8	R3/8	14	11,5	24,5	21,7	17	21,3	
21 10 14	10	R1/4	16	11	25,5	24	16	19,9	
21 10 38	10	R3/8	16	11,5	26,5	24	17	27,0	
21 12 38	12	R3/8	19	11,5	28,5	28,5	20	36,3	
21 12 12	12	R1/2	19	14	31,5	28,5	22	44,8	

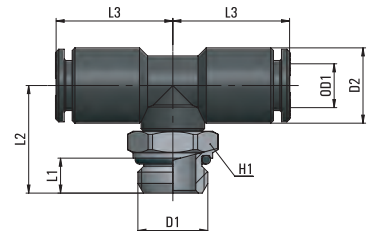


MB 22

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel

类型	OD1	D1	D2	L1	L2	L3	H1	g	$\Delta$
22 04 M5	4	M5x0,8	10	4	14,8	15,7	9	5,6	
22 04 18	4	G1/8	10	5	15	15,7	12	8,1	
22 04 14	4	G1/4	10	6,5	17	15,7	15	12,0	
22 06 M5	6	M5x0,8	12	4	15,3	20,2	12	9,2	
22 06 18	6	G1/8	12	5	17,3	20,2	12	9,8	
22 06 14	6	G1/4	12	6,5	19,3	20,2	15	13,6	
22 08 18	8	G1/8	14	5	18	21,7	12	11,1	
22 08 14	8	G1/4	14	6,5	20	21,7	15	14,7	
22 08 38	8	G3/8	14	7	21,5	21,7	20	23,7	
22 10 14	10	G1/4	16	6,5	21,5	24	16	18,0	
22 10 38	10	G3/8	16	7	23,5	24	20	25,2	
22 12 38	12	G3/8	19	7	24	28,5	20	30,5	
22 12 12	12	G1/2	19	8,5	28,5	28,5	20	38,1	

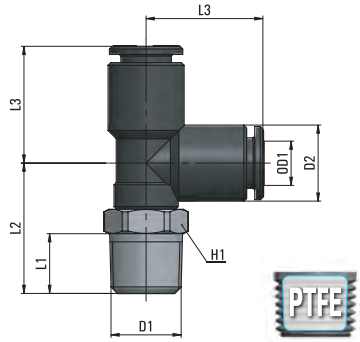


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MB 23

锥螺纹直T型三通接头

Lateral run T fitting, taper

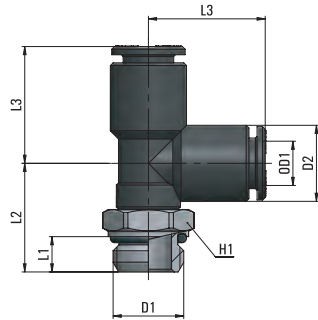


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
23 04 18	4	R1/8	10	7,5	17	15,5	10	7,4
23 04 14	4	R1/4	10	11	20,5	15,5	14	12,6
23 06 18	6	R1/8	12	7,5	18,8	20	12	10,1
23 06 14	6	R1/4	12	11	23,3	20	14	15,2
23 08 18	8	R1/8	14	7,5	19,5	21,5	12	10,9
23 08 14	8	R1/4	14	11	24	21,5	14	16,2
23 08 38	8	R3/8	14	11,5	24,5	21,5	17	23,7
23 10 14	10	R1/4	16	11	25,5	24	16	22,5
23 10 38	10	R3/8	16	11,5	26,5	24	17	26,7

## MB 24

直螺纹直T型三通接头

Lateral run T fitting, parallel

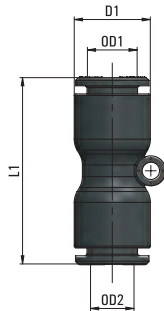


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
24 04 M5	4	M5x0,8	10	4	14,8	15,5	9	5,6
24 04 18	4	G1/8	10	5	15	15,5	12	8,1
24 04 14	4	G1/4	10	6,5	17	15,5	15	13,0
24 06 M5	6	M5x0,8	12	4	15,3	20	12	10,3
24 06 18	6	G1/8	12	5	17,3	20	12	9,9
24 06 14	6	G1/4	12	6,5	19,3	20	15	13,9
24 08 18	8	G1/8	14	5	18	21,5	12	10,7
24 08 14	8	G1/4	14	6,5	20	21,5	15	14,7
24 08 38	8	G3/8	14	7	21,5	21,5	20	27,4
24 10 14	10	G1/4	16	6,5	21,5	24	16	20,0
24 10 38	10	G3/8	16	7	23,5	24	20	25,1

## MB 25

对接接头

Union



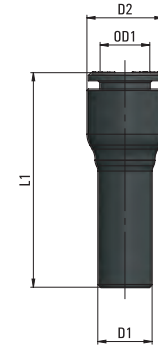
类型	OD1	OD2	D1	L1	g $\Delta$
25 04 04	4	4	9,5	27,5	2,2
25 06 06	6	6	11,5	33,7	2,9
25 08 08	8	8	14	34,3	4,3
25 10 10	10	10	16	37,9	5,5
25 12 12	12	12	19	41,3	7,6
25 06 04	6	4	11,5	30,6	2,8
25 08 06	8	6	14	34	4,0
25 10 08	10	8	16	36,1	7,0
25 12 08	12	8	19	39,1	9,5
25 12 10	12	10	19	39,6	8,6
25 14 14	14	14	22,5	48	13

MB 26-27

减径接头

Reducer

类型	OD1	D1	D2	L1	g	Δ
26 04 06	4	6	9,5	32	1,7	
26 04 08	4	8	9,5	32	2,0	
26 04 10	4	10	10	32	3,0	
26 06 08	6	8	11,5	37	2,4	
26 06 10	6	10	11,5	36	3,1	
26 06 12	6	12	12	37	3,9	
26 08 10	8	10	14	39,5	3,0	
26 08 12	8	12	14	39,5	4,4	
26 10 12	10	12	16	45,5	5,3	
26 10 14	10	14	16	45	6,2	
26 12 14	12	14	19	47	7,1	



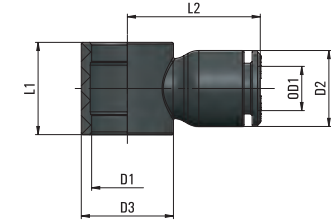
类型	OD1	D1	D2	L1	g	Δ
27 06 04	6	4	12	34	2,1	
27 08 06	8	6	14	36,5	2,6	

MB 28

单通铰接头本体

Single banjo ring

类型	OD1	D1	D2	D3	L1	L2	g	Δ
28 04 M5	4	M5	10	9,7	10	17,6	1,9	
28 04 M5 /R	4	7	10	9,7	10	17,6	2,3	
28 04 18	4	10	10	15	15	19,1	2,9	
28 06 18	6	7	12	9,7	10	21,5	3,5	
28 06 14	6	10	12	15	15	22,7	4,2	
28 06 M5 /R	6	13,2	12	18	17	24,3	3,1	
28 08 18	8	10	14	15	14,7	23	3,7	
28 08 14	8	13,2	14	18	17	24,6	4,5	
28 08 38	8	17	14	23	20	26,5	6,4	
28 10 14	10	13,2	16	18	17	27	5,2	
28 10 38	10	17	16	23	20	28,5	8,4	



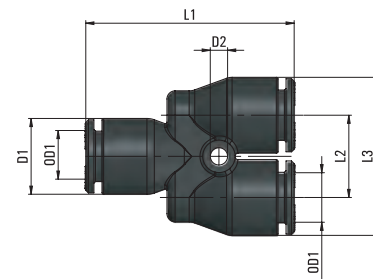
/R = 仅用于流量调节阀 - For flow controls only

MB 29

Y型接头

Y fitting

类型	OD1	D1	D2	L1	L2	L3	g	Δ
29 04 04	4	9,5	2,7	29,3	10,7	20,2	3,5	
29 06 06	6	11,5	3,2	35,9	13	24,5	4,5	
29 08 08	8	14	3,2	38,5	15,2	29,2	7,6	
29 10 10	10	16	3,2	41,6	17,5	33,5	9,7	
29 12 12	12	19	3,2	46	20,5	39,5	15,5	

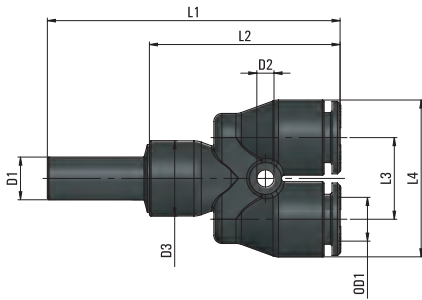


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MB 30

带尾管Y型接头

Tube Y coupling

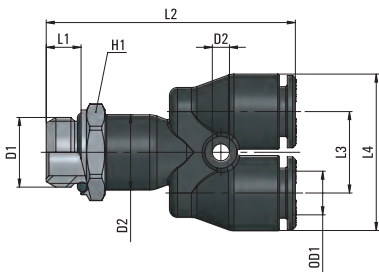


类型	OD1	D1	D2	D3	L1	L2	L3	L4	g $\Delta$
30 04 04	4	4	2,7	9,5	42,8	26,3	10,7	20,2	3,0
30 04 06	4	6	2,7	9,5	45,1	26,3	10,7	20,2	4,2
30 04 08	4	8	2,7	9,5	46,8	26,3	10,7	20,2	4,5
30 06 06	6	6	3,2	11,5	51,9	32,9	13	24,5	6,3
30 08 08	8	8	3,2	14	54,5	35,5	15,2	29,2	8,7

## MB 31

螺纹Y型接头

Threaded Y fitting

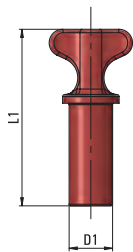


类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g $\Delta$
31 04 M5	4	M5x0,8	9,5	2,7	4	34,3	10,7	20,2	9	6,5
31 04 18	4	G1/8	9,5	2,7	5	35,4	10,7	20,2	13	8,3
31 04 14	4	G1/4	9,5	2,7	6,5	37,3	10,7	20,2	16	13,4
31 06 18	6	G1/8	11,5	3,2	5	41,9	13	24,5	13	11,5
31 06 14	6	G1/4	11,5	3,2	6,5	43,9	13	24,5	16	16,2
31 08 18	8	G1/8	14	3,2	5	43	15,2	29,2	14	15,9
31 08 14	8	G1/4	14	3,2	6,5	46,5	15,2	29,2	16	18,8
31 08 38	8	G3/8	14	3,2	7	48,5	15,2	29,2	20	27,7

## MB 33

堵头

Plug

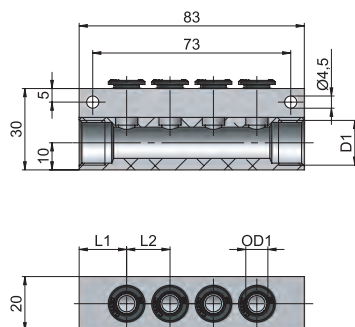


类型	D1	L1	g $\Delta$
33 00 04	4	26	0,3
33 00 06	6	28	0,9
33 00 08	8	33	1,3
33 00 10	10	35	2,0
33 00 12	12	38	3,3
33 00 14	14	41	4,2

## MB 35

分配座

Manifold



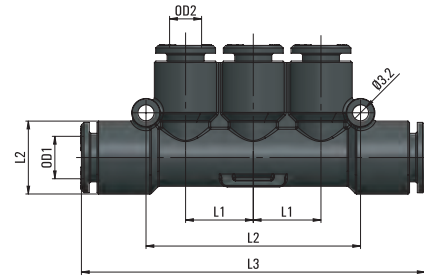
类型	OD1	D1	L1	L2	N°	g $\Delta$
35 04 06	4	G1/4	14	11	6	111,7
35 06 05	6	G1/4	15,5	13	5	120,0
35 08 04	8	G3/8	17,5	16	4	99,3

MB 36

分配座

Manifold

类型	OD11	OD12	D1	L1	L2	L3	g $\Delta$
36 06 04	6	4	12	11	35,2	59	8,0
36 08 06	8	6	14	13	41,2	66	11,2

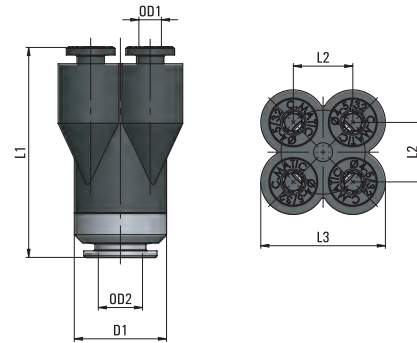


MB 43

一对多Y型插管接头

Double Y-coupling

类型	OD11	OD12	D1	L1	L2	L3	g $\Delta$
43 04 06	4	6	17	38,5	11	23	27,8
43 04 08	4	8	17	38,5	11	23	25,0

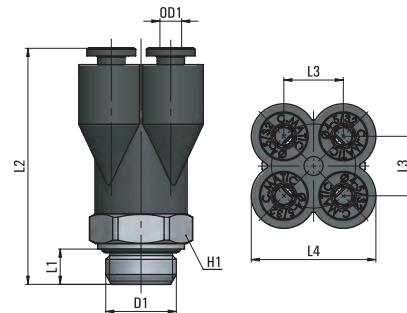


MB 44

一对多Y型螺纹接头

Double Y-coupling with threaded joint fitting

类型	OD1	D1	L1	L2	L3	L4	H1	g $\Delta$
44 04 18	4	G1/8	5	41	11	23	17	32,8
44 04 14	4	G1/4	6,5	43	11	23	17	32,0

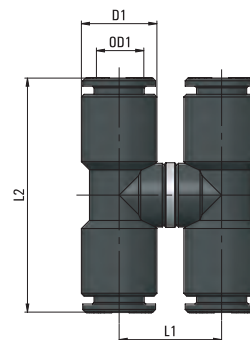


MB 46

可调向十字接头

Swivelling cross fitting

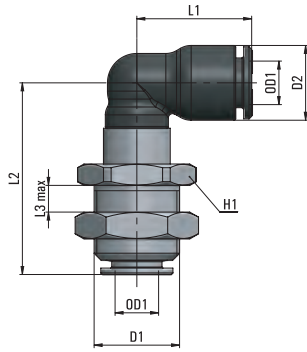
类型	OD1	D1	L1	L2	g $\Delta$
46 04 04	4	10	14	31,4	9,2
46 06 06	6	12	17,6	40,4	11,9
46 08 08	8	14	19	43,4	14,1
46 10 10	10	16	23	48	25,8



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MB 48

穿板直角接头

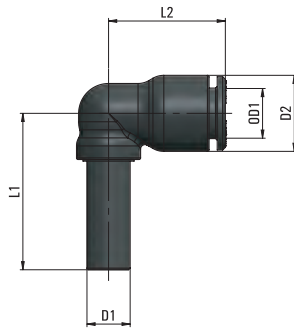


Elbow bulkhead

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
48 04 04	4	M12x0,75	9,5	16	27,1	5,5	15	18,0
48 06 06	6	M14x1	11,5	20,5	33	5,7	18	32,8
48 08 08	8	M16x1	14	21,5	35,7	7,7	20	39,6
48 10 10	10	M18x1	16	24,5	40,3	9,2	22	52,8
48 12 12	12	M20x1	19	28,5	44,5	9,8	24	71,5

## MB 49

带尾管直角接头



Plug-in elbow

类型	OD1	D1	D2	L1	L2	g $\Delta$
49 04 04	4	4	9,5	21	16	1,8
49 06 06	6	6	11,5	25,8	20,5	2,7
49 08 08	8	8	14	28,8	21,5	3,5
49 10 10	10	10	16	32,5	24,5	6,7
49 12 12	12	12	19	33	28,5	9,5
49 14 14	14	14	22,5	37	32,3	11,5

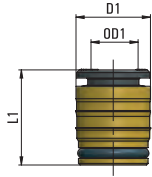
# MB 10

## 埋入式接头

MB10埋入接头的优良结构设计，使得同一规格接头能够同时适用于塑料，铝和黄铜等不同基座材质

## Press-in cartridge

The new construction features of the cartridge MB10 allow for one single cartridge version to be assembled in plastic, aluminium as well as brass bodies.



类型	OD1	D1	L1	g $\Delta$
10 04 00	4	9,3	14,5	2,8
10 06 00	6	11,5	17	4,6
10 08 00	8	13,7	17,5	6,4
10 10 00	10	15,8	19	8,3

### 钻孔示意图

1 按照提供的说明和钻孔方法来加工埋入孔

2 手动将接头按压入埋入孔，再使用埋入工具进行压装，直至底部，这样就确保了正确安装

可根据要求提供“钻孔和安装工具”

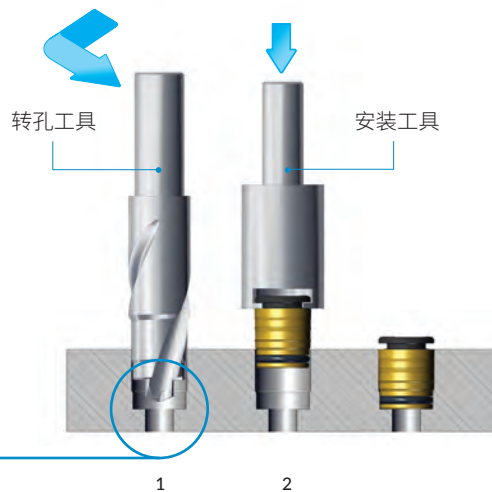
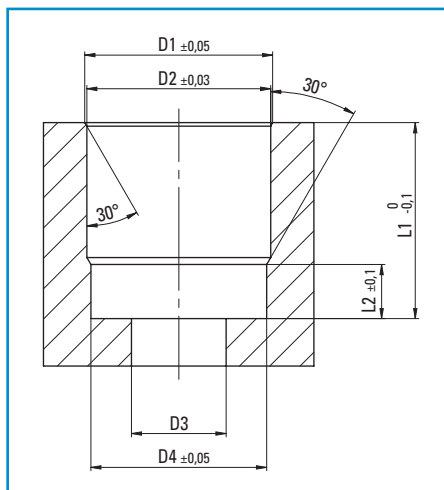
### Cartridge seat drilling plan

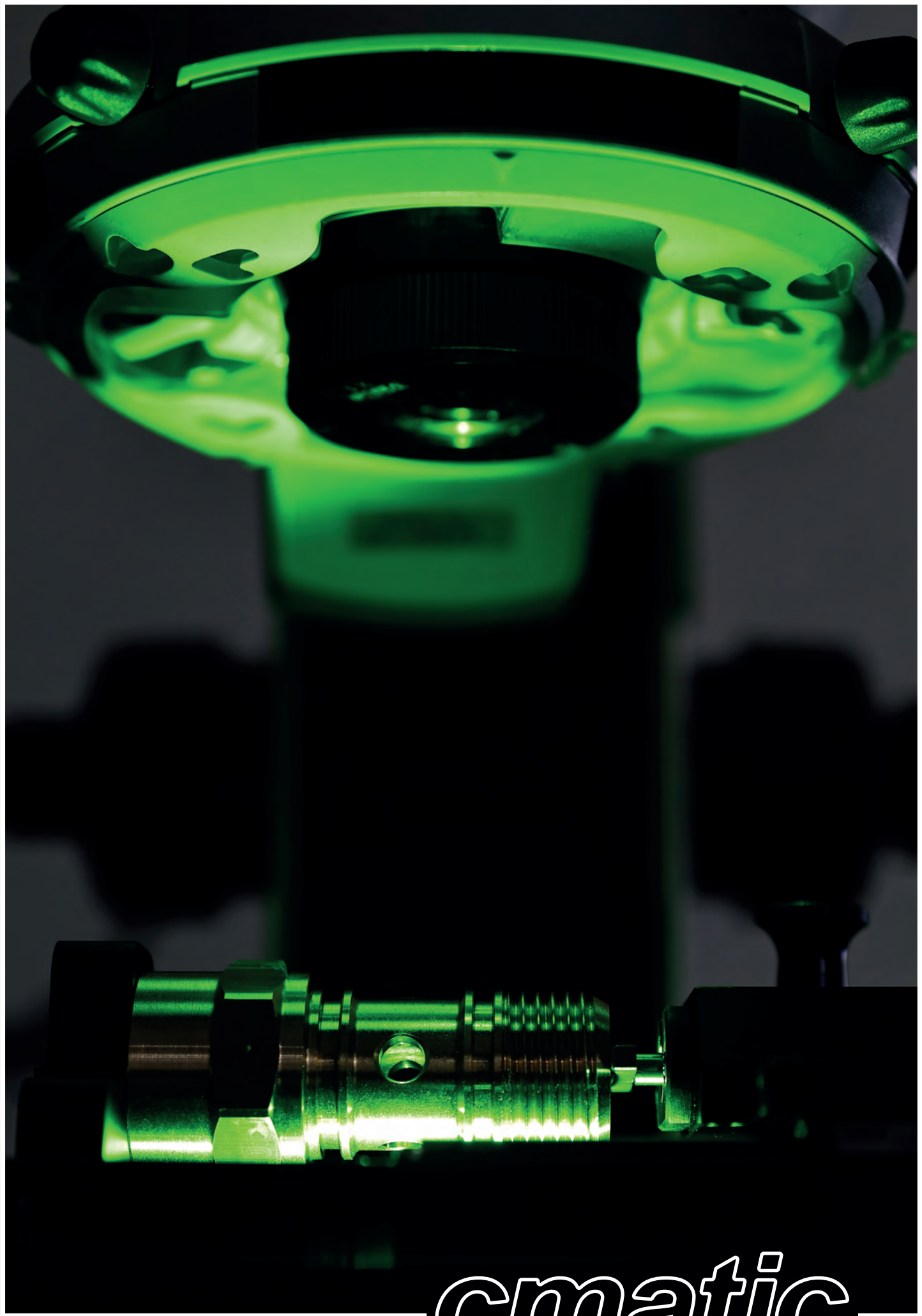
1 Drill the cartridge seat, following the instructions given.

2 Manually press the cartridge into the seat and by means of the Assembly tool push it all the way down until it bottoms; this will guarantee the proper cartridge assembly.

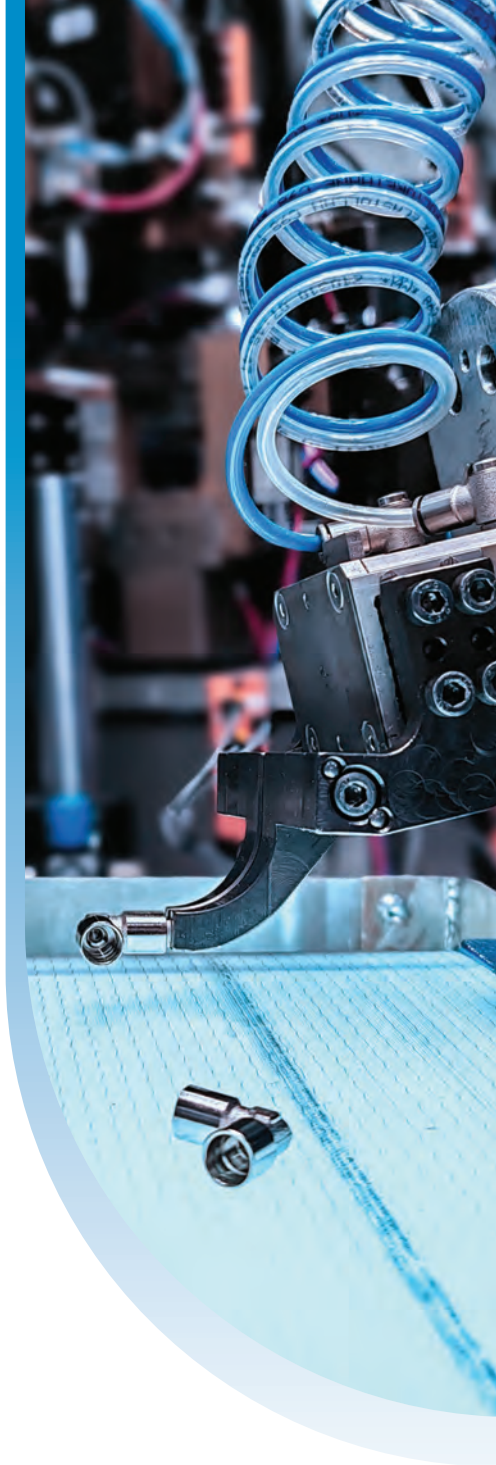
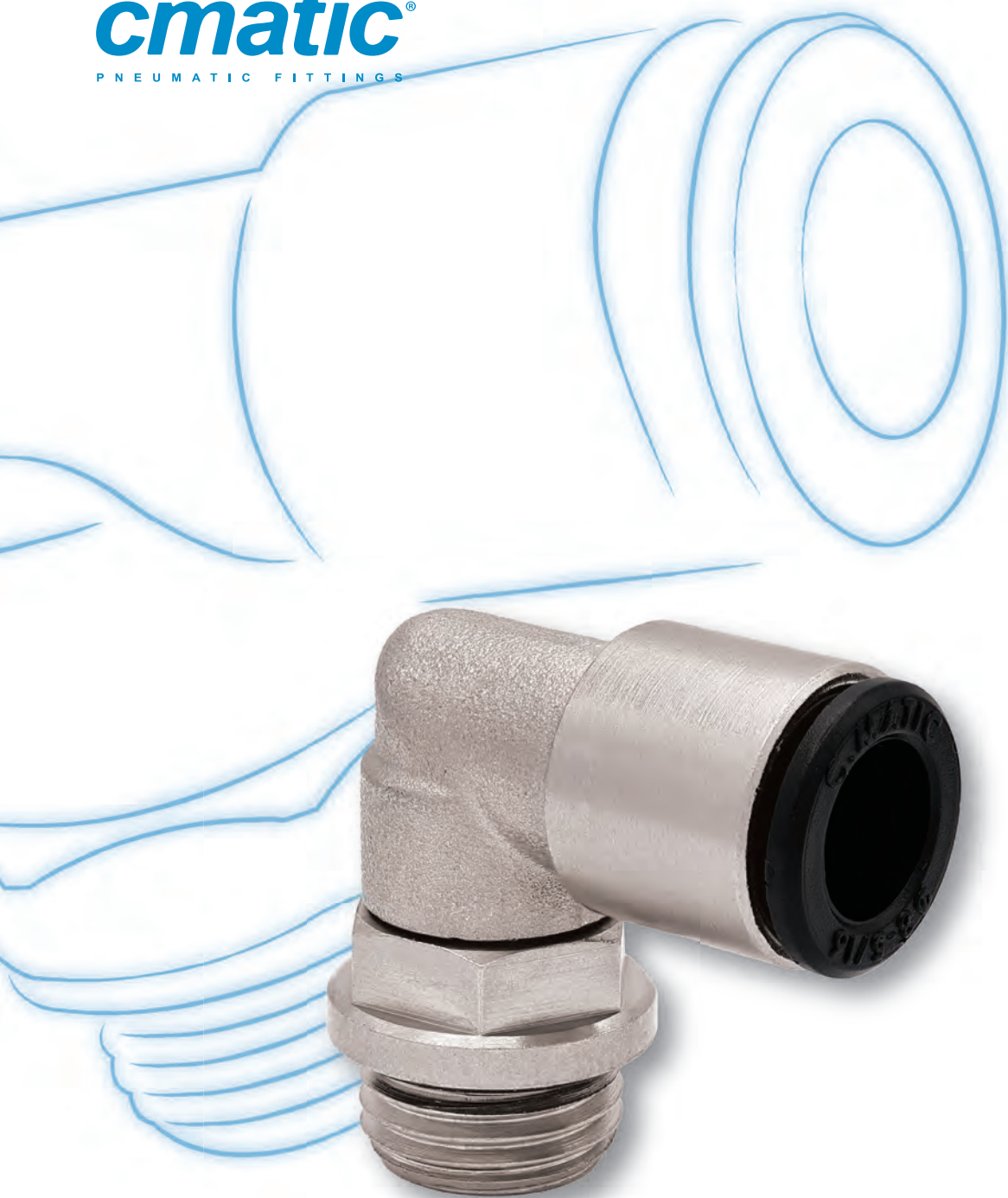
Drilling and Assembly Tool "available upon request."

类型	D1	D2	D3	D4	L1	L2
4	9,5	9,2	3	8,6	12	3,2
6	11,7	11,4	5	10,8	14	4
8	13,9	13,6	7	13	14,5	4
10	16	15,7	9	15,1	16	4





*cmatic*



## AP LINE



CN

### “混合”快插接头

采用MIX混合材料（黄铜与高分子聚合物）制造的快插式管接头。该系列产品在保持管接头性能不变的前提下，相比全黄铜版本提供了更具竞争力的价格优势。

EN

### “Mix” Push-in Fittings

Push in fittings made of a materials “MIX”, brass and Technopolymer. This line offers a more competitive priced fitting then the whole brass version, without affecting the fitting performance.

# AP Line

1 本体 Body	2 释放环 Release ring	3 支撑环 Holding ring	4 卡爪 Gripping ring	5 保护环 Protection ring	6 密封圈 Seals
黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated	缩醛树脂 Acetal resin	(POM) (POM)	AISI 301 不锈钢 Stainless steel AISI 301	缩醛树脂 Acetal resin	(POM) (POM) NBR NBR



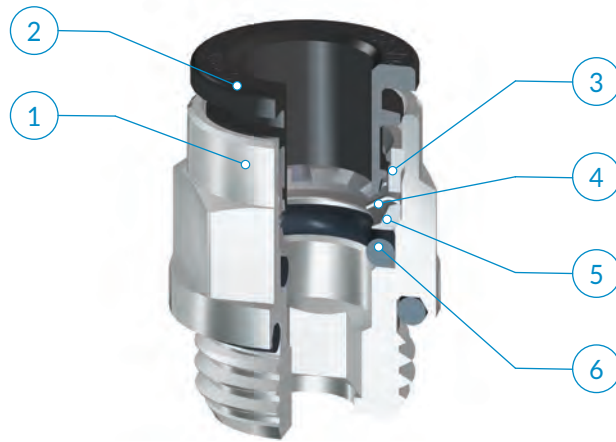
-20° ± 80°C



20 bar



-99 KPa



针对“R”型螺纹  
for “R” threads

	M5x0,8	M12x1,5	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
4	●		●				●	●		
6	●	●	●	●	●	●	●	●	●	
8			●	●	●	●	●	●	●	●
10			●	●	●	●	●	●	●	●
12				●	●	●		●	●	●

### 建议的连接管路:

PA11、PA12、PA6、PE聚乙烯、  
PU聚氨酯 (98 Shore A)。

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 直径从12到 14 mm。

### 应用领域:

气动系统。

### Recommended tubings:

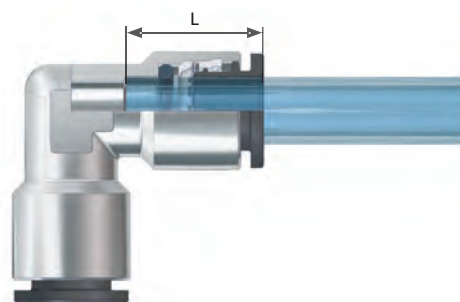
PA11, PA12, PA6, Polyethylene PE, Poly-  
urethane PU (98 Shore A)

### Acceptable Tolerances on the tubings:

+/- 0.07 mm up to Ø 10 mm  
+/- 0.1 mm from Ø 12 up to Ø 14 mm

### Application fields:

Pneumatic circuits



OD	L
4	13,4
6	16,4
8	16,5
10	18,9
12	20,1

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

将管路插入接头,到底为止。

2

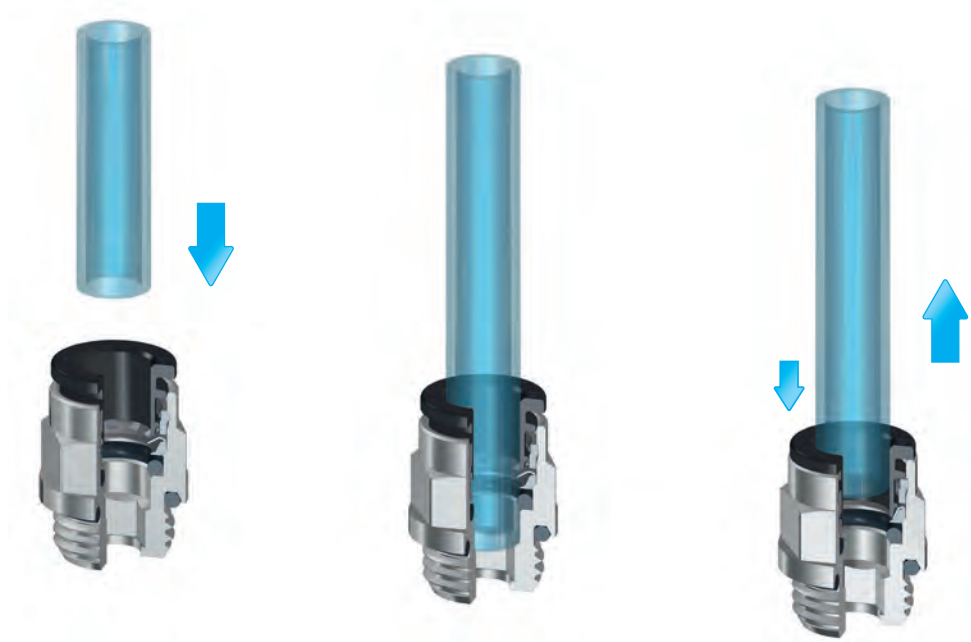
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

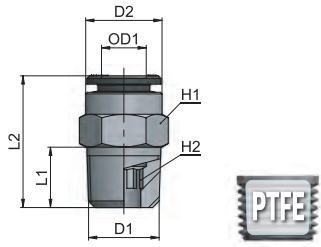


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## AP 11

外锥螺纹直接头

Taper straight, male

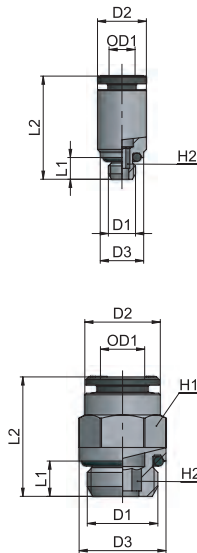


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	9	7,5	16	10	3	5,1
11 04 14	4	R1/4	9	11	20,5	14	3	15,3
11 06 18	6	R1/8	11,9	7,5	21,5	12	4	7,5
11 06 14	6	R1/4	11,9	11	21	14	4	12,9
11 06 38	6	R3/8	11,9	11,5	21,5	17	4	24,4
11 08 18	8	R1/8	13,9	7,5	25,5	14	6	11,5
11 08 14	8	R1/4	13,9	11	24	14	6	12,1
11 08 38	8	R3/8	13,9	11,5	23	17	6	22,3
11 08 12	8	R1/2	13,9	14	25,5	22	6	48,3
11 10 18	10	R1/8	15,9	7,5	28	16	6	16,9
11 10 14	10	R1/4	15,9	11	30,5	16	8	18,2
11 10 38	10	R3/8	15,9	11,5	24	17	8	18,5
11 10 12	10	R1/2	15,9	14	27	22	8	45,4
11 12 14	12	R1/4	18,9	11	32,5	19	8	26,1
11 12 38	12	R3/8	18,9	11,5	28	19	10	21,6
11 12 12	12	R1/2	18,9	14	28	22	10	38,6

## AP 12

外直螺纹直接头

Parallel straight, male



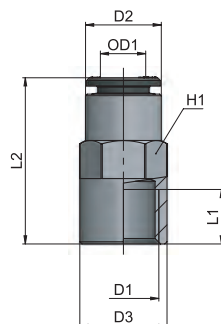
类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 04 M5	4	M5x0,8	9	8	4	19	-	2,5	3,5
12 06 M5	6	M5x0,8	12	8	4	22,7	-	2,5	7,3
12 06 M12x1,5	6	M12x1,5	11,9	15	6,5	21,5	12	4	11,4

类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 04 18	4	G1/8	9	13	5	16,5	9	3	5,3
12 06 18	6	G1/8	11,9	13,5	5	20	12	4	7,6
12 06 14	6	G1/4	11,9	16	6,5	20	12	4	11,5
12 06 38	6	G3/8	11,9	20	7	21	12	4	19,2
12 06 12	6	G1/2	11,9	25	8,5	23	12	4	33,8
12 08 18	8	G1/8	13,9	14,5	5	24	13	6	9,8
12 08 14	8	G1/4	13,9	16	6,5	22	14	6	12,1
12 08 38	8	G3/8	13,9	20	7	21,5	14	6	18,4
12 08 12	8	G1/2	13,9	25	8,5	23,5	14	6	32,8
12 10 18	10	G1/8	15,9	13	5	27	15	8	14,5
12 10 14	10	G1/4	15,9	16,5	6,5	27,5	15	8	15,0
12 10 38	10	G3/8	15,9	20	7	25	16	8	19,8
12 10 12	10	G1/2	15,9	25	8,5	25,5	16	8	32,5
12 12 14	12	G1/4	18,9	21	6,5	29	19	8	23,0
12 12 38	12	G3/8	18,9	21	7	29	19	10	25,7
12 12 12	12	G1/2	18,9	25	8,5	27	19	10	33,3

## AP 13

内螺纹直接头

Female straight



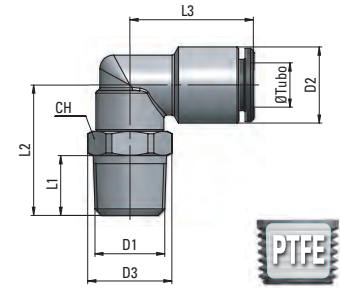
类型	OD1	D1	D2	D3	L1	L2	H1	g $\Delta$
13 04 18	4	G1/8	9	13	7	23,5	9	9,0
13 06 18	6	G1/8	11,9	14	7	26,5	12	14,1
13 06 14	6	G1/4	11,9	16	10	30,5	12	17,2
13 08 18	8	G1/8	13,7	16,2	7	26,5	14	16,5
13 08 14	8	G1/4	13,9	16	10	30,5	14	18,5
13 10 14	10	G1/4	15,9	18,5	10	32	16	22,0
13 10 38	10	G3/8	15,9	20	11	33,5	16	27,8

AP 15

可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
15 04 18	4	R1/8	9,1	11,2	7,5	17,85	19,5	10	10,8
15 04 14	4	R1/4	9,1	15,5	11	24,2	19,5	14	20,9
15 06 18	6	R1/8	12	14,5	7,5	20,2	22	13	18,1
15 06 14	6	R1/4	12	15,5	11	24,2	22	14	23,9
15 06 38	6	R3/8	12	20	11,5	25,2	22	18	29,5
15 08 18	8	R1/8	14	14,5	7,5	20	22,5	13	21,0
15 08 14	8	R1/4	14	15,5	11	24	22,5	14	25,4
15 08 38	8	R3/8	14	20	11,5	27	23	18	36,5
15 08 12	8	R1/2	14	24,5	14	31	23	22	52,9
15 10 18	10	R1/8	16	20	7,5	26,5	23	16	31,4
15 10 14	10	R1/4	16	20	11	26,5	26	18	35,5
15 10 38	10	R3/8	16	20	11,5	27	26	18	36,5
15 10 12	10	R1/2	16	24,5	14	31	26	22	53,4
15 12 14	12	R1/4	19	22,5	11	30	28,5	20	58,8
15 12 38	12	R3/8	19	22,5	11,5	30,5	28,5	20	58,0
15 12 12	12	R1/2	19	24,5	14	33,5	28,5	22	71,5

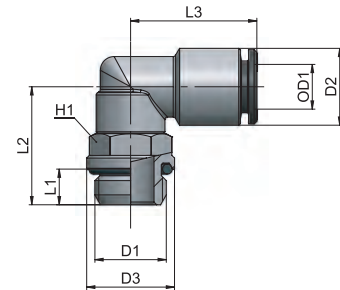


AP 16

可调向内螺纹直角接头

Parallel swivelling elbow fitting, male

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
16 04 M5	4	M5x0,8	9,1	10	4	14	17,5	9	7,8
16 04 18	4	G1/8	9,1	14,5	5	18,2	19,5	13	14,7
16 06 M5	6	M5x0,8	12	10	4	14	21	9	11,9
16 06 18	6	G1/8	12	14,5	5	18,2	22,5	13	17,2
16 06 14	6	G1/4	12	16	6,5	21,7	22,5	13	20,6
16 06 38	6	G3/8	12	20	7	22,2	22,5	13	26,7
16 06 12	6	G1/2	12	25	8,5	24,2	22,5	13	36,3
16 08 18	8	G1/8	14	14,5	5	18	23	13	20,5
16 08 14	8	G1/4	14	16	6,5	21,5	23	13	23,7
16 08 38	8	G3/8	14	20	7	25,5	23,5	16	35,6
16 10 18	10	G1/8	16	18	5	20,5	26	16	29,1
16 10 14	10	G1/4	16	18	6,5	22	26	16	31,6
16 10 38	10	G3/8	16	20	7	25,5	26	16	36,4
16 10 12	10	G1/2	16	25	8,5	27,5	26	16	40,9
16 12 14	12	G1/4	19	22,5	6,5	25,5	29	20	54,7
16 12 38	12	G3/8	19	22,5	7	26	29	20	53,2
16 12 12	12	G1/2	19	25	8,5	30,5	29	20	61,1

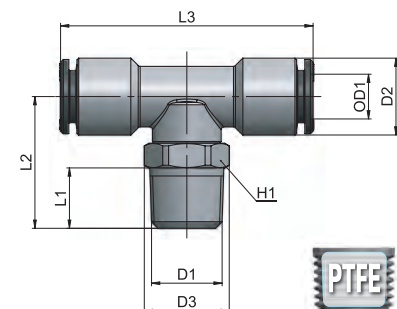


AP 20

可调向锥螺纹正T型三通接头

Swivelling T fitting

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
20 04 18	4	R1/8	9,1	14,5	7,5	20,2	39	13	20,0
20 04 14	4	R1/4	9,1	15,5	11	24,2	39	14	24,2
20 06 18	6	R1/8	12	14,5	7,5	20,5	44	13	22,9
20 06 14	6	R1/4	12	15,5	11	24,5	44	14	28,3
20 08 18	8	R1/8	14	14,5	7,5	20,5	45	13	27,9
20 08 14	8	R1/4	14	15,5	11	24,5	45	14	32,1
20 08 38	8	R3/8	14	20	11,5	27,5	46	18	0,0
20 10 14	10	R1/4	16	20	11	26,5	52	18	44,8
20 10 38	10	R3/8	16	20	11,5	27	52	18	46,9
20 12 38	12	R3/8	19	22,5	11,5	31	57	20	73,6
20 12 12	12	R1/2	19	24,5	14	34	57	22	81,6

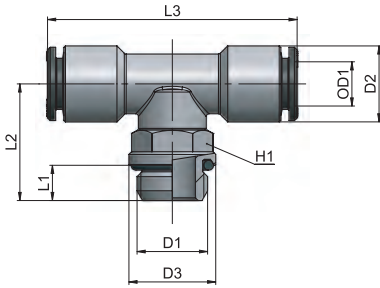


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## AP 21

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel

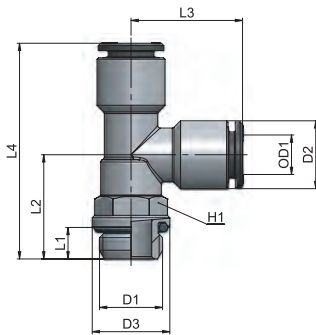


类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
21 04 18	4	G1/8	9,1	14,5	5	18,2	39	13	18,5
21 06 18	6	G1/8	12	14,5	5	18	45	13	23,0
21 06 14	6	G1/4	12	16	6,5	21,5	45	13	26,8
21 08 18	8	G1/8	14	14,5	5	18	46	13	26,9
21 08 14	8	G1/4	14	16	6,5	21,5	46	13	30,4
21 10 14	10	G1/4	16	18	6,5	22	52	16	40,3
21 10 38	10	G3/8	16	20	7	25,5	52	16	45,0
21 12 38	12	G3/8	19	22,5	7	26	58	20	68,6
21 12 12	12	G1/2	19	25	8,5	30,5	58	20	76,3

## AP 24

直螺纹直T型三通接头

Lateral run T fitting, parallel

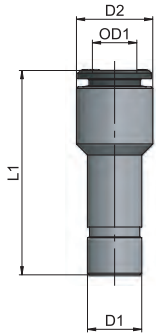


类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g $\Delta$
24 04 18	4	G1/8	9,1	14,5	5	18,2	19,5	37,5	13	19,7
24 06 18	6	G1/8	12	14,5	5	18,2	22,5	40,7	13	23,5
24 06 14	6	G1/4	12	16	6,5	21,7	22,5	44,2	13	27,0
24 08 18	8	G1/8	14	14,5	5	18	23	41	13	27,2
24 08 14	8	G1/4	14	16	6,5	21,5	23	44,5	13	30,8
24 10 14	10	G1/4	16	18	6,5	22	26	48	16	40,0
24 10 38	10	G3/8	16	20	7	25,5	26	51,5	16	44,5
24 12 38	12	G3/8	19	22,5	7	26	29	55	20	68,6
24 12 12	12	G1/2	19	25	8,5	30,5	29	59,5	20	75,5

## AP 25

减径接头

Reducer

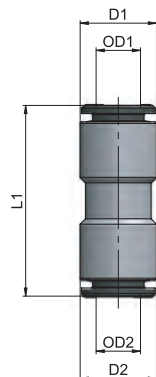


类型	OD1	D1	D2	L1	g $\Delta$
25 04 06	4	6	9	33,5	5,6
25 04 08	4	8	9	33,5	9,7
25 06 04	6	4	12	36	8,5
25 06 08	6	8	12	35,5	10,0
25 06 10	6	10	12	37	15,2
25 08 06	8	6	14	40	12,0
25 08 10	8	10	14	37,5	13,2
25 08 12	8	12	14	39,5	20,7
25 10 12	10	12	16	42	17,6
25 10 14	10	14	16	42	25,8
25 12 14	12	14	19	43,5	22,0

## AP 26

对接接头

Union



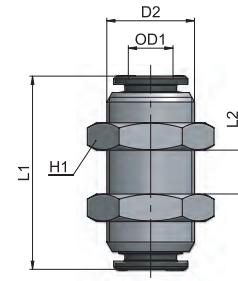
类型	OD1	OD2	D1	D2	L1	g $\Delta$
26 04 04	4	4	9	9	28	5,0
26 06 06	6	6	12	12	34,6	12,2
26 06 04	6	4	12	12	31,5	12,6
26 08 08	8	8	14	14	35	15,0
26 08 06	8	6	14	14	35	18,2
26 10 10	10	10	16	16	38,6	18,0
26 10 08	10	8	16	16	37	21,3
26 12 12	12	12	19	19	42	30,3
26 12 08	12	8	19	14	40	26,8
26 12 10	12	10	19	16	41	28,5

AP 27

穿板对接接头

Bulkhead union

类型	OD1	D2	L1	L2	H1	g $\Delta$
27 04 04	4	M12x1	28	11	16	21,9
27 06 06	6	M14x1	35	16	18	30,9
27 08 08	8	M16x1	35	16	20	36,2
27 10 10	10	M18x1	39	19	22	47,1
27 12 12	12	M20x1	42	20	24	53,5

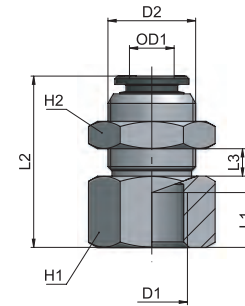


AP 27-F

内螺纹穿板接头

Bulkhead union, female

类型	OD1	D1	D2	L1	L2	L3	H1	H2	g $\Delta$
27 06 18 F	6	G1/8	M14x1	7	27	9	18	18	32,2
27 06 14 F	6	G1/4	M14x1	10	31	9	18	18	33,9
27 08 18 F	8	G1/8	M16x1	7	27	9	20	20	39,7
27 08 14 F	8	G1/4	M16x1	10	31	9	20	20	43,6
27 10 38 F	10	G3/8	M18x1	11	33	10	22	22	49,5

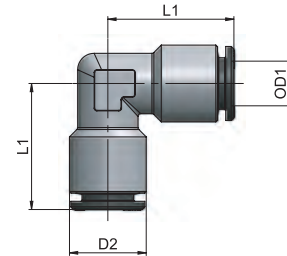


AP 28

直角对接接头

Union elbow

类型	OD1	D2	L1	g $\Delta$
28 04 04	4	9	17,5	6,9
28 06 06	6	12	21	14,0
28 08 08	8	14	23	18,9
28 10 10	10	16	25	24,0
28 12 12	12	19	27	42,4

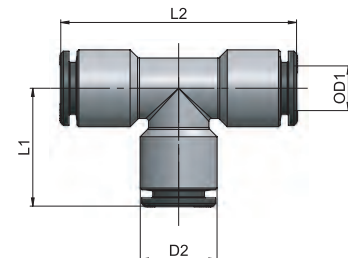


AP 29

正T型三通对接接头

Union T

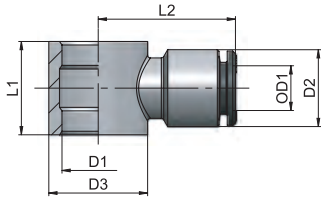
类型	OD1	D2	L1	L2	g $\Delta$
29 04 04	4	9	17,5	35	10,0
29 06 06	6	12	20,5	41	18,5
29 08 08	8	14	21,5	43	23,0
29 10 10	10	16	24,5	49	32,2
29 12 12	12	19	26,5	53	51,5



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## AP 35

单通铰接接头本体



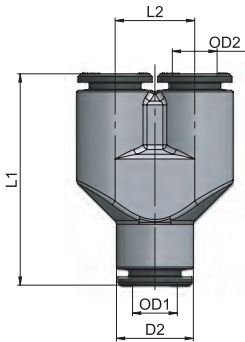
Single banjo ring

类型	OD1	D1	D2	D3	L1	L2	g $\Delta$
35 04 M5	4	M5	9,1	10	9	18,5	7,7
35 04 M5 /R	4	7	9,1	10	10	18,5	6,6
35 04 18	4	1/8	9,1	14	15	20,5	13,5
35 06 M5 /R	6	7	12	10	10	22	10,1
35 06 18	6	1/8	12	14	15	23	15,5
35 06 14	6	1/4	12	18	17	24,5	21,6
35 08 18	8	1/8	14	14	15	24	15,1
35 08 14	8	1/4	14	18	17	25	20,5
35 10 14	10	1/4	16	18	17	27	-
35 10 38	10	3/8	16	22	20	29	-
35 12 38	12	3/8	19	22	20	30	36,9
35 12 12	12	1/2	19	26	24	32	-

/R = 仅用于流量调节阀 - For flow controls only

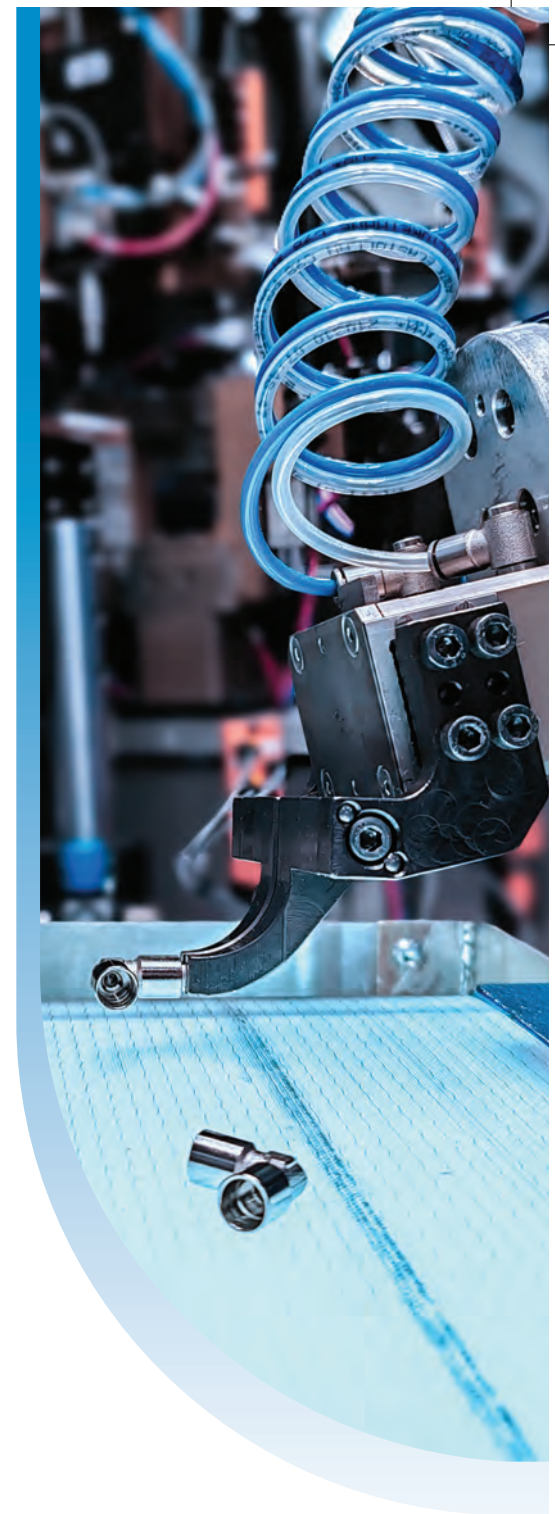
## AP 37

Y型接头



Y fitting

类型	OD1	OD2	D2	L1	L2	g $\Delta$
37 04 04	4	4	9	29,5	9,5	11,9
37 06 06	6	6	12	37,5	12,5	28,9
37 06 04	6	4	12	34,6	11	32,0
37 08 08	8	8	14	38,5	14,5	38,2
37 08 06	8	6	14	38,5	14,5	46,9
37 10 10	10	10	16	44,5	16,5	57,0
37 10 08	10	8	16	44,5	16,5	7,1
37 12 12	12	12	19	50	19,5	92,7



## AR LINE



CN

### 旋转快插接头

旋转式快插管接头，适用于存在旋转及摆动工况的应用场景。

EN

### Rotary Push-in Fittings

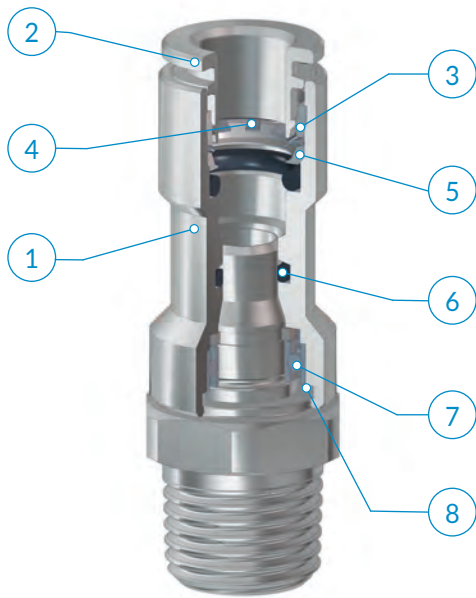
Rotary push-in fittings suitable for applications with rotating and swinging movements.

# AR Line

1 本体 Body	2 释放环 Release ring	3 支撑环 Holding ring	4 卡爪 Gripping ring	5 保护环 Protection ring	6 密封圈 Seals	7 滚珠轴承 Ball bearing	8 挡圈 Seeger
黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated		缩醛树脂 (POM) Acetal resin (POM)	AISI 301 不锈钢 Stainless steel AISI 301	缩醛树脂 (POM) Acetal resin (POM)	NBR NBR	钢 100Cr6 Steel 100Cr6	AISI 302 不锈钢 Stainless steel AISI 302



Ø Tube	Ø4	Ø6	Ø8	Ø10	Ø12
转速 Number of turns	500 rpm	500 rpm	400 rpm	300 rpm	250 rpm



	R1/8	R1/4	R3/8	R1/2
4	●			
6	●	●		
8	●	●	●	
10		●	●	●
12			●	●



针对“R”型螺纹  
for “R” threads

**建议的连接管路:**  
聚氨酯 (PU) 管; 不建议使用硬管。

**Recommended tubings:**  
Polyurethane (PU); rigid tubings are not recommended

**应用领域:**  
气动系统。

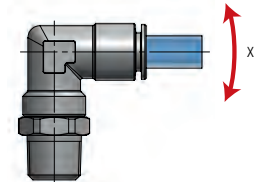
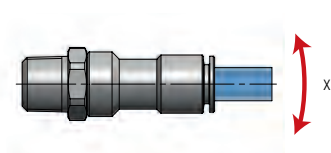
**Application fields:**  
Pneumatic circuits

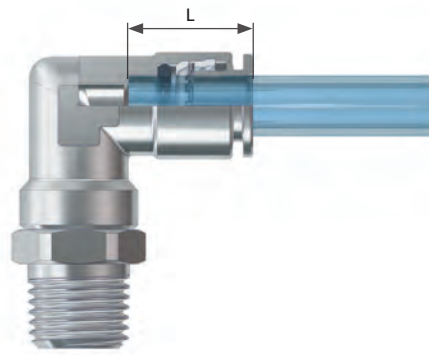


避免在管路上施加侧向载荷, 否则会加大轴承的侧向负载, 从而影响其旋转和寿命。



Avoid side loadings on the tube to prevent overloads on the bearings. This could affect rotation as well as the product lifetime.





OD	L
4	13,2
6	16,1
8	16,2
10	18,3

**i** 安装说明

ASSEMBLY INSTRUCTIONS

**1**

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

**1**

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

**2**

将管路插入接头,到底为止。

**2**

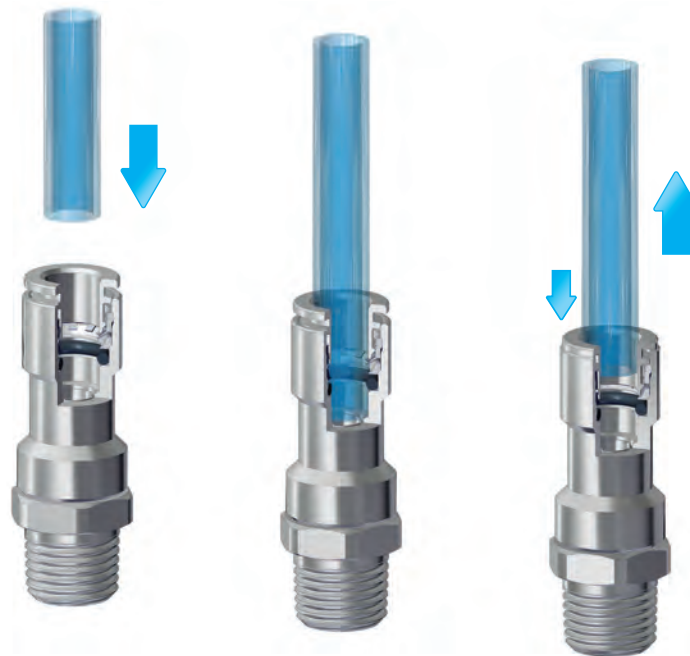
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

**Tube release**

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

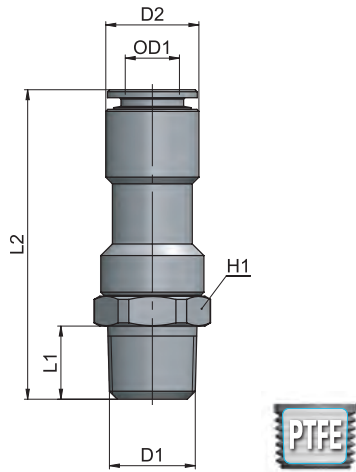


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## AR 11

旋转式外螺纹直管接头

Straight male fitting, rotating

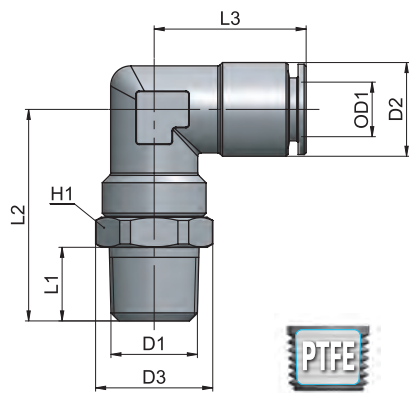


类型	OD1	D1	D2	L1	L2	H1	g $\Delta$
11 04 18	4	R1/8	9	7,5	37,7	13	18,6
11 06 18	6	R1/8	12	7,5	40,1	13	22,5
11 06 14	6	R1/4	12	11	44,1	14	25,8
11 08 18	8	R1/8	14	7,5	42,6	16	31,3
11 08 14	8	R1/4	14	11	46,1	16	33,5
11 08 38	8	R3/8	14	11,5	47,1	18	38,5
11 10 14	10	R1/4	16	11	52,6	22	58,7
11 10 38	10	R3/8	16	11,5	53,1	22	60,8
11 10 12	10	R1/2	16	14	55,6	22	67,1
11 12 38	12	R3/8	19	11,5	54,6	22	73,6
11 12 12	12	R1/2	19	14	57,1	22	80,1

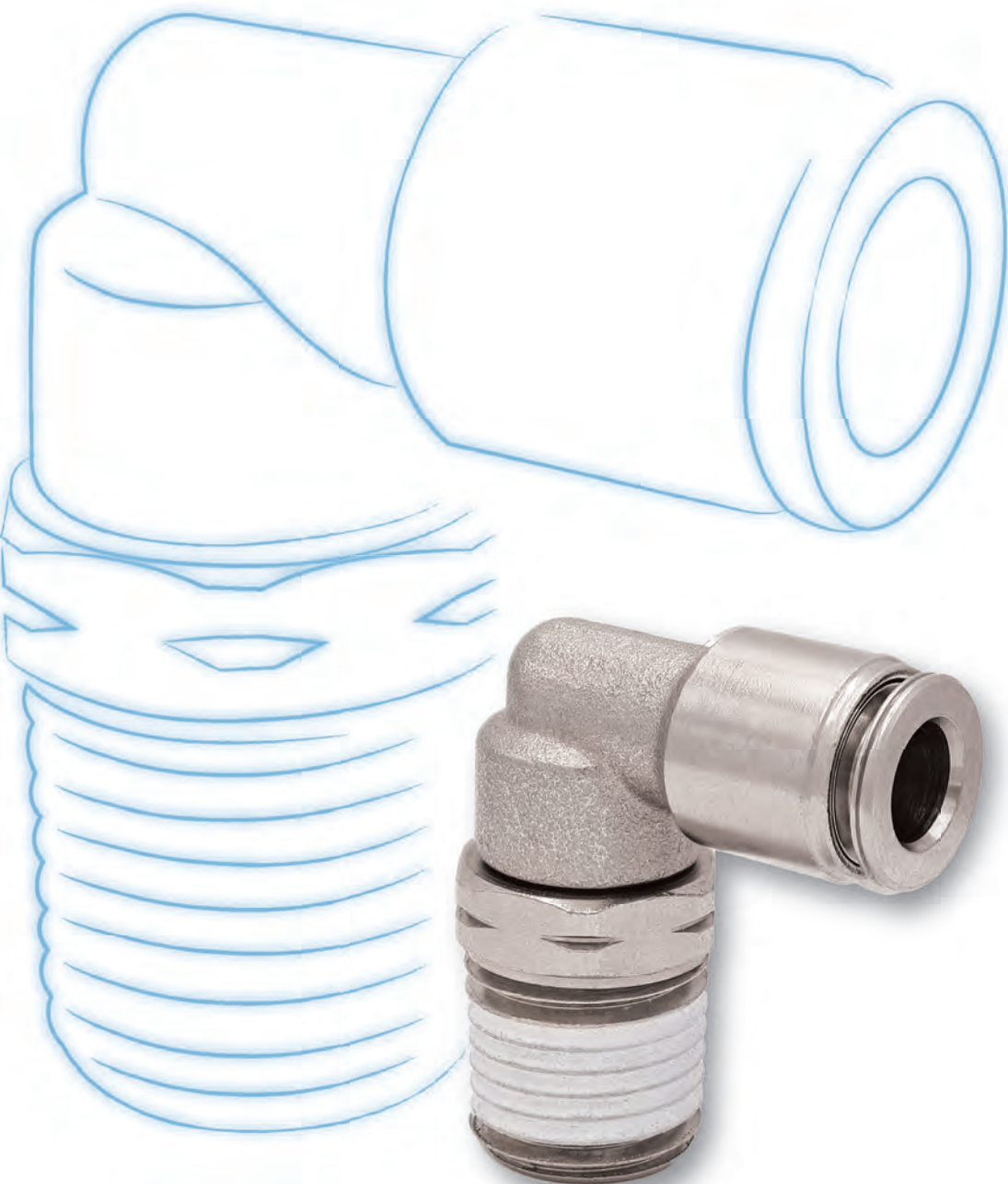
## AR 15

旋转式外螺纹弯管接头

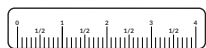
Elbow male fitting, rotating



类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
15 04 18	4	R1/8	9	14,5	7,5	25,3	19,5	13	21,6
15 06 18	6	R1/8	12	14,5	7,5	25,3	22	13	24,5
15 06 14	6	R1/4	12	15,5	11	29,3	22	14	27,9
15 08 18	8	R1/8	14	17,5	7,5	28,1	22,5	16	39,4
15 08 14	8	R1/4	14	17,5	11	31,6	22,5	16	41,8
15 08 38	8	R3/8	14	20	11,5	32,6	22,5	18	47,5
15 10 14	10	R1/4	17	24	11	37,1	26,5	22	85,5
15 10 38	10	R3/8	17	24	11,5	37,6	26,5	22	89,0
15 10 12	10	R1/2	17	24,5	14	40,1	26,5	22	94,1
15 12 38	12	R3/8	19	24	11,5	38,6	28,5	22	90,3
15 12 12	12	R1/2	19	24,5	14	41,1	28,5	22	96,1



INCH



## PN LINE



CN

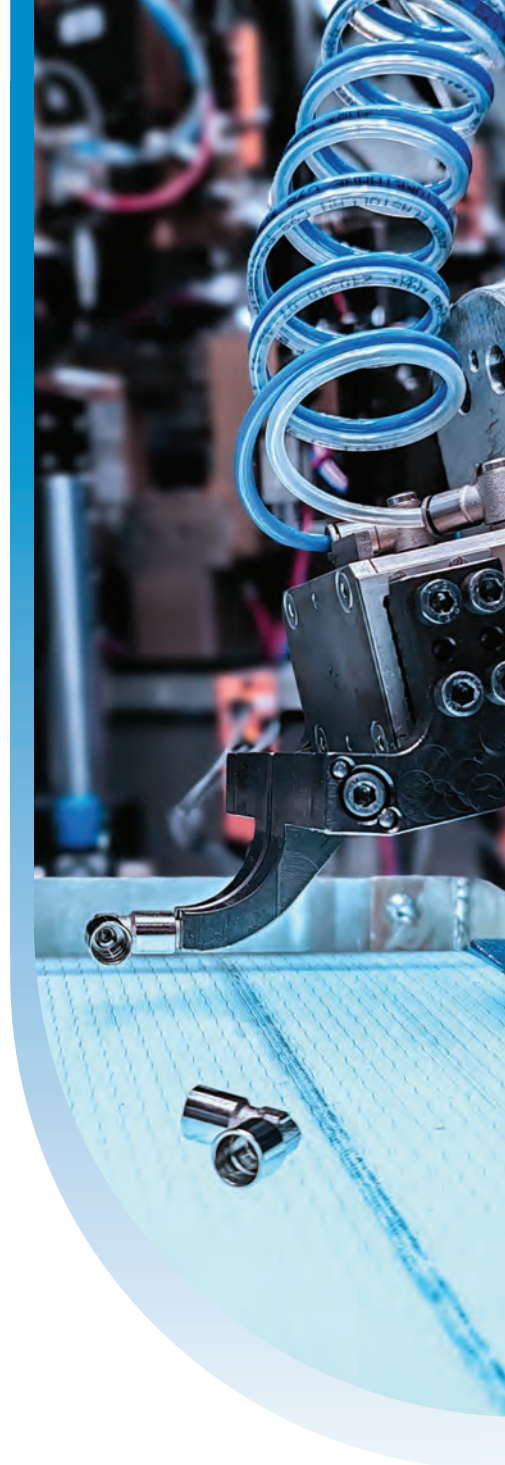
EN

### 英制/NPT快插接头

PN系列快插式管接头严格遵循美国标准制造（适配英制管径及NPT螺纹），适用于多种工业场景中的快速连接。该系列接头结构坚固、设计紧凑，能够长期保持卓越性能。所有PN接头均采用电镀镍工艺处理。

### Push-in Fittings, Inch/NPT

The push-in fittings of the PN line are manufactured according to the American standards (Inch tubings and NPT Threads). They are suitable for quick connections in different industrial applications; they are robust, compact and guarantee high performances in time. All PN fittings are electrolytic nickel-plated.



# PN Line

1 本体 Body	2 释放环 Release ring	3 支撑环 Holding ring	4 卡爪 Gripping ring	5 保护环 Protection ring	6 密封圈 Seals
黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated		缩醛树脂 Acetal resin	(POM) (POM)	缩醛树脂 Acetal resin	(POM) (POM)
			AISI 301 不锈钢 Stainless steel AISI 301		NBR NBR



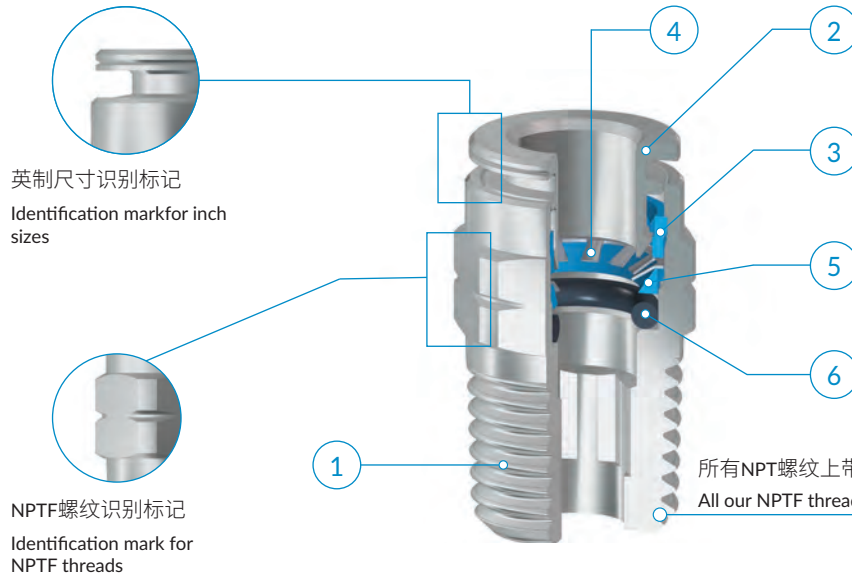
-20° ÷ 80°C



20 bar



-99 KPa



	10-32 UNF	1/8 NPTF	1/4 NPTF	3/8 NPTF	1/2 NPTF
1/8	●	●			
5/32	●	●	●		
1/4	●	●	●	●	
5/16		●	●	●	
3/8		●	●	●	●
1/2			●	●	●

### 建议的连接管路:

PA11、PA12、PA6、PE 聚乙烯、PU 聚氨酯 (98 Shore A)。

### Recommended tubings:

PA11, PA12, PA6, Polyethylene PE, Polyurethane PU (98 Shore A)

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 Ø 3/8"  
+/- 0.1mm, 直径 Ø 1/2"。

### Acceptable Tolerances on the tubings:

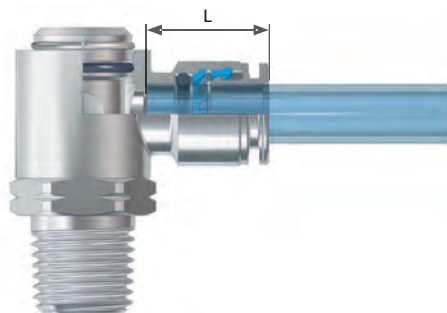
+/- 0,07 mm up to Ø 3/8"  
+/- 0,1 mm Ø 1/2"

### 应用领域:

气动系统。

### Application fields:

Pneumatic circuits



OD	L
1/8	9,8
5/32	13,2
1/4	16,1
5/16	16,2
3/8	18,3
1/2	19,5

**i** 安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。使用金属管路连接时,需要通过专用设备 (TINC) 在管路上开槽。开槽尺寸需要考虑管路直径,以保证可靠的连接。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval. In case of use with metal hoses, make a groove all around the tube diameter with a suitable tool (TINC).The groove must be made according to the tube diameter so that the fitting collect can better grip onto it.

2

将管路插入接头,到底为止。

2

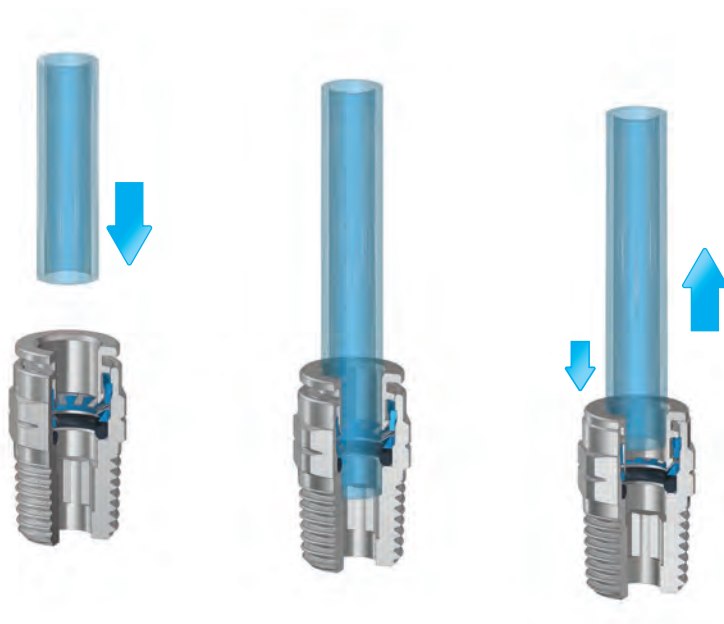
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

**Tube release**

While pressing on the release ring, pull out the tube from the fitting



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

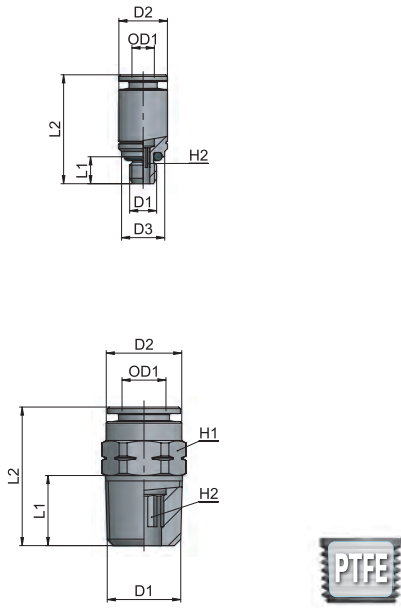


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## PN 11

外锥螺纹直接头

Taper straight, male



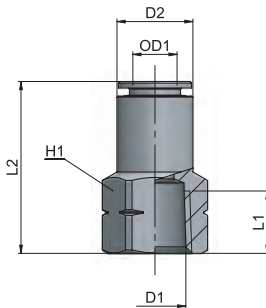
类型	OD1	D1	D2	D3	L1	L2	H2	g $\Delta\Delta$
11 1/8 10-32	1/8"	10-32 UNF 7	8	8	5	17,5	3/32	2,5
11 5/32 10-32	5/32"	10-32 UNF 9,5	8	8	5	20	3/32	4,5
11 1/4 10-32	1/4"	10-32 UNF 12	8	8	5	23,5	3/32	8,5

类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta\Delta$
11 1/8 1/8	1/8	1/8 NPTF 7	8,5	8,5	19	7/16	3/32	9,5
11 5/32 1/8	5/32	1/8 NPTF 9,5	8,5	8,5	19,5	7/16	1/8	9,0
11 5/32 1/4	5/32	1/4 NPTF 9,5	13	13	24	9/16	1/8	20,0
11 1/4 1/8	1/4	1/8 NPTF 12	8,5	8,5	22	1/2	5/32	10,5
11 1/4 1/4	1/4	1/4 NPTF 12	13	13	24,5	9/16	5/32	18,5
11 1/4 3/8	1/4	3/8 NPTF 12	13	13	25,5	11/16	5/32	31,9
11 5/16 1/8	5/16	1/8 NPTF 14	8,5	8,5	26,5	9/16	3/16	15,0
11 5/16 1/4	5/16	1/4 NPTF 14	13	13	25,5	9/16	1/4	16,0
11 5/16 3/8	5/16	3/8 NPTF 14	13	13	25	11/16	1/4	28,0
11 3/8 1/8	3/8	1/8 NPTF 16	8,5	8,5	28,5	11/16	3/16	22,5
11 3/8 1/4	3/8	1/4 NPTF 16	13	13	32	11/16	1/4	27,0
11 3/8 3/8	3/8	3/8 NPTF 16	13	13	25,5	11/16	5/16	25,5
11 3/8 1/2	3/8	1/2 NPTF 16	17	17	30,5	7/8	5/16	56,0
11 1/2 1/4	1/2	1/4 NPTF 20	13	13	34,5	13/16	5/16	35,5
11 1/2 3/8	1/2	3/8 NPTF 20	13	13	29,5	13/16	3/8	27,5
11 1/2 1/2	1/2	1/2 NPTF 20	17	17	30,5	7/8	3/8	48,0

## PN 13

内螺纹直接头

Female straight

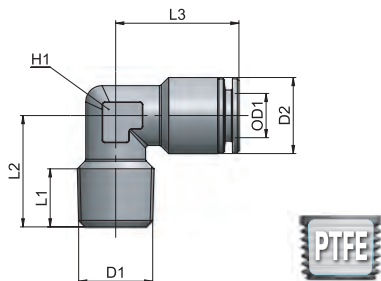


类型	OD1	D1	D2	L1	L2	H1	g $\Delta\Delta$
13 5/32 1/8	5/32	1/8 NPTF 9,5	8,5	8,5	25	1/2	11,5
13 1/4 1/8	1/4	1/8 NPTF 12	8,5	8,5	27	1/2	14,0
13 1/4 1/4	1/4	1/4 NPTF 12	12	12	31,5	11/16	26,5
13 5/16 1/8	5/16	1/8 NPTF 14	8,5	8,5	27	9/16	20,0
13 5/16 1/4	5/16	1/4 NPTF 14	12	12	31,5	11/16	28,5
13 3/8 1/4	3/8	1/4 NPTF 16	12	12	34	11/16	32,5
13 3/8 3/8	3/8	3/8 NPTF 16	12,5	12,5	34	13/16	37,5
13 3/8 1/2	3/8	1/2 NPTF 16	13,5	13,5	37,5	1	59,1
13 1/2 1/4	1/2	1/4 NPTF 20	11,5	11,5	34	13/16	51,7
13 1/2 3/8	1/2	3/8 NPTF 20	12	12	35,5	13/16	46,9
13 1/2 1/2	1/2	1/2 NPTF 20	13,5	13,5	38	1	64,2

## PN 14

外锥螺纹弯管接头

Taper elbow fitting, male



类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta\Delta$
14 5/32 1/8	5/32	1/8 NPTF 9,5	8,4	8,4	16	17,5	10	9,0
14 1/4 1/8	1/4	1/8 NPTF 12	8,4	8,4	16	20,5	10	13,0
14 1/4 1/4	1/4	1/4 NPTF 12	10,9	10,9	20	20,5	10	17,0
14 5/16 1/8	5/16	1/8 NPTF 14	8,5	8,5	19	22,5	12	20,5
14 5/16 1/4	5/16	1/4 NPTF 14	10,7	10,7	20,5	22,5	12	22,5
14 3/8 1/4	3/8	1/4 NPTF 16	12,2	12,2	22,5	25	14	29,5
14 3/8 3/8	3/8	3/8 NPTF 16	10,8	10,8	22,5	25	14	33,5

## PN 15

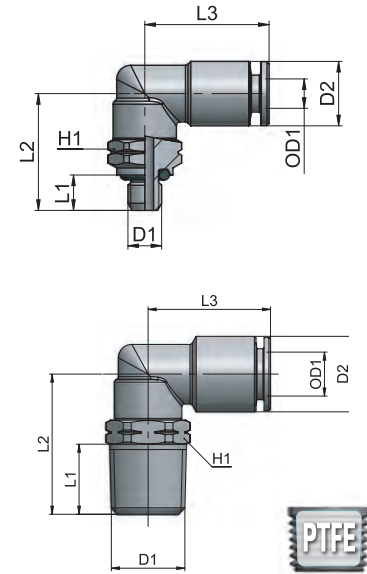
可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 1/8 10-32	1/8	10-32 UNF 7	5	16,5	14	5/16	8	
15 5/32 10-32	5/32	10-32 UNF 9,1	5	16,5	17,5	3/8	10	

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 1/8 1/8	1/8	1/8 NPTF 7	8,5	18,2	14	7/16	10,5	
15 5/32 1/8	5/32	1/8 NPTF 9,1	8,5	18,5	17,5	7/16	12,5	
15 5/32 1/4	5/32	1/4 NPTF 9,1	13	26	19	9/16	22,5	
15 1/4 1/8	1/4	1/8 NPTF 12	8,5	21,2	22	1/2	19,5	
15 1/4 1/4	1/4	1/4 NPTF 12	13	26,2	22	9/16	24,5	
15 1/4 3/8	1/4	3/8 NPTF 12	13	26,7	22	11/16	31,0	
15 5/16 1/8	5/16	1/8 NPTF 14	8,5	21,2	22,5	1/2	23,0	
15 5/16 1/4	5/16	1/4 NPTF 14	13	26,2	22,5	9/16	27,5	
15 5/16 3/8	5/16	3/8 NPTF 14	13	28,5	23	11/16	40,0	
15 3/8 1/8	3/8	1/8 NPTF 16	8,5	24	26	11/16	39,0	
15 3/8 1/4	3/8	1/4 NPTF 16	13	28,5	26	11/16	42,5	
15 3/8 3/8	3/8	3/8 NPTF 16	13	28,5	26	11/16	43,5	
15 3/8 1/2	3/8	1/2 NPTF 16	17	34	26	7/8	62,0	
15 1/2 1/4	1/2	1/4 NPTF 20	13	32	28,5	13/16	67,5	
15 1/2 3/8	1/2	3/8 NPTF 20	13	32	28,5	13/16	64,0	
15 1/2 1/2	1/2	1/2 NPTF 20	17	36,5	28,5	7/8	76,5	

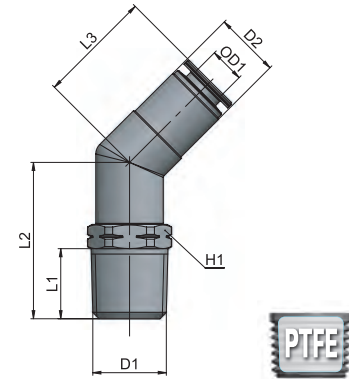


## PN 15-45°

可调向45°外螺纹接头

Swivelling elbow fitting, male 45°

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 1/4 1/8 45°	1/4	1/8 NPTF 12	8,5	24	21	1/2	25,2	
15 1/4 1/4 45°	1/4	1/4 NPTF 12	13	29	21	9/16	30,4	
15 3/8 1/4 45°	3/8	1/4 NPTF 16	13	29,5	25	11/16	48,9	
15 3/8 3/8 45°	3/8	3/8 NPTF 16	13	29,5	25	11/16	49,9	
15 3/8 1/2 45°	3/8	1/2 NPTF 16	17	35	25	7/8	69,1	
15 1/2 3/8 45°	1/2	3/8 NPTF 20	13	32	27,5	13/16	72,8	
15 1/2 1/2 45°	1/2	1/2 NPTF 20	17	36,5	27,5	7/8	85,1	

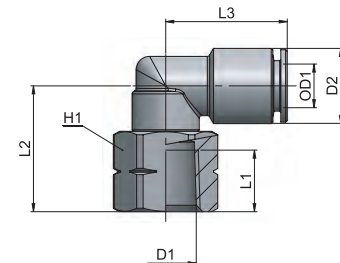


## PN 17

可调向内螺纹直角接头

Swivelling elbow fitting, female

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
17 5/32 1/8	5/32	1/8 NPTF 9,1	8,5	19,5	19	9/16	21,0	
17 5/32 1/4	5/32	1/4 NPTF 9,1	11,5	23,7	19,5	11/16	21,0	
17 1/4 1/8	1/4	1/8 NPTF 12	8,5	19,7	22	9/16	22,5	
17 1/4 1/4	1/4	1/4 NPTF 12	11,5	23,7	22	11/16	32,0	
17 5/16 1/8	5/16	1/8 NPTF 14	8,5	19,7	22,5	9/16	26,5	
17 5/16 1/4	5/16	1/4 NPTF 14	11,5	23,7	22,5	11/16	36,5	
17 3/8 1/4	3/8	1/4 NPTF 16	12	25,5	26	11/16	44,5	
17 3/8 3/8	3/8	3/8 NPTF 16	12	25,5	26	13/16	48,5	
17 1/2 3/8	1/2	3/8 NPTF 20	12	28	28,5	13/16	63,9	
17 1/2 1/2	1/2	1/2 NPTF 20	13,5	31	28,5	1	82,5	



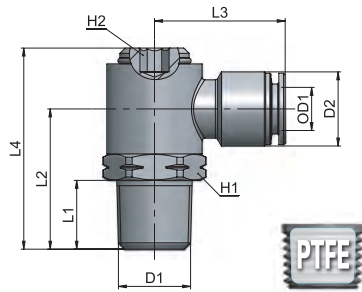
## PN LINE

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## PN 18

可调向单通铰接头

Swivelling fitting with banjo ring

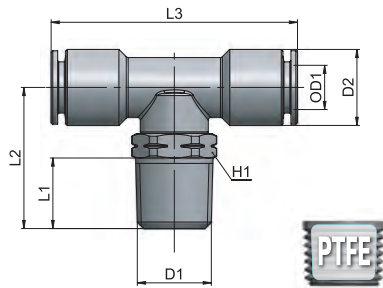


类型	OD1	D1	D2	L1	L2	L3	L4	H1	H2	g $\Delta$
18 5/32 1/8	5/32	1/8 NPTF	9,1	8,5	20,5	20,5	31	9/16	1/8	28,5
18 1/4 1/8	1/4	1/8 NPTF	12	8,5	20,5	22,5	31	9/16	1/8	30,0
18 1/4 1/4	1/4	1/4 NPTF	12	13	26,5	24	38	11/16	3/16	48,5
18 5/16 1/8	5/16	1/8 NPTF	14	8,5	20,5	23	31	9/16	1/8	30,5
18 5/16 1/4	5/16	1/4 NPTF	14	13	26,5	24,5	38	11/16	3/16	49,5
18 5/16 3/8	5/16	3/8 NPTF	14	13	29	26,5	42	13/16	1/4	76,0
18 3/8 1/4	3/8	1/4 NPTF	16	13	26,5	26,5	38	11/16	3/16	52,0
18 3/8 3/8	3/8	3/8 NPTF	16	13	29	29	42	13/16	1/4	84,0

## PN 20

可调向锥螺纹正T型三通接头

Swivelling T fitting, taper

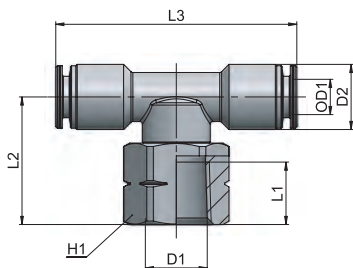


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
20 1/8 1/8	1/8	1/8 NPTF	7	8,5	18,2	28	7/16	19,0
20 5/32 1/8	5/32	1/8 NPTF	9,1	8,5	21	39	1/2	22,0
20 5/32 1/4	5/32	1/4 NPTF	9,1	13	26	39	9/16	27,0
20 1/4 1/8	1/4	1/8 NPTF	12	8,5	21	44	1/2	25,5
20 1/4 1/4	1/4	1/4 NPTF	12	13	26	44	9/16	30,5
20 1/4 3/8	1/4	3/8 NPTF	12	13	26,5	44	11/16	37,6
20 5/16 1/8	5/16	1/8 NPTF	14	8,5	21	45	1/2	31,5
20 5/16 1/4	5/16	1/4 NPTF	14	13	26	45	9/16	37,0
20 3/8 1/8	3/8	1/8 NPTF	16	8,5	24	52	11/16	50,1
20 3/8 1/4	3/8	1/4 NPTF	16	13	28,5	52	11/16	54,0
20 3/8 3/8	3/8	3/8 NPTF	16	13	28,5	52	11/16	55,0
20 3/8 1/2	3/8	1/2 NPTF	16	17	34	52	7/8	74,0
20 1/2 1/4	1/2	1/4 NPTF	20	13	32	57	13/16	85,9
20 1/2 3/8	1/2	3/8 NPTF	20	13	32	57	13/16	78,0
20 1/2 1/2	1/2	1/2 NPTF	20	17	36,5	57	7/8	93,5

## PN 20-F

可调向内螺纹正T型三通接头

Swivelling T fitting, female

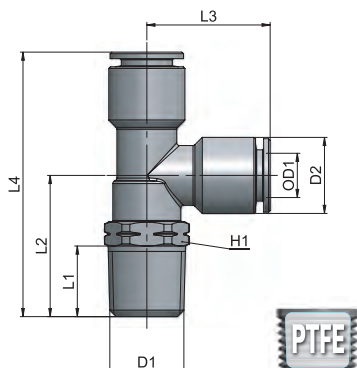


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
20 1/4 1/4 F	1/4	1/4 NPTF	12	11,5	23,5	44	11/16	38,8
20 3/8 1/4 F	3/8	1/4 NPTF	16	11,5	25,5	52	11/16	56,6
20 3/8 3/8 F	3/8	3/8 NPTF	16	12	25,5	52	13/16	-
20 1/2 3/8 F	1/2	3/8 NPTF	20	12	28	57	13/16	82,1
20 1/2 1/2 F	1/2	1/2 NPTF	20	13,5	31	57	1	100,7

## PN 23

锥螺纹直T型三通接头

Lateral run T fitting, taper



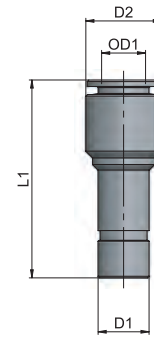
类型	OD1	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
23 1/8 1/8	1/8	1/8 NPTF	7	8,5	18,2	14	32,2	7/16	19,0
23 5/32 1/8	5/32	1/8 NPTF	9,1	8,5	21	19,5	40,5	1/2	23,0
23 5/32 1/4	5/32	1/4 NPTF	9,1	13	26	19,5	45,5	9/16	27,0
23 1/4 1/8	1/4	1/8 NPTF	12	8,5	21	22	43	1/2	25,5
23 1/4 1/4	1/4	1/4 NPTF	12	13	26	22	48	9/16	30,5
23 1/4 3/8	1/4	3/8 NPTF	12	13	26,5	22	48,5	11/16	37,5
23 5/16 1/8	5/16	1/8 NPTF	14	8,5	21	22,5	43,5	1/2	31,5
23 5/16 1/4	5/16	1/4 NPTF	14	13	26	22,5	48,5	9/16	37,5
23 3/8 1/4	3/8	1/4 NPTF	16	13	28,5	26	54,5	11/16	54,3
23 3/8 3/8	3/8	3/8 NPTF	16	13	28,5	26	54,5	11/16	55,0
23 3/8 1/2	3/8	1/2 NPTF	16	17	34	26	60	7/8	74,2
23 1/2 1/4	1/2	1/4 NPTF	20	13	32	28,5	60,5	13/16	86,5
23 1/2 3/8	1/2	3/8 NPTF	20	13	32	28,5	60,5	13/16	77,5
23 1/2 1/2	1/2	1/2 NPTF	20	17	36,5	28,5	65	7/8	90,0

PN 25

减径接头

Reducer

类型	OD1	D1	D2	L1	g $\Delta$
25 1/8 5/32	1/8	5/32 NPTF	7	27,8	2,5
25 5/32 1/4	5/32	1/4 NPTF	9,5	31,5	7,5
25 1/4 5/16	1/4	5/16 NPTF	12	34,5	11,5
25 1/4 3/8	1/4	3/8 NPTF	12	34,5	13,5
25 1/4 1/2	1/4	1/2 NPTF	13	34,5	25,0
25 5/16 3/8	5/16	3/8 NPTF	14	36,5	15,5
25 3/8 1/2	3/8	1/2 NPTF	16	40	24,5

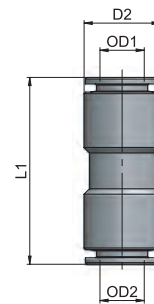


PN 26

对接接头

Union

类型	OD1	OD2	D2	L1	g $\Delta$
26 1/8 1/8	1/8	1/8	7	22,6	3,4
26 5/32 5/32	5/32	5/32	9	28	7,5
26 1/4 1/4	1/4	1/4	12	33,6	12,9
26 5/16 5/16	5/16	5/16	14	34	18,0
26 3/8 1/4	3/8	1/4	16	36,6	20,4
26 3/8 3/8	3/8	3/8	16	38,6	25,0
26 1/2 3/8	1/2	3/8	20	40,3	34,3
26 1/2 1/2	1/2	1/2	20	41	40,9

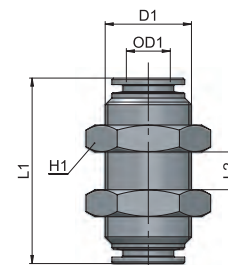


PN 27

穿板对接接头

Bulkhead union

类型	OD1	D1	L1	L2	H1	g $\Delta$
27 1/8 1/8	1/8	M8x0,75	22,5	7,5	12	13,5
27 5/32 5/32	5/32	M12x1	28	9,5	16	23,0
27 1/4 1/4	1/4	M14x1	34	14,5	18	32,5
27 5/16 5/16	5/16	M16x1	34	15,5	20	39,0
27 3/8 3/8	3/8	M18x1	39	17,5	22	53,5
27 1/2 1/2	1/2	M22x1,5	41	18,5	26	73,9

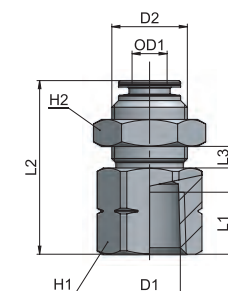


PN 27-F

内螺纹穿板接头

Bulkhead union female

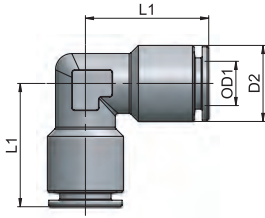
类型	OD1	D1	D2	L1	L2	L3	H1	H2	g $\Delta$
27 5/32 1/4 F	5/32	1/4 NPTF	M12x1	11,5	29,5	7	11/16	16	-
27 1/4 1/8 F	1/4	1/8 NPTF	M14x1	8	27	8,5	11/16	18	33,4
27 1/4 1/4 F	1/4	1/4 NPTF	M14x1	11,5	32	8,5	11/16	18	36,3
27 3/8 1/4 F	3/8	1/4 NPTF	M18x1	11,5	34	10,5	7/8	22	65,1
27 3/8 3/8 F	3/8	3/8 NPTF	M18x1	12	35	10,5	7/8	22	58,8
27 3/8 1/2 F	3/8	1/2 NPTF	M18x1	13,5	38	10,5	1	22	72,2
27 1/2 3/8 F	1/2	3/8 NPTF	M22x1,5	12	36	12	1	26	84,3
27 1/2 1/2 F	1/2	1/2 NPTF	M22x1,5	13,5	39	12	1	26	80,5



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## PN 28

直角对接接头

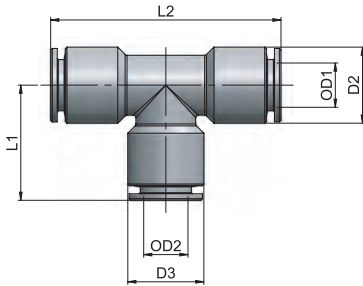


Union elbow

类型	OD1	D2	L1	g $\Delta$
28 1/8 1/8	1/8	7	12,8	4,5
28 5/32 5/32	5/32	9	17,5	9,5
28 1/4 1/4	1/4	12	20,5	15,5
28 5/16 5/16	5/16	14	22,5	23,5
28 3/8 3/8	3/8	16	25	32,0
28 1/2 1/2	1/2	20	27	51,5

## PN 29

正T型三通对接接头

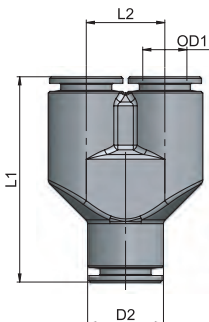


Union T

类型	OD1	OD2	D2	D3	L1	L2	g $\Delta$
29 1/8 1/8	1/8	1/8	7	7	12,8	25,6	5,5
29 5/32 5/32	5/32	5/32	9	9	17,5	35	12,5
29 1/4 1/4	1/4	1/4	12	12	20	40	20,0
29 5/16 5/16	5/16	5/16	14	14	21	42	28,0
29 3/8 3/8	3/8	3/8	16	16	24,5	49	42,5
29 3/8 1/4	3/8	1/4	16	12	22,5	49	40,0
29 1/2 1/2	1/2	1/2	20	20	27	54	68,6
29 1/2 1/4	1/2	1/4	20	12	24,5	54	62,8
29 1/2 3/8	1/2	3/8	20	16	27	54	67,5

## PN 37

Y型接头



Y fitting

类型	OD1	D2	L1	L2	g $\Delta$
37 1/8 1/8	1/8	6,8	25	7,5	19,0
37 5/32 5/32	5/32	9	29,5	9,5	13,5
37 1/4 1/4	1/4	12	36,5	12,5	30,5
37 5/16 5/16	5/16	14	37,5	14,5	42,0
37 3/8 3/8	3/8	16	44,5	16,5	68,6

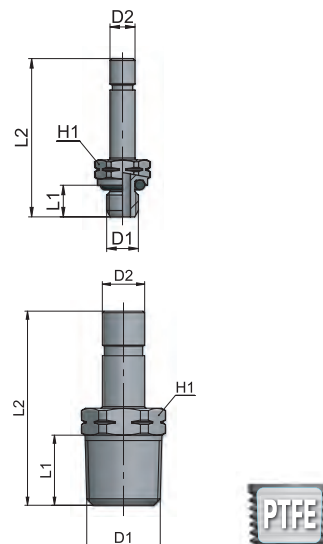
## PN 38

螺纹型尾管接头

Stem adaptor

类型	D1	D2	L1	L2	H1	g $\Delta$
38 5/32 10-32	10-32 UNF	5/32	5	25	5/16	2,5

类型	D1	D2	L1	L2	H1	g $\Delta$
38 5/32 1/8	1/8 NPTF	5/32	8,5	29	7/16	7,0
38 5/32 1/4	1/4 NPTF	5/32	13	34	9/16	14,0
38 1/4 1/8	1/8 NPTF	1/4	8,5	31	7/16	8,5
38 1/4 1/4	1/4 NPTF	1/4	13	36	9/16	15,0
38 5/16 1/8	1/8 NPTF	5/16	8,5	31	7/16	9,0
38 5/16 1/4	1/4 NPTF	5/16	13	36	9/16	15,5
38 3/8 1/4	1/4 NPTF	3/8	13	38	9/16	16,5
38 3/8 3/8	3/8 NPTF	3/8	13	38,5	11/16	23,0
38 1/2 3/8	3/8 NPTF	1/2	13	41,5	11/16	25,5
38 1/2 1/2	1/2 NPTF	1/2	17	46,5	7/8	43,0

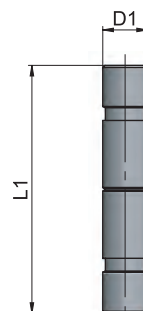


## PN 39

接头连接杆

Extention piece

类型	D1	L1	g $\Delta$
39 5/32 5/32	5/32 NPTF	30	2,8
39 1/4 1/4	1/4 NPTF	35	5,0
39 5/16 5/16	5/16 NPTF	35	5,5
39 3/8 3/8	3/8 NPTF	40	8,5
39 1/2 1/2	1/2 NPTF	44	14,0

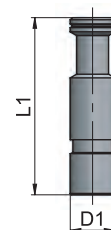


## PN 40

堵头

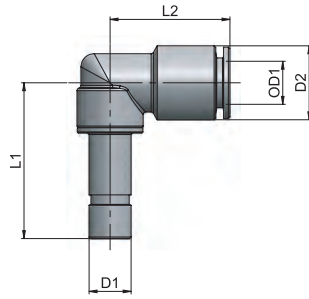
Plug


类型	D1	L1	g $\Delta$
40 1/8 1/8	1/8 NPTF	20	1,3
40 5/32 5/32	5/32 NPTF	25	2,5
40 1/4 1/4	1/4 NPTF	25	4,5
40 5/16 5/16	5/16 NPTF	30	12,5
40 3/8 3/8	3/8 NPTF	35	11,2
40 1/2 1/2	1/2 NPTF	40	42,0



## PN LINE

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



类型	OD1	D1	D2	L1	L2	g 
43 5/32 00	5/32	5/32 NPTF	9,1	25,7	19,5	13,9
43 1/4 00	1/4	1/4 NPTF	12	29,7	22	17,6
43 5/16 00	5/16	5/16 NPTF	14	29,5	22,5	20,5
43 3/8 00	3/8	3/8 NPTF	16	33,5	26	30,5

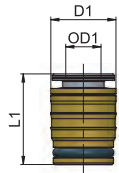
# PN 10

## 埋入式接头

PN10埋入接头的优良结构设计，使得同一规格接头能够同时适用于塑料，铝和黄铜等不同基座材质。

## Press-in cartridge

The new construction features of the cartridge PN10 allow for one single cartridge version to be assembled in plastic, aluminium as well as brass bodies.



类型	OD1	D1	L1	g ΔΔ
10 5/32 00	5/32	9,3	14,5	3,6
10 1/4 00	1/4	12	16,5	6,0
10 5/16 00	5/16	13,7	17	7,9
10 3/8 00	3/8	15,3	19	-

## 钻孔示意图

1 按照提供的说明和钻孔方法来加工埋入孔

2 手动将接头按压入埋入孔，再使用埋入工具进行压装，直至底部，这样就确保了正确安装

可根据要求提供“钻孔和安装工具”

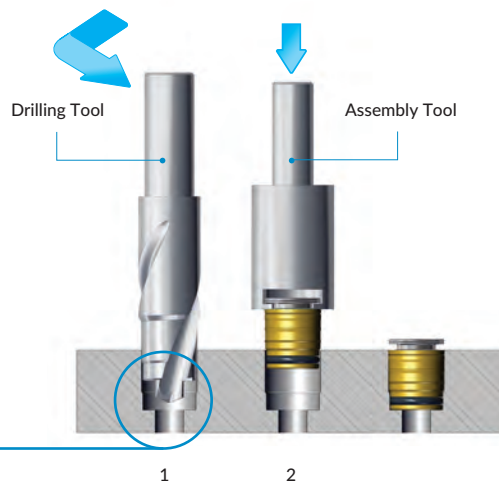
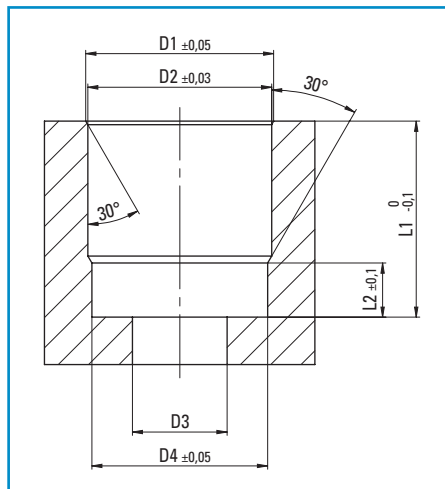
## Cartridge seat drilling plan

1 Drill the cartridge seat, following the instructions given.

2 Manually press the cartridge into the seat and by means of the Assembly tool push it all the way down until it bottoms; this will guarantee the proper cartridge assembly.

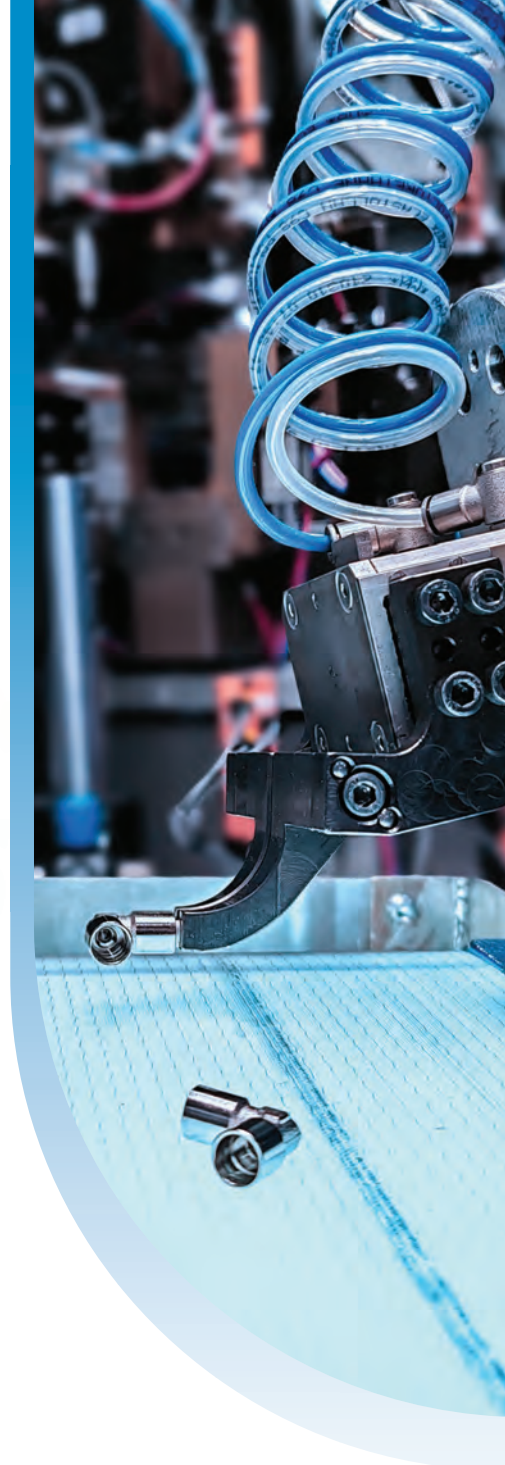
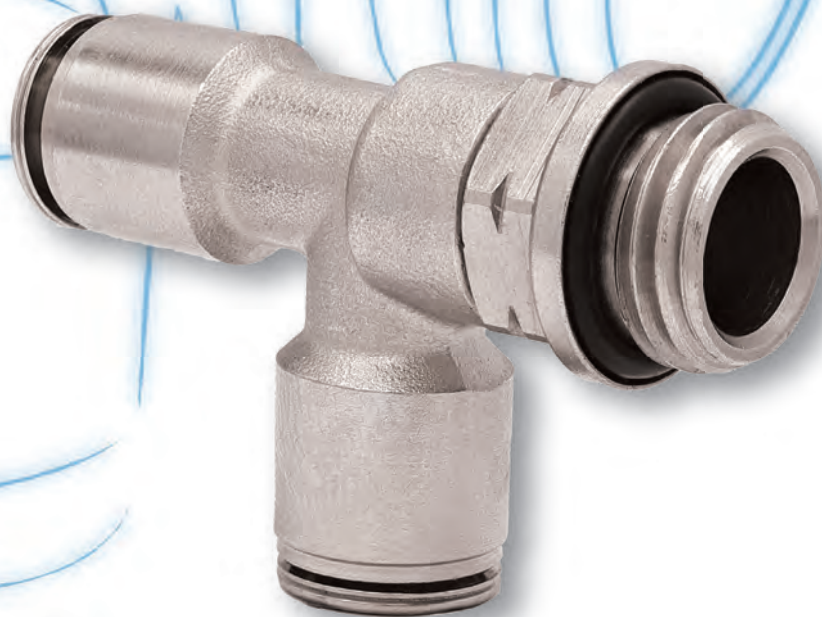
Drilling and Assembly Tool "available upon request."

OD管径	D1	D2	D3	D4	L1	L2
5/32	9,5	9,2	3	8,6	12	3,2
1/4	12,2	11,9	5,5	11,3	14	4
5/16	13,9	13,6	7	13	14,5	4
3/8	15,5	15,2	8,5	14,6	16	4





*cmatic*



## PE LINE



CN

### “通用” 螺纹Easythread快插接头

名为“easyThread”的螺纹设计并按Cmatic标准制造的快插式管接头。该螺纹特性使其能够适配不同螺纹标准（NPT、BSP-P、BSPT），从而显著提升操作灵活性并降低库存成本。

EN

### Easythread Push-in Fittings, "Uni" thread

Push-in fittings featured by the so called "easyThread" and made according to Cmatic Standards. This thread feature allows for connections with different threads standards (NPT, BSPP, BSPT) and leads to greater operational flexibility and inventory cost reduction.

# PE Line

1 本体 Body	2 释放环 Release ring	3 支撑环 Holding ring	4 卡爪 Gripping ring	5 保护环 Protection ring	6 密封圈 Seals
黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel Plated		缩醛树脂 Acetal resin	(POM) (POM)	AISI 301 不锈钢 Stainless steel AISI 301	缩醛树脂 Acetal resin
				(POM) (POM)	NBR NBR



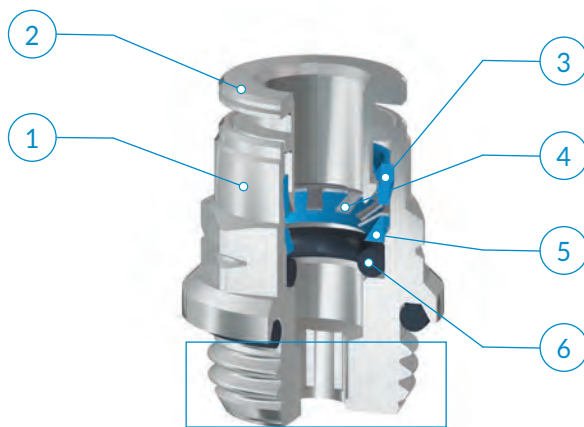
-20° ÷ 80°C



20 bar

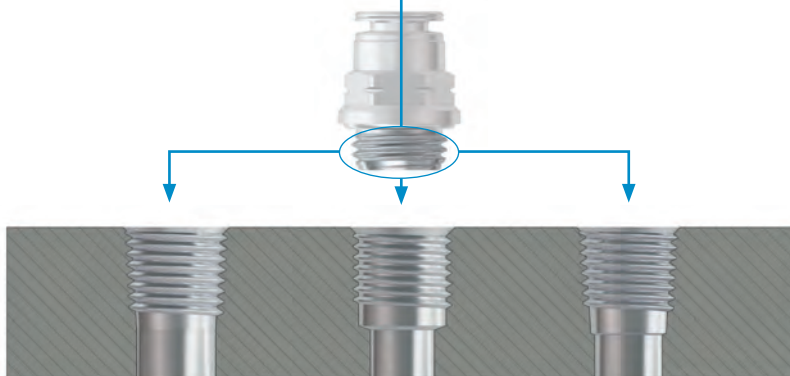


-99 KPa



	Easy 1/8	Easy 1/4	Easy 3/8	Easy 1/2
1/4	●	●		
3/8		●	●	
1/2			●	●
6	●	●		
8		●		
10		●	●	
12			●	●

## EasyThread



NPTF

BSPP (G)

BSPT (R)

### 建议的连接管路:

PA11、PA12、PA6、PE聚乙烯、PU聚氨酯 (98 Shore A)。

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 Ø 3/8" - 10 mm  
+/- 0.1 mm Ø 1/2" - 12 mm。

### 应用领域:

气动系统。

### Recommended tubings:

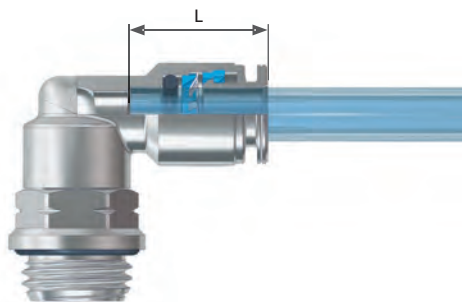
PA11, PA12, PA6, Polyethylene PE, Polyurethane PU (98 Shore A).

### Acceptable Tolerances on the tubings:

+/- 0.07 mm up to Ø 3/8" - 10 mm  
+/- 0.1 mm Ø 1/2" - 12 mm.

### Application fields:

Pneumatic circuits.



OD	L
1/4	16,1
3/8	18,3
1/2	19,5
6	16,1
8	16,2
10	18,3
12	19,5

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。使用金属管路连接时,需要通过专用设备 (TINC) 在管路上开槽。开槽尺寸需要考虑管路直径,以保证可靠的连接。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval. In case of use with metal hoses, make a groove all around the tube diameter with a suitable tool (TINC).The groove must be made according to the tube diameter so that the fitting collect can better grip onto it.

2

将管路插入接头,到底为止。

2

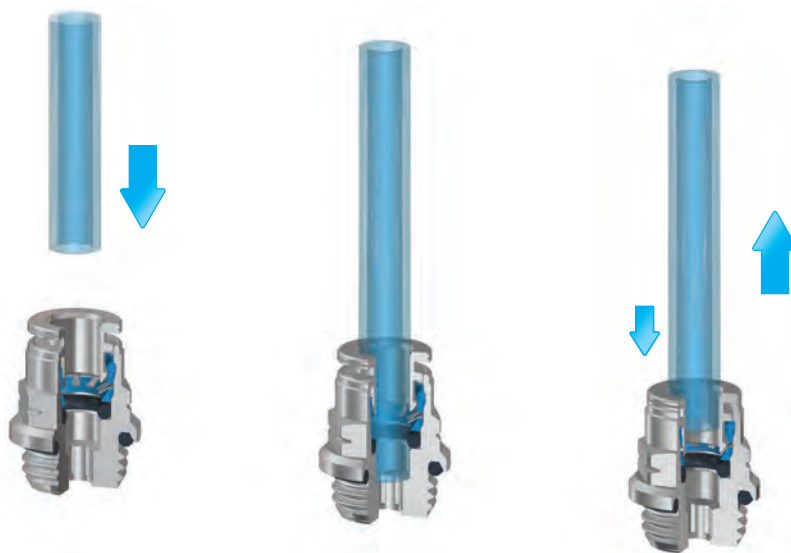
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。

为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。



Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).

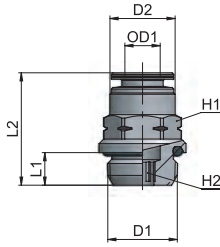
To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.

To tighten threads, please check out our tightening torque chart illustrated at page 10.

## PE 12

EasyThread外螺纹直管接头

"EasyThread" straight, male

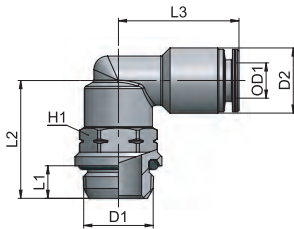


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
12 1/4 1/8	1/4	Easy 1/8	12	4,5	20,5	1/2	5/32	9,4
12 1/4 1/4	1/4	Easy 1/4	12	6	20,5	1/2	5/32	12,8
12 3/8 1/4	3/8	Easy 1/4	15,7	6	26,5	5/8	1/4	19,7
12 3/8 3/8	3/8	Easy 3/8	15,7	6	25	5/8	1/4	24,1
12 1/2 3/8	1/2	Easy 3/8	20	6	28	13/16	13/32	32,2
12 1/2 1/2	1/2	Easy 1/2	20	8,5	26,5	13/16	13/32	35,6
12 06 1/8	6	Easy 1/8	11,7	4,5	19,5	12	4	9,3
12 06 1/4	6	Easy 1/4	11,7	6	19,5	12	4	12,1
12 08 1/4	8	Easy 1/4	13,7	6	21,5	14	6	14,0
12 10 1/4	10	Easy 1/4	15,8	6	27	15	8	16,1
12 10 3/8	10	Easy 3/8	15,8	6	24	16	8	20,3
12 12 3/8	12	Easy 3/8	18,8	6	27,5	19	10	27,9
12 12 1/2	12	Easy 1/2	18,8	8,5	26,5	19	10	35,2

## PE 16

"EasyThread"可调向外螺纹弯管接头

"EasyThread" swivelling elbow fitting, male

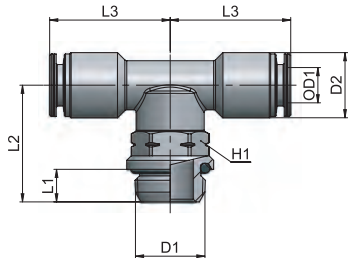


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
16 1/4 1/8	1/4	Easy 1/8	12	4,5	18,2	22	1/2	18,1
16 1/4 1/4	1/4	Easy 1/4	12	6	21,7	22	1/2	20,9
16 3/8 1/4	3/8	Easy 1/4	16	6	22	26	5/8	33,4
16 3/8 3/8	3/8	Easy 3/8	16	6	25	26	5/8	38,4
16 1/2 3/8	1/2	Easy 3/8	20	6	25,5	28,5	13/16	57,8
16 1/2 1/2	1/2	Easy 1/2	20	8,5	32,5	28,5	13/16	69,5
16 06 1/8	6	Easy 1/8	12	4,5	18,2	22	1/2	18,3
16 06 1/4	6	Easy 1/4	12	6	21,7	22	1/2	21,6
16 08 1/4	8	Easy 1/4	14	6	21,5	22,5	1/2	24,8
16 10 1/4	10	Easy 1/4	16	6	22	26	5/8	31,7
16 10 3/8	10	Easy 3/8	16	6	25	26	5/8	36,7
16 12 3/8	12	Easy 3/8	19	6	25,5	28,5	13/16	56,0
16 12 1/2	12	Easy 1/2	19	8,5	32,5	28,5	13/16	69,0

## PE 21

"EasyThread"可调向外螺纹正T管接头

"EasyThread" swivelling T fitting

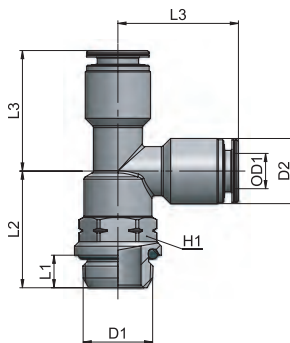


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
21 1/4 1/8	1/4	Easy 1/8	12	4,5	18	22	1/2	24,3
21 1/4 1/4	1/4	Easy 1/4	12	6	21,5	22	1/2	27,2
21 3/8 1/4	3/8	Easy 1/4	16	6	22	26	5/8	46,0
21 3/8 3/8	3/8	Easy 3/8	16	6	25	26	5/8	50,6
21 1/2 3/8	1/2	Easy 3/8	20	6	25,5	28,5	13/16	75,0
21 1/2 1/2	1/2	Easy 1/2	20	8,5	32,5	28,5	13/16	86,9
21 06 1/8	6	Easy 1/8	12	4,5	18	22	1/2	24,9
21 06 1/4	6	Easy 1/4	12	6	21,5	22	1/2	27,8
21 08 1/4	8	Easy 1/4	14	6	21,5	22,5	1/2	33,4
21 10 1/4	10	Easy 1/4	16	6	22	26	5/8	43,3
21 10 3/8	10	Easy 3/8	16	6	25	26	5/8	48,6
21 12 3/8	12	Easy 3/8	19	6	25,5	28,5	13/16	74,0
21 12 1/2	12	Easy 1/2	19	8,5	32,5	28,5	13/16	86,7

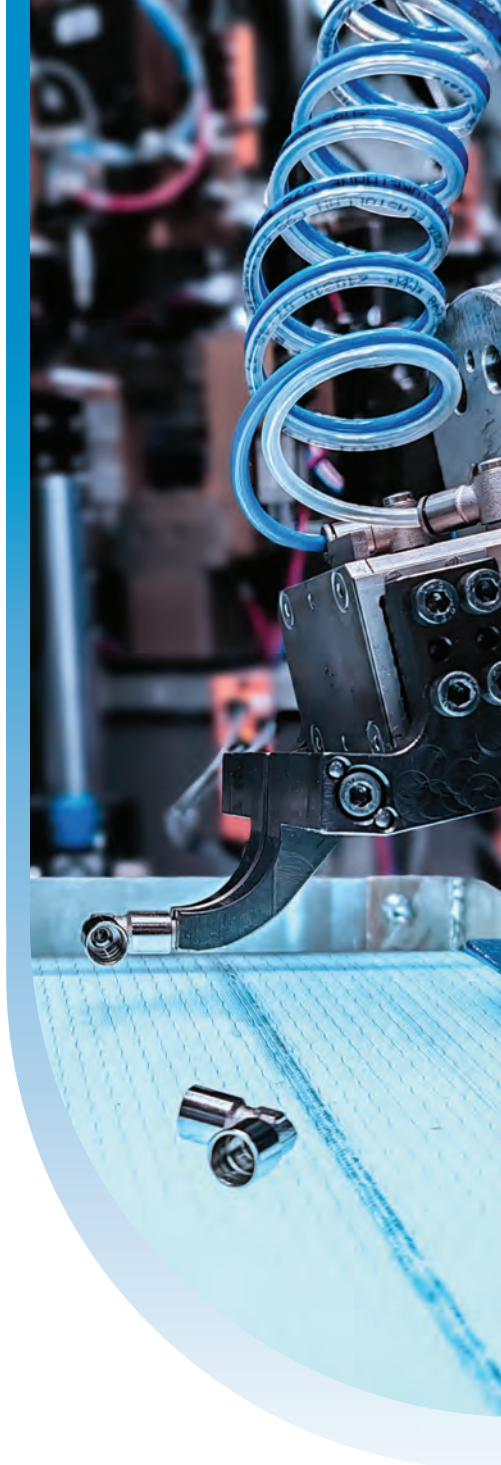
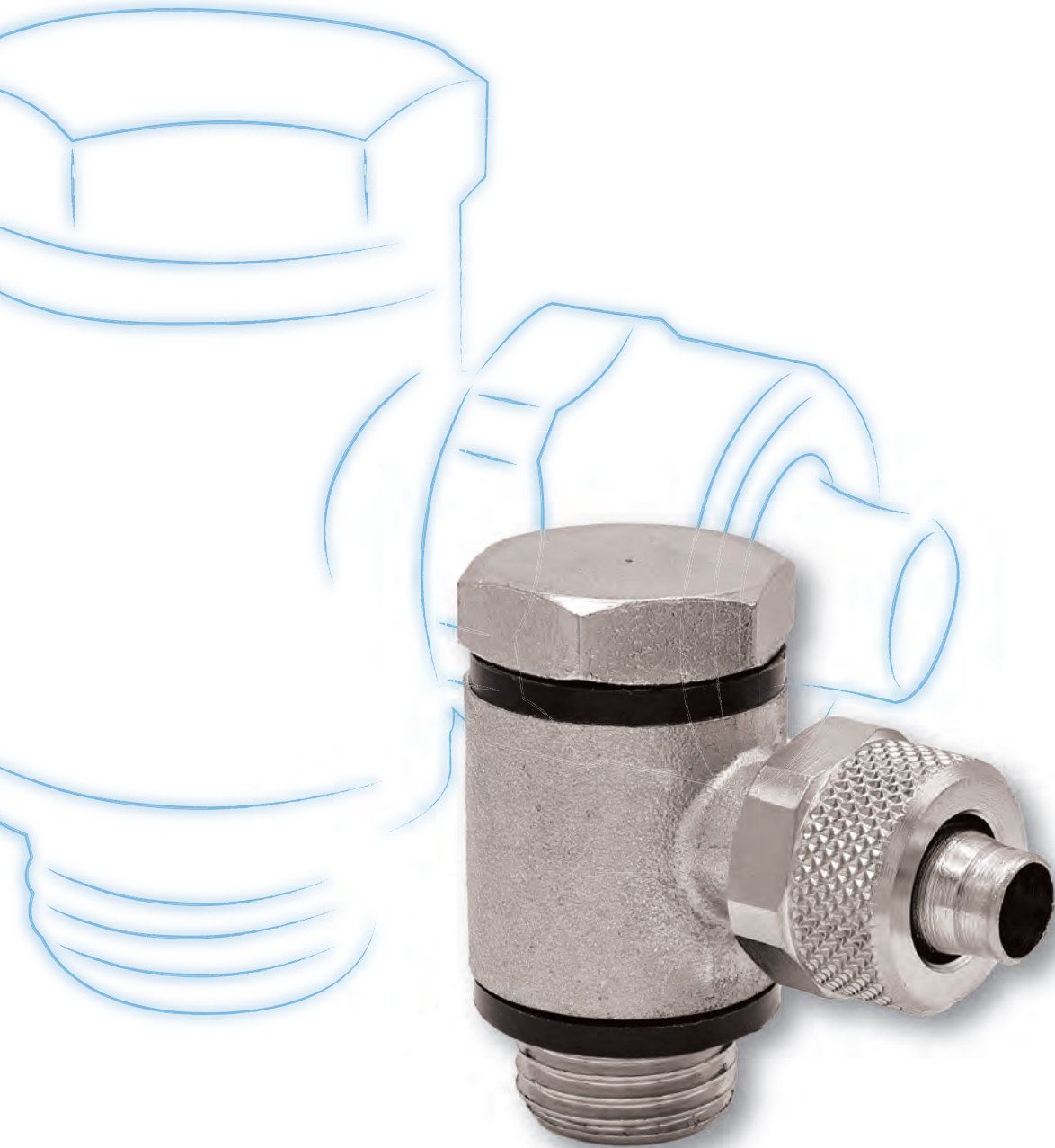
## PE 24

"EasyThread"外螺纹直T型三通接头

"EasyThread" lateral run T fitting



类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
24 1/4 1/8	1/4	Easy 1/8	12	4,5	18,2	22	1/2	25,0
24 1/4 1/4	1/4	Easy 1/4	12	6	21,7	22	1/2	27,8
24 3/8 1/4	3/8	Easy 1/4	16	6	22	26	5/8	45,2
24 3/8 3/8	3/8	Easy 3/8	16	6	25	26	5/8	50,8
24 1/2 3/8	1/2	Easy 3/8	20	6	25,5	28,5	13/16	73,2
24 1/2 1/2	1/2	Easy 1/2	20	8,5	32,5	28,5	13/16	85,0
24 06 1/8	6	Easy 1/8	12	4,5	18	22	1/2	26,1
24 06 1/4	6	Easy 1/4	12	6	21,5	22	1/2	29,2
24 08 1/4	8	Easy 1/4	14	6	21,5	22,5	1/2	33,1
24 10 1/4	10	Easy 1/4	16	6	22	26	5/8	43,5
24 10 3/8	10	Easy 3/8	16	6	25	26	5/8	48,5
24 12 3/8	12	Easy 3/8	19	6	25,5	28,5	13/16	63,1
24 12 1/2	12	Easy 1/2	19	8,5	32,5	28,5	13/16	76,0



## MC LINE



CN

### 黄铜镀镍快拧接头

MC系列快拧接头采用锥面涉及，当管路安装完毕并拧紧螺母时，可确保密封。所有MC系列接头均表面电解镀镍。

EN

### Brass Nickel-Plated Push-on Fittings

The Push-on Fittings of the MC line are provided with a cone to ensure the perfect tightness once the tubing is assembled and the nut tightened. All MC fittings are electrolytic nickel plated.

# MC Line

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated

2 螺母  
Nut

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated



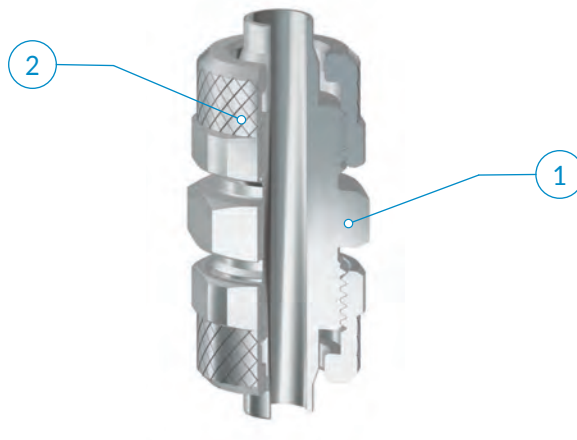
-40° ÷ 150°C



25 bar



-99 KPa



	M5x0,8	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
4	●	●				●			
5	●	●				●			
6	●	●	●	●		●	●	●	
8		●	●	●		●	●	●	
10		●	●	●	●	●	●	●	●
12				●	●			●	●
15					●				●

**建议的连接管路：**  
PA11、PA12、PE聚乙烯、PU聚氨酯。

**Recommended tubings:**  
PA11, PA12, Polyethylene PE, Polyurethane PU

**可接受的管路公差：**  
+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 最大直径 Ø 15 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0,07 mm up to Ø 10 mm  
+/- 0,1 mm up to Ø 15 mm

**应用领域：**  
气动系统。

**Application fields:**  
Pneumatic circuits

1

垂直切割管路, 确认管路内外壁没有毛刺

2

将螺母套入管路

3

将管路套在锥面上, 用力推入至压紧程度

4

用手或者扳手拧紧螺母

1

Cut the tube at 90° making sure that no burr is left;

2

Push the nut onto the tube;

3

Push the tube and nut onto the fitting nozzle and make sure that the tube goes all the way up to the nozzle base;

4

Tighten the nut by hand or if necessary by a spanner.



完成连接后, 请确保管路上不承受外力; 此外, 请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱, 任何物体均不要接触释放环。作用在释放环上任何外力, 包括侧向力, 均可能导致管路意外松脱。螺纹拧紧时, 请参考第10页列出的建议扭矩。

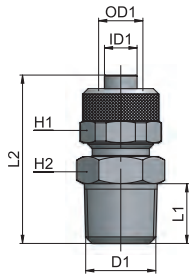


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MC 11

外锥螺纹直接头

Taper straight, male

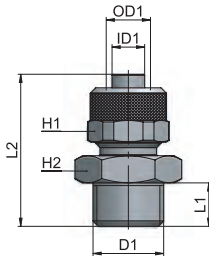


类型	OD1	ID1	D1	L1	L2	H1	H2	g $\Delta$
11 04 18	4	2,5	R1/8	7,5	23,5	7	11	7,4
11 05 18	5	3	R1/8	8	25	8	12	8,6
11 06 18	6	4	R1/8	8	27,5	12	12	15,0
11 06 14	6	4	R1/4	11	31	12	14	20,6
11 06 38	6	4	R3/8	11,5	31,5	12	17	23,9
11 08 18	8	6	R1/8	8	27,5	14	12	17,7
11 08 14	8	6	R1/4	11	31	14	14	22,5
11 08 38	8	6	R3/8	11,5	31,5	14	17	27,4
11 10 18	10	8	R1/8	8	29,5	16	14	22,0
11 10 14	10	8	R1/4	11	32,5	16	14	26,6
11 10 38	10	8	R3/8	11,5	33	16	17	33,1
11 10 12	10	8	R1/2	14	36	16	22	48,3
11 12 38	12	10	R3/8	11,5	34,5	18	17	37,3
11 12 12	12	10	R1/2	14	37,5	18	22	49,5
11 15 12	15	12,5	R1/2	14	39,5	22	22	61,9

## MC 12

外直螺纹直接头

Parallel straight, male



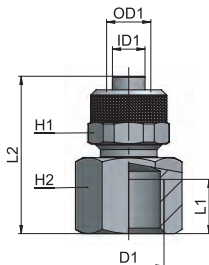
类型	OD1	ID1	D1	L1	L2	H1	H2	g $\Delta$
12 04 M5	4	2,5	M5x0,8	5	20	7	7	3,4
12 04 18	4	2,5	G1/8	6	22,5	7	14	9,7
12 05 M5	5	3	M5x0,8	4	20	8	8	4,8
12 05 18	5	3	G1/8	6	23	8	14	10,6
12 06 M5	6	4	M5x0,8	4	21	9	8	6,1
12 06 18	6	4	G1/8	6	25,5	12	14	16,4
12 06 14	6	4	G1/4	8	28	12	17	21,0
12 06 38	6	4	G3/8	9	29	12	19	27,5
12 08 18	8	6	G1/8	6	25,5	14	14	19,5
12 08 14	8	6	G1/4	8	28	14	17	25,2
12 08 38	8	6	G3/8	9	29	14	19	30,1
12 10 18	10	8	G1/8	6	27,5	16	14	22,9
12 10 14	10	8	G1/4	8	29,5	16	17	29,4
12 10 38	10	8	G3/8	9	30,5	16	19	32,6
12 10 12	10	8	G1/2	10	32	16	24	45,1
12 12 38	12	10	G3/8	9	32	18	19	38,1
12 12 12	12	10	G1/2	10	33,5	18	24	53,2
12 15 12	15	12,5	G1/2	10	33,5	22	24	60,9

O型圈选装 - O-ring on request

## MC 13

内螺纹直接头

Female straight



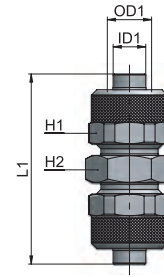
类型	OD1	ID1	D1	L1	L2	H1	H2	g $\Delta$
13 05 18	5	3	G1/8	8	22,5	8	14	12,4
13 06 18	6	4	G1/8	8	25	12	14	17,8
13 06 14	6	4	G1/4	11	29	12	17	24,8
13 08 18	8	6	G1/8	8	25	14	14	20,1
13 08 14	8	6	G1/4	11	29	14	17	27,5
13 08 38	8	6	G3/8	11,5	29,5	14	20	31,1
13 10 14	10	8	G1/4	11	30,5	16	17	32,2
13 10 38	10	8	G3/8	11,5	31	16	20	36,1
13 12 38	12	10	G3/8	11,5	32,5	18	20	38,1

MC 14

对接接头

Union

类型	OD1	ID1	L1	H1	H2	g $\Delta$
14 05 05	5	3	28,5	8	8	7,5
14 06 06	6	4	34,5	12	12	20,5
14 08 08	8	6	35	14	14	27,9
14 10 10	10	8	38	16	14	36,0
14 12 12	12	10	41	18	17	47,0
14 15 15	15	12,5	45,5	22	22	74,6

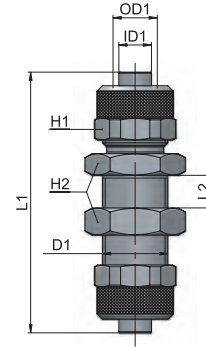


MC 15

穿板对接接头

Bulkhead union

类型	OD1	ID1	D1	L1	L2	H1	H2	g $\Delta$
15 05 05	5	3	M7x0,75	40	8,5	8	9	10,9
15 06 06	6	4	M10x1	48	10,5	12	14	33,2
15 08 08	8	6	M12x1	48	10,5	14	16	42,6
15 10 10	10	8	M14x1	50	8,5	16	17	56,0
15 12 12	12	10	M16x1	53	8,5	18	19	66,8
15 15 15	15	12,5	M20x1	58	8,5	22	24	104,6

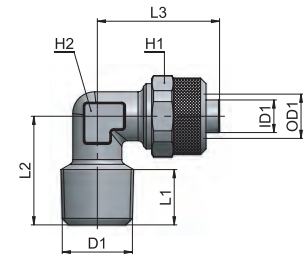


MC 16

外锥螺纹弯管接头

Taper elbow fitting, male

类型	OD1	ID1	D1	L1	L2	L3	H1	H2	g $\Delta$
16 04 M5	4	2,5	M5x0,8	5	15,5	20	7	9	10,4
16 04 18	4	2,5	R1/8	7,5	17	20	7	9	10,7
16 05 18	5	3	R1/8	8	17	21,5	8	8	10,8
16 06 18	6	4	R1/8	8	17	22,5	12	8	16,0
16 06 14	6	4	R1/4	11	20	22,5	12	10	21,6
16 06 38	6	4	R3/8	11,5	22,5	23,5	12	11	30,3
16 08 18	8	6	R1/8	8	17	22,5	14	10	19,4
16 08 14	8	6	R1/4	11	20	22,5	14	10	23,3
16 08 38	8	6	R3/8	11,5	22,5	24	14	11	31,0
16 10 18	10	8	R1/8	8	18,5	25,5	16	11	27,6
16 10 14	10	8	R1/4	11	21,5	25,5	16	11	30,5
16 10 38	10	8	R3/8	11,5	22,5	25,5	16	11	34,7
16 12 38	12	10	R3/8	11,5	24,5	30	18	14	46,0
16 12 12	12	10	R1/2	14	28	30,5	18	17	66,5
16 15 12	15	12,5	R1/2	14	28	34	22	17	69,6



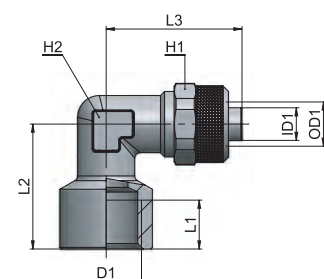
根据需要, 可提供可调向带O型圈型式 - Swivelling with O-ring on request

MC 17

内螺纹弯管接头

Female elbow

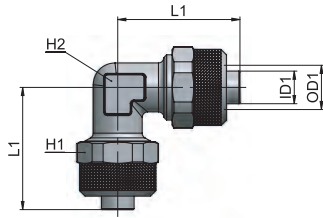
类型	OD1	ID1	D1	L1	L2	L3	H1	H2	g $\Delta$
17 05 18	5	3	G1/8	8	19	21,5	8	10	20,8
17 06 18	6	4	G1/8	8	19	22,7	12	10	20,5
17 06 14	6	4	G1/4	11	23	24,5	12	11	30,6
17 08 18	8	6	G1/8	8	19	22,7	14	10	23,0
17 08 14	8	6	G1/4	11	23	25	14	11	31,0
17 10 14	10	8	G1/4	11	23,5	26	16	13	39,2
17 12 38	12	10	G3/8	11,5	28	30,5	18	17	61,3



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MC 18

直角对接接头

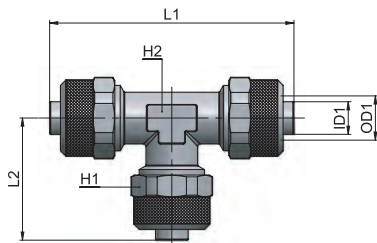


Union elbow

类型	OD1	ID1	L1	H1	H2	g $\Delta$
18 05 05	5	3	21,5	8	8	13,1
18 06 06	6	4	21,5	12	8	22,7
18 08 08	8	6	22,5	14	10	28,4
18 10 10	10	8	25,5	16	11	38,6
18 12 12	12	10	30	18	14	58,0
18 15 15	15	12,5	34	22	17	84,3

## MC 19

正T型三通对接接头

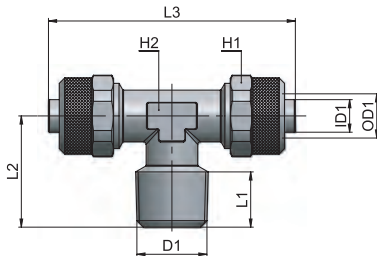


Union T

类型	OD1	ID1	L1	L2	H1	H2	g $\Delta$
19 05 05	5	3	43	21,5	8	8	18,6
19 06 06	6	4	45	22,5	12	8	32,1
19 08 08	8	6	45	22,5	14	10	41,3
19 10 10	10	8	51	25,5	16	11	54,5
19 12 12	12	10	60	30	18	14	84,9
19 15 15	15	12,5	68	34	22	17	124,2

## MC 20

锥螺纹正T型三通接头



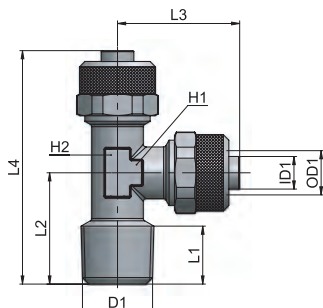
Taper male T

类型	OD1	ID1	D1	L1	L2	L3	H1	H2	g $\Delta$
20 05 18	5	3	R1/8	8	17	43	8	8	17,5
20 06 18	6	4	R1/8	8	17	45	12	8	27,0
20 06 14	6	4	R1/4	11	20,5	45,5	12	10	35,2
20 08 18	8	6	R1/8	8	17,5	45,5	14	10	33,6
20 08 14	8	6	R1/4	11	20,5	45,5	14	10	37,7
20 10 14	10	8	R1/4	11	21,5	51	16	11	48,0
20 10 38	10	8	R3/8	11,5	22,5	51	16	11	50,0
20 12 38	12	10	R3/8	11,5	24,5	60	18	14	69,5
20 12 12	12	10	R1/2	14	28	61	18	17	85,0
20 15 12	15	12,5	R1/2	14	28	68	22	17	108,3

根据需要, 可提供可调带o型圈型式 - Swivelling with O-ring on request

## MC 21

锥螺纹直T型三通接头



Taper lateral T

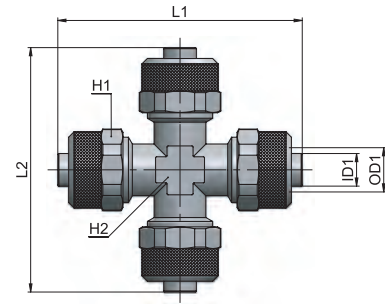
类型	OD1	ID1	D1	L1	L2	L3	L4	H1	H2	g $\Delta$
21 05 18	5	3	R1/8	8	17	21,5	38,5	8	8	17,7
21 06 18	6	4	R1/8	8	17	22,5	39,5	12	8	25,8
21 06 14	6	4	R1/4	11	20,7	22,7	43,5	12	10	33,8
21 08 18	8	6	R1/8	8	17,7	22,7	40,5	14	10	36,9
21 08 14	8	6	R1/4	11	20,7	22,7	43,5	14	10	36,3
21 10 14	10	8	R1/4	11	21	25,5	46,5	16	11	47,4
21 10 38	10	8	R3/8	11,5	22,5	25,5	48	16	11	51,2
21 12 38	12	10	R3/8	11,5	24,5	30	54,5	18	14	72,2
21 12 12	12	10	R1/2	14	28	30,5	58,5	18	17	99,1
21 15 12	15	12,5	R1/2	14	28	34	62	22	17	107,1

MC 22

十字型接头

Cross fitting

类型	OD1	ID1	L1	L2	H1	H2	g $\Delta$
22 05 05	5	3	43	43	8	8	45,4
22 06 06	6	4	45	45	12	8	45,6
22 08 08	8	6	45	45	14	10	53,1
22 10 10	10	8	51	51	16	11	72,3

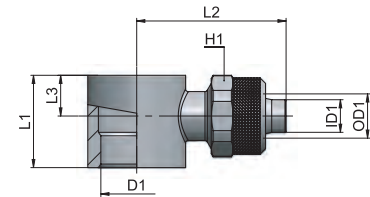


MC 23

单通铰接头本体

Single banjo ring

类型	OD1	ID1	D1	L1	L2	L3	H1	g $\Delta$
23 04 M5	4	2,5	5,1	9	19	4,5	7	7,6
23 04 M5 /R	4	2,5	7	10	19	3,5	7	5,5
23 04 18	4	2,5	10	15	21,5	6	7	12,7
23 05 M5	5	3	5,1	9	20	4,5	8	7,3
23 05 M5 /R	5	3	7	10	20	3,5	8	6,5
23 05 18	5	3	10	15	23	6	8	20,5
23 06 M5	6	4	5,1	9	20	4,5	9	7,9
23 06 M5 /R	6	4	7	10	20	3,5	9	6,8
23 06 18	6	4	10	15	25	6	12	19,2
23 06 14	6	4	13,2	17	26,5	7,5	12	25,6
23 08 18	8	6	10	15	25	6	14	19,5
23 08 14	8	6	13,2	17	27,5	7,5	14	27,4
23 08 38	8	6	17	20	29,5	7,5	14	39,0
23 10 14	10	8	13,2	17	28,5	7,5	16	29,2
23 10 38	10	8	17	20	30,5	7,5	16	41,5



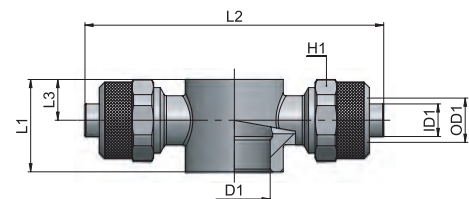
/R = 仅用于流量调节阀 - For flow controls only

MC 24

两通铰接头本体

Double banjo ring

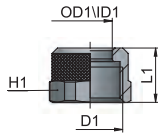
类型	OD1	ID1	D1	L1	L2	L3	H1	g $\Delta$
24 05 M5	5	3	5,1	9	40	4,5	8	12,0
24 06 M5	6	4	5,1	9	40	4,5	9	12,7
24 06 18	6	4	10	15	50	6	12	30,1
24 06 14	6	4	13,2	17	53	7,5	12	35,5
24 08 18	8	6	10	15	50	6	14	31,9
24 08 14	8	6	13,2	17	55	7,5	14	38,9
24 10 14	10	8	13,2	17	57	7,5	16	44,5



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MC 27

螺母

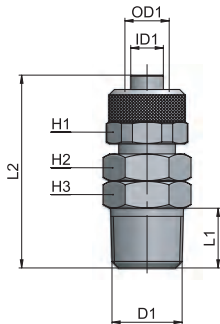


Nut

类型	OD1	ID1	D1	L1	H1	g
27 04 07	4	2,5	M6x0,75	8	7	1,1
27 05 08	5	3	M7x0,75	9	8	1,2
27 06 08	6	4	M8x0,75	9	9	1,5
27 06 10	6	4	M10x1	10	12	4,1
27 08 12	8	6	M12x1	10	14	5,0
27 10 14	10	8	M14x1	11,5	16	6,5
27 12 16	12	10	M16x1	13	18	8,8
27 15 20	15	12,5	M20x1	15,5	22	14,3

## MC 29

可调向锥螺纹直接头



Swivelling taper straight

类型	OD1	ID1	D1	L1	L2	H1	H2	H3	g
29 06 18	6	4	R1/8	8	37	12	12	12	16,3
29 06 14	6	4	R1/4	11	40	12	14	14	27,2
29 08 18	8	6	R1/8	8	37	14	12	12	20,4
29 08 14	8	6	R1/4	11	40	14	14	14	30,6
29 10 14	10	8	R1/4	11	42	16	14	14	32,1

NBR 密封圈 - NBR Seals

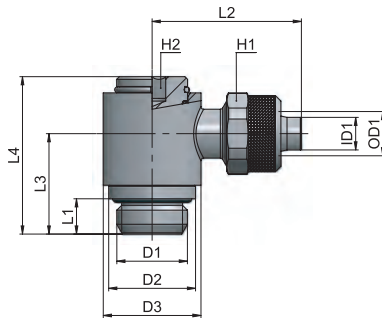


-20°C ÷ 80°C

18 bar

## MC 30

可调向单通铰接头



Swivelling fitting with banjo ring

类型	OD1	ID1	D1	D2	D3	L1	L2	L3	L4	H1	H2	g
30 06 18	6	4	G1/8	13	14	5	25	16,5	25,5	12	4	28,2
30 06 14	6	4	G1/4	16	18	6,5	26,5	18,5	29	12	5	41,9
30 08 18	8	6	G1/8	13	14	5	25	16,5	25,5	14	4	28,7
30 08 14	8	6	G1/4	16	18	6,5	27,5	18,5	29	14	5	44,7
30 10 14	10	8	G1/4	16	18	6,5	28,5	18,5	29	16	5	46,7
30 10 38	10	8	G3/8	20	22	7	30,5	22	32,5	16	6	68,7

NBR 密封圈 - NBR Seals

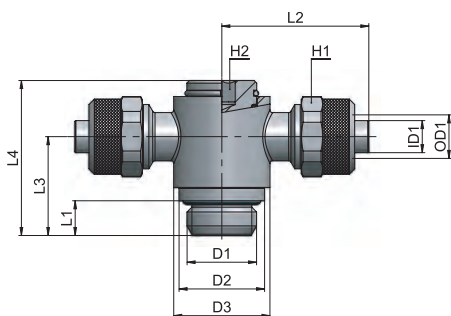


-20°C ÷ 80°C

18 bar

## MC 31

可调向两通铰接头



Swivelling fitting with double banjo ring

类型	OD1	ID1	D1	D2	D3	L1	L2	L3	L4	H1	H2	g
31 06 18	6	4	G1/8	13	14	5	25	16,5	25,5	12	4	39,2
31 06 14	6	4	G1/4	16	18	6,5	26,5	18,5	29	12	5	52,9
31 08 18	8	6	G1/8	14	14	5	25	16,5	25,5	14	4	41,2
31 08 14	8	6	G1/4	16	18	6,5	27,5	18,5	29	14	5	56,0
31 10 14	10	8	G1/4	16	18	6,5	28,5	18,5	29	16	5	64,0

NBR 密封圈 - NBR Seals



-20°C ÷ 80°C

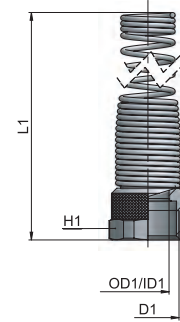
18 bar

MC 32

带保护弹簧螺母

Nut with protection spring

类型	OD1	ID1	D1	L1	H1	g $\Delta$
32 06 04	6	4	M10x1	95	12	13,3
32 08 06	8	6	M12x1	93,5	14	17,1
32 10 08	10	8	M14x1	96,5	16	30,4

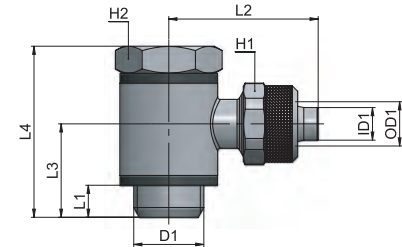


MC 34

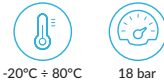
可调向弯头

Swivelling elbow

类型	OD1	ID1	D1	L1	L2	L3	L4	H1	H2	g $\Delta$
34 04 M5	4	2,5	M5x0,8	4,1	19	9,8	18,5	7	8	10,4
34 04 18	4	2,5	G1/8	4,4	21,5	15,2	27	7	14	27,5
34 05 M5	5	3	M5x0,8	4,1	20	9,8	18,5	8	8	10,0
34 05 18	5	3	G1/8	4,4	23	15,2	27	8	14	27,0
34 06 M5	6	4	M5x0,8	4,1	20	9,8	18,5	9	8	10,8
34 06 18	6	4	G1/8	4,4	25	15,2	27	12	14	32,5
34 06 14	6	4	G1/4	5,9	26,5	17,2	31,5	12	17	52,4
34 08 18	8	6	G1/8	4,4	25	15,2	27	14	14	33,6
34 08 14	8	6	G1/4	5,9	27,5	17,2	31,5	14	17	54,6
34 08 38	8	6	G3/8	6,4	29,5	20,7	36	14	20	83,4
34 10 14	10	8	G1/4	5,9	28,5	17,2	31,5	16	17	56,7
34 10 38	10	8	G3/8	6,4	30,5	20,7	36	16	20	86,2



PA6 密封垫片 - PA6 Sealing ring

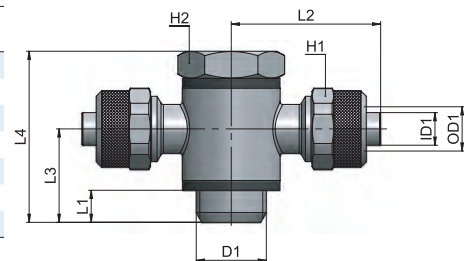


MC 36

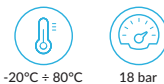
可调向T型接头

Swivelling T

类型	OD1	ID1	D1	L1	L2	L3	L4	H1	H2	g $\Delta$
36 05 M5	5	3	M5x0,8	4,1	20	9,8	18,5	8	8	14,3
36 06 M5	6	4	M5x0,8	4,1	20	9,8	18,5	9	8	15,3
36 06 18	6	4	G1/8	4,4	25	15,2	27	12	14	44,1
36 06 14	6	4	G1/4	5,9	26,5	17,2	31,5	12	17	63,2
36 08 18	8	6	G1/8	4,4	25	15,2	27	14	14	46,3
36 08 14	8	6	G1/4	5,9	27,5	17,2	31,5	14	17	66,5
36 10 14	10	8	G1/4	5,9	28,5	17,2	31,5	16	17	72,4



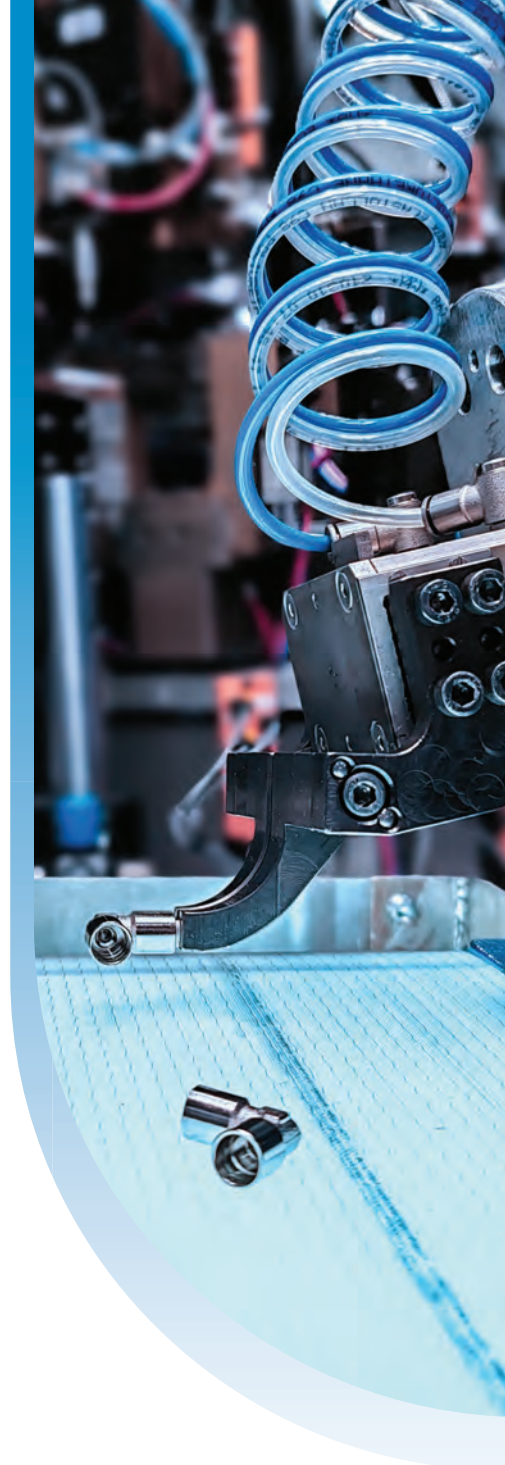
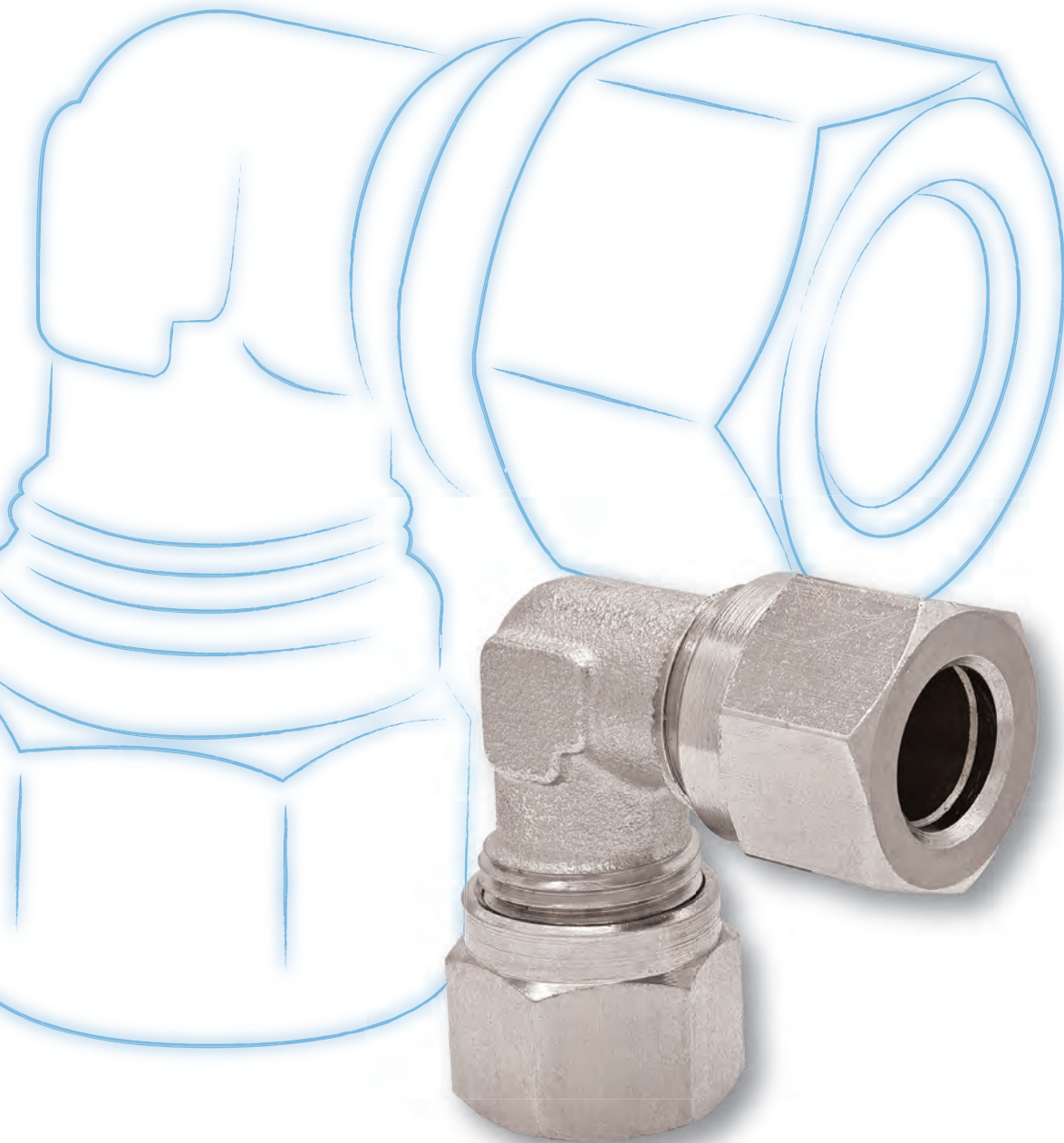
PA6 密封垫片 - PA6 Sealing ring



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299



*cmatic*



## MO LINE



CN

### 黄铜镀镍卡套接头

MO系列卡套式管接头通过将卡套压紧在管道上, 确保管道的气动/液压密封性。本体、卡套和螺母均按照ISO8434/DIN 2353标准制造。所有MO接头均采用电解镀镍工艺处理。

EN

### Brass Nickel-Plated Compression Fittings

The compression fittings of the MO line ensure the pneumatic/hydraulic tightness of the tubing by compression of an olive ring on the tubing. The olive seats, the olives and the nuts are all manufactured according to ISO8434/DIN 2353 norm. All MO fittings are electrolytic nickel plated.

# MO Line

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated

2 螺母  
Nut

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 卡箍  
Olive

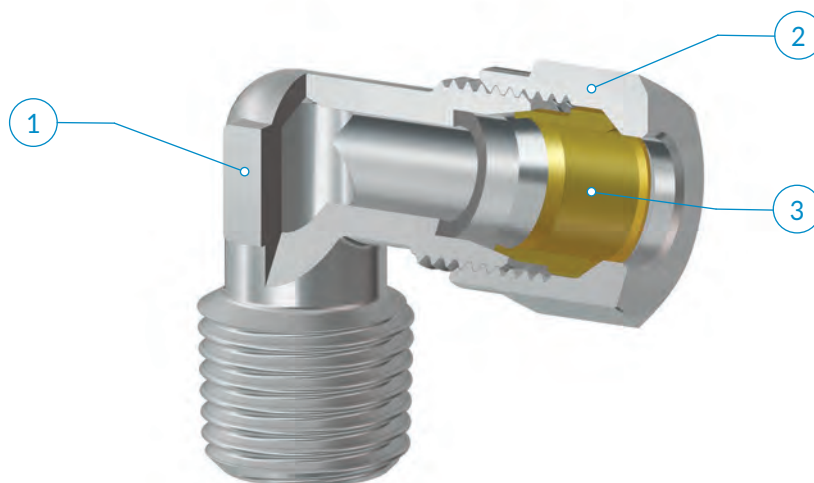
黄铜 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N



-40° ÷ 150°C



60 bar



	M5x0,8	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
4	●	●				●			
6		●	●			●	●		
8		●	●			●	●	●	
10			●	●			●	●	
12				●	●			●	●
15					●				●

### 建议的连接管路:

黄铜管, 铝管, 使用加强管塞(MO23)的 PA11和PA6管路。

### Recommended tubings:

Copper and aluminium tubings. PA11 and PA6 tubings are to be used with our MO 23 reinforcement part.

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 最大直径 Ø 15 mm。

### Acceptable Tolerances on the tubings:

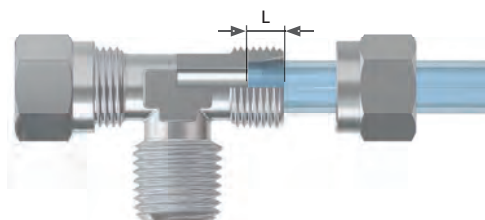
+/- 0,07 mm up to Ø 10 mm  
+/- 0,1 mm up to Ø 15 mm

### 应用领域:

气动、液压和油压系统。

### Application fields:

Pneumatic, hydraulic and oleodynamic circuits



OD	L
4	4
6	5,5
8	5,5
10	7
12	7
15	7

安装说明

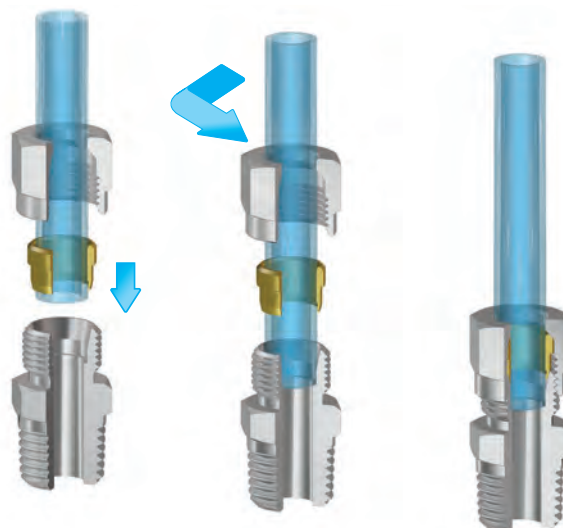
ASSEMBLY INSTRUCTIONS

- 1 垂直切割管路, 确保内外壁无毛刺
- 2 将螺母与卡箍套在管路上, 注意卡箍的刃口要朝向管路末端;
- 3 用手拧紧螺母, 直到感觉拧不动为止。
- 4 确认管路位置正确之后, 用扳手拧紧螺母, 根据接头类型, 大约旋转1½-2转;
- 5 仅在检查时, 拧松螺母, 并确认卡箍是否卡紧在管路上;
- 6 重新拧紧螺母, 多拧¼圈, 确保系统密封。

- 1 Cut the tube square and make sure that no burr (internally and externally) is left;
- 2 Insert the tube through the nut and olive. The olive edge is to be placed towards the tube ending;
- 3 Finger tighten the nut until resistance;
- 4 Check the tube is well positioned, and tighten the nut with a spanner 1½ - 2 more turns according to the fitting used;
- 5 Just for safety, screw-off the nut and check that the olive is evenly gripping on the tubing;
- 6 Screw-on the nut a further ¼ of a turn to grant the system tightness.

注意:如果要连接弯管, 请确保弯管端长度至少为2倍的螺母长度。

Remark: Should curved tubings, need to be connected, pls make sure that the tube curving be at least at twice the nut height distance.



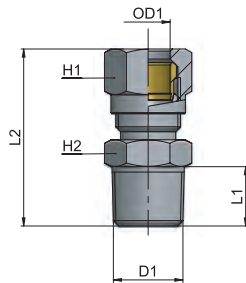
⚠ 完成连接后, 请确保管路上不承受外力; 此外, 请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱, 任何物体均不要接触释放环。作用在释放环上任何外力, 包括侧向力, 均可能导致管路意外松脱。螺纹拧紧时, 请参考第10页列出的建议扭矩。

⚠ Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MO 11

外锥螺纹直接头

Taper straight, male

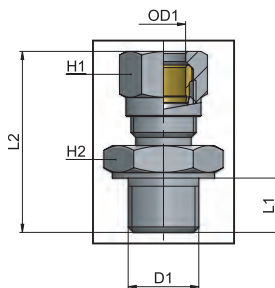


类型	OD1	D1	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	8	27	10	10	12,0
11 06 18	6	R1/8	8	28	12	12	16,0
11 06 14	6	R1/4	11	32,5	12	14	20,5
11 08 18	8	R1/8	8	29,5	14	12	19,0
11 08 14	8	R1/4	11	33	14	14	22,5
11 08 38	8	R3/8	11,5	33	14	17	40,0
11 10 14	10	R1/4	11	37,5	19	17	43,5
11 10 38	10	R3/8	11,5	38	19	17	56,0
11 12 38	12	R3/8	11,5	39	22	19	60,0
11 12 12	12	R1/2	14	41	22	22	77,0
11 15 12	15	R1/2	14	42,5	27	22	104,0

## MO 12

外直螺纹直接头

Parallel straight, male

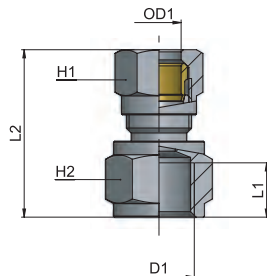


类型	OD1	D1	L1	L2	H1	H2	g $\Delta$
12 04 M5	4	M5x0,8	5	26	10	9	9,0
12 04 18	4	G1/8	6	25	10	14	17,0
12 06 18	6	G1/8	6	26	12	14	18,0
12 06 14	6	G1/4	8	29,5	12	17	21,6
12 08 18	8	G1/8	6	27,5	14	14	22,0
12 08 14	8	G1/4	8	30	14	17	33,0
12 10 14	10	G1/4	8	34,5	19	17	43,5
12 10 38	10	G3/8	9	36	19	19	62,0
12 12 38	12	G3/8	10	39	22	22	68,0
12 12 12	12	G1/2	12	42	22	27	98,0
12 15 12	15	G1/2	12	43	27	27	115,0

## MO 13

内螺纹直接头

Female straight

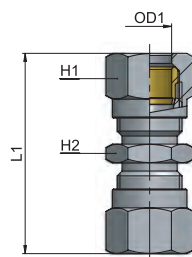


类型	OD1	D1	L1	L2	H1	H2	g $\Delta$
13 04 18	4	G1/8	8	24,5	10	14	18,0
13 06 18	6	G1/8	8	26	12	14	17,5
13 06 14	6	G1/4	11	30,5	12	17	25,5
13 08 18	8	G1/8	8	26,5	14	14	24,0
13 08 14	8	G1/4	11	31	14	17	28,0
13 10 14	10	G1/4	11	35,5	19	17	45,5
13 10 38	10	G3/8	11,5	36,5	19	20	66,0

## MO 14

对接接头

Union



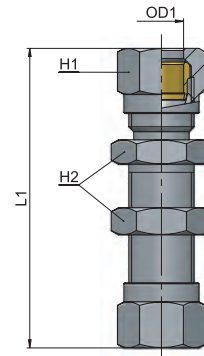
类型	OD1	L1	H1	H2	g $\Delta$
14 04 04	4	33,5	10	10	12,0
14 06 06	6	36,5	12	12	21,0
14 08 08	8	38,5	14	14	27,0
14 10 10	10	47,5	19	17	66,0
14 12 12	12	50,5	22	19	85,0
14 15 15	15	55,5	27	24	148,0

MO 15

穿板对接接头

Bulkhead union

类型	OD1	L1	H1	H2	g $\Delta$
15 04 04	4	57	10	12	27,0
15 06 06	6	51,5	12	14	39,0
15 08 08	8	55,5	14	16	55,0
15 10 10	10	62,5	19	19	90,0
15 12 12	12	64,5	22	22	136,0
15 15 15	15	69,5	27	25	183,0

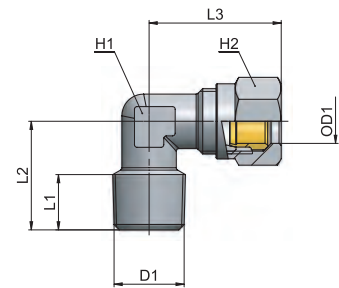


MO 16

外锥螺纹弯管接头

Taper elbow fitting, male

类型	OD1	D1	L1	L2	L3	H1	H2	g $\Delta$
16 04 18	4	R1/8	8	16	21	9	10	15,0
16 06 18	6	R1/8	8	16	22	9	12	15,0
16 06 14	6	R1/4	11	20	24,5	11	12	24,0
16 08 18	8	R1/8	8	17	24	11	14	22,0
16 08 14	8	R1/4	11	20	24	11	14	25,5
16 10 14	10	R1/4	11	23,5	32	13	19	48,0
16 10 38	10	R3/8	11,5	24	32	13	19	52,0
16 12 38	12	R3/8	11,5	25,5	34,5	15	22	67,0
16 12 12	12	R1/2	14	28,5	34,5	15	22	78,0
16 15 12	15	R1/2	14	30	38	17	27	102,0

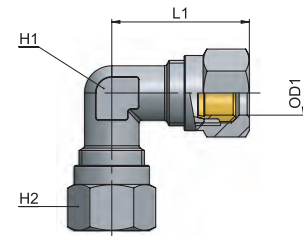


MO 17

直角对接接头

Union elbow

类型	OD1	L1	H1	H2	g $\Delta$
17 04 04	4	21	9	10	19,0
17 06 06	6	23	9	12	22,0
17 08 08	8	24	11	14	32,0
17 10 10	10	32	13	19	76,0
17 12 12	12	34,5	15	22	98,0
17 15 15	15	38	17	27	145,0

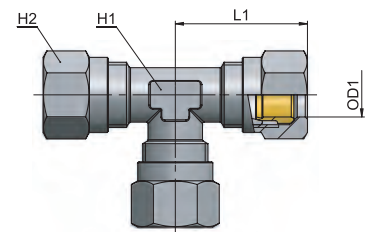


MO 18

正T型三通对接接头

Union T

类型	OD1	L1	H1	H2	g $\Delta$
18 04 04	4	21	9	10	21,0
18 06 06	6	23	9	12	34,0
18 08 08	8	24	11	14	42,0
18 10 10	10	32	13	19	103,0
18 12 12	12	34,5	15	22	144,0
18 15 15	15	38	17	27	212,0

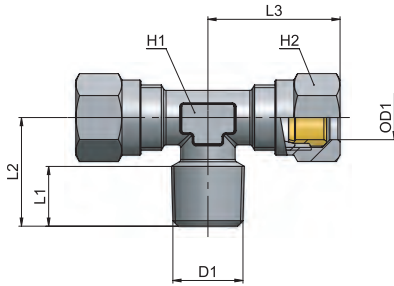


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MO 19

锥螺纹正T型三通接头

Taper male T

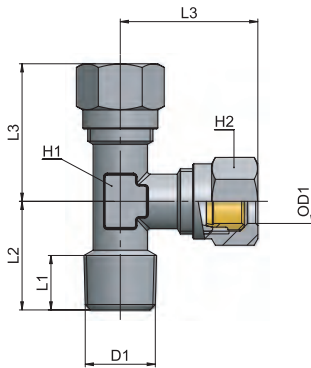


类型	OD1	D1	L1	L2	L3	H1	H2	g $\Delta$
19 04 18	4	R1/8	8	16	21	9	10	22,0
19 06 18	6	R1/8	8	16	23	9	12	28,0
19 06 14	6	R1/4	11	20	24	11	12	29,0
19 08 18	8	R1/8	8	17	24	11	14	38,0
19 08 14	8	R1/4	11	20	24	11	14	40,0
19 10 14	10	R1/4	11	23,5	32	13	19	79,5
19 10 38	10	R3/8	11,5	24	32	13	19	92,0
19 12 38	12	R3/8	11,5	25,5	34,5	15	22	118,0
19 12 12	12	R1/2	14	28,5	34,5	15	22	128,0
19 15 12	15	R1/2	14	30	38	17	27	168,0

## MO 20

锥螺纹直T型三通接头

Taper lateral T

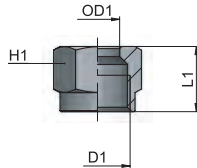


类型	OD1	D1	L1	L2	L3	H1	H2	g $\Delta$
20 04 18	4	R1/8	8	16	21	9	10	23,0
20 06 18	6	R1/8	8	16	23	9	12	27,0
20 06 14	6	R1/4	11	20	24,5	11	12	29,0
20 08 18	8	R1/8	8	17	24	11	14	38,0
20 08 14	8	R1/4	11	20	24	11	14	42,0
20 10 14	10	R1/4	11	23,5	32	13	19	88,0
20 10 38	10	R3/8	11,5	24	32	13	19	94,0
20 12 38	12	R3/8	11,5	25,5	34,5	15	22	122,0
20 12 12	12	R1/2	14	28,5	34,5	15	22	132,0
20 15 12	15	R1/2	14	30	38	17	27	180,0

## MO 21

螺母

Nut



类型	OD1	D1	L1	H1	g $\Delta$
21 04 08	4	M8x1	11	10	4,0
21 06 10	6	M10x1	11,5	12	5,5
21 08 12	8	M12x1	12	14	7,0
21 10 16	10	M16x1,5	15,5	19	19,0
21 12 18	12	M18x1,5	15,5	22	26,0
21 15 22	15	M22x1,5	17	27	43,0

## MO 22

卡箍

Olive




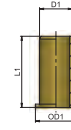
类型	OD1	L1	g $\Delta$
22 04 65	4	6	0,5
22 06 75	6	7	1,0
22 08 75	8	7	2,0
22 10 95	10	10	2,0
22 12 95	12	10	3,0
22 15 10	15	10	3,0

## MO 23

加强管塞

Inner reinforcement piece for tubings


类型	OD1	D1	L1	g 
23 06 12	6	4	12	0,5
23 08 14	8	6	13	1,0
23 10 16	10	8	14	2,0
23 12 18	12	10	16	2,1
23 15 20	15	12,5	17	4,0

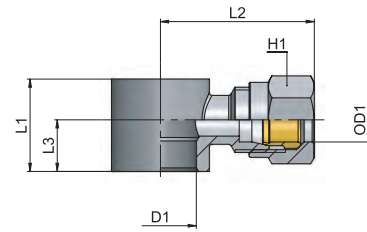


## MO 25

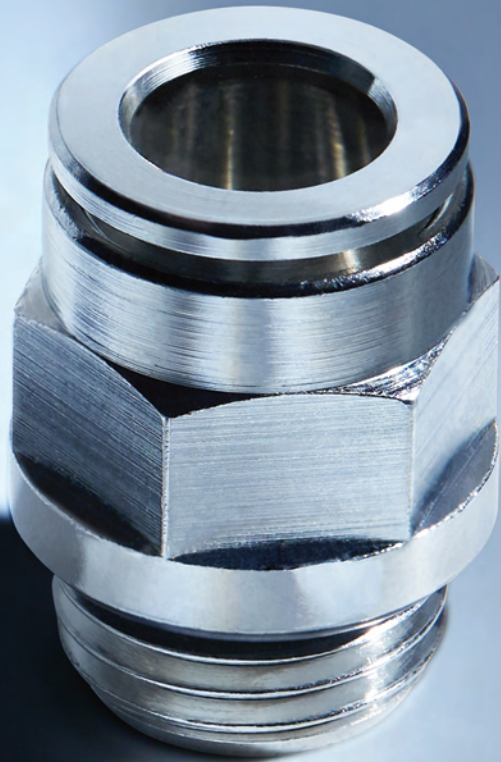
单通铰接头本体

Single banjo ring

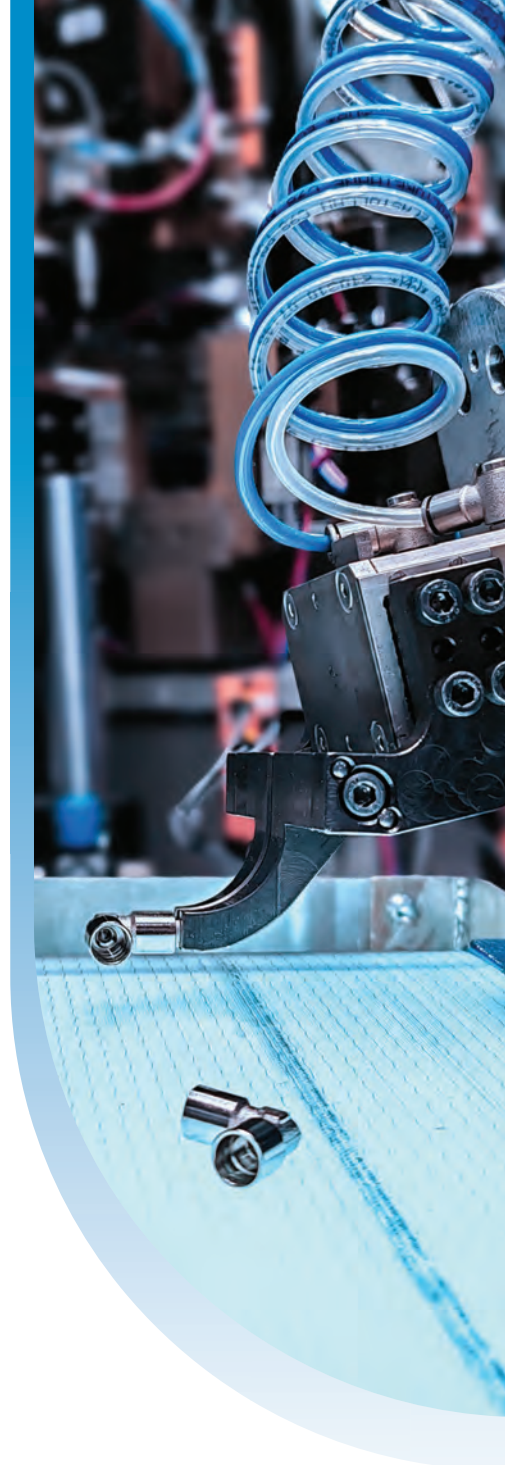
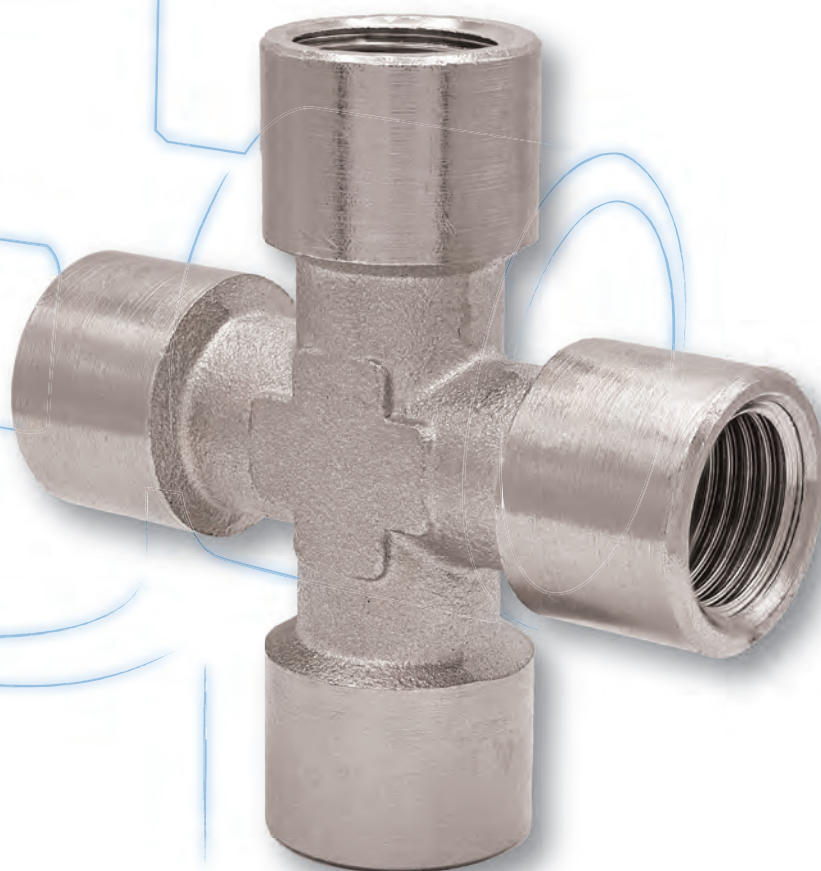
类型	OD1	D1	L1	L2	L3	H1	g 
25 06 18	6	10	15	26	9	12	19,0
25 06 14	6	13,2	17	28	9,5	12	26,0
25 08 18	8	10	15	27	8,5	14	21,0
25 08 14	8	13,2	17	29	9,5	14	28,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*



## RA LINE



CN

### 黄铜镀镍标准接头

RA系列(亦称“附件系列”或“标准管接头系列”)包含多种组件,例如直通过接头、异径接头、转换接头、堵头、软管接头、L型与T型及十字型接头等。凭借其丰富的品种选择,该系列管接头可完美完美补充各种连接件产品范围。所有零件均采用镀镍黄铜材质制造。

EN

### Brass Nickel-Plated Standard Fittings

The RA line, also known as the “Accessories line” or the “Standard fittings line” consists of a wide variety of components, such as Nipples, Reduction pieces, Connections, Plugs, Hose connections, L-T and Cross fittings. Due to the multiple auxiliary functions of this line, the RA fittings are the right complement for other ranges. All components are brass nickel-plated.

# RA Line

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated

2 密封圈  
Seals

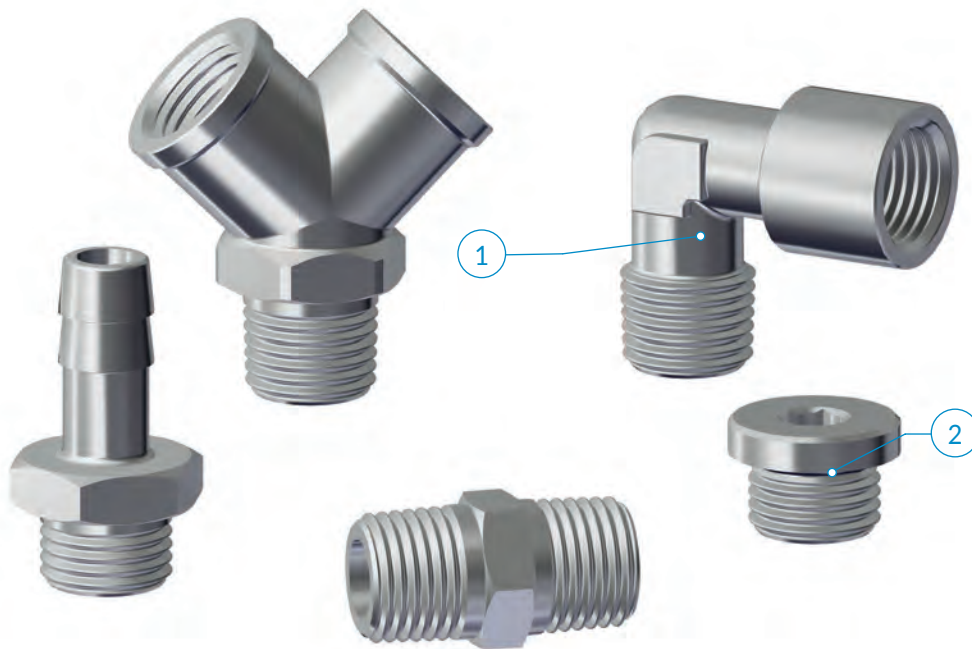
NBR  
NBR



-40° ÷ 150°C



60 bar



	M5x0,8	M10x1	M12x1	G1/8	G1/4	G3/8	G1/2	G3/4	R1/8	R1/4	R3/8	R1/2	R3/4	R1
	●	●	●	●	●	●	●	●	●	●	●	●	●	●

**应用领域:**  
气动、液压和油压系统。

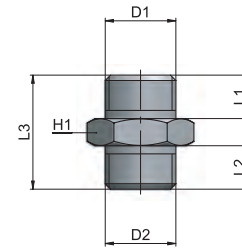
**Application fields:**  
Pneumatic, hydraulic and oleodynamic circuits

RA 11

直螺纹转接头

Nipple, parallel

类型	D1	D2	L1	L2	L3	H1	g $\Delta$
11 M5 M5	M5x0,8	M5x0,8	5	5	11,5	8	2,0
11 M5 18	M5x0,8	G1/8	4	6	14,5	14	8,0
11 18 18	G1/8	G1/8	6	6	16,5	14	8,0
11 18 14	G1/8	G1/4	6	8	19	17	16,2
11 18 38	G1/8	G3/8	6	9	20	19	19,0
11 14 14	G1/4	G1/4	8	8	21	17	14,0
11 14 38	G1/4	G3/8	8	9	22	19	23,5
11 14 12	G1/4	G1/2	8	10	23,5	24	32,0
11 38 38	G3/8	G3/8	9	9	23	19	23,0
11 38 12	G3/8	G1/2	9	10	24,5	24	31,8
11 12 12	G1/2	G1/2	10	10	25,5	24	34,5

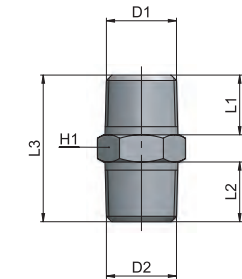


RA 12

锥螺纹转接头

Nipple, taper

类型	D1	D2	L1	L2	L3	H1	g $\Delta$
12 18 18	R1/8	R1/8	7,5	7,5	19,5	12	8,0
12 18 14	R1/8	R1/4	8	11	24	14	13,2
12 18 38	R1/8	R3/8	8	11,5	24,5	17	20,0
12 14 14	R1/4	R1/4	11	11	27	14	15,2
12 14 38	R1/4	R3/8	11	11,5	27,5	17	19,9
12 14 12	R1/4	R1/2	11	14	30,5	22	35,6
12 38 38	R3/8	R3/8	11,5	11,5	28	17	25,1
12 38 12	R3/8	R1/2	11,5	14	31	22	35,0
12 12 12	R1/2	R1/2	14	14	33,5	22	41,2
12 12 34	R1/2	R3/4	14	16,5	37	27	60,7
12 34 34	R3/4	R3/4	16,5	16,5	39,5	27	79,7
12 34 1	R3/4	R1"	16,5	19	42,5	34	112,4
12 1 1	R1"	R1"	19	19	45,5	34	127,5

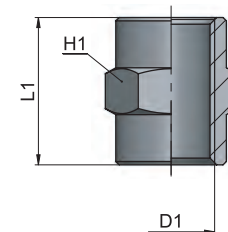


RA 13

内螺纹转接头

Joint piece

类型	D1	L1	H1	g $\Delta$
13 00 M5	M5x0,8	11	8	2,0
13 00 18	G1/8	15	14	10,5
13 00 14	G1/4	22	17	19,1
13 00 38	G3/8	23	22	34,5
13 00 12	G1/2	28	26	47,2
13 00 34	G3/4	32	32	98,4
13 00 1	G1"	35	38	97,8

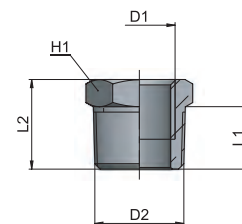


RA 14

内外螺纹减径接头

Taper female-male reducing connector

类型	D1	D2	L1	L2	H1	g $\Delta$
14 18 14	G1/8	R1/4	11	16	14	8,9
14 18 38	G1/8	R3/8	11,5	16,5	17	20,2
14 18 12	G1/8	R1/2	14	19,5	22	34,8
14 14 38	G1/4	R3/8	11,5	16,5	17	12,6
14 14 12	G1/4	R1/2	14	19,5	22	31,5
14 38 12	G3/8	R1/2	14	19,5	22	24,1
14 38 34	G3/8	R3/4	16,5	23	27	70,0
14 12 34	G1/2	R3/4	16,5	23	27	41,0
14 12 1	G1/2	R1"	19	27	34	102,5
14 34 1	G3/4	R1"	19	27	34	74,2

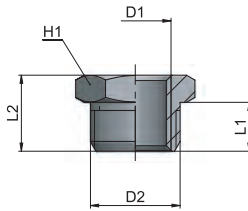


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RA 15

内外螺纹减径接头

Parallel female-male reducing connector

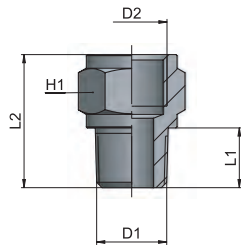


类型	D1	D2	L1	L2	H1	g $\Delta$
15 M5 18	M5x0,8	G1/8	6	10,5	14	8,0
15 18 14	G1/8	G1/4	8	13	17	10,5
15 18 38	G1/8	G3/8	9	14	19	19,3
15 18 12	G1/8	G1/2	10	15,5	24	30,7
15 14 38	G1/4	G3/8	9	14	19	12,8
15 14 12	G1/4	G1/2	10	15,5	24	28,5
15 38 12	G3/8	G1/2	10	15,5	24	20,0
15 38 34	G3/8	G3/4	11	17,5	30	54,1
15 12 34	G1/2	G3/4	11	17,5	30	36,0
15 34 1	G3/4	G1"	11,5	18,5	36	60,3

## RA 16

内外螺纹转接头

Adaptor male-female, taper

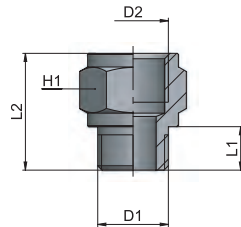


类型	D1	D2	L1	L2	H1	g $\Delta$
16 18 18	R1/8	G1/8	8	18	14	11,1
16 18 14	R1/8	G1/4	8	21,5	17	18,0
16 18 38	R1/8	G3/8	8	22,5	22	29,8
16 14 14	R1/4	G1/4	11	24,5	17	20,5
16 14 38	R1/4	G3/8	11	25,5	22	42,0
16 14 12	R1/4	G1/2	11	29	24	40,0
16 38 38	R3/8	G3/8	11,5	26	22	42,0
16 38 12	R3/8	G1/2	11,5	29,5	24	40,0
16 12 12	R1/2	G1/2	14	32	26	57,0

## RA 17

内外螺纹转接头

Adaptor male-female, parallel

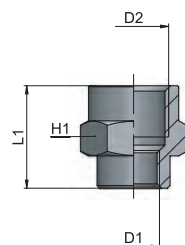


类型	D1	D2	L1	L2	H1	g $\Delta$
17 M5 18	M5x0,8	G1/8	4	14,5	14	7,0
17 18 18	G1/8	G1/8	6	16,5	14	10,7
17 18 14	G1/8	G1/4	6	19,5	17	16,5
17 18 38	G1/8	G3/8	6	20,5	22	29,5
17 14 14	G1/4	G1/4	8	21,5	17	19,0
17 14 38	G1/4	G3/8	8	22,5	22	32,0
17 14 12	G1/4	G1/2	8	26	24	37,0
17 38 38	G3/8	G3/8	9	23,5	22	36,0
17 38 12	G3/8	G1/2	9	27	24	37,0
17 12 12	G1/2	G1/2	10	28	26	52,5

## RA 18

减径接头

Reduction joint piece



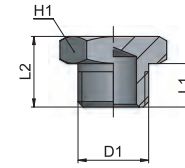
类型	D1	D2	L1	H1	g $\Delta$
18 M5 18	M5x0,8	G1/8	13,5	14	10,0
18 18 14	G1/8	G1/4	19	17	18,0
18 18 38	G1/8	G3/8	20	22	36,0
18 14 38	G1/4	G3/8	22,5	22	41,0
18 14 12	G1/4	G1/2	26	24	31,0
18 38 12	G3/8	G1/2	26	24	35,5
18 12 34	G1/2	G3/4	30	32	82,1

RA 19

直螺纹堵头

Parallel plug

类型	D1	L1	L2	H1	g
19 00 M5	M5x0,8	4	7	8	2,0
19 00 18	G1/8	6	10	14	7,5
19 00 14	G1/4	8	12,5	17	12,4
19 00 38	G3/8	9	13,5	19	18,0
19 00 12	G1/2	10	15,5	24	31,0
19 00 34	G3/4	11	16,5	30	48,9
19 00 1	G1"	13	19	38	71,0

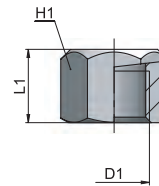


RA 20

内螺纹堵头

Female plug

类型	D1	L1	H1	g
20 00 18	G1/8	10	14	9,6
20 00 14	G1/4	13,5	17	16,7
20 00 38	G3/8	14	20	21,3
20 00 12	G1/2	16,5	24	32,0
20 00 34	G3/4	18,5	30	52,2
20 00 1	G1"	20	38	98,7

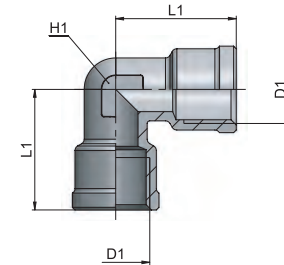


RA 21

内螺纹直角转接头

Female elbow

类型	D1	L1	H1	g
21 18 18	G1/8	18,5	10	15,0
21 14 14	G1/4	22,5	12	25,5
21 38 38	G3/8	25,5	15	44,2
21 12 12	G1/2	30	19	73,2

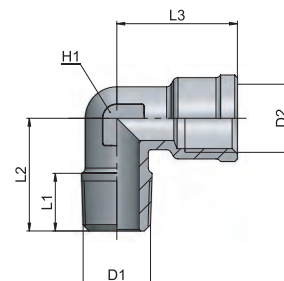


RA 22

内外螺纹直角转接头

Male-female elbow

类型	D1	D2	L1	L2	L3	H1	g
22 18 18	R1/8	G1/8	8,2	17	18,5	10	12,6
22 14 14	R1/4	G1/4	11	21,5	22,5	12	23,9
22 38 38	R3/8	G3/8	12	24,5	25,5	15	39,7
22 12 12	R1/2	G1/2	14	29,5	30	19	71,5
22 34 34	R3/4	G3/4	16	33	36,5	25	98,1
22 1 1	R1"	G1"	17	39	45	30	157,5

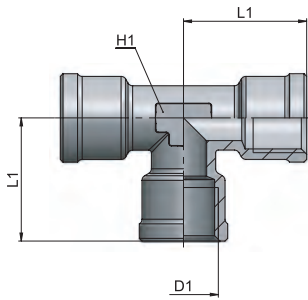


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RA 23

内螺纹T型转接头

Female T

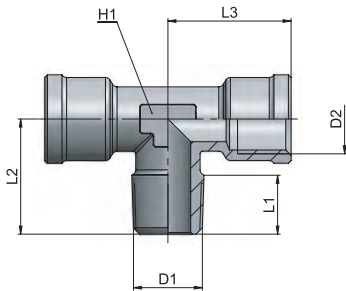


类型	D1	L1	H1	g $\Delta$
23 18 18	G1/8	18,5	10	21,0
23 14 14	G1/4	22,5	12	36,6
23 38 38	G3/8	25,5	15	61,3
23 12 12	G1/2	30	19	98,2

## RA 24

内外螺纹正T型转接头

Male-female stud T

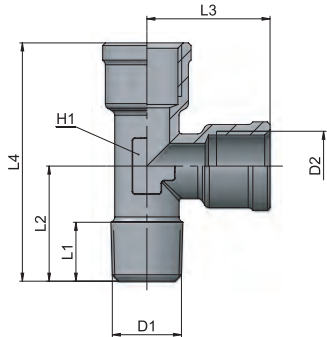


类型	D1	D2	L1	L2	L3	H1	g $\Delta$
24 18 18	R1/8	G1/8	8,1	17	18,5	10	18,7
24 14 14	R1/4	G1/4	11	21,5	22,5	12	33,5
24 38 38	R3/8	G3/8	12	24,5	25,5	15	57,7
24 12 12	R1/2	G1/2	14	29,5	30	19	96,4
24 34 34	R3/4	G3/4	17	34,5	35,5	22	176,7
24 1 1	R1"	G1"	19	40,5	40,5	28	296,8

## RA 25

内外螺纹直T型转接头

Male-female, lateral T

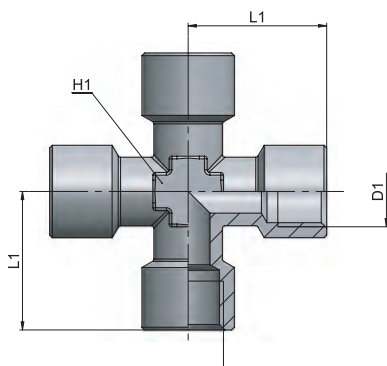


类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
25 18 18	R1/8	G1/8	8,2	17	18,5	35,5	10	18,7
25 14 14	R1/4	G1/4	11	21,5	22,5	44	12	34,0
25 38 38	R3/8	G3/8	12	24,5	25,5	50	15	57,5
25 12 12	R1/2	G1/2	14	29,5	30	59,5	19	98,0

## RA 26

内螺纹十字接头

Female cross



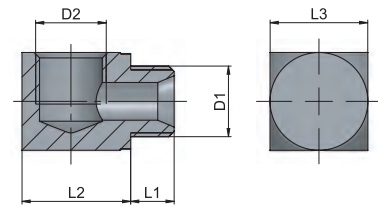
类型	D1	L1	H1	g $\Delta$
26 18 18	G1/8	21	10	41,0
26 14 14	G1/4	25,5	13	73,9
26 38 38	G3/8	28	17	112,0

RA 27

内外螺纹直角转接头

Male-female elbow

类型	D1	D2	L1	L2	L3	g	$\Delta$
27 M5 M5	M5x0,8	M5x0,8	5	10	9	6,0	
27 18 18	G1/8	G1/8	6	14	13	14,0	
27 14 14	G1/4	G1/4	8	20	18	40,0	

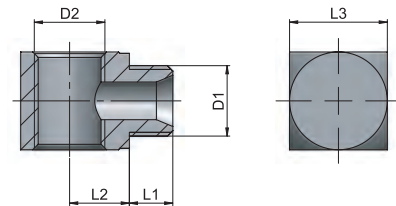


RA 28

内外螺纹正T型转接头

Male-female stud T

类型	D1	D2	L1	L2	L3	g	$\Delta$
28 M5 M5	M5x0,8	M5x0,8	5	5,5	9	5,0	
28 18 18	G1/8	G1/8	6	7,5	13	6,0	
28 14 14	G1/4	G1/4	8	11	18	36,0	



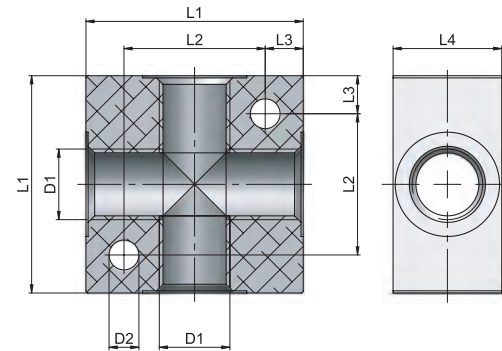
RA 29

气路分配座 4孔

Manifold, 4 ways

类型	D1	D2	L1	L2	L3	L4	g	$\Delta$
29 00 18	G1/8	4,5	25	17	4	16	16,0	
29 00 14	G1/4	5,5	40	26	7	20	64,0	
29 00 38	G3/8	5,5	50	34	8	25	118,5	
29 00 12	G1/2	5,5	50	34	8	30	130,0	

采用非阳极氧化铝材质的壳体 - Body in non-anodized Aluminum



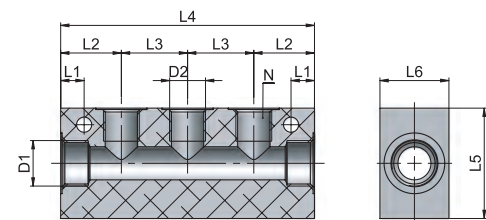
RA 29 S

气路分配座

Manifold, single

类型	D1	D2	N	L1	L2	L3	L4	L5	L6	g	$\Delta$
29 14 18 S3	G1/4	G1/8	3	4,5	18	18	72	30	20	91,7	
29 14 18 S4	G1/4	G1/8	4	4,5	18	18	90	30	20	115,7	
29 14 18 S5	G1/4	G1/8	5	4,5	18	18	108	30	20	140,5	
29 38 14 S3	G3/8	G1/4	3	8,5	22	24	92	40	25	191,6	
29 38 14 S4	G3/8	G1/4	4	8,5	22	24	116	40	25	244,3	
29 38 14 S5	G3/8	G1/4	5	8,5	22	24	140	40	25	296,7	

采用非阳极氧化铝材质的壳体 - Body in non-anodized Aluminum

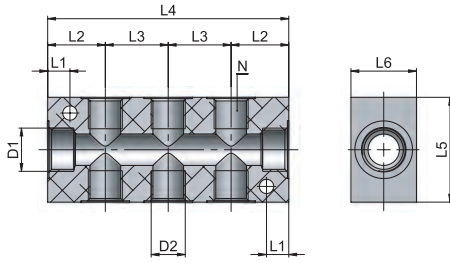


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RA 29 D

气路分配座

Manifold, double



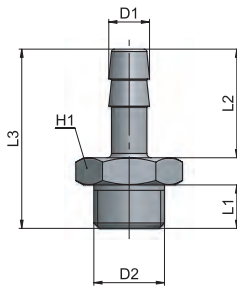
类型	D1	D2	N	L1	L2	L3	L4	L5	L6	g $\Delta$
29 14 18 D3	G1/4	G1/8	3+3	4,5	18	18	72	30	20	85,7
29 14 18 D4	G1/4	G1/8	4+4	4,5	18	18	90	30	20	107,6
29 14 18 D5	G1/4	G1/8	5+5	4,5	18	18	108	30	20	129,1
29 38 14 D3	G3/8	G1/4	3+3	8,5	22	24	92	40	25	179,4
29 38 14 D4	G3/8	G1/4	4+4	8,5	22	24	116	40	25	226,1
29 38 14 D5	G3/8	G1/4	5+5	8,5	22	24	140	40	25	274,1

采用非阳极氧化铝材质的壳体 - Body in non-anodized Aluminum

## RA 30

宝塔接头

Hose connector

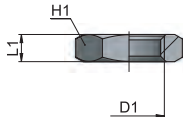


类型	D1	D2	L1	L2	L3	H1	g $\Delta$
30 03 M5	3	M5x0,8	5	9	17	8	2,0
30 3,5 M5	3,5	M5x0,8	5	9	17	8	2,0
30 4,5 M5	4,5	M5x0,8	5	9	17	8	2,3
30 7,5 18	7,5	G1/8	6	20	30	14	9,9
30 7,5 14	7,5	G1/4	8	20	33	17	17,0
30 8,5 18	8,5	G1/8	6	20	30	14	11,5
30 8,5 14	8,5	G1/4	8	19	29,5	12	13,0
30 9,5 18	9,5	G1/8	6	20	30	14	11,9
30 9,5 14	9,5	G1/4	8	20	33	17	18,0
30 9,5 38	9,5	G3/8	9	20	34	19	21,0
30 12,5 14	12,5	G1/4	8	22	35	17	20,5
30 12,5 38	12,5	G3/8	9	22	36	19	22,9
30 12,5 12	12,5	G1/2	10	22	37,5	24	35,0
30 17,5 38	17,5	G3/8	9	24	38	19	30,2
30 17,5 12	17,5	G1/2	10	24	39	24	41,5

## RA 31

螺母

Nut

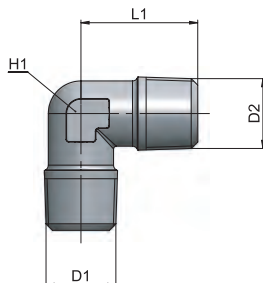


类型	D1	L1	H1	g $\Delta$
31 00 18	G1/8	4,5	14	4,0
31 00 14	G1/4	5	17	5,0
31 00 38	G3/8	5,5	19	5,0
31 00 12	G1/2	6	24	8,0
31 00 M10x1	M10x1	4	14	3,0
31 00 M12x1	M12x1	5	16	5,0
31 00 M14x1	M14x1	5	18	5,5
31 00 M16x1	M16x1	5	20	6,0
31 00 M20x1,5	M20x1,5	4	27	10,5

## RA 35

锥外螺纹弯头

Male-male elbow



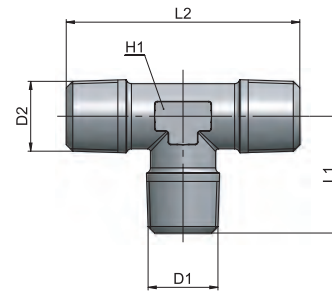
类型	D1	D2	L1	H1	g $\Delta$
35 18 18	R1/8	R1/8	17	10	10,4
35 14 14	R1/4	R1/4	21,5	12	28,5
35 38 38	R3/8	R3/8	24,5	15	37,1
35 12 12	R1/2	R1/2	29,5	19	68,7
35 34 34	R3/4	R3/4	34,5	22	92,2
35 1 1	R1"	R1"	40,5	28	156,0

RA 36

锥外螺纹正T转接头

Male T

类型	D1	D2	L1	L2	H1	g $\Delta$
36 18 18	R1/8	R1/8	17	34	10	14,3
36 14 14	R1/4	R1/4	21,5	43	12	28,7
36 38 38	R3/8	R3/8	24,5	49	15	50,6
36 12 12	R1/2	R1/2	29,5	59	19	93,0
36 34 34	R3/4	R3/4	34,5	69	22	138,6
36 1 1	R1"	R1"	40,5	81	28	239,3

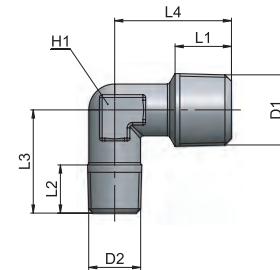


RA 38

外螺纹减径弯头

Elbow reduction male-male

类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
38 18 14	R1/4	R1/8	11	8	18,5	21,5	10	19,0

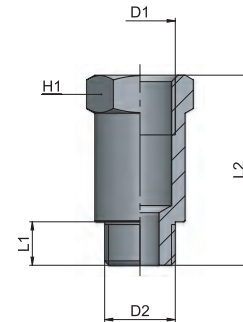


RA 39

加长型内外螺纹转接头

Extention male-female

类型	D1	D2	L1	L2	H1	g $\Delta$
39 18 22	G1/8	G1/8	6	22	14	14,0
39 18 42	G1/8	G1/8	6	42	14	28,0
39 14 35	G1/4	G1/4	8	35	17	32,0
39 14 51	G1/4	G1/4	8	51	17	46,4

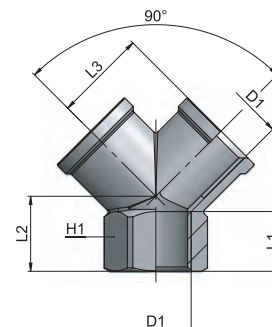


RA 40

内螺纹Y型接头

Female Y

类型	D1	L1	L2	L3	H1	g $\Delta$
40 00 18	G1/8	8	12	14	13	18,0
40 00 14	G1/4	11	14	17	17	34,0
40 00 38	G3/8	11,5	16	19	20	45,0
40 00 12	G1/2	14	19	24,5	25	86,0

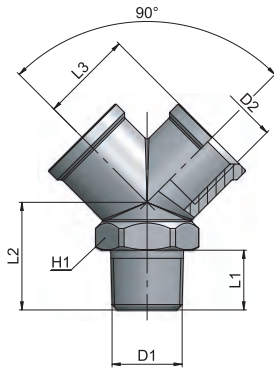


AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## RA 41

内外螺纹Y型接头

Male female Y

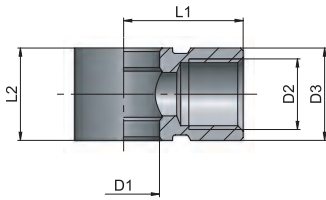


类型	D1	D2	L1	L2	L3	H1	g $\Delta$
41 00 18	R1/8	G1/8	8	16	14	13	22,0
41 00 14	R1/4	G1/4	11	20	17	17	39,0
41 00 38	R3/8	G3/8	11,5	22	19	20	56,0
41 00 12	R1/2	G1/2	14	27	24,5	25	97,2

## RA 42

单通铰接头本体

Single banjo ring



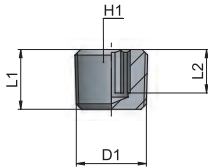
类型	D1	D2	D3	L1	L2	g $\Delta$
42 00 M5	5,1	M5x0,8	9	11,5	10	9,0
42 00 18	10	G1/8	14	16	15	15,0
42 00 14	13,2	G1/4	17	22	17	25,9
42 00 38	17	G3/8	20,5	26	20	38,0
42 00 12	21	G1/2	25	32	24	66,0
42 00 M5 /R	7	M5x0,8	9	11,5	10	6,0

/R = 仅用于流量调节阀 - For flow controls only

## RA 43

锥螺纹堵头

Taper plug

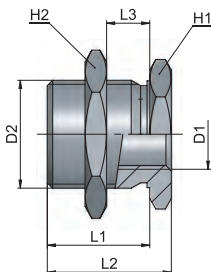


类型	D1	L1	L2	H1	g $\Delta$
43 00 18	R1/8	7,5	4,8	5	3,0
43 00 14	R1/4	11	8	6	8,0
43 00 38	R3/8	11,5	7,6	8	14,0
43 00 12	R1/2	14	10,1	10	27,0
43 00 34	R3/4	15,5	10	14	45,5
43 00 1	R1"	17,5	11,5	17	84,0

## RA 44

穿板接头

Bulkhead connector




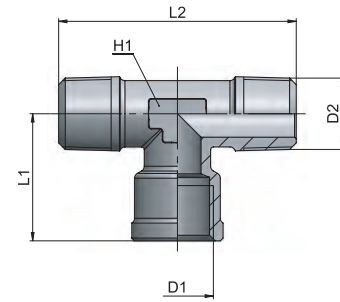
类型	D1	D2	L1	L2	L3	H1	H2	g $\Delta$
44 00 M5	M5x0,5	M10x1	10,5	14	6	14	14	12,0
44 00 18	G1/8	M16x1,5	14	18	8	19	22	28,0
44 00 14	G1/4	M20x1,5	21	25	13	24	27	54,8
44 00 38	G3/8	M26x1,5	21	26	13	30	32	91,0
44 00 12	G1/2	M28x1,5	27	33	19	32	36	113,5

RA 45

内外螺纹正T型转接头

Male-female-male T


类型	D1	D2	L1	L2	H1	g 
45 18 18	G1/8	R1/8	18,5	34	10	16,6
45 14 14	G1/4	R1/4	22,5	43	12	31,3
45 38 38	G3/8	R3/8	25,5	49	15	54,0
45 12 12	G1/2	R1/2	30	59	19	95,4

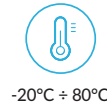


RA 46

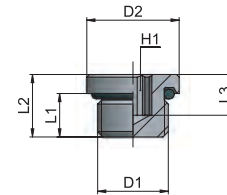
带O型圈外螺纹堵头

Male plug with oring

类型	D1	D2	L1	L2	L3	H1	g 
46 00 18	G1/8	13	6	8,5	5,5	5	4,3
46 00 14	G1/4	16	6,5	9,5	6,5	6	8,7
46 00 38	G3/8	20	7	10	6	8	14,5
46 00 12	G1/2	25	8,5	12	7	10	33,0



-20°C ÷ 80°C




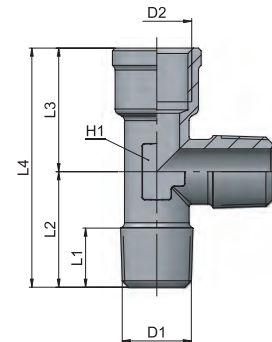
NBR 密封圈 - NBR Seals

RA 47

内外螺纹直T型转接头

Male-female-male T


类型	D1	D2	L1	L2	L3	L4	H1	g 
47 18 18	R1/8	G1/8	8,2	17	18,5	35,5	10	16,7
47 14 14	R1/4	G1/4	11	21,5	22,5	44	12	31,2
47 38 38	R3/8	G3/8	12	24,5	25,5	50	15	53,8
47 12 12	R1/2	G1/2	14	29,5	30	59,5	19	94,7

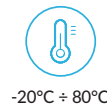


RA 94

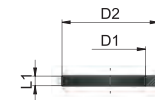
PA6塑料垫圈

PA6 sealing ring

类型	D1	D2	L1	g 
94 00 M5 -SD	5	8	1,2	0,1
94 00 18 -SD	9,9	13,9	1,8	0,2
94 00 14 -SD	13,1	17,9	1,8	0,3
94 00 38 -SD	16,8	21,4	1,8	0,3
94 00 12 -SD	21	25,4	2	0,4



-20°C ÷ 80°C

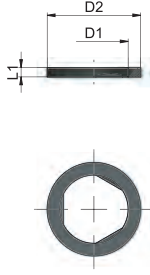


- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

## RA 95

PA6塑料垫圈

PA6 toothed sealing ring



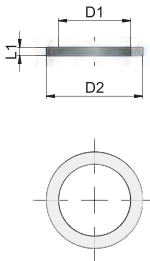
-20°C ÷ 80°C

类型	D1	D2	L1	g
95 00 M5	5	8	1,2	0,1
95 00 18	9,9	13,9	1,8	0,2
95 00 14	13,1	17,9	1,8	0,2
95 00 38	16,8	21,4	1,8	0,3
95 00 12	21	25,4	2	0,4

## RA 96

铝密封垫圈

Aluminium sealing washer



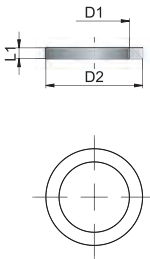
-20°C ÷ 80°C

类型	D1	D2	L1	g
96 00 M5	5	9	1	0,1
96 00 18	10,2	14	1,5	0,3
96 00 14	13,5	18	1,5	0,4
96 00 38	17	22	1,5	0,5
96 00 12	21,5	27	1,5	0,8

## RA 97

PTFE密封垫圈

PTFE sealing ring



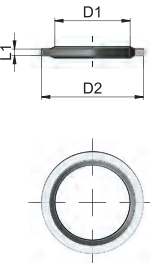
-20°C ÷ 150°C

类型	D1	D2	L1	g
97 00 18	10,1	14	2	0,3
97 00 14	13,1	18	2	0,4
97 00 38	16,8	21,4	1,8	0,6
97 00 12	21	25,5	2	0,8

## RA 98

合成密封圈

Bonded seal



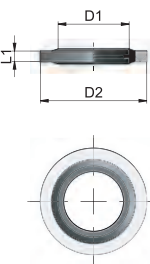
-20°C ÷ 80°C

类型	D1	D2	L1	g
98 00 18	10,4	14,7	1,2	0,6
98 00 14	13,85	18,7	1,2	0,8
98 00 38	17,35	22,7	1,2	1,1
98 00 12	21,65	26,7	1,2	1,2
98 00 34	27,3	32,6	1,2	1,5

## RA 99

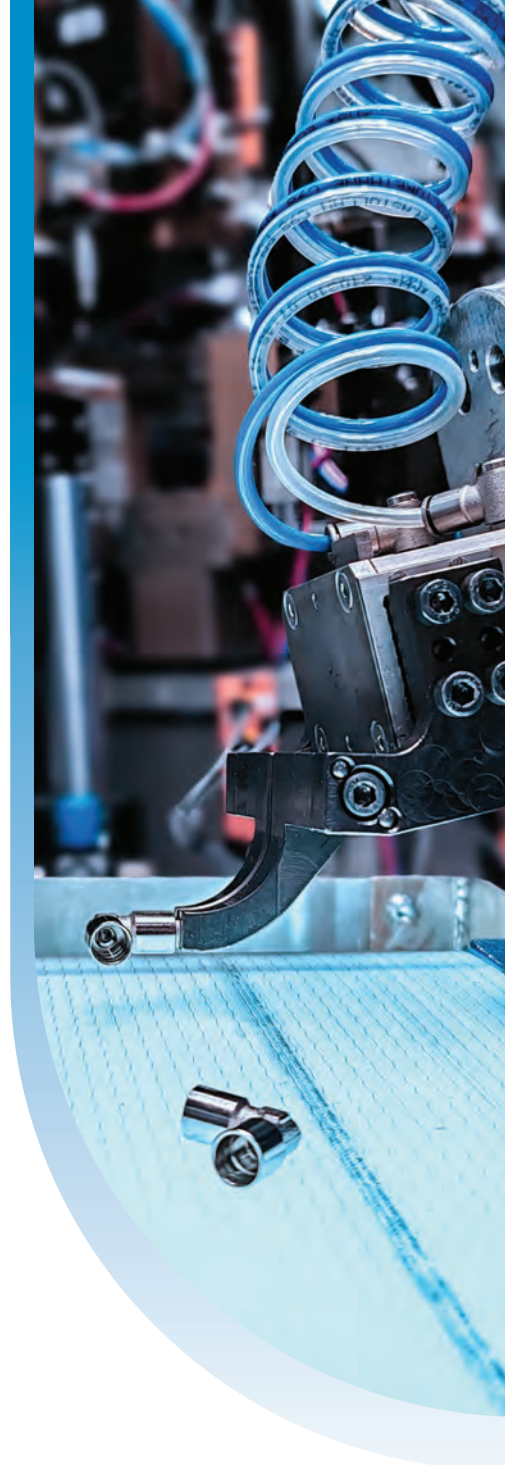
自对中合成密封垫圈

Bonded seal, self centring

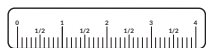


-20°C ÷ 80°C

类型	D1	D2	L1	g
99 00 M5	5,7	9	1	0,2
99 00 18	10,37	15,88	2	1,6
99 00 14	13,74	20,57	2	2,7
99 00 38	17,28	23,80	2	3,0
99 00 12	21,54	28,58	2,5	4,6
99 00 34	27,05	34,93	2,5	6,8



INCH



## PA LINE



CN

EN

### NPT黄铜镀镍标准接头

PA系列(亦称“附件系列”或“标准管接头系列”)包含多种组件,例如直通接头、异径接头、转换接头、堵头、软管接头、L型与T型及十字型接头等。凭借其丰富的品种选择,该系列管接头可完美补充各种连接件产品范围。所有零件均采用英制尺寸及NPT螺纹规格,并经过电解镀镍工艺处理。

### Brass Nickel-Plated Standard Fittings, NPT

The PA line, also known as the “Accessories line” or the “Standard fittings line” consists of a wide variety of components, such as Nipples, Reduction pieces, Connections, Plugs, Hose connections, L-T and Cross fittings. Due to the multiple auxiliary functions of this line, the PA fittings are the right complement of different ranges. All components are in inch sizes and NPT threads and are electrolytic nickel plated.

# PA Line

1 本体  
Body

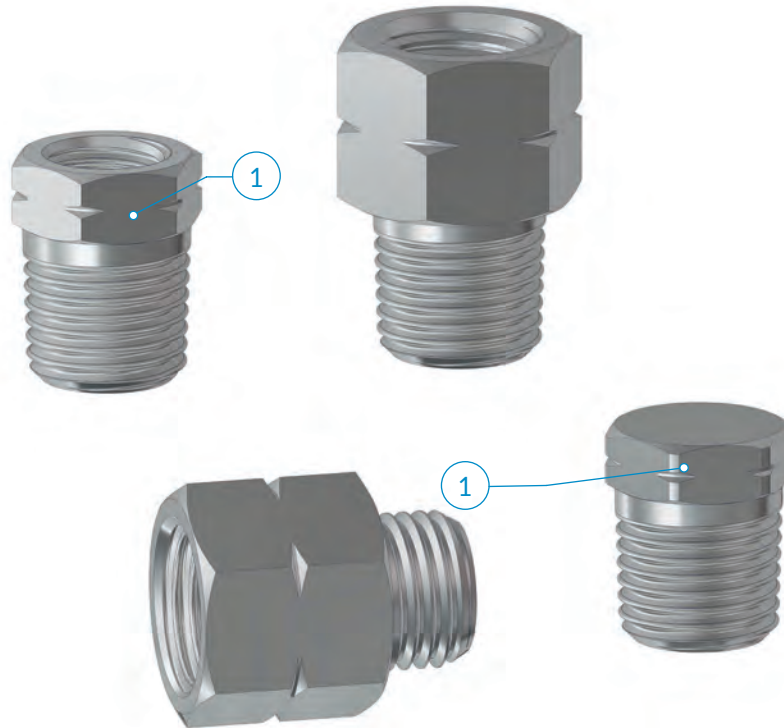
黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel Plated



-40° ÷ 150°C



60 bar



	10-32 UNF	G1/8	G1/4	G3/8	G1/2	1/8 NPTF	1/4 NPTF	3/8 NPTF	1/2 NPTF
	●	●	●	●	●	●	●	●	●


**应用领域:**  
气动、液压和油压系统。

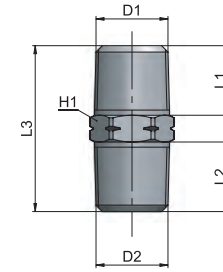
**Application fields:**  
Pneumatic, hydraulic and oleodynamic circuits

PA 11

锥螺纹转接头

Nipple, taper


类型	D1	D2	L1	L2	L3	H1	g 
11 1/8 1/8	1/8 NPTF	1/8 NPTF	8,5	8,5	21	12	9,3
11 1/4 1/4	1/4 NPTF	1/4 NPTF	13	13	31	14	19,4
11 3/8 3/8	3/8 NPTF	3/8 NPTF	13	13	32	18	34,2
11 1/2 1/2	1/2 NPTF	1/2 NPTF	17	17	41	22	59,7

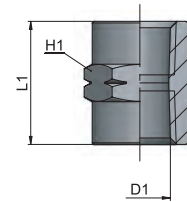


PA 13

内螺纹转接头

Joint Piece


类型	D1	L1	H1	g 
13 1/8 1/8	1/8 NPTF	18	14	13,4
13 1/4 1/4	1/4 NPTF	23	18	27,7
13 3/8 3/8	3/8 NPTF	25	22	41,1
13 1/2 1/2	1/2 NPTF	32	26	66,3

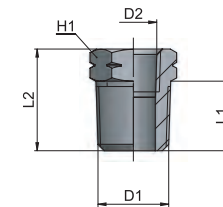


PA 14

内外螺纹减径接头

Taper female-male reducing connector


类型	D1	D2	L1	L2	H1	g 
14 1/8 10-32	1/8 NPTF	10-32 UNF	8,5	12,5	12	-
14 1/4 1/8	1/4 NPTF	1/8 NPTF	13	19	14	12,3
14 3/8 1/8	3/8 NPTF	1/8 NPTF	13	19	18	26,2
14 3/8 1/4	3/8 NPTF	1/4 NPTF	13	19	18	18,3
14 1/2 1/4	1/2 NPTF	1/4 NPTF	17	24	22	47,0
14 1/2 3/8	1/2 NPTF	3/8 NPTF	17	24	22	32,9

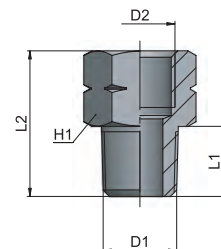


PA 16

内外螺纹转接头

Adaptor male-female, taper

类型	D1	D2	L1	L2	H1	g 
16 1/0-32 M5	10-32 UNF	M5x0,8	5	12	8	12,0
16 1/8 1/8	1/8 NPTF	G1/8 BSP	8,5	19	14	12,0
16 1/4 1/4	1/4 NPTF	G1/4 BSP	13	27	18	26,1
16 3/8 3/8	3/8 NPTF	G3/8 BSP	13	27	22	38,5
16 1/2 1/2	1/2 NPTF	G1/2 BSP	17	34	27	65,5

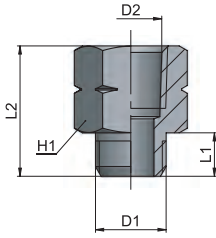


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## PA 17

内外螺纹转接头

Adaptor male-female, parallel

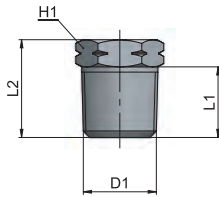


类型	D1	D2	L1	L2	H1	g $\Delta$
17 1/8 1/8	G1/8 BSP	1/8 NPTF	6	18	14	12,5
17 1/4 1/4	G1/4 BSP	1/4 NPTF	8	24	18	27,0
17 3/8 3/8	G3/8 BSP	3/8 NPTF	9	25	22	49,5
17 1/2 1/2	G1/2 BSP	1/2 NPTF	10	30	24	50,0

## PA 19

外螺纹堵头

Male plug

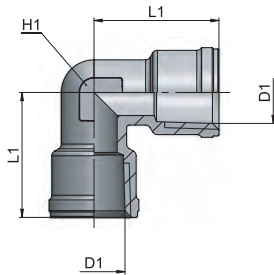


类型	D1	L1	L2	H1	g $\Delta$
19 00 1/8	1/8 NPTF	8,5	12,5	12	6,5
19 00 1/4	1/4 NPTF	13	18	14	14,5
19 00 3/8	3/8 NPTF	13	19	18	24,5
19 00 1/2	1/2 NPTF	17	24	22	41,5

## PA 21

内螺纹直角转接头

Female elbow

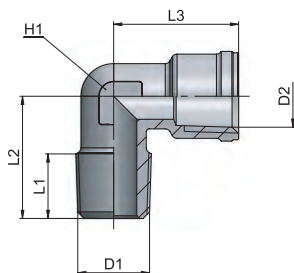


类型	D1	L1	H1	g $\Delta$
21 1/8 1/8	1/8 NPTF	19	10	15,2
21 1/4 1/4	1/4 NPTF	23	12	38,5
21 3/8 3/8	3/8 NPTF	26	15	46,3
21 1/2 1/2	1/2 NPTF	34	19	87,1


## PA 22

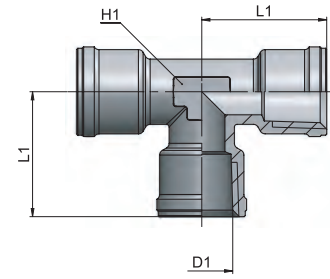
内外螺纹直角转接头

Male-Female elbow



类型	D1	D2	L1	L2	L3	H1	g $\Delta$
22 1/8 1/8	1/8 NPTF	1/8 NPTF	8,5	17,5	19	10	13,2
22 1/4 1/4	1/4 NPTF	1/4 NPTF	12	22,5	23	12	35,0
22 3/8 3/8	3/8 NPTF	3/8 NPTF	12	25,5	26	15	42,1
22 1/2 1/2	1/2 NPTF	1/2 NPTF	16	31	34	19	78,9

类型	D1	L1	H1	g 
23 1/8 1/8	1/8 NPTF	19	10	21,5
23 1/4 1/4	1/4 NPTF	23	12	38,4
23 3/8 3/8	3/8 NPTF	31	17	65,5
23 1/2 1/2	1/2 NPTF	33,5	21	143,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

类型

Profiles



页码 ref.

**GU20**

Mini

2,5



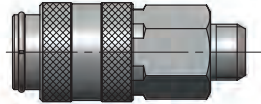
BSP

120

**GU21**

Midi

5,5



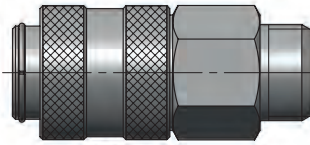
BSP

122

**GU26**

European

7,4



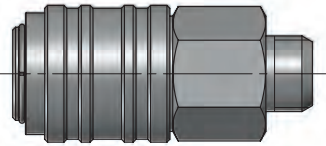
BSP

125

**GU10**

Multi

5,5 ÷ 7,4



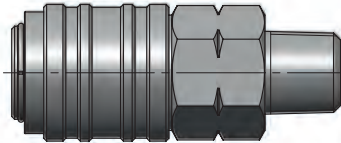
BSP

128

**PU10**

Multi

5,5 ÷ 7,4



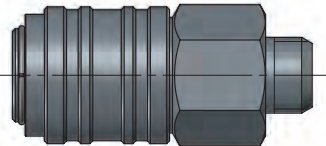
NPT

132

**GX10**  
不锈钢

Multi

5,5 ÷ 7,4



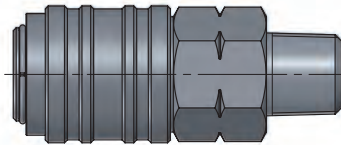
BSP

282

**PUX10**  
不锈钢

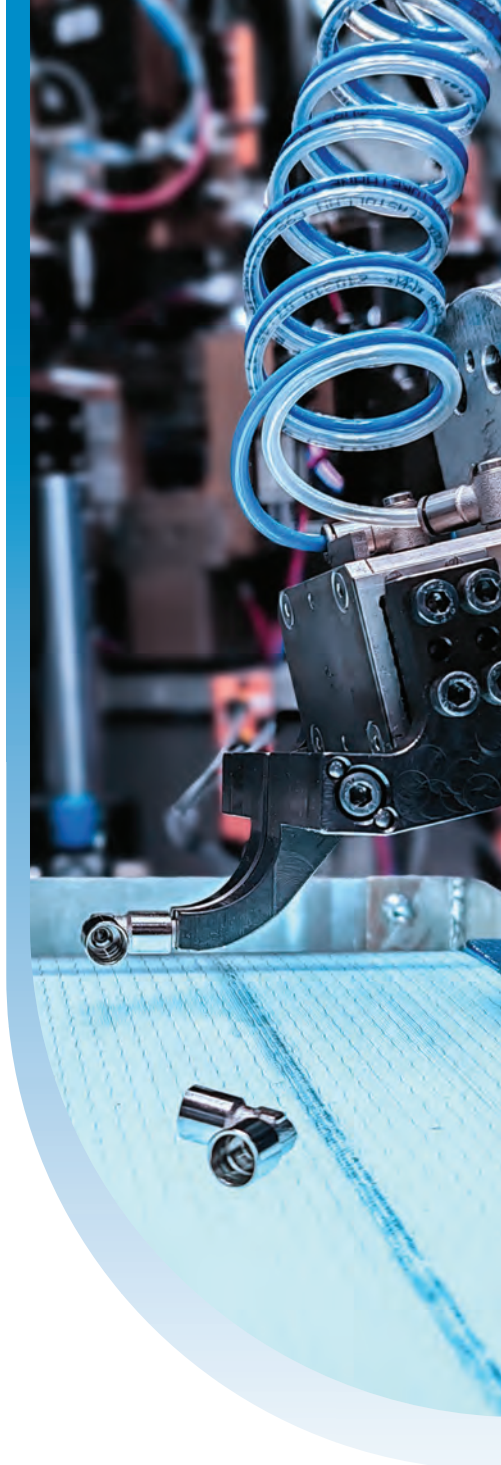
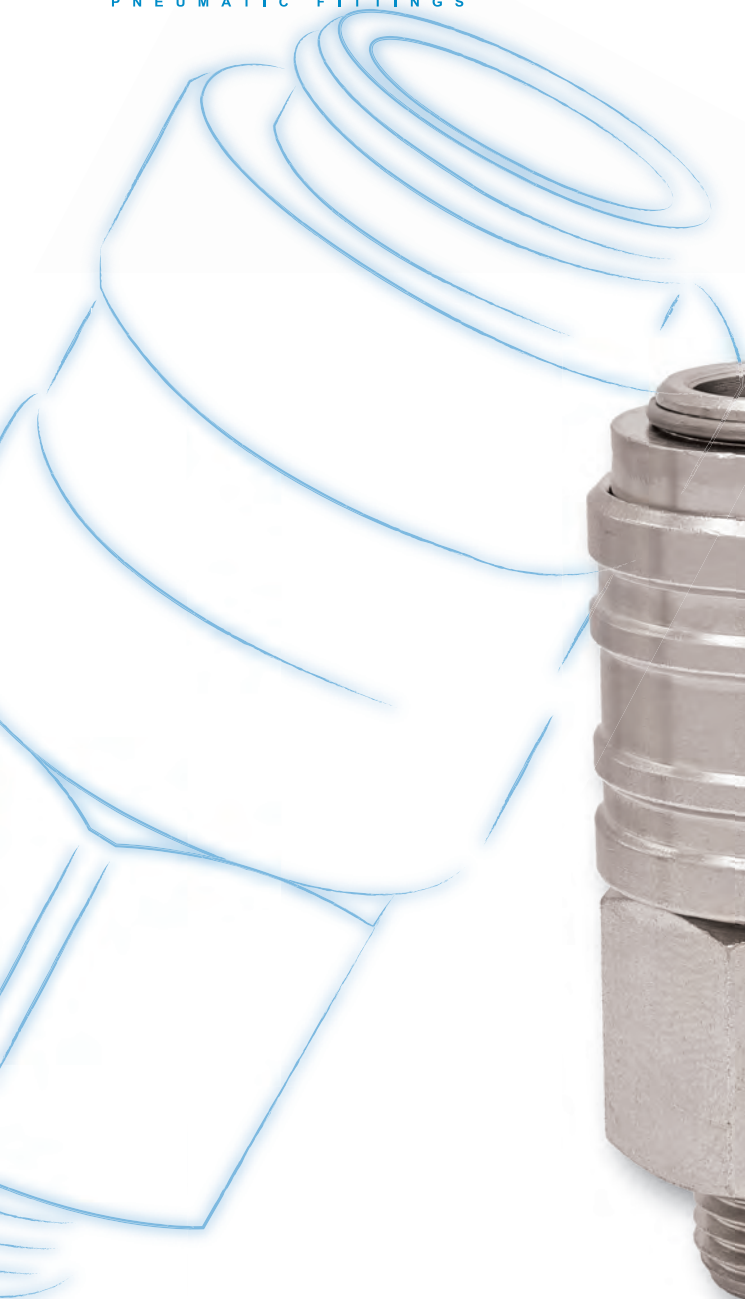
Multi

5,5 ÷ 7,4



NPT

288



## GU LINE



CN

### 快换接头

黄铜镀镍快换接头提供迷你型(直径2.5毫米)、标准型(直径5.0毫米)和欧规型(直径7.4毫米)三种尺寸;该产品系列也包含多路接头体型号。

EN

### Couplings

Nickel-plated brass quick couplings available in mini (2.5 mm dia.), standard (5.0 mm dia.) and European (7.4 mm dia.) sizes; the product line also includes a multisocket version.

# GU 20

DN2.5快速接头

Coupling DN2,5

- 1** 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated
- 2** 阀芯  
Valve

黄铜 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N
- 3** 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302
- 4** 密封圈  
Seals

NBR  
NBR
- 5** 滚珠  
Balls

AISI 420 不锈钢  
Stainless steel AISI 420
- i** 插头体  
Plugs

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated



-20° ÷ 80°C



35 bar



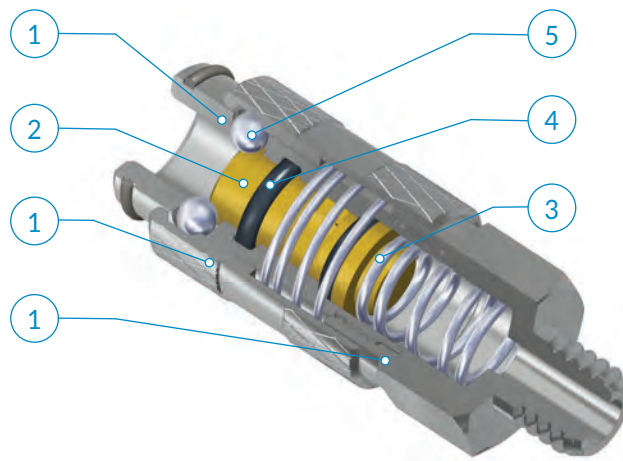
2,5 mm



170 NI/min  
(6 bar - Δp = 1bar)



比例尺 1:1  
Scale 1:1



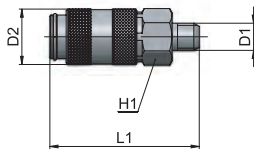
应用领域：  
气动系统。

Application fields:  
Pneumatic circuits

## GU 20-11

外螺纹接头体

Male coupling



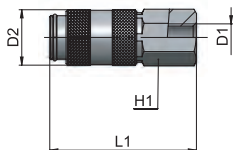
类型	D1	D2	L1	H1	g ΔΔ
11 00 M5	M5x0,8	10	27,5	9	10,0
11 00 18	G1/8	10	29	12	14,0



## GU 20-12

内螺纹接头体

Female coupling




类型	D1	D2	L1	H1	g ΔΔ
12 00 M5	M5x0,8	10	27	9	11,0
12 00 18	G1/8	10	30,5	12	15,0

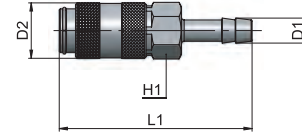


**GU 20-13**

软管用接头体

Coupling with hose connection


类型	ID1	D1	D2	L1	H1	g 
13 03 00	3	3,6	10	35,5	9	9
13 04 00	4	4,6	10	35,5	9	10

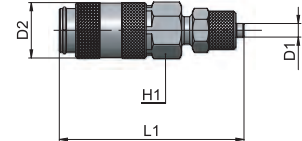


**GU 20-15**

快拧式接头体

Coupling with nut fitting


类型	D1	D2	L1	H1	g 
15 04 00	4x2,5	10	34	9	11,0
15 06 00	6x4	10	35	9	13,0

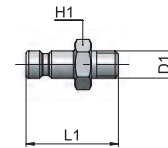


**GU 20-20**

外螺纹插头体

Male plug


类型	D1	L1	H1	g 
20 00 M5	M5x0,8	17	8	2,0
20 00 18	G1/8	20	12	6,0

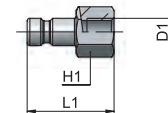


**GU 20-21**

内螺纹插头体

Female plug


类型	D1	L1	H1	g 
21 00 M5	M5x0,8	16	8	3,0
21 00 18	G1/8	19	12	6,0

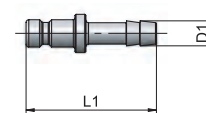


**GU 20-22**

软管用插头体

Plug with hose connection


类型	ID1	D1	L1	g 
22 03 00	3	3,6	24	2,0
22 04 00	4	4,6	24	2,0

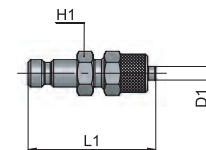


**GU 20-23**

快拧式插头体

Plug with nut fitting

类型	D1	L1	H1	g 
23 04 00	4x2,5	23,5	7	4,0
23 06 00	6x4	24,5	8	6,0



# GU 21

DN5快换接头

Coupling DN5

- 1** 本体  
Body

黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated
- 2** 阀芯  
Valve

黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated
- 3** 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302
- 4** 密封圈  
Seals

NBR  
NBR
- 5** 滚珠  
Balls

AISI 420 不锈钢  
Stainless steel AISI 420
- i** 插头体  
Plugs

黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated



-20° ÷ 80°C



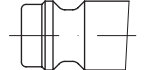
35 bar



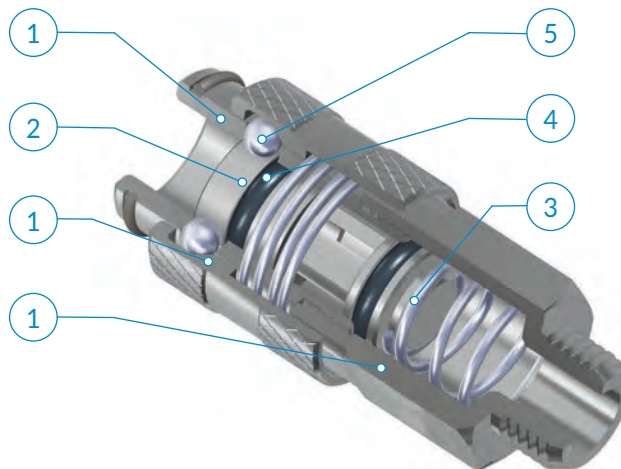
5 mm



600 NI/min  
(6 bar - Δp = 1bar)



比例尺 1:1  
Scale 1:1



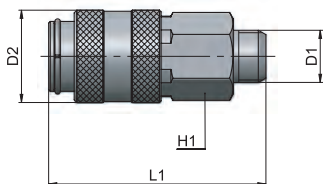
应用领域：  
气动系统。

Application fields:  
Pneumatic circuits

## GU 21-11

外螺纹接头体

Male coupling



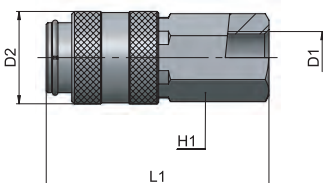
类型	D1	D2	L1	H1	g $\Delta$
11 00 18	G1/8	17	40	14	33,5
11 00 14	G1/4	17	42	17	43,6



## GU 21-12

内螺纹接头体

Female coupling



类型	D1	D2	L1	H1	g $\Delta$
12 00 18	G1/8	17	41	14	37,0
12 00 14	G1/4	17	46	17	53,0

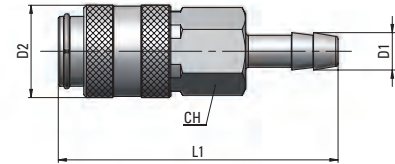


GU 21-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L1	H1	g
13 04 00	4	4,9	17	51,5	14	34,0
13 06 00	6	6,9	17	51,5	14	35,1

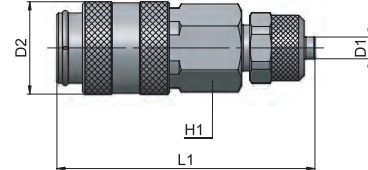


GU 21-15

快拧式接头体

Coupling with nut fitting

类型	D1	D2	L1	H1	g
15 06 00	6x4	17	47,5	14	38,0
15 08 00	8x6	17	48,5	14	39,7

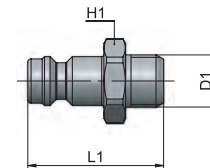


GU 21-20

外螺纹插头体

Male plug

类型	D1	L1	H1	g
20 00 18	G1/8	25	14	11,4
20 00 14	G1/4	27	17	19,0

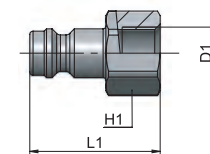


GU 21-21

内螺纹插头体

Female plug

类型	D1	L1	H1	g
21 00 18	G1/8	24	14	13,3
21 00 14	G1/4	27	17	19,7

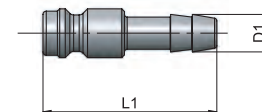


GU 21-22

软管用插头体

Plug with hose connection

类型	ID1	D1	L1	g
22 04 00	4	4,9	32	5,8
22 06 00	6	6,9	32	7,2

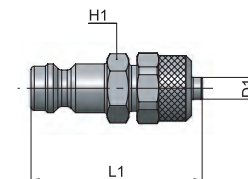


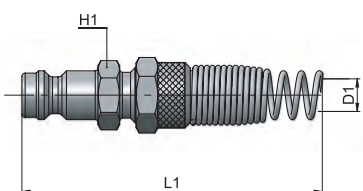
GU 21-23

快拧式插头体

Plug with nut fitting

类型	D1	L1	H1	g
23 06 00	6x4	31,5	11	15,1
23 08 00	8x6	32,5	13	20,2





类型	D1	L1	H1	g
24 06 00	6x4	110	11	23,9
24 08 00	8x6	120	13	30,5



# GU 26

DN7.4快换接头

Coupling DN7,4

- |   |  |  |  |  |   |
|---|--|--|--|--|---|
| <p><b>1</b> 本体<br/>Body</p> <p>黄铜镀镍UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>2</b> 阀芯<br/>Valve</p> <p>黄铜镀镍UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>3</b> 弹簧<br/>Springs</p> <p>AISI 302不锈钢<br/>Stainless steel AISI 302</p> | <p><b>4</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420不锈钢<br/>Stainless steel AISI 420</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>黄铜镀镍UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> |
|---|--|--|--|--|---|



-20° ÷ 80°C



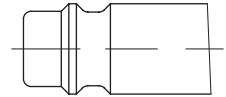
35 bar



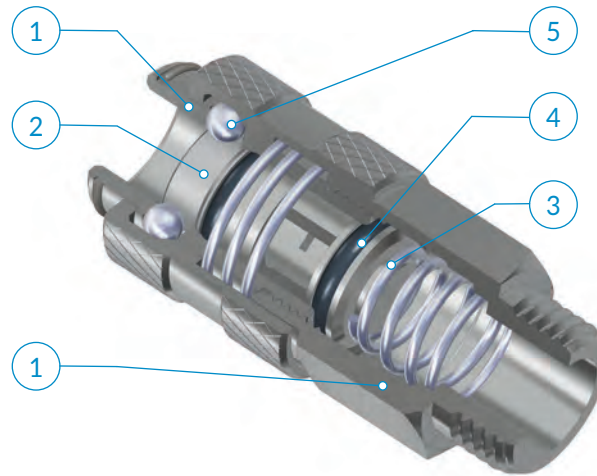
7,4 mm



1400 NI/min  
(6 bar - Δp = 1bar)



欧洲标准  
European Profile



应用领域：  
气动系统。

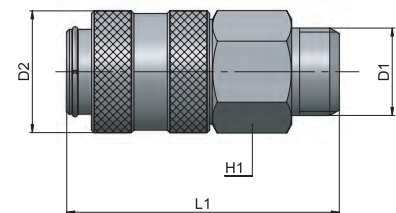
Application fields:  
Pneumatic circuits

## GU 26-11

外螺纹接头体

Male coupling

类型	D1	D2	L1	H1	g $\Delta\Delta$
11 00 14	G1/4	23	51,5	20	82,0
11 00 38	G3/8	23	51,5	20	89,0
11 00 12	G1/2	23	51,5	24	107,0

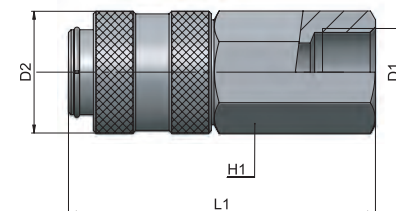


## GU 26-12

内螺纹接头体

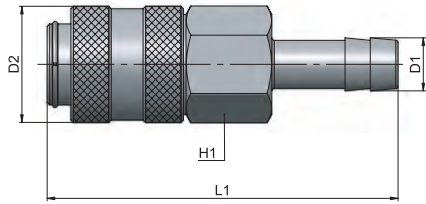
Female coupling

类型	D1	D2	L1	H1	g $\Delta\Delta$
12 00 14	G1/4	23	56,5	20	91,0
12 00 38	G3/8	23	58	20	90,0
12 00 12	G1/2	23	59,5	24	106,0



### GU 26-13

软管用接头体



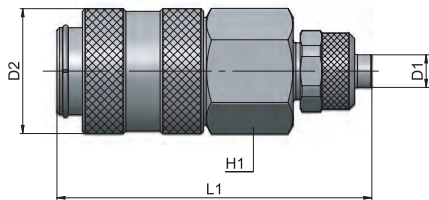
Coupling with hose connection

类型	ID1	D1	D2	L1	H1	g $\Delta$
13 06 00	6	7,5	23	69,5	20	90,0
13 09 00	9	10,5	23	69,5	20	91,0
13 13 00	13	14,5	23	69,5	20	89,0



### GU 26-15

快拧式接头体



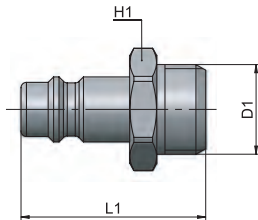
Coupling with nut fitting

类型	D1	D2	L1	H1	g $\Delta$
15 08 00	8x6	23	58	20	90,0
15 10 00	10x8	23	60	20	91,0



### GU 26-20

外螺纹插头体



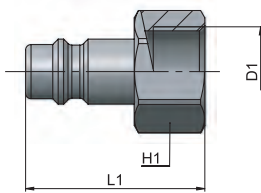
Male plug

类型	D1	L1	H1	g $\Delta$
20 00 14	G1/4	33	17	22,0
20 00 38	G3/8	34	20	29,0
20 00 12	G1/2	37	24	50,0



### GU 26-21

内螺纹插头体



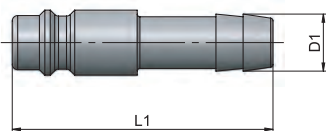
Female plug

类型	D1	L1	H1	g $\Delta$
21 00 14	G1/4	33	17	23,5
21 00 38	G3/8	33	20	26,0
21 00 12	G1/2	37	24	39,0



### GU 26-22

软管用插头体



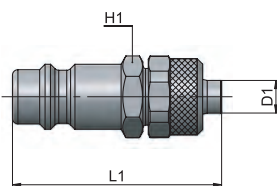
Plug with hose connection

类型	ID1	D1	L1	g $\Delta$
22 06 00	6	7,5	48	14,0
22 08 00	8	9,5	48	16,0
22 09 00	9	10,5	48	18,0
22 10 00	10	11,5	48	20,0
22 13 00	13	14,5	48	34,0



### GU 26-23


快拧式插头体

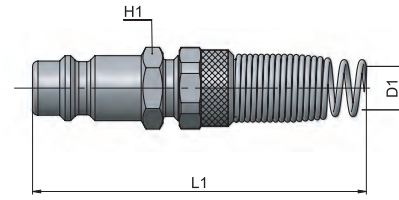


Plug with nut fitting

类型	D1	L1	H1	g $\Delta$
23 06 00	6x4	37,5	13	20,0
23 08 00	8x6	38,5	13	22,0
23 10 00	10x8	41,5	15	29,0



类型	D1	L1	H1	g 
24 06 00	6x4	120	13	30,0
24 08 00	8x6	125	13	34,0
24 10 00	10x8	135	15	52,0



- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# GU 10-11

多插座快换接头

Multi socket quick coupling

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 阀芯  
Valve

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302

4 密封圈  
Seals

NBR  
NBR

5 滚珠  
Balls

AISI 420 不锈钢  
Stainless steel AISI 420

i 插头体  
Plugs

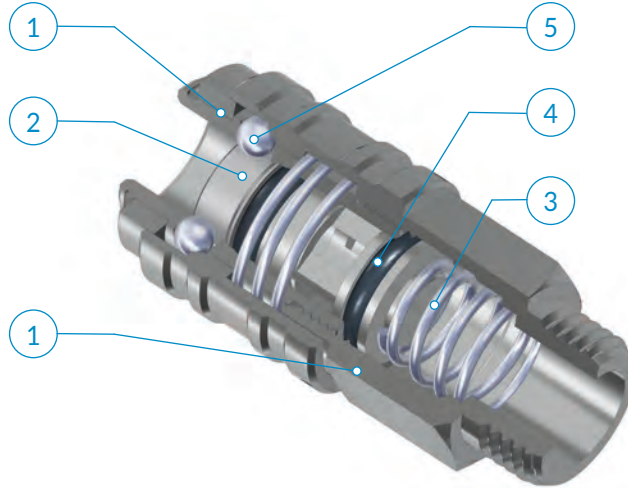
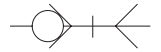
黄铜镀镍  
Brass nickel plated



-20° ÷ 80°C

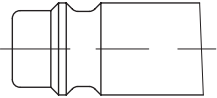
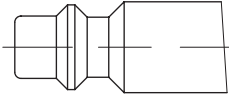
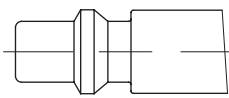





15 bar



应用领域：  
气动系统。

Application fields:  
Pneumatic circuits

适用以下插头体外形 Suitable with following plugs profiles		流量 Flow rate
		NI/min (6 bar - Δp = 1bar)
	欧洲标准外形 European Profile	820
	ISO 6150 B标准外形 ISO 6150 B Profile	715
	瑞典标准外形 Standard Swedisch Profile	725
	意大利标准外形 Standard Italian Profile	670
	MIL C4109标准外形 MIL C4109 Profile	715
	ARO 210标准外形 ARO 210 Profile	705

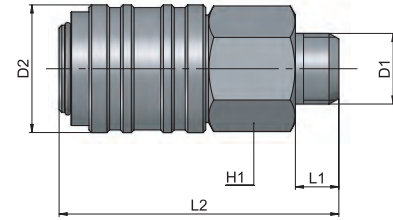
比例尺 1:1 - Scale 1:1

GU 10-11

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
11 00 14	G1/4	23,5	10	51,5	20	90,0
11 00 38	G3/8	23,5	11	51,5	20	93,0
11 00 12	G1/2	23,5	11	51,5	24	118,0

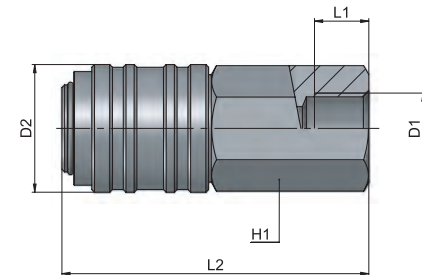


GU 10-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	23,5	10	56,5	20	109,0
12 00 38	G3/8	23,5	11	58	20	103,0
12 00 12	G1/2	23,5	11	59,5	24	134,0

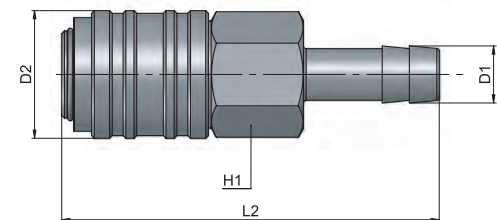


GU 10-13

软管用接头体

Coupling with hose connection

类型	D1	D2	L2	H1	g $\Delta$
13 06 00	6	23,5	69,5	20	91,0
13 09 00	9	23,5	69,5	20	93,0
13 13 00	13	23,5	69,5	20	107,0

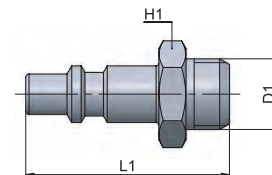


GU 11-20

外螺纹插头体 意大利标准外形

Male plug, italian profile

类型	D1	L1	H1	g $\Delta$
20 00 14	G1/4	37,5	14	19,1
20 00 38	G3/8	40	19	28,0
20 00 12	G1/2	40,5	24	36,2

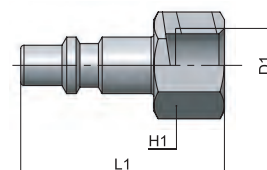


GU 11-21

内螺纹插头体 意大利标准外形

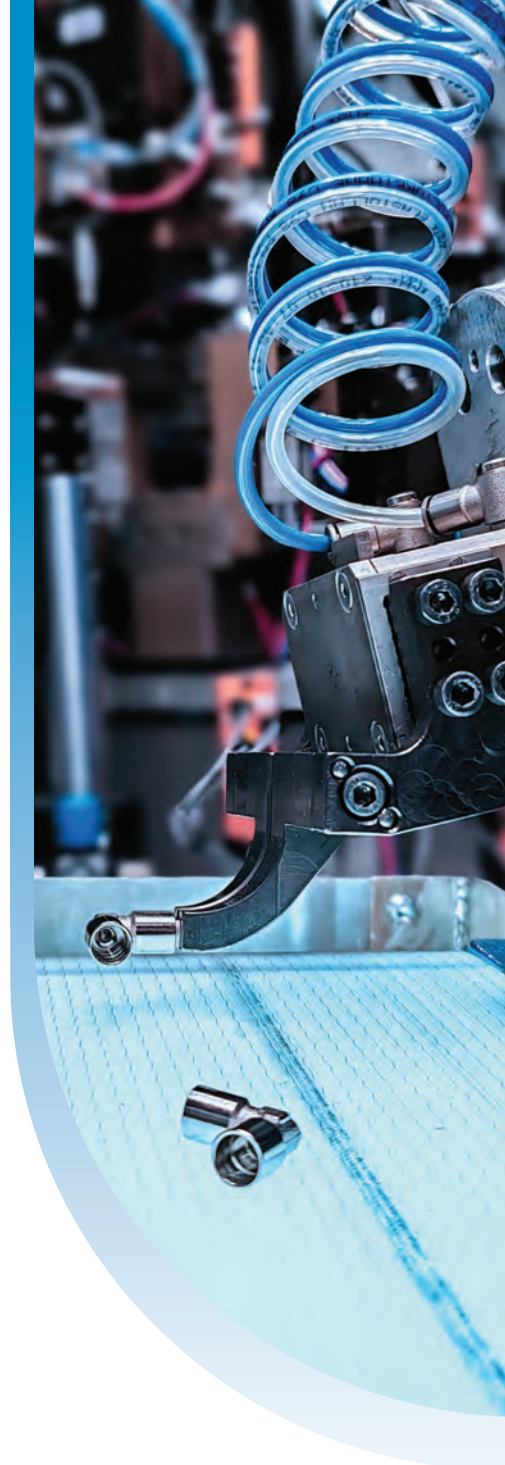
Female plug, italian profile

类型	D1	L1	H1	g $\Delta$
21 00 14	G1/4	39	17	23,0
21 00 38	G3/8	41	19	26,0
21 00 12	G1/2	44	25	51,1

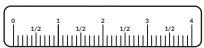




*cmatic*



INCH



**PU LINE**



CN

**NPT快换接头**

NPT螺纹电解镀镍黄铜快换接头

EN

**NPT Couplings**

Electrolytic Nickel-plated brass quick couplings available with NPT threads.

# PU 10

## 多插座快换接头

## Multi socket quick coupling

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 滚珠  
Balls

AISI 420 不锈钢  
Stainless steel AISI 420

3 密封圈  
Seals

NBR  
NBR

4 弹簧  
Springs

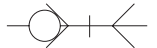
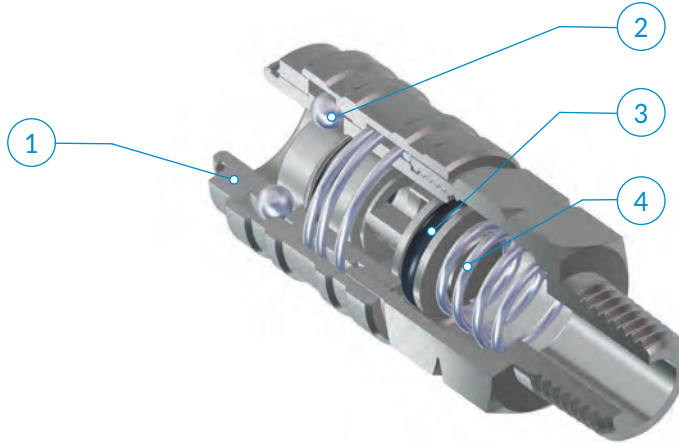
AISI 302 不锈钢  
Stainless steel AISI 302



-20° ÷ 80°C

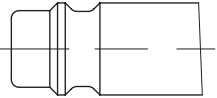
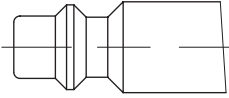
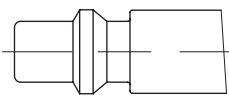

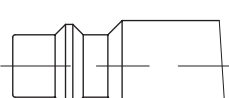



15 bar



应用领域：  
气动系统。

Application fields:  
Pneumatic circuits

适用以下插头体外形 Suitable with following plugs profiles	流量 Flow rate
	NI/min (6 bar - Δp = 1bar)
 <p>欧洲标准外形 European Profile</p>	820
 <p>ISO 6150 B标准外形 ISO 6150 B Profile</p>	715
 <p>瑞典标准外形 Standard Swedisch Profile</p>	725
 <p>意大利标准外形 Standard Italian Profile</p>	670
 <p>MIL C4109标准外形 MIL C4109 Profile</p>	715
 <p>ARO 210标准外形 ARO 210 Profile</p>	705

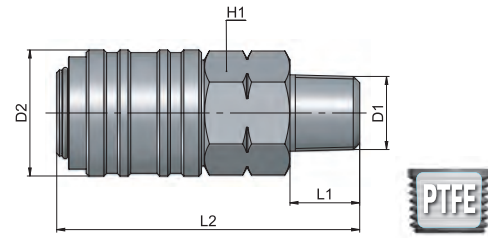
比例尺 1:1 - Scale 1:1

PU 10-11

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
11 00 1/4	1/4 NPTF	23,5	13	56,5	20	90,9
11 00 3/8	3/8 NPTF	23,5	13	56,5	20	99,3
11 00 1/2	1/2 NPTF	23,5	17	59,5	24	129,2

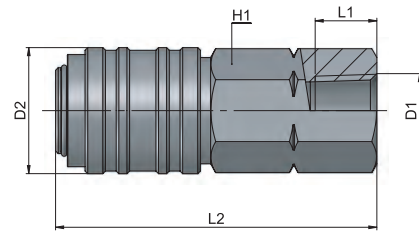


PU 10-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 1/4	1/4 NPTF	23,5	12,5	58,5	20	113
12 00 3/8	3/8 NPTF	23,5	12,5	58,5	20	104
12 00 1/2	1/2 NPTF	23,5	13,5	62	24	140,5



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

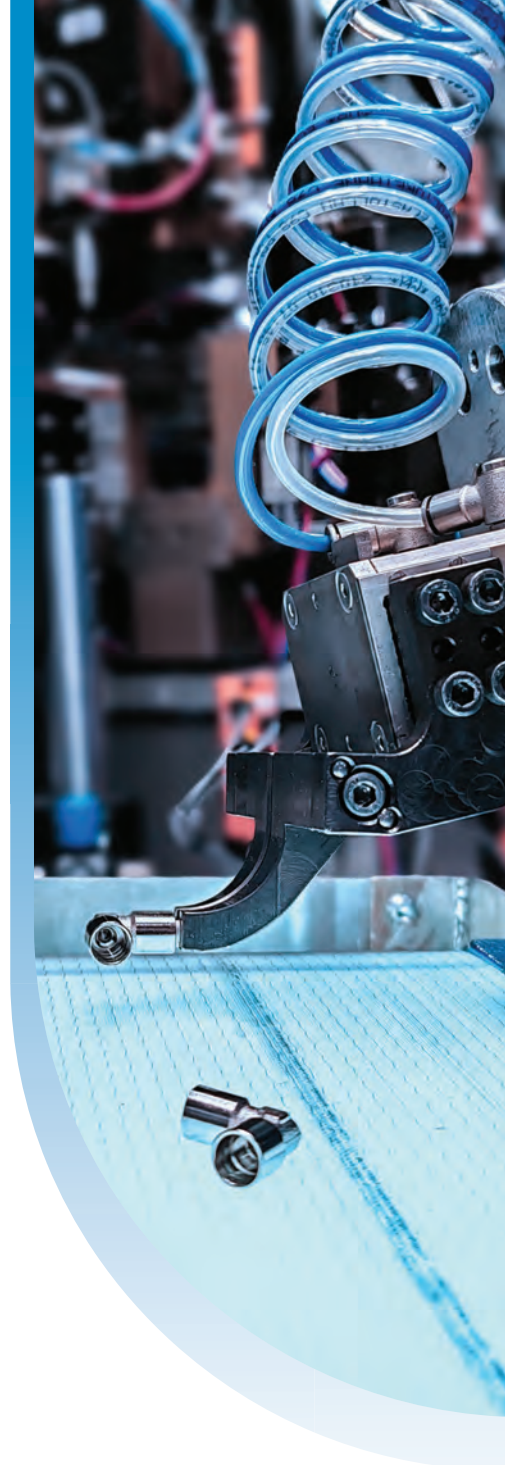
类型

Profiles



页码 ref.

<b>GU41</b>	ISO 6150 C-10	5,5		BSP	136
<b>GU42</b>	ISO 6150 B-12 US MIL4109	5,5		BSP	138
<b>PU42</b>	ISO 6150 B-12 US MIL4109	5,5		NPT	150
<b>GU43</b>	ISO 6150 C-14	8		BSP	140
<b>GU44</b>	ISO 6150 B-15	8		BSP	142
<b>PU44</b>	ISO 6150 B-15	8		NPT	152
<b>GU45</b>	ARO 210	5,5		BSP	144
<b>PU45</b>	ARO 210	5,5		NPT	154
<b>GU46</b>	European Profile	7,4		BSP	146
<b>GX46</b> 不锈钢	European Profile	7,4		BSP	292



**GU** Safety

CN

安全型快换接头  
符合ISO4414的安全型快换接头



EN

Safety Couplings

Safety quick couplings compliant with ISO 4414

# GU 41

安全型按钮式快换接头，ISO 6150 C-10外形

Push-Button safety coupling according to ISO 6150 C-10

1 本体 Body	2 阀芯 Valve	3 螺纹 Thread	4 按钮 Button	5 密封圈 Seals	6 弹簧 Springs	i 插头体 Plugs
阳极氧化铝 Al2011 Anodized aluminium Al2011	黄铜 UNI EN 12164 CW614N Brass UNI EN 12164 CW614N	黄铜镀镍 UNI EN 12164 CW614N Brass UNI EN 12164 CW614N, nickel plated	硬化镀锌钢 11SMnPb37 Hardened, zinc plated steel 11SMnPb37	NBR NBR	AISI 302 不锈钢 Stainless steel AISI 302	硬化镀锌钢 11SMnPb37 Hardened, zinc plated steel 11SMnPb37



-20° ÷ 80°C



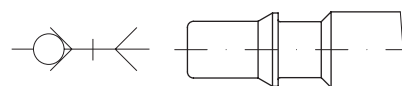
12 bar



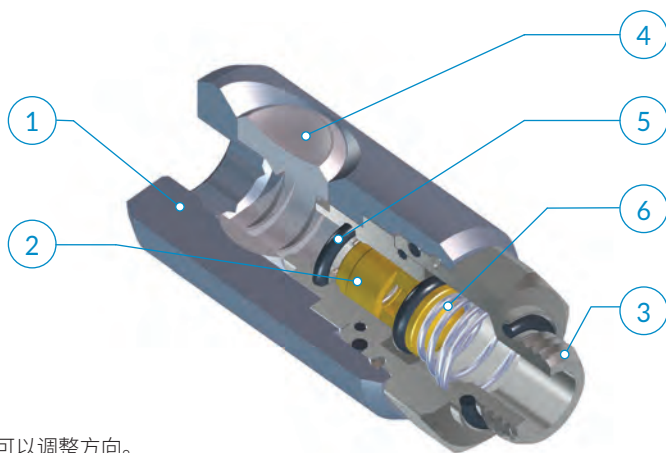
5,5 mm



680 NI/min  
(6 bar - Δp = 1bar)



ISO 6150 C-10外形  
ISO 6150 C-10 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## i 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

1

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

2

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

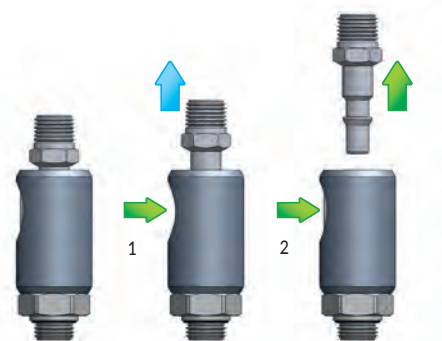
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

1

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

2

Press the button one more time to release the plug.

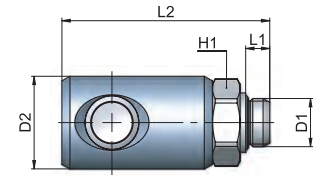


GU 41-10

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 14	G1/4	25	6,5	56,1	21	80,5
10 00 38	G3/8	25	7	56,1	21	90,0
10 00 12	G1/2	25	8,5	58,6	25	115,1

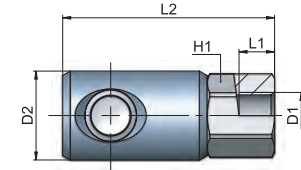


GU 41-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	25	9	59,6	21	97,4
12 00 38	G3/8	25	10	61,6	21	97,5
12 00 12	G1/2	25	11	63,6	24	116,6

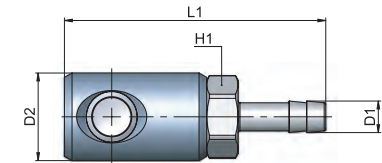


GU 41-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 06 00	6	7	25	74,6	21	82,5
13 08 00	8	9	25	74,6	21	86,3
13 10 00	10	11	25	74,6	21	87,0

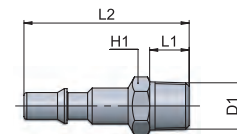


GU 41-20

外螺纹插头体

Male plug

类型	D1	L1	L2	H1	g $\Delta$
20 00 14	R1/4	11	46	14	18,0
20 00 38	R3/8	11,5	46,5	17	23,4
20 00 12	R1/2	14	49	22	36,5

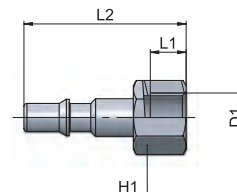


GU 41-21

内螺纹插头体

Female plug

类型	D1	L1	L2	H1	g $\Delta$
21 00 14	G1/4	9,5	43	17	23,0
21 00 38	G3/8	10,5	45	20	29,0
21 00 12	G1/2	11	47	24	41,0

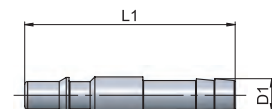


GU 41-22

软管用插头体

Plug with hose connection

类型	ID1	D1	L1	g $\Delta$
22 06 00	6	7	57	12,3
22 08 00	8	9	57	14,7
22 10 00	10	11	57	20,5



# GU 42

安全型按钮式快换接头, ISO 6150 B-12外形

Push-button safety coupling according to ISO 6150 B-12

- |   |   |  |   |   |  |  |
|---|---|--|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气孔<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> |
|---|---|--|---|---|--|--|



-20° ÷ 80°C



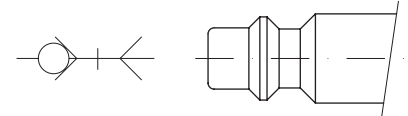
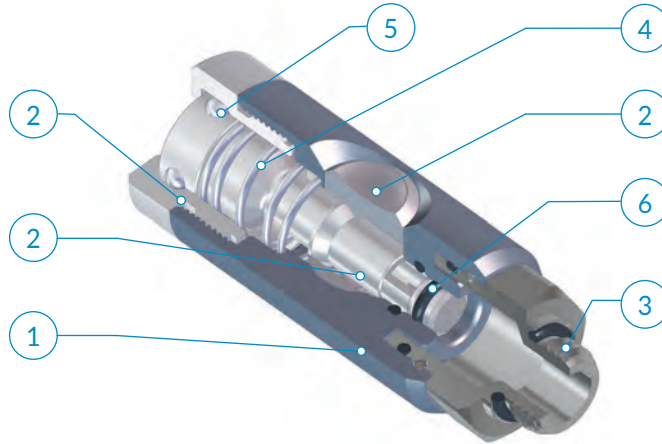
16 bar



5,5 mm



780 NI/min  
(6 bar - Δp = 1bar)



ISO 6150 B-12形状  
ISO 6150 B-12 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## **i** 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

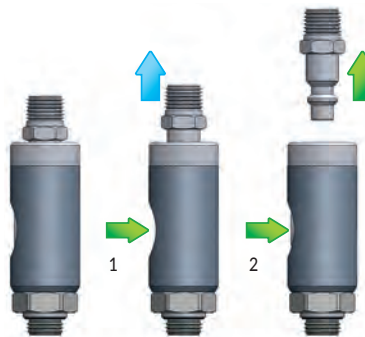
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**

Press the button one more time to release the plug.

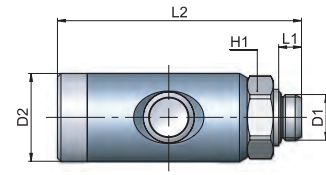


GU 42-10

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 14	G1/4	25	6,5	69,5	21	115,0
10 00 38	G3/8	25	7	69,5	21	108,0
10 00 12	G1/2	25	8,5	72	25	137,2

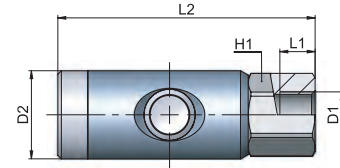


GU 42-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	25	9	73	21	134,1
12 00 38	G3/8	25	10	75	21	131,0
12 00 12	G1/2	25	11	77	24	139,0

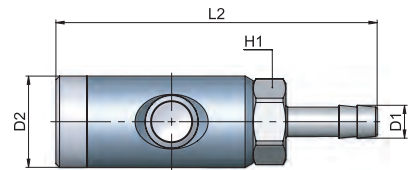


GU 42-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 06 00	6	7	25	88	21	106,2
13 08 00	8	9	25	88	21	108,0
13 10 00	10	11	25	88	21	109,7

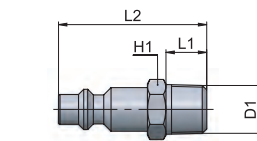


GU 42-20

外螺纹插头体

Male plug

类型	D1	L1	L2	H1	g $\Delta$
20 00 14	R1/4	11	40	14	20,0
20 00 38	R3/8	11,5	41,5	17	26,0
20 00 12	R1/2	14	44	22	40,0

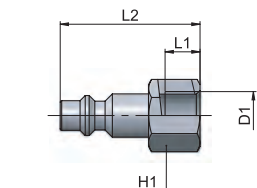


GU 42-21

内螺纹插头体

Female plug

类型	D1	L1	L2	H1	g $\Delta$
21 00 14	G1/4	9,5	38	17	25,0
21 00 38	G3/8	10,5	40	20	31,5
21 00 12	G1/2	11	42	24	43,5



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# GU 43

安全型按钮式快换接头，ISO 6150 C-14外形

Push-button safety coupling according to ISO 6150 C-14

1 本体 Body	2 阀芯 Valve	3 螺纹 Thread	4 按钮 Button	5 密封圈 Seals	6 弹簧 Springs	i 插头体 Plugs
阳极氧化铝Al2011 Anodized aluminium Al2011	黄铜UNI EN 12164 CW614N Brass UNI EN 12164 CW614N	黄铜镀镍UNI EN 12164 CW614N Brass UNI EN 12164 CW614N, nickel plated	硬化镀锌钢11SMnPb37 Hardened, zinc plated steel 11SMnPb37	NBR NBR	AISI 302不锈钢 Stainless steel AISI 302	硬化镀锌钢11SMnPb37 Hardened, zinc plated steel 11SMnPb37



-20° ÷ 80°C



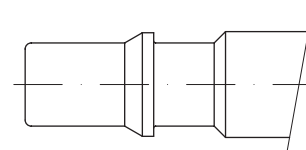
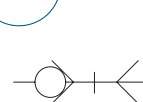
10 bar



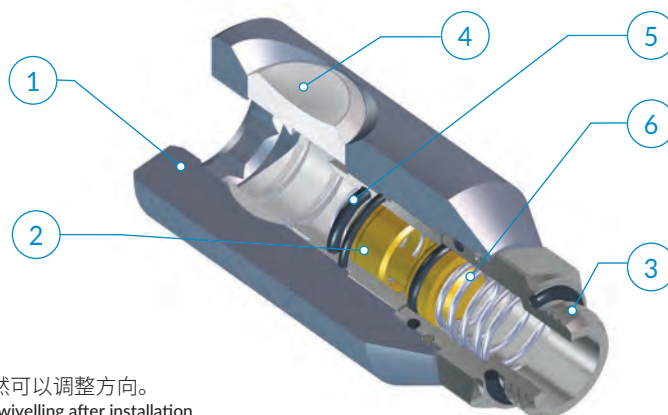
8 mm



1460 NI/min  
(6 bar - Δp = 1bar)



ISO 6150 C-14外形  
ISO 6150 C-14 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## i 连接 - 断开

## CONNECTION - RELEASE

将插头体插入接头体

Insert the plug into the Coupling.

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

1

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

1

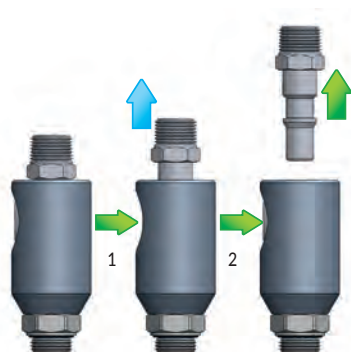
Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

2

再次按压按钮，完成插头体的分离。

2

Press the button one more time to release the plug.

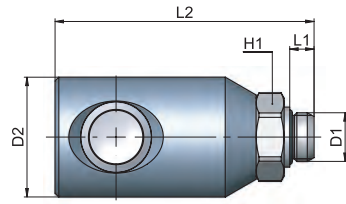


GU 43-10

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 14	G1/4	32	6,5	69,2	21	144,7
10 00 38	G3/8	32	7	69,2	21	150,0
10 00 12	G1/2	32	8,5	71,7	25	173,5

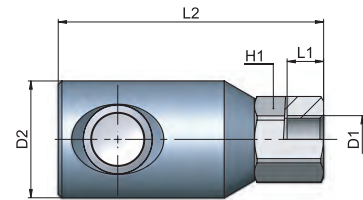


GU 43-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	32	9	72,7	21	167,6
12 00 38	G3/8	32	10	75	21	163,7
12 00 12	G1/2	32	11	77	24	176,3

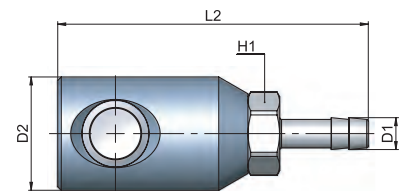


GU 43-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 08 00	8	9	32	88	21	148,3
13 10 00	10	11	32	88	21	149,8
13 13 00	13	14	32	88	21	154,9

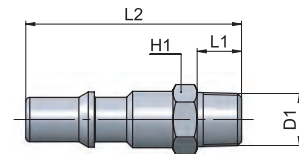


GU 43-20

外螺纹插头体

Male plug

类型	D1	L1	L2	H1	g $\Delta$
20 00 14	R1/4	11	46	14	32,0
20 00 38	R3/8	11,5	46,5	17	35,5
20 00 12	R1/2	14	49	22	51,0

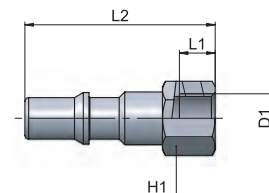


GU 43-21

内螺纹插头体

Female plug

类型	D1	L1	L2	H1	g $\Delta$
21 00 14	G1/4	9,5	50,5	17	35,0
21 00 38	G3/8	10,5	52,5	20	42,0
21 00 12	G1/2	11	54,5	24	53,0

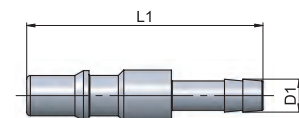


GU 43-22

软管用插头体

Plug with hose connection

类型	ID1	D1	L1	g $\Delta$
22 08 00	8	9	64,5	26,5
22 10 00	10	11	64,5	27,0
22 13 00	13	14	64,5	39,0



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# GU 44

安全型按钮式快换接头，ISO 6150 B-15外形

Push-button safety coupling according to ISO 6150 B-15

- |   |   |  |   |   |  |  |
|---|---|--|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气孔<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> |
|---|---|--|---|---|--|--|



-20° ÷ 80°C



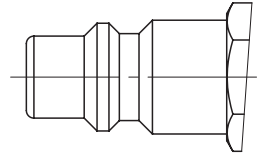
12 bar



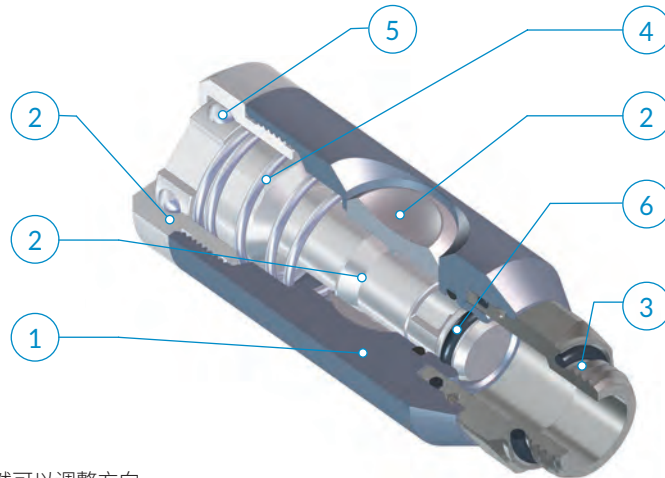
8 mm



1650 NI/min  
(6 bar - Δp = 1bar)



ISO 6150 B-15外形  
ISO 6150 B-15 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## **i** 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

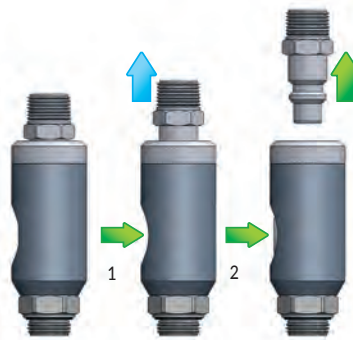
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**

Press the button one more time to release the plug.

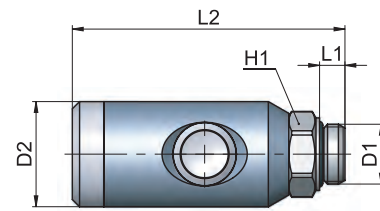


GU 44-10

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 38	G3/8	29	7	75,2	21	148,7
10 00 12	G1/2	29	8,5	77,7	25	170,0

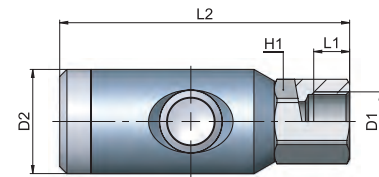


GU 44-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 38	G3/8	29	10	80,7	21	163,1
12 00 12	G1/2	29	11	82,7	24	175,4

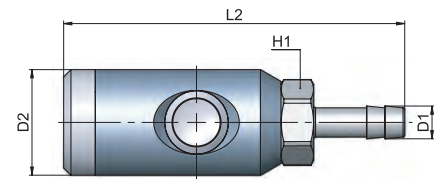


GU 44-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 08 00	8	9	29	93,7	21	152,9
13 10 00	10	11	29	93,7	21	154,0
13 13 00	13	14	29	93,7	21	160,0

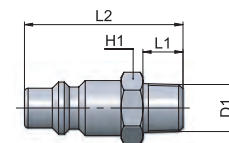


GU 44-20

外螺纹插头体

Male plug

类型	D1	L1	L2	H1	g $\Delta$
20 00 14	R1/4	11	43,5	17	32,3
20 00 38	R3/8	11,5	44	17	32,9
20 00 12	R1/2	14	46,5	22	47,0

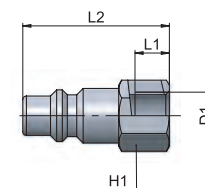


GU 44-21

内螺纹插头体

Female plug

类型	D1	D2	L1	H1	g $\Delta$
21 00 14	G1/4	9,5	40,5	17	32,5
21 00 38	G3/8	10,5	42,5	20	38,3
21 00 12	G1/2	11	44,5	24	51,3



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# GU 45

安全型按钮式快换接头，ARO 210外形

Push-button safety coupling according to ARO 210

- |   |   |  |   |   |  |  |
|---|---|--|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气孔<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>钢镀镍 11SMnPb37<br/>Nickel plated steel 11SMnPb37</p> |
|---|---|--|---|---|--|--|



-20° ÷ 80°C



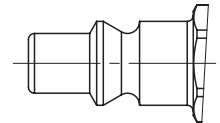
12 bar



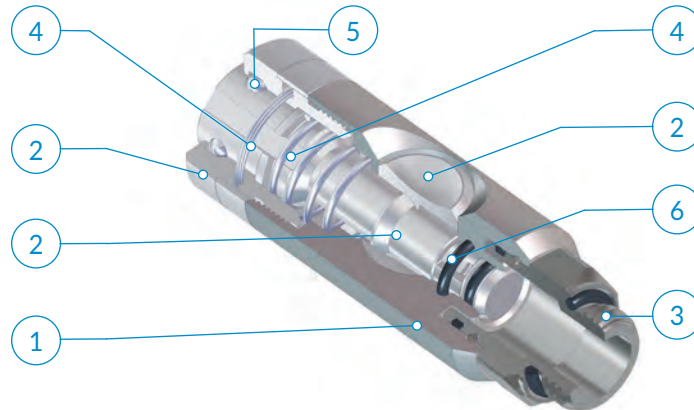
5,5 mm



1080 NI/min  
(6 bar - Δp = 1bar)



ARO 210外形  
ARO 210 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## **i** 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

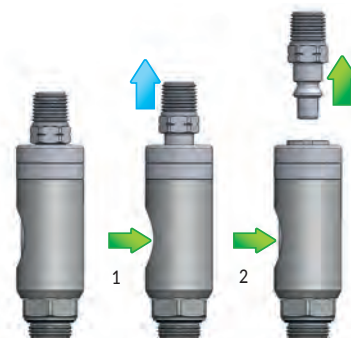
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**

Press the button one more time to release the plug.



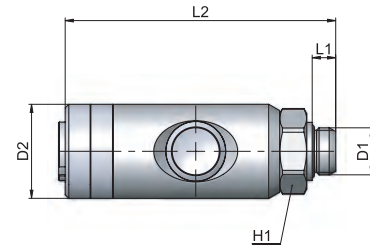
AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

GU 45-10

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 14	G1/4	26	6,5	74,8	21	139,4
10 00 38	G3/8	26	7	74,8	21	140,7
10 00 12	G1/2	26	8,5	77,3	25	161,9

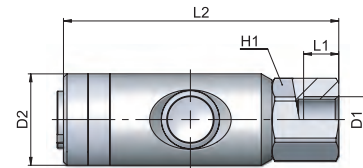


GU 45-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	26	9	78,3	21	162,5
12 00 38	G3/8	26	10	80,3	21	156,4
12 00 12	G1/2	26	11	82,3	24	166,6

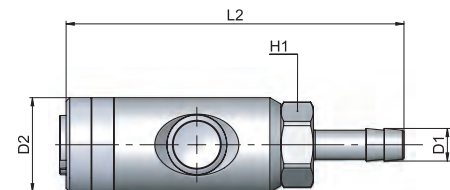


GU 45-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 06 00	6	7	26	93,3	21	142,1
13 08 00	8	9	26	93,3	21	144,2
13 09 00	9	10	26	93,3	21	145,3
13 10 00	10	11	26	93,3	21	146,1
13 13 00	13	14	26	93,3	21	154,8

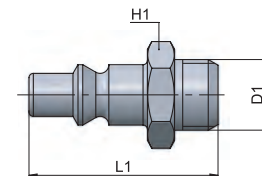


GU 45-20

外螺纹插头体

Male plug

类型	D1	L1	H1	g $\Delta$
20 00 14	G1/4	36	14	17,1
20 00 38	G3/8	40	17	23,5
20 00 12	G1/2	39,5	24	41,3

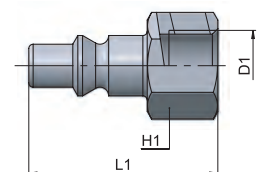


GU 45-21

内螺纹插头体

Female plug

类型	D1	L1	H1	g $\Delta$
21 00 14	G1/4	37	16	19,0
21 00 38	G3/8	40	19	25,3
21 00 12	G1/2	43,5	25	50,4



# GU 46

安全型按钮式快换接头，欧洲外形

Push-button safety coupling according european profile

- |   |   |  |   |   |  |  |
|---|---|--|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气孔<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> |
|---|---|--|---|---|--|--|



-20° ÷ 80°C



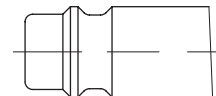
12 bar



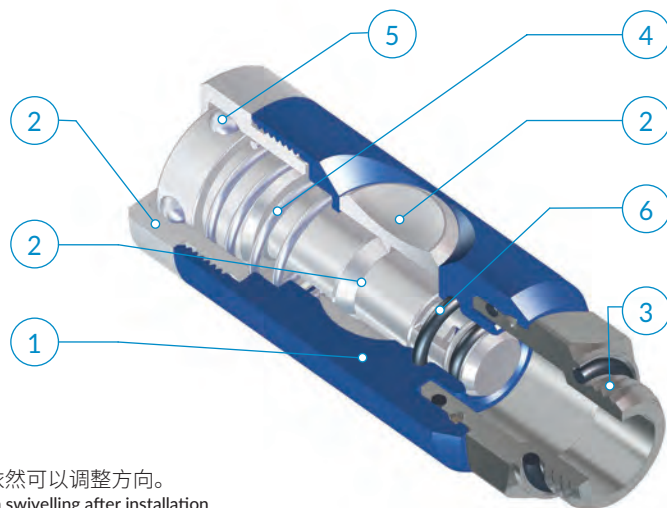
7,4 mm



1500 NI/min  
(6 bar - Δp = 1bar)



欧洲外形  
European Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## i 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

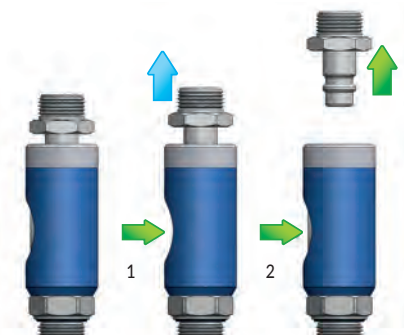
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**

Press the button one more time to release the plug.

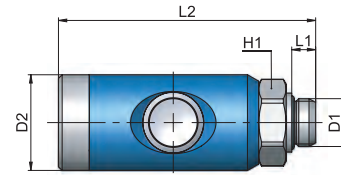


GU 46-10

外螺纹接头体

Male Coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 14	G1/4	26	6,5	69,9	21	124,0
10 00 38	G3/8	26	7	69,9	21	125,1
10 00 12	G1/2	26	8,5	72,4	25	144,5

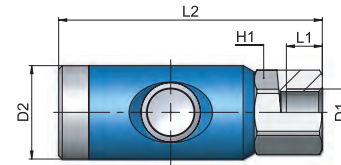


GU 46-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	26	9	73,4	21	144,1
12 00 38	G3/8	26	10	75,4	21	140,0
12 00 12	G1/2	26	11	77,4	24	150,8

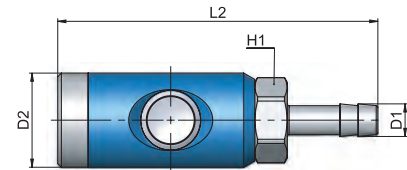


GU 46-13

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 06 00	6	7	26	88,4	21	128,0
13 08 00	8	9	26	88,4	21	129,4
13 09 00	9	10	26	88,4	21	130,6
13 10 00	10	11	26	88,4	21	130,0
13 13 00	13	14	26	88,4	21	137,8

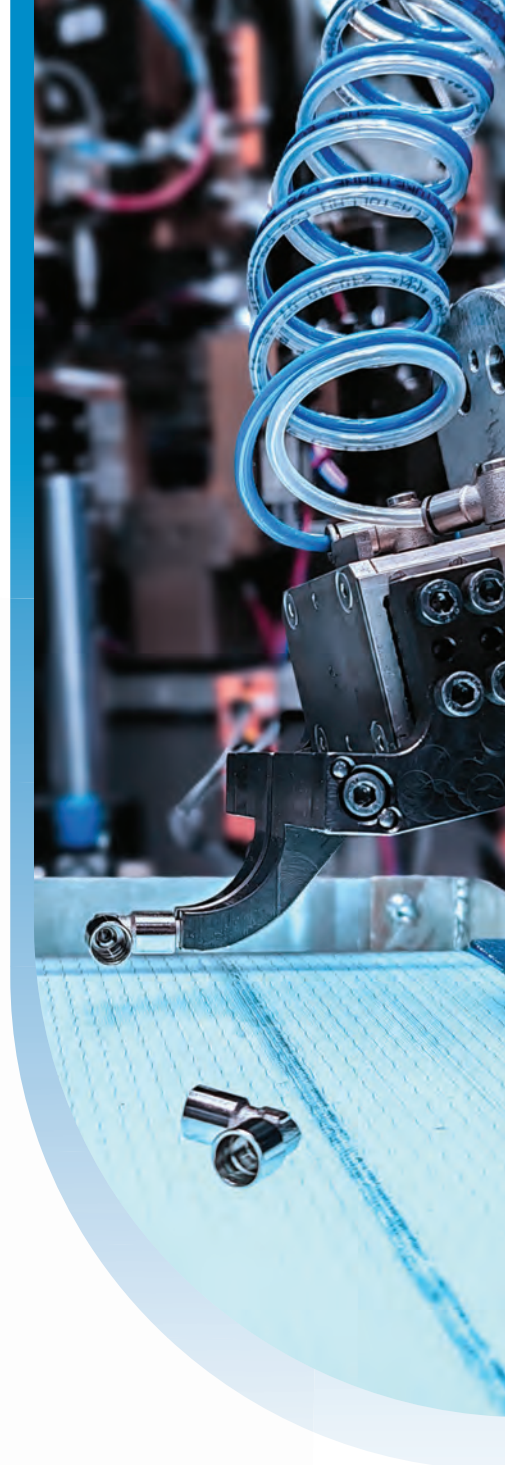


**i** 更多插头体信息，请参看GU26相关部分。  
For further info on the plugs to use, please revert to the GU26 section.

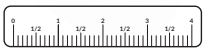
AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299



*cmatic*



INCH



**PU Safety**

CN

NPT安全型快换接头

符合ISO4414的NPT螺纹安全型快换接头



EN

Safety Couplings, NPT

Safety quick couplings compliant with ISO 4414-C available with NPT threads.

# PU 42

安全型按钮式快换接头，ISO 6150 B-12外形

Push-button safety coupling according to ISO 6150 B-12

- |   |   |   |   |   |  |  |
|---|---|---|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气环<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> |
|---|---|---|---|---|--|--|



-20° ÷ 80°C



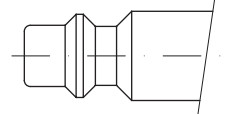
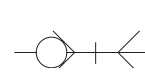
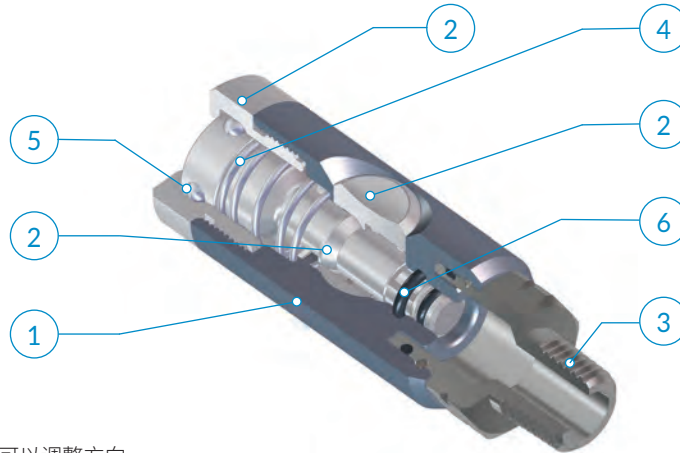
16 bar



5,5 mm



780 NI/min  
(6 bar - Δp = 1bar)



INDUSTRIAL Profile  
MIL C4109 Profile  
ISO 6150 B-12 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## i 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

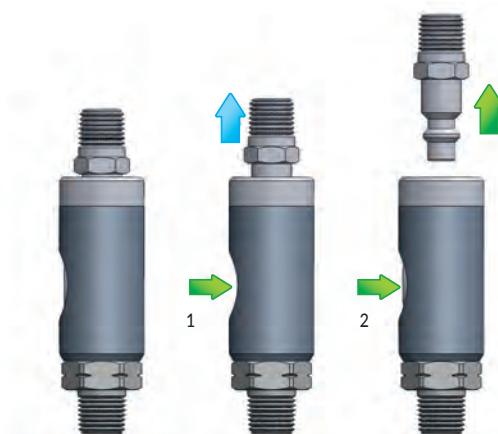
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**


Press the button one more time to release the plug.

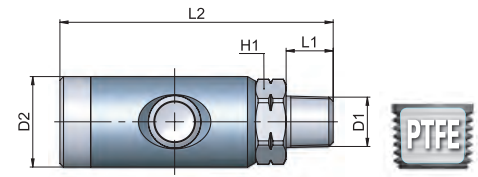


PU 42-11

外螺纹接头体

Male coupling


类型	D1	D2	L1	L2	H1	g 
11 00 14	1/4 NPTF	25	13	75,5	21	110,1
11 00 38	3/8 NPTF	25	13	74,5	21	120,3
11 00 12	1/2 NPTF	25	17	78,5	22	141,6

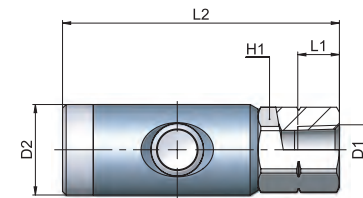


PU 42-12

内螺纹接头体

Female coupling


类型	D1	D2	L1	L2	H1	g 
12 00 14	1/4 NPTF	25	12	76,5	21	127,6
12 00 38	3/8 NPTF	25	12,5	77	21	118,0
12 00 12	1/2 NPTF	25	13,5	79	24	140,0

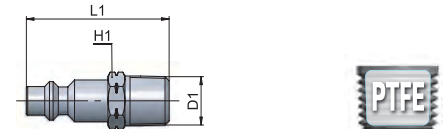


PU 42-20

外螺纹插头体

Male plug


类型	D1	L1	H1	g 
20 00 14	1/4 NPTF	42	14	22,6
20 00 38	3/8 NPTF	42	18	28,9
20 00 12	1/2 NPTF	47	22	43,1

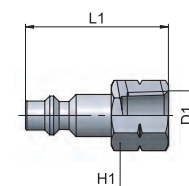


PU 42-21

内螺纹插头体

Female plug

类型	D1	L1	H1	g 
21 00 14	1/4 NPTF	40	17	28,1
21 00 38	3/8 NPTF	40	20	31,6
21 00 12	1/2 NPTF	44	24	50,0



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# PU 44

安全型按钮式快换接头符合ISO6150 B-15

Push-Button safety coupling according to ISO 6150 B-15

- |   |   |  |   |   |  |  |
|---|---|--|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气环<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> |
|---|---|--|---|---|--|--|



-20° ÷ 80°C



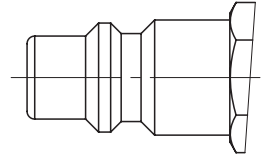
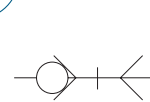
12 bar



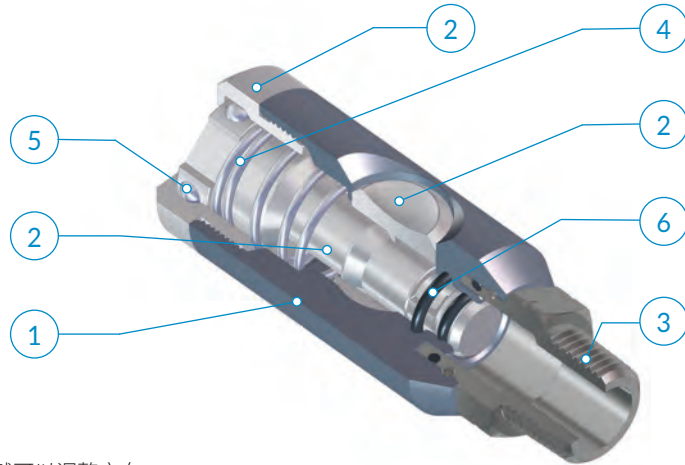
8 mm



1650 NI/min  
(6 bar - Δp = 1bar)



ISO 6150 B-15外形  
ISO 6150 B-15 Profile



**i** 快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## **i** 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

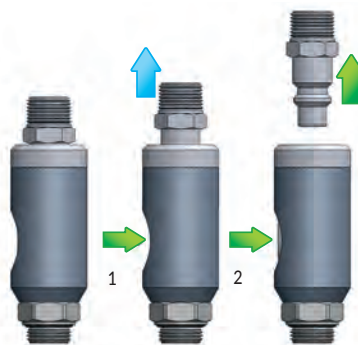
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**


Press the button one more time to release the plug.

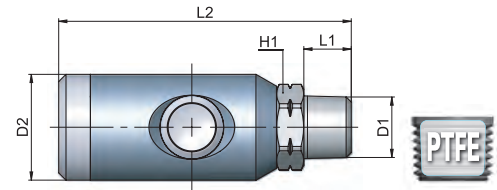


PU 44-11

外螺纹接头体

Male coupling


类型	D1	D2	L1	L2	H1	g 
11 00 38	3/8 NPTF	29	13	80,2	21	153,0
11 00 12	1/2 NPTF	29	17	84,2	22	-

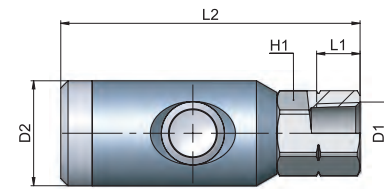


PU 44-12

内螺纹接头体

Female coupling


类型	D1	D2	L1	L2	H1	g 
12 00 38	3/8 NPTF	29	12,5	82,7	21	168,5
12 00 12	1/2 NPTF	29	13,5	84,7	24	-

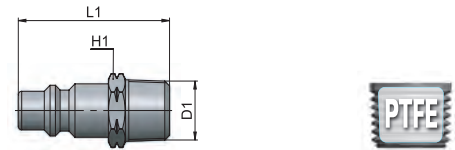


PU 44-20

外螺纹插头体

Male plug


类型	D1	L1	H1	g 
20 00 38	3/8 NPTF	44,5	18	35,2
20 00 12	1/2 NPTF	49,5	22	50,6

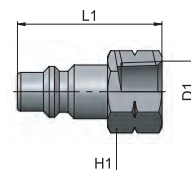


PU 44-21

内螺纹插头体

Female plug

类型	D1	L1	H1	g 
21 00 38	3/8 NPTF	42,5	20	37,5
21 00 12	1/2 NPTF	46,5	22	55,3



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# PU 45

安全型按钮式快换接头符合 ARO210

Push-button safety coupling according to ARO 210

- |   |   |   |   |   |  |  |
|---|---|---|---|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>阳极氧化铝 Al2011<br/>Anodized aluminium Al2011</p> | <p><b>2</b> 按钮、阀芯和排气环<br/>Button, valve and venting ring</p> <p>硬化镀锌钢 11SMnPb37<br/>Hardened, zinc plated steel 11SMnPb37</p> | <p><b>3</b> 螺纹<br/>Thread</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N nickel plated</p> | <p><b>4</b> 弹簧<br/>Springs</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>5</b> 滚珠<br/>Balls</p> <p>AISI 420 不锈钢<br/>Stainless steel AISI 420</p> | <p><b>6</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>i</b> 插头体<br/>Plugs</p> <p>硬化镀锌钢 11SMnPb37<br/>Nickel plated steel 11SMnPb37</p> |
|---|---|---|---|---|--|--|



-20° ÷ 80°C



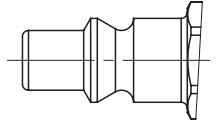
12 bar



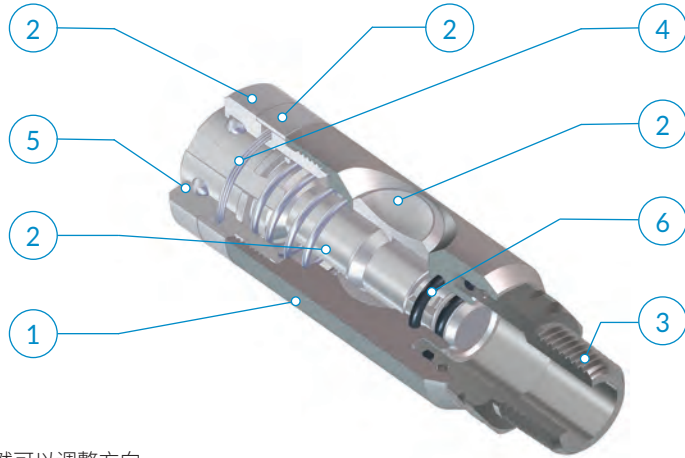
5,5 mm



1080 NI/min  
(6 bar - Δp = 1bar)



ARO 210外形  
ARO 210 Profile



快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation

应用领域：  
气动系统

Application fields:  
Pneumatic circuits

## i 连接 - 断开

将插头体插入接头体

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

**1**

按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体

**2**

再次按压按钮，完成插头体的分离。

## CONNECTION - RELEASE

Insert the plug into the Coupling.

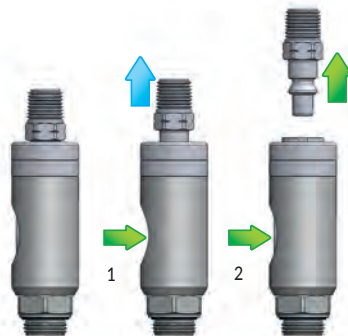
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**

Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**


Press the button one more time to release the plug.

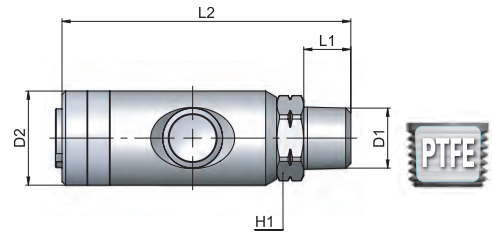


PU 45-11

外螺纹接头体

Male coupling


类型	D1	D2	L1	L2	H1	g 
11 00 14	1/4 NPTF	26	13	80,8	21	145,9
11 00 38	3/8 NPTF	26	13	79,8	21	146,4
11 00 12	1/2 NPTF	26	17	83,8	22	167,4

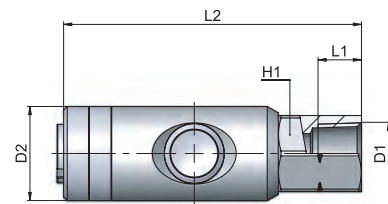


PU 45-12

内螺纹接头体

Female coupling


类型	D1	D2	L1	L2	H1	g 
12 00 14	1/4 NPTF	26	9	81,8	21	169,1
12 00 38	3/8 NPTF	26	10	82,3	21	160,9
12 00 12	1/2 NPTF	26	11	84,3	24	173,0

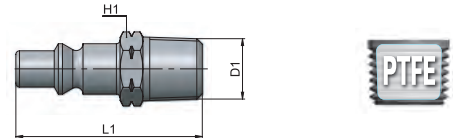


PU 45-20

外螺纹插头体

Male plug


类型	D1	L1	H1	g 
20 00 14	1/4 NPTF	40,8	14	20,0
20 00 38	3/8 NPTF	40,8	18	26,7
20 00 12	1/2 NPTF	45,8	22	42,2

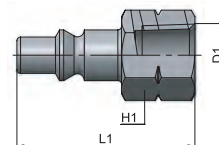


PU 45-21

内螺纹插头体

Female plug

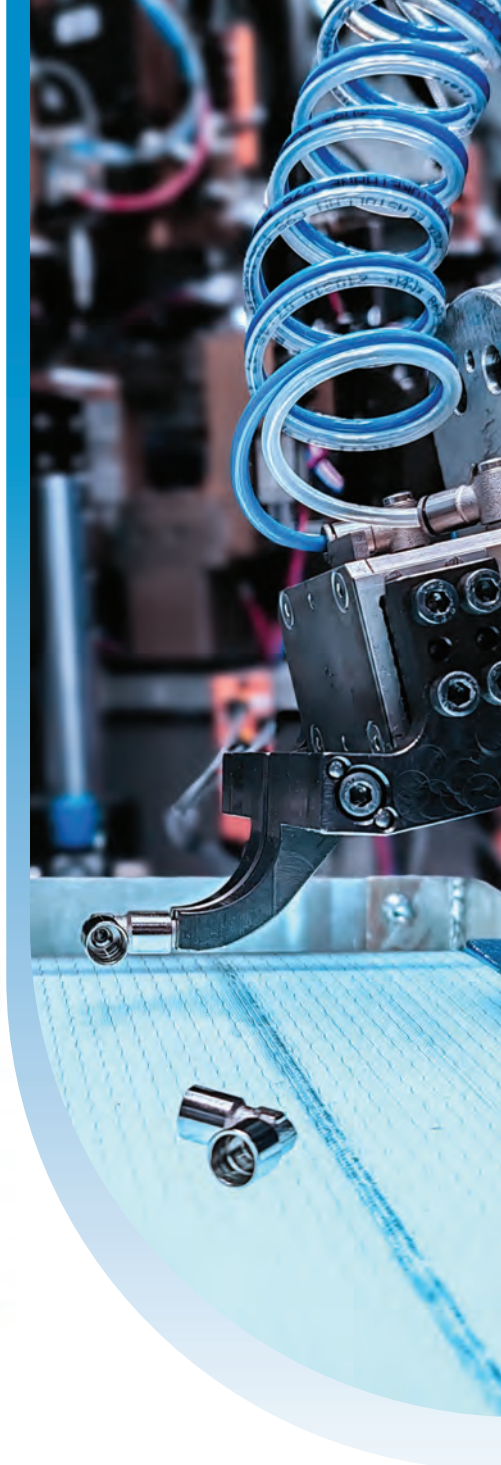
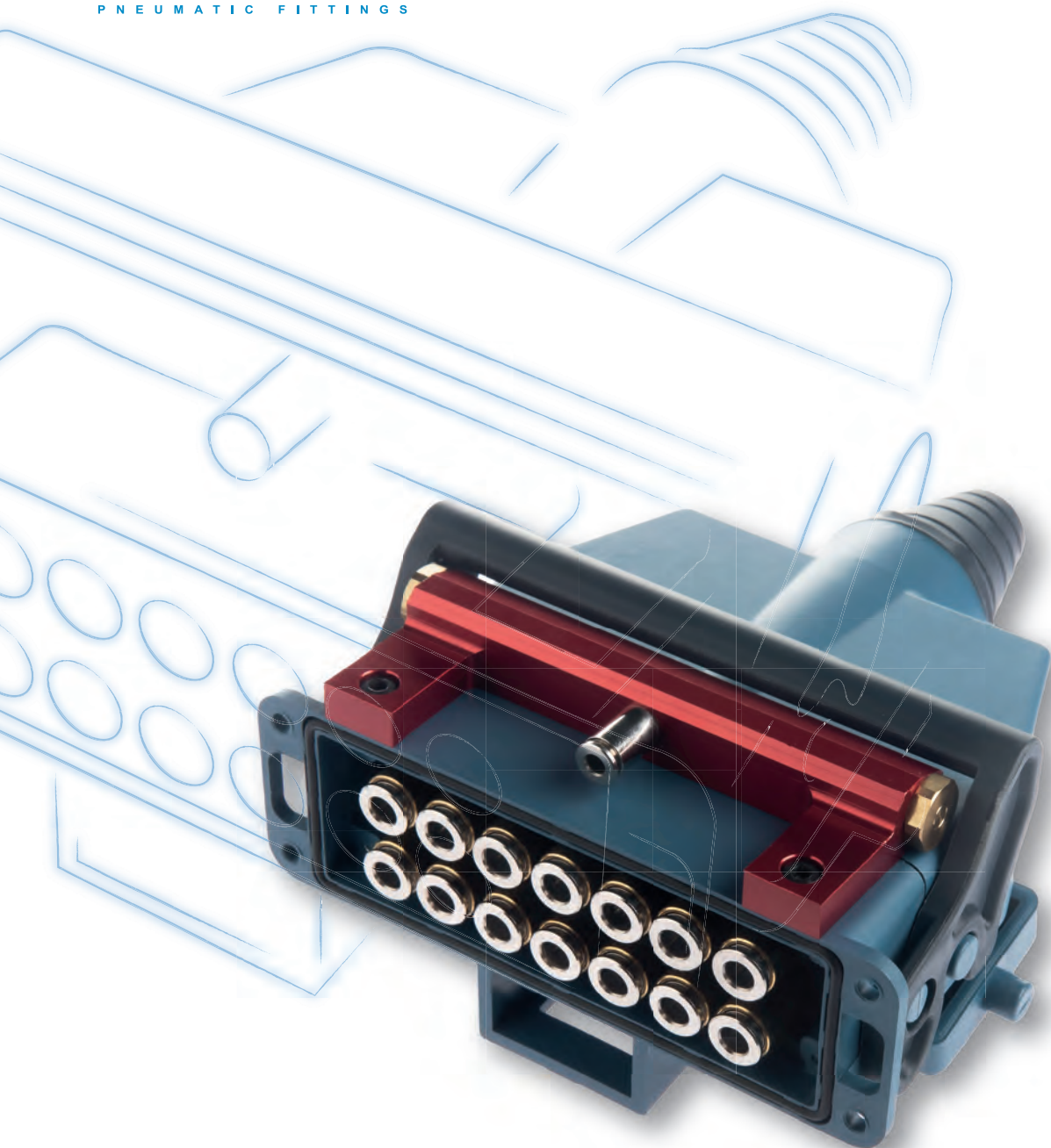
类型	D1	L1	H1	g 
21 00 14	1/4 NPTF	38,8	17	26,2
21 00 38	3/8 NPTF	38,8	20	29,4
21 00 12	1/2 NPTF	42,8	24	46,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*



## CO LINE



CN

### 多路接头

多路接头是一种由固定部件与活动部件组成的气动连接装置：固定部件连接至气动设备控制系统，活动部件则安装在空气分配设备上。该连接器最大优势在于能快速安全地插拔4至24根多管束软管。产品采用防反向组装设计，确保两部分无法错误对接。本系列提供两种选项：配备刚性外壳的CO-A型（多种尺寸可选）与采用穿板连接的CO-B型。

EN

### Multiple Connectors

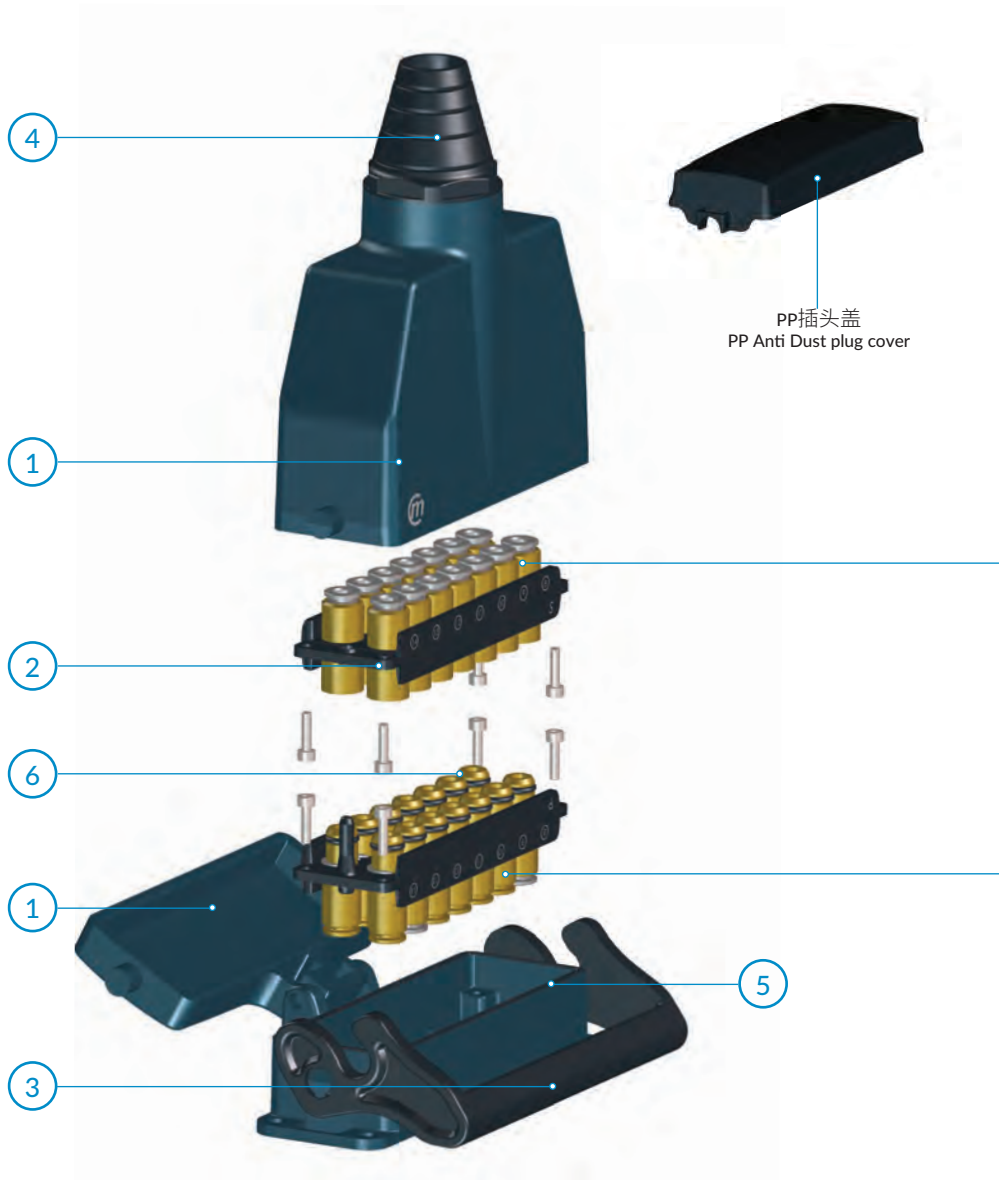
The multiple connector is a device made of a fixed part connected to the control device of pneumatic powered machines and a mobile part, assembled to the air distribution equipment. The big advantage offered by the multiple connector is that a bundle of hoses, varying from min 4 to max 24 tubes, can be rapidly and safely connected and disconnected. Our multiple connector is manufactured in such a way that the reverse assembly of the two parts is not possible. This range offers two options: one with rigid shell (CO-A), available in different sizes and the one as a bulkhead connection (CO-B).

# CO A

## 带保护盒多路接头

Multiple connectors, rigid shell

- |   |   |   |   |  |   |
|---|---|---|---|--|---|
| <p><b>1</b> 多路接头外壳<br/>Multiple connector sheath</p> <p>PARA (Ixef® 1022)<br/>PARA (Ixef® 1022)</p> | <p><b>2</b> 接头基座<br/>Couplings support</p> <p>PARA (Ixef® 1023)<br/>PARA (Ixef® 1023)</p> | <p><b>3</b> 拉杆<br/>Lever</p> <p>PARA (Ixef® 1022)<br/>PARA (Ixef® 1022)</p> | <p><b>4</b> 管路导向套<br/>Tubing guide</p> <p>PA6<br/>PA6</p> | <p><b>5</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>6</b> 快插接头<br/>Push-in fittings</p> <p>MA快插接头<br/>MA push-in fittings</p> |
|---|---|---|---|--|---|



### 标准系统

对于每种尺寸的外壳, 都有其规定的管路数目, 此产品的紧凑设计, 使得在相同管径的情况下, 能够允许更多组管路数目

### STANDARD SYSTEM:

The Multiple connector is available for each Shell Size with a predetermined number of connections; this solution is created to maximize the number of possible outlets with the same tube diameter.

### 建议的连接管路:

PA11、PA12、PA6、PE聚乙烯、PU聚氨酯 (98 Shore A)。

### Recommended tubings:

PA11, PA12, PA6, Polyethylene PE, Polyurethane PU (98 Shore A)

### 应用领域:

气动系统。

### Application fields:

Pneumatic circuits

# CO A - STANDARD

标准系统

STANDARD SYSTEM

CO  
LINE

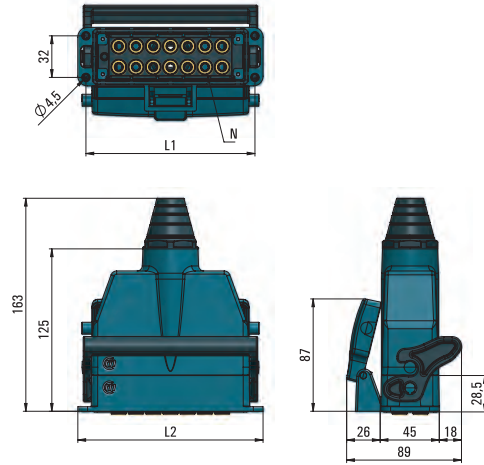
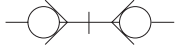
SIZE 0

## A013

完整多路接头

Multiple connector, complete

类型	OD1	L1	L2	N	g $\Delta$
A013 06 06 完整	6	82,5	95	6	645,0
A013 08 04 完整	8	82,5	95	4	594,0

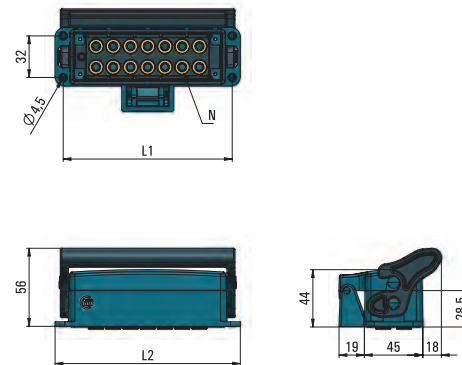
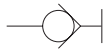


## A013

带盖插座

Socket with cover

类型	OD1	L1	L2	N	g $\Delta$
A013 06 06 插座 + 盖	6	82,5	95	6	285,0
A013 08 04 插座 + 盖	8	82,5	95	4	272,0

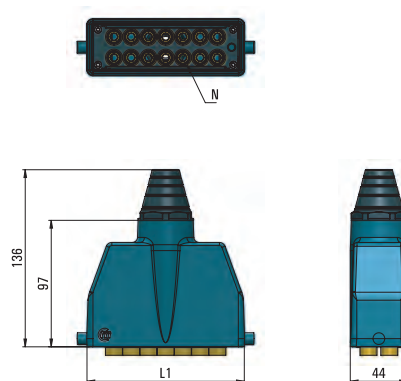
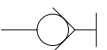


## A013

插头

Plug

类型	OD1	L1	N	g $\Delta$
A013 06 06 插头	6	73	6	364,0
A013 08 04 插头	8	73	4	330,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# CO A - STANDARD

标准系统

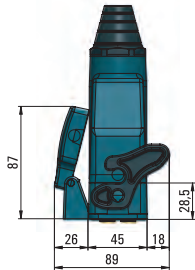
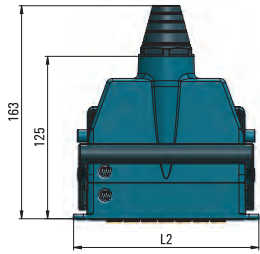
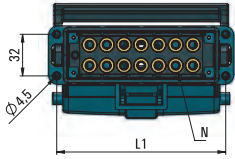
STANDARD SYSTEM

## SIZE 1

### A113

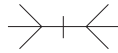
完整多路接头

Multiple connector, complete



类型

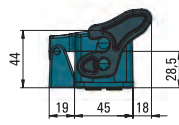
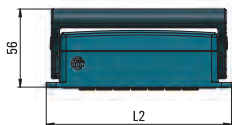
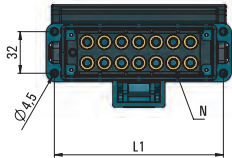
类型	OD1	L1	L2	N	g $\Delta\Delta$
A113 04 12 完整	4	103	115,5	12	612,0
A113 06 10 完整	6	103	115,5	10	718,5
A113 08 08 完整	8	103	115,5	8	656,0



### A113

带盖插座

Socket with cover



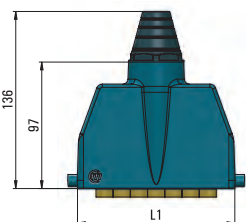
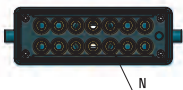
类型

类型	OD1	L1	L2	N	g $\Delta\Delta$
A113 04 12 插座 + 盖	4	103	115,5	12	302,0
A113 06 10 插座 + 盖	6	103	115,5	10	342,0
A113 08 08 插座 + 盖	8	103	115,5	8	309,0

### A113

插头

Plug



类型

类型	OD1	L1	N°	g $\Delta\Delta$
A113 04 12 插头	4	94	12	318,0
A113 06 10 插头	6	94	10	339,0
A113 08 08 插头	8	94	8	355,0

# CO A - STANDARD

标准系统

STANDARD SYSTEM

CO  
LINE

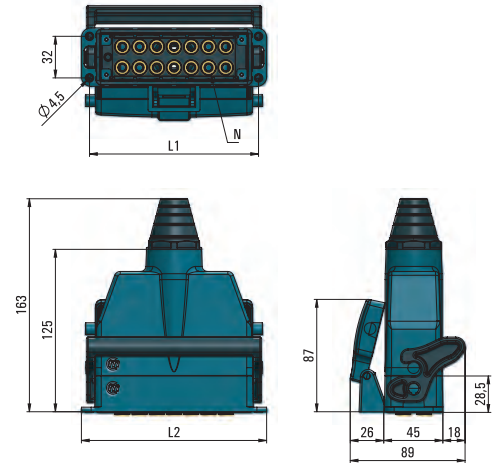
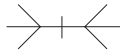
## SIZE 2

### A213

完整多路接头

Multiple connector, complete

类型	OD1	L1	L2	N	g $\Delta$
A213 04 20 完整	4	130	142,5	20	828,0
A213 06 14 完整	6	130	142,5	14	923,0
A213 08 10 完整	8	130	142,5	10	801,0

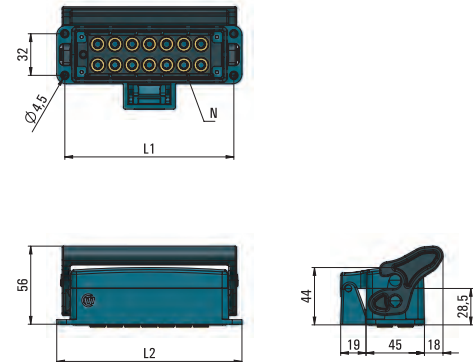


### A213

带盖插座

Socket with cover

类型	OD1	L1	L2	N	g $\Delta$
A213 04 20 插座 + 盖	4	130	142,5	20	411,0
A213 06 14 插座 + 盖	6	130	142,5	14	436,0
A213 08 10 插座 + 盖	8	130	142,5	10	369,0

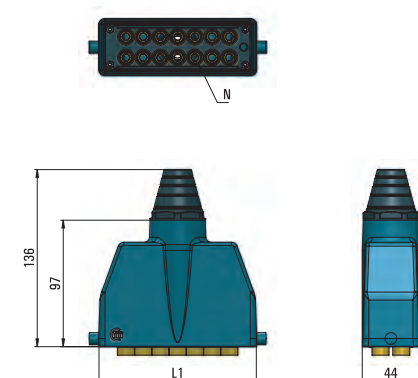


### A213

插头

Plug

类型	OD1	L1	N	g $\Delta$
A213 04 20 插头	4	121	20	425,0
A213 06 14 插头	6	121	14	495,0
A213 08 10 插头	8	121	10	432,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# CO A - STANDARD

标准系统

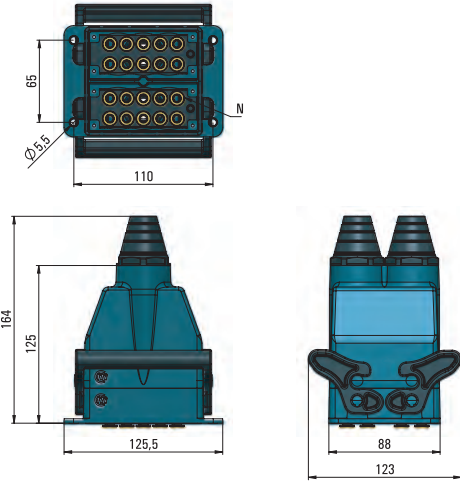
STANDARD SYSTEM

SIZE 3

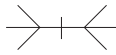
## A313

完整多路接头

Multiple connector, complete



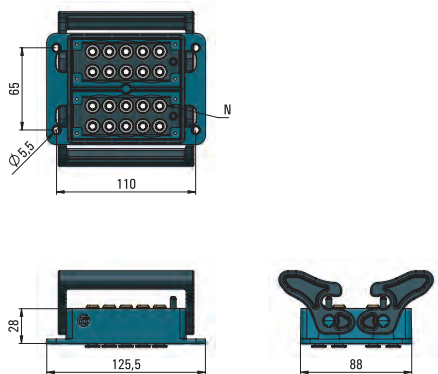
类型	OD1	N	g $\Delta$
A313 04 24 完整	4	24	1103,0
A313 06 20 完整	6	20	1319,4
A313 08 16 完整	8	16	1111,5



## A313

插座

Socket

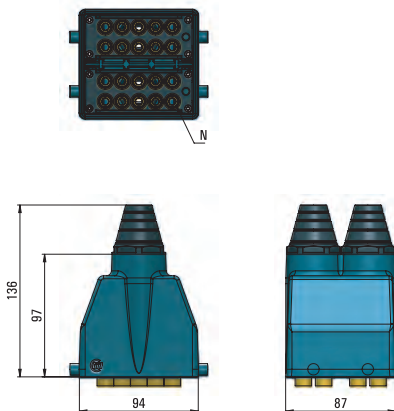


类型	OD1	N	g $\Delta$
A313 04 24 插座	4	24	527,2
A313 06 20 插座	6	20	606,0
A313 08 16 插座	8	16	541,0

## A313

插头

Plug



类型	OD1	N	g $\Delta$
A313 04 24 插头	4	24	578,2
A313 06 20 插头	6	20	715,6
A313 08 16 插头	8	16	645,5

# CO A - MOD

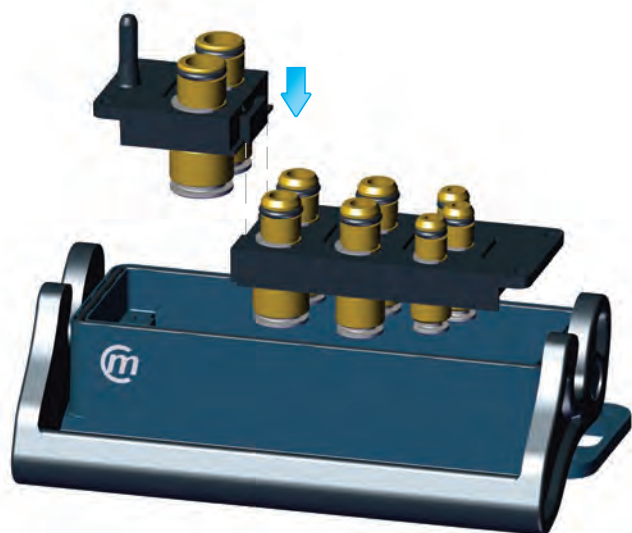
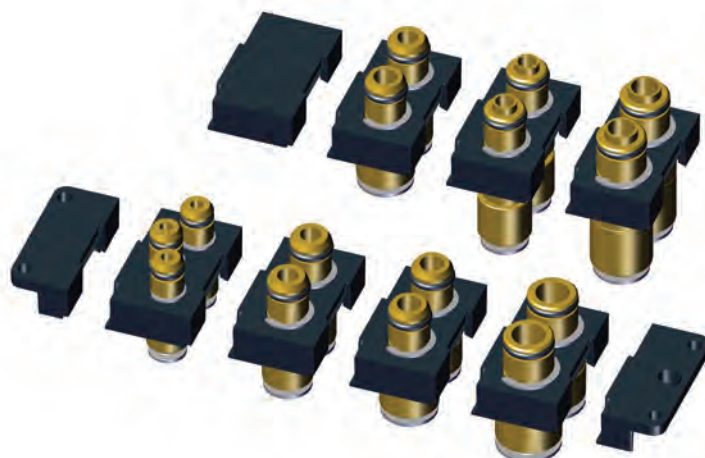
## 模块系统

该解决方案为用户提供了定制多路接头的可能性, 可根据实际需求自由配置管径尺寸、出气口数量及布局方式。用户能够依据多路接头壳体的规格, 选择相应的模块数量进行组合。

## MODULAR SYSTEM

This solution is offering the user the opportunity to configure the multiple connector such as the tube diameter, the number of outlets and the layout of the same according to his needs. The user can choose the following number of modules based on the size of the multiple connector shell.

Size 1	Size 2	Size 3
3组+首尾模块 3 Modules + End plate	4组+首尾模块 4 Modules + End Plate	6组+首尾模块 6 Modules + End Plate



# CO A - MOD

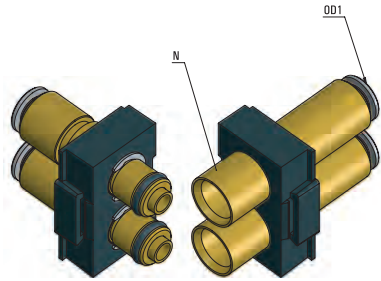
模块系统

MODULAR SYSTEM

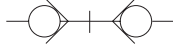
## MOD 2

接头模块

Push-in fittings module



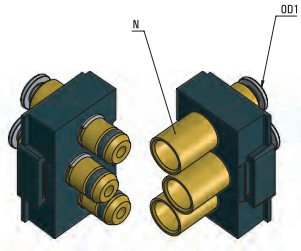
类型	OD1	N	g $\Delta$
6	6	2	112,0
8	8	2	138,0



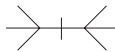
## MOD 1

接头模块

Push-in fittings module

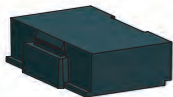


类型	OD1	OD2	N	g $\Delta$
4	4	-	3	62,6
6	6	-	2	73,5
6-8	6	8	2	73,8
8	8	-	2	73,7
10	10	-	2	82,6



盲块

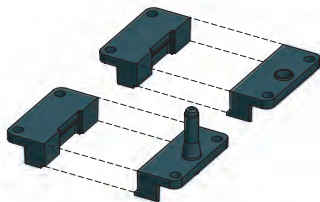
Blind module



类型	g $\Delta$
夹子	4,9

首尾模块

End plate



类型	g $\Delta$
Size 1	19,0
Size 2	14,0
Size 3	23,0

# CO A - MOD


模块系统

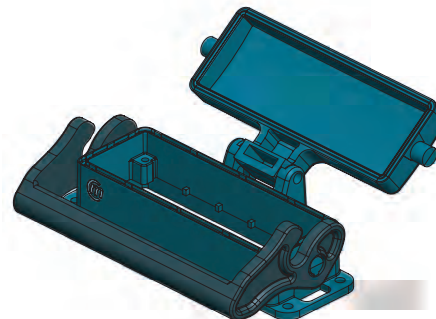
MODULAR SYSTEM

CO  
LINE

插座外壳


Socket shell

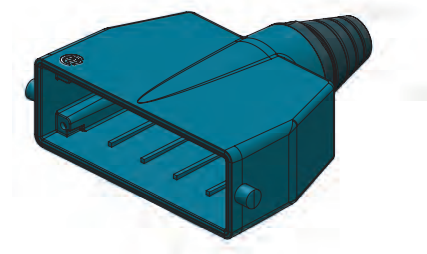
类型	g 
Size 1	154,7
Size 2	180,0
Size 3	238,0



插头外壳

Plug shell

类型	g 
Size 1	196,2
Size 2	226,0
Size 3	344,0



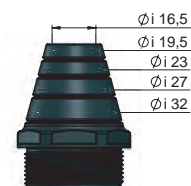
配件

ACCESSORIES

管路导套


Tubing guide

类型	g 
管路导套 $\varnothing 32+16,5\text{mm}$	14,5



插头防尘盖

Anti dust plug cover

类型	L1	L2	L3	g 
A013 插头盖	76	47	17,5	10,0
A113 插头盖	97	47	17,5	12,0
A213 插头盖	124	47	17,5	15
A313 插头盖	97	88	17,5	20,9

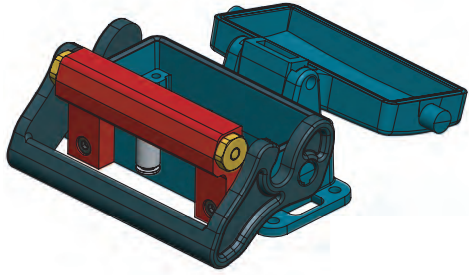


AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## A113 / A213

接头模块

Push-in fittings module



## 类型

类型	g	Δ
A113 04 12 Presa+coperchio+blocco	-	
A113 06 10 Presa+coperchio+blocco	427,0	
A113 08 08 Presa+coperchio+blocco	-	
A213 04 20 Presa+coperchio+blocco	-	
A213 06 14 Presa+coperchio+blocco	-	
A213 08 10 Presa+coperchio+blocco	471,4	

防松脱插座壳体采用Al6082阳极氧化铝材质制造

The Anti-release body is made of Anodized Aluminium Al6082



Fig. 1

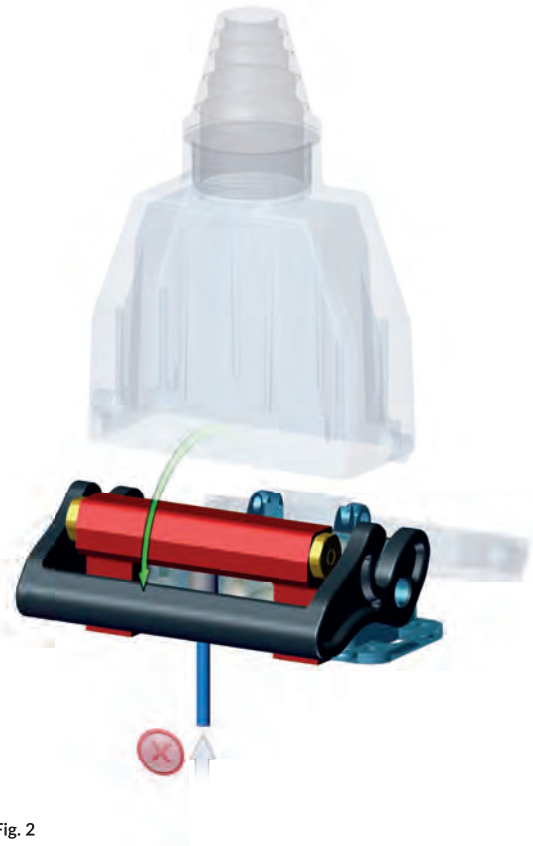


Fig. 2

P &gt; 2 bar



配备防脱附件的多路接头插座可防止连接器在仍处于带压状态时意外断开。

操作防松脱安全装置时(图1),需在插头接入插座后从主线路为该安全装置提供动力。

在断开插头与插座连接前(图2),应先切断安全装置的动力源。



The Multiple connector socket equipped with the anti-release accessory prevents accidental disconnections of the connector if still pressurized.

To operate the anti-release safety device (Fig. 1), it is necessary to power the safety device from the main line once the plug has been connected to the socket.

Before disconnecting the plug from the socket (Fig. 2) turn off the power supply of the safety device.

# CO B

## 穿板式/直线式多路接头

## Bulkhead/in line multiple connectors

- |  |  |  |  |   |  |
|--|--|--|--|---|--|
| <p><b>1</b> 防松螺帽<br/>Counternut</p> <p>POM<br/>POM</p> | <p><b>2</b> 套筒<br/>Sleeve</p> <p>POM<br/>POM</p> | <p><b>3</b> 插头<br/>Plug</p> <p>阳极氧化铝Al2011<br/>Anodized aluminium Al2011</p> | <p><b>4</b> 插座<br/>Socket</p> <p>阳极氧化铝Al2011<br/>Anodized aluminium Al2011</p> | <p><b>5</b> 螺丝<br/>Screw</p> <p>钢<br/>Steel</p> | <p><b>6</b> 固定销子<br/>Pin</p> <p>黄铜UNI EN 12164 CW614N<br/>Brass UNI EN12164 CW614N</p> |
|--|--|--|--|---|--|



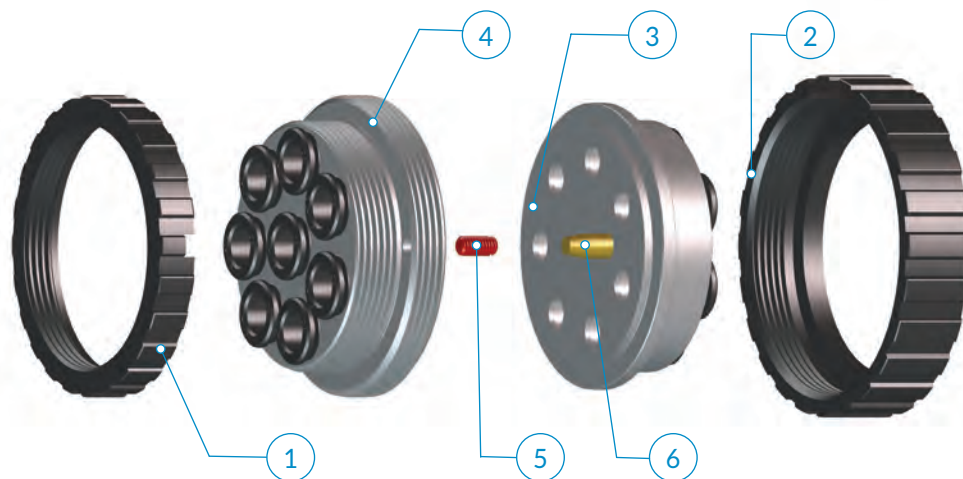
-20° + 70°C



10 bar



-99 KPa



图中红色标注的螺丝(5)仅作演示用途——实际零件为黑色。  
The screw (5) shown in red is for demonstration purposes only - the actual part is black.

### 建议的连接管路:

PA11、PA12、PA6、PE聚乙烯、PU聚氨酯 (98 Shore A)。

### 应用领域:

气动系统。

### Recommended tubings:

PA11, PA12, PA6, Polyethylene PE, Polyurethane PU (98 Shore A)

### Application fields:

Pneumatic circuits

**i** 面板安装式

PANEL MOUNTING

松开多路接头插座的防松螺帽(1), 调整螺丝(2), 使其配合壁厚, 而后将插座安置于壁孔之中, 且确保螺丝(2)正确插入预加工位置, 旋紧插座的防松螺帽(1), 直至底部。

Loosen counter nut (1) from the multiple connector socket; tighten the screw (2) to let it sticks out as much as the wall thickness (Fig.2). Place the socket in the wall hole and allow for the screw to fit into the seat drilled through in the wall (Fig.1). Tighten the counter nut (1) on socket body until bottoms (Fig.3).

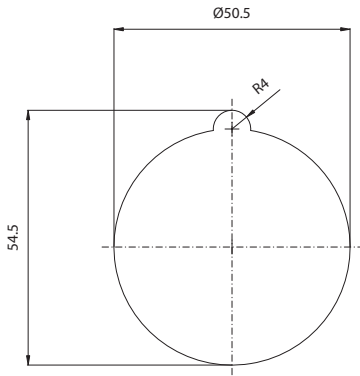


Fig. 1

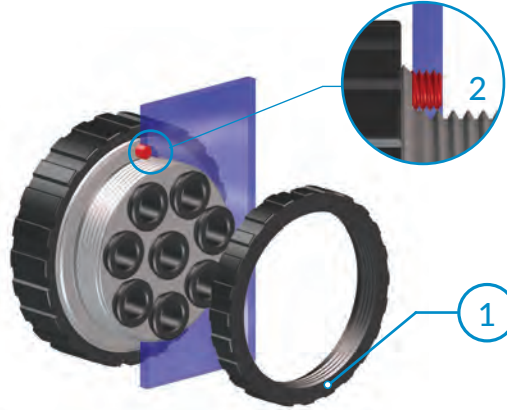


Fig. 2



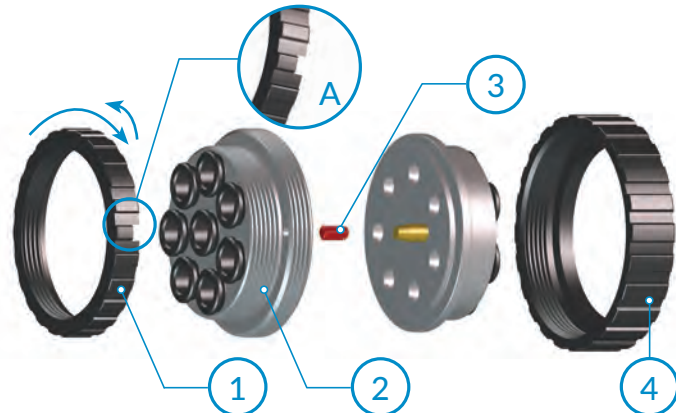
Fig. 3

**i** 落地安装

FLOOR MOUNTING

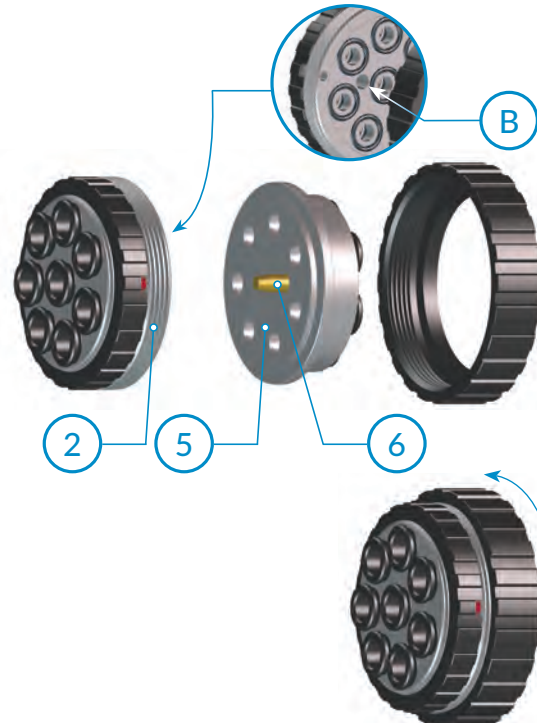
1  
旋紧插座(2)的防松螺帽(1)直至底部, 然后略微回旋, 使防松螺帽的卡槽(A)与紧固螺丝(3)对准, 而后将螺丝(3)完全旋紧至卡槽(A)中, 此时防松螺帽(1)不能再转动, 这将有利于旋紧或者松开套箍(4)。

Tighten counter nut (1) onto the socket (2) until it bottoms, then loosen it a bit to align the seat (A) with the securing screw (3). Tighten the screw (3) all the way into its seat (A) in the counter nut (1). At this stage the counter nut (1) can no longer rotate and it will help to tighten or to loose the sleeve (4).



2  
将插头(5)与插座(2)进行装配, 确保定位销(6)准确嵌入对应插槽(B)。

Assemble the connector plug (5) with the socket (2) making sure that the pin (6) fits into the related housing (B).




3  
将锁紧套(4)旋紧直至限位。

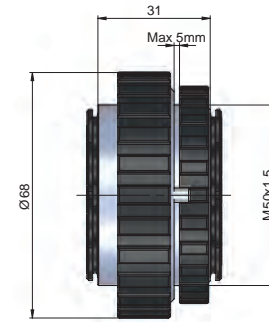
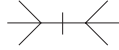
Tighten the sleeve (4) until it bottoms.

**B113**

完整多路接头

Multiple connector, complete


类型	OD1	N	g 
B113 04 12 完整	4	12	201,4
B113 06 10 完整	6	10	184,1
B113 08 08 完整	8	8	174,6

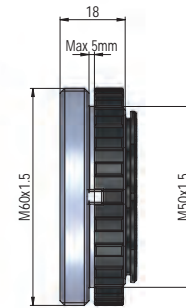


**B113**

插座

Socket


类型	OD1	N	g 
B113 04 12 插座	4	12	103,0
B113 06 10 插座	6	10	94,5
B113 08 08 插座	8	8	89,9

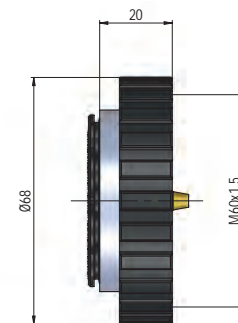


**B113**

插头

Plug

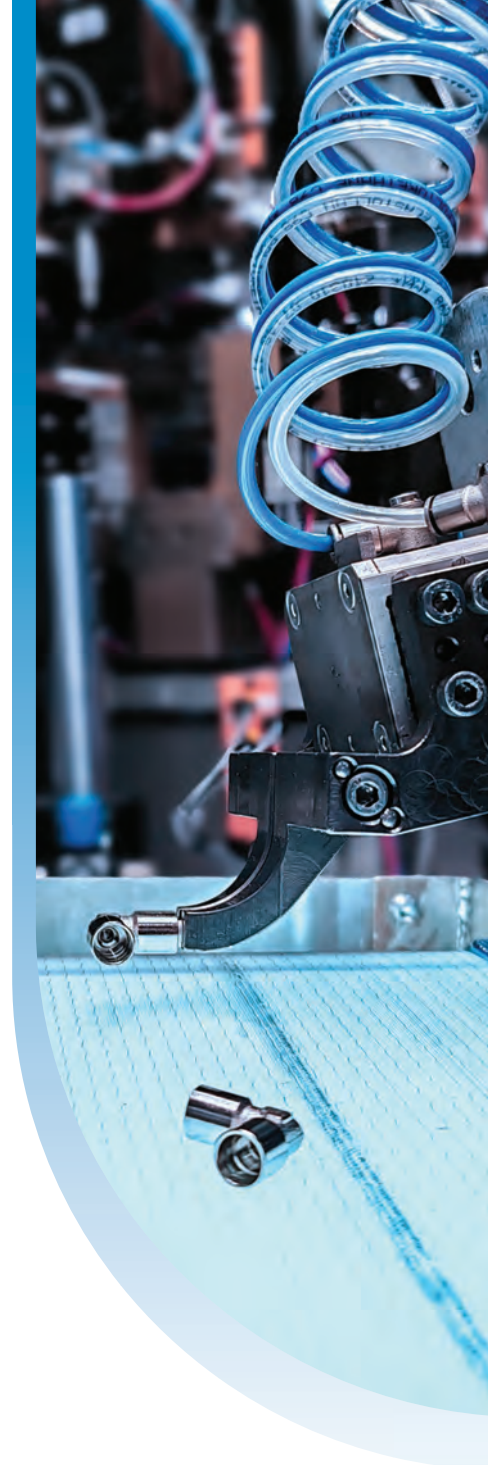
类型	OD1	N	g 
B113 04 12 插头	4	12	101,8
B113 06 10 插头	6	10	93,3
B113 08 08 插头	4	8	89,1



- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299



*cmatic*



## MV LINE



CN

### 功能接头

功能接头是在常规管道连接功能之外，还具备多种气动控制功能的管接头。其种类包括流量调节阀、单向阀、气动开关、压力调节器及消声器等。

EN

### Function Fittings

Function fittings are fittings that, in addition to the usual tube connection, they offer a variety of pneumatic functions. Function fittings include flow regulators, one-way valves, pneumatic switches, pressure regulators and silencers, just to name a few.

节流阀用于调节气路中流量, 根据应用类型, 可以分为双向节流阀和单向节流阀。其中单向节流阀非常适合进行气缸速度的调节。

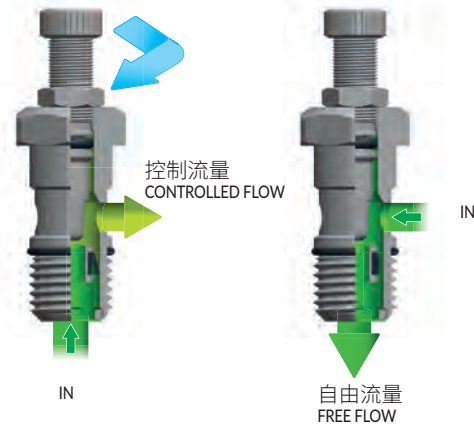
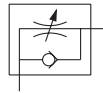
They can adjust the flow in a pneumatic circuit. Depending on the flow control used, the setting can be made both ways (Bidirectional Flow Control), or just one way (Unidirectional Flow Control).

The Unidirectional Flow Control is particularly used to adjust the speed of pneumatic cylinders.

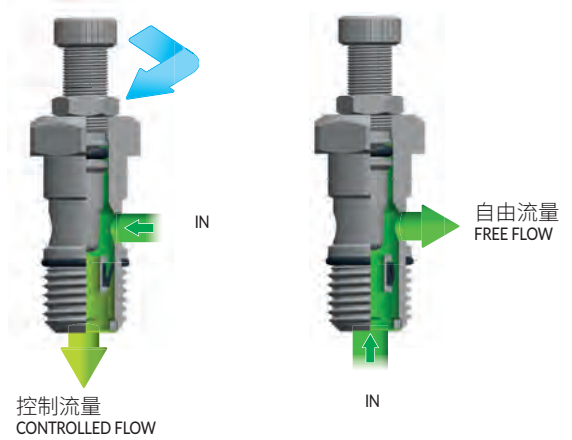
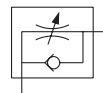
**i** 流量调节范围

Possible Flow Adjustments

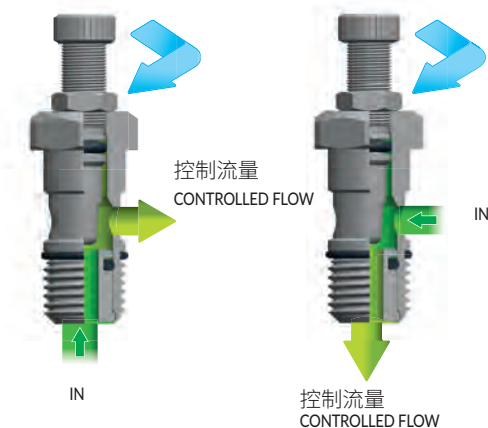
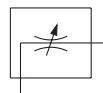
**.../O** = 排气节流  
Meter out flow control



**.../I** = 进气节流  
Meter in flow control



**.../B** = 双向流量调节  
Bidirectional flow control



# MV 12

MV  
LINE

## 旋转型推拉锁定节流阀

## Swivelling Push to lock flow control

- 1 本体  
Body

POM  
POM
- 2 旋钮  
Handwheel

PA6 FV  
PA6 GR
- 3 针阀  
Needle

PA66 FV  
PA66 GR
- 4 密封圈  
Seals

NBR  
NBR
- 5 插装阀芯  
Cartridge

PBT  
PBT
- 6 螺纹  
Thread

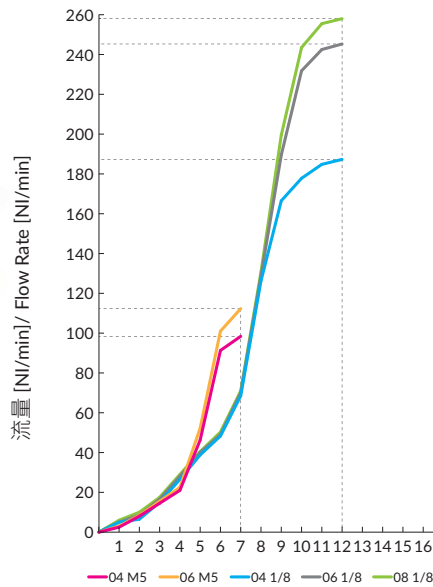
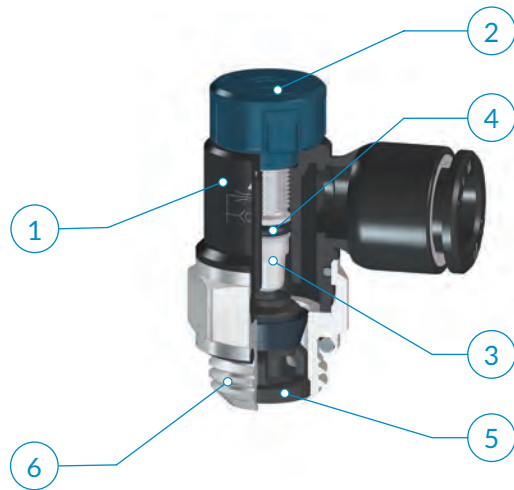
黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N nickel plated



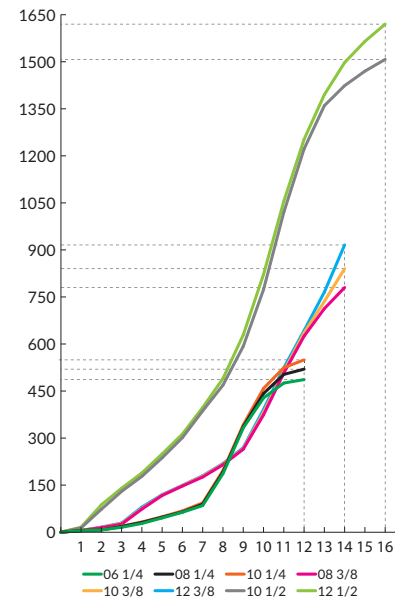
-20° ± 70°C



10 bar

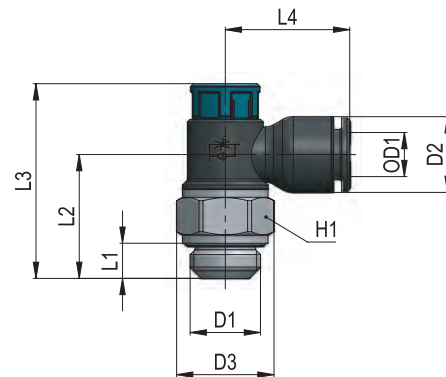


P = 6 bar - Δp = 1bar

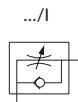
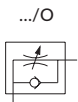


调节针圈数 / N° of needle turns

类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g Δ
12 04 M5	4	M5x0,8	9,5	11	4	15,5	26,2	17,2	10	4,2
12 04 18	4	G1/8	9,5	15,5	5,5	19,5	32,5	18,5	14	8,9
12 06 M5	6	M5x0,8	11,5	11	4	15,9	26,6	20,3	10	4,5
12 06 18	6	G1/8	11,5	15,5	5,5	19,4	32,6	21,5	14	9,4
12 06 14	6	G1/4	11,5	18	6,5	22,9	36	22,5	16	13,6
12 08 18	8	G1/8	14	15,5	5,5	19,4	32,5	22	14	9,7
12 08 14	8	G1/4	14	18	6,5	22,9	36	23	16	13,9
12 08 38	8	G3/8	14	22,5	7	27	45,6	24,5	20	25,4
12 10 14	10	G1/4	16	18	6,5	22,9	36,1	25	16	14,5
12 10 38	10	G3/8	16	22,5	7	27	45,6	26,3	20	25,0
12 10 12	10	G1/2	16	28	8,5	32,5	51,1	27	25	42,1
12 12 38	12	G3/8	19	22,5	7	27	45,6	28	20	26,7
12 12 12	12	G1/2	19	28	8,5	32,5	51,1	28,6	25	43,0



可用版本:  
Available as:



### 建议的连接管路:

取决于与节流阀相连的接头类型。

### Recommended tubings:

According to the fitting connected to the flow control.

### 应用领域:

空气经过过滤和润滑处理的气动系统。

### Application field:

Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 15

节流阀

Flow control

- 1 本体  
Body
- 2 针阀  
Needle
- 3 插装阀芯  
Cartridge
- 4 旋转螺丝刀槽  
Knob and screwdriver slot

- 5 密封圈  
Seals

- 6 垫圈  
Gasket

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

NBR  
NBR

PA6  
PA6



-20° ÷ 80°C



10 bar



## PLUS



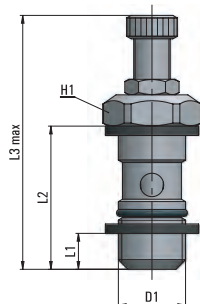
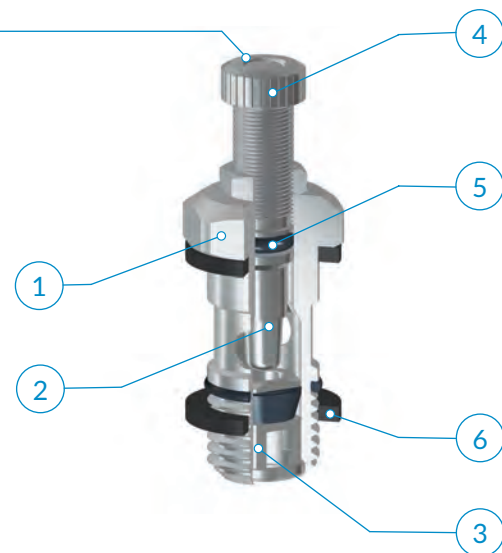
改进的人体工学设计：旋钮抓握表面面积平均增加14%。  
Improved ergonomics: +14% (on average) knob gripping surface.



螺丝刀导槽：旋钮中的槽口可固定螺丝刀防止滑脱。  
Screwdriver guide: the slot housed in the knob keeps the screwdriver in place.

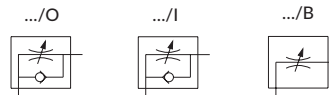


可靠调节：防松螺母能有效防止因振动或意外触碰导致的设定值变动。  
Reliable adjustment: the locking counter-nut protects the setting from vibrations and accidental changes.



类型	D1	L1	L2	L3 max	H1	g $\Delta$
15 00 M5	M5x0,8	4	15,2	39,1	8	7,0
15 00 18	G1/8	5,1	23,7	41,7	14	21,0
15 00 14	G1/4	6,7	27,2	48,8	17	37,0
15 00 38	G3/8	7,4	31	62,2	20	61,0
15 00 12	G1/2	9,9	37,9	76	26	106,0

可用版本：  
Available as:



**建议的连接管路：**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 18

MV  
LINE

铜制可调向快插式节流阀

Brass flow control with swivelling push-in fitting

- 1 本体  
Body
- 2 针阀  
Needle
- 3 插装阀芯  
Cartridge
- 4 旋转螺丝刀槽  
Knob and screwdriver slot

- 5 密封圈  
Seals

- 6 MA快插接头  
MA line push-in fittings

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

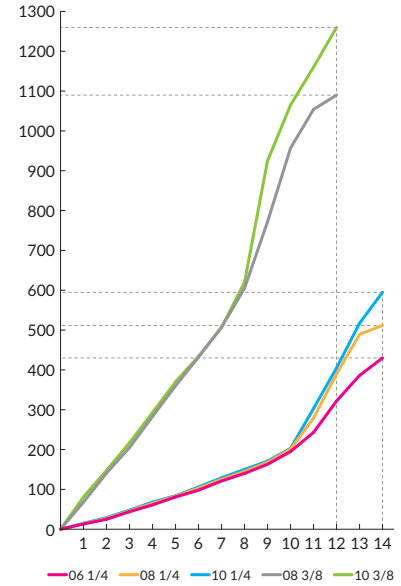
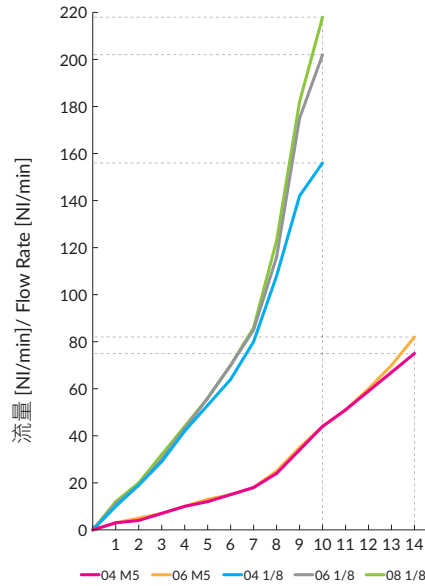
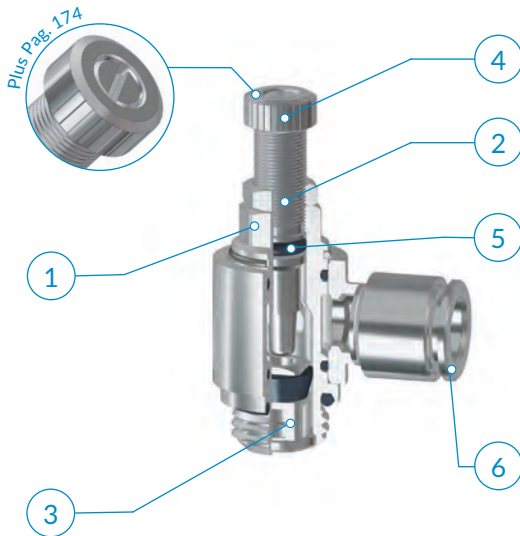
NBR  
NBR



-20° ÷ 80°C



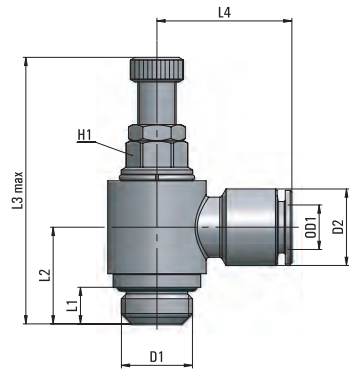
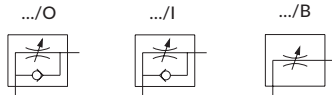
10 bar



调节针圈数 / N° of needle turns

类型	OD1	D1	D2	L1	L2	L3 max	L4	H1	g $\Delta\Delta$
18 04 M5	4	M5x0,8	9,1	4	12,5	40,4	18,5	6	13,0
18 04 18	4	G1/8	9,1	5,2	15,1	41,7	20,5	9	31,0
18 06 M5	6	M5x0,8	12	4	12,5	40,4	21,5	6	15,5
18 06 18	6	G1/8	12	5,2	15,1	41,7	22,5	9	32,9
18 06 14	6	G1/4	12	6,4	17,4	48,8	24	10	52,0
18 08 18	8	G1/8	14	5,2	15,1	41,7	23,5	9	32,5
18 08 14	8	G1/4	14	6,4	17,4	48,8	24,5	10	56,0
18 08 38	8	G3/8	14	7	20	62,2	26,5	14	90,0
18 10 14	10	G1/4	16	6,4	17,4	48,8	27	10	50,0
18 10 38	10	G3/8	16	7	20	62,2	29	14	91,0

可用版本:  
Available as:



节流阀安装完成后, 铰接接头本体部分仍可自由转动。  
The banjo ring swivels also after flow control installation.

**建议的连接管路:**

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**Recommended tubings:**

PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**应用领域:**

空气经过过滤和润滑处理的气动系统。

**Application field:**

Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 38

塑料可调向快插式节流阀

Flow control with swivelling acetal push-in fitting

- 1 本体  
Body
- 2 针阀  
Needle
- 3 插装阀芯  
Cartridge
- 4 旋转螺丝刀槽  
Knob and screwdriver slot

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

- 5 密封圈  
Seals

NBR  
NBR

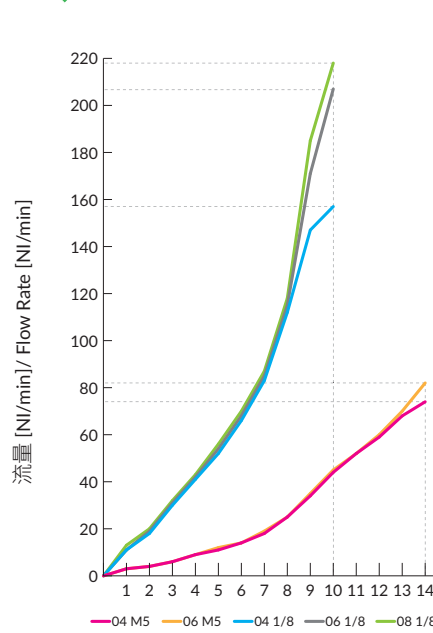
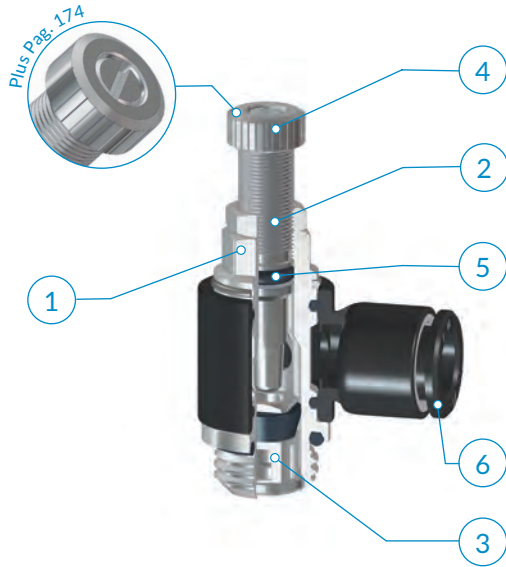
- 6 MB快插接头  
MB line push-in fittings



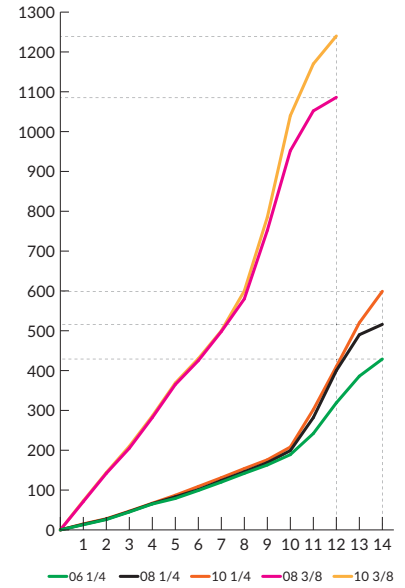
-20° ÷ 70°C



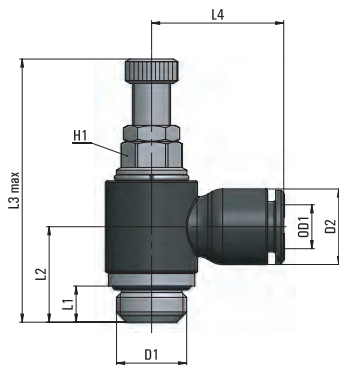
10 bar



P = 6 bar - Δp = 1 bar

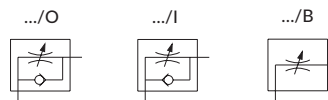


调节针圈数 / N° of needle turns



类型	OD1	D1	D2	L1	L2	L3 max	L4	H1	g Δ
38 04 M5	4	M5x0,8	9,7	4	12	40,4	17,6	6	8,0
38 04 18	4	G1/8	9,7	5,2	15,1	41,7	19,1	9	17,0
38 06 M5	6	M5x0,8	12	4	11,5	40,4	21,5	6	9,0
38 06 18	6	G1/8	12	5,2	15,1	41,7	22,7	9	18,0
38 06 14	6	G1/4	12	6,4	17,4	48,8	24,3	10	31,0
38 08 18	8	G1/8	14	5,2	14,9	41,7	23	9	20,0
38 08 14	8	G1/4	14	6,4	17,4	48,8	24,6	10	32,0
38 08 38	8	G3/8	14	7	20	62,2	26,5	14	59,0
38 10 14	10	G1/4	16	6,4	17,4	48,8	27	10	33,0
38 10 38	10	G3/8	16	7	20	62,2	28,5	14	60,0

可用版本:  
Available as:



**!** 节流阀安装完成后, 铰接接头本体部分仍可自由转动。  
The banjo ring swivels also after flow control installation.

**建议的连接管路:**  
PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**Recommended tubings:**  
PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 39

MV  
LINE

塑料快插式节流阀

Flow control with acetal push-in fitting

- 1 本体  
Body
- 2 针阀  
Needle
- 3 插装阀芯  
Cartridge
- 4 旋转螺丝刀槽  
Knob and screwdriver slot
- 5 密封圈  
Seals
- 6 MB快插接头  
MB line push-in fittings
- 7 垫圈  
Gasket

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

NBR  
NBR

PA6  
PA6



-20° ÷ 70°C



10 bar



SILICONE FREE

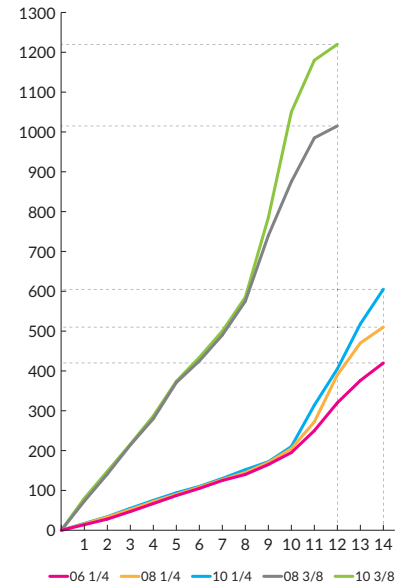
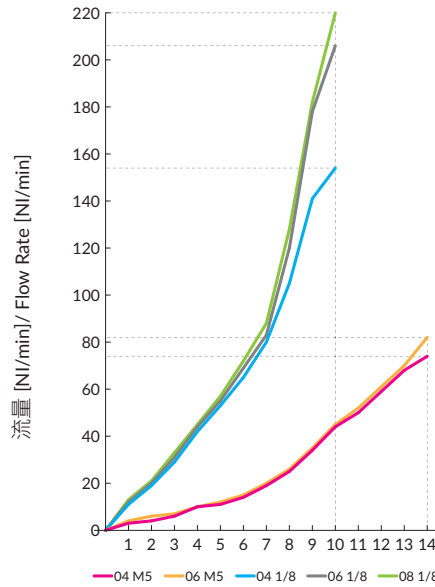
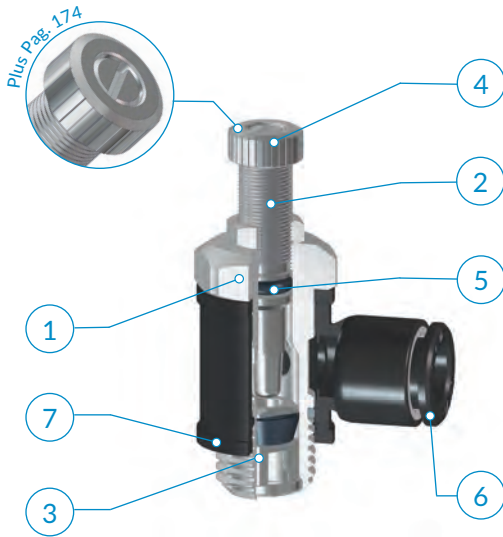


RoHS



REACH

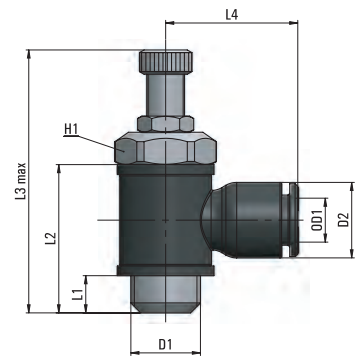
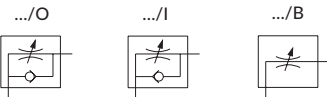
P = 6 bar - Δp = 1bar



调节针圈数 / N° of needle turns

类型	OD1	D1	D2	L1	L2	L3 max	L4	H1	g $\Delta$
39 04 M5	4	M5x0,8	9,7	4	15,2	39,1	17,6	8	7,0
39 04 18	4	G1/8	9,7	5,1	23,7	41,7	19,1	14	20,0
39 06 M5	6	M5x0,8	12	4	15,2	39,1	21,5	8	8,0
39 06 18	6	G1/8	12	5,1	23,7	41,7	22,7	14	21,0
39 06 14	6	G1/4	12	6,7	27,2	48,8	24,3	17	39,8
39 08 18	8	G1/8	14	5,1	23,7	41,7	23	14	22,0
39 08 14	8	G1/4	14	6,7	27,2	48,8	24,6	17	41,5
39 08 38	8	G3/8	14	7,4	31	62,2	26,5	20	67,0
39 10 14	10	G1/4	16	6,7	27,2	48,8	27	17	39,0
39 10 38	10	G3/8	16	7,4	31	62,2	28,5	20	68,0

可用版本:  
Available as:



节流阀安装完成后, 铰接头本体部分仍可自由转动。  
The banjo ring swivels also after flow control installation.

建议的连接管路:

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

Recommended tubings:

PA11, PA12, PA6, Polyurethane PU (98 Shore A).

应用领域:

空气经过过滤和润滑处理的气动系统。

Application field:

Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 21

线型节流阀

In-line flow control

1 本体  
Body

阳极氧化铝 Al2011  
Anodized aluminium Al2011

2 阀芯  
Valve

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 针阀  
Needle

4 旋钮  
Handwheel

5 螺母  
Nut

6 密封圈  
Seals

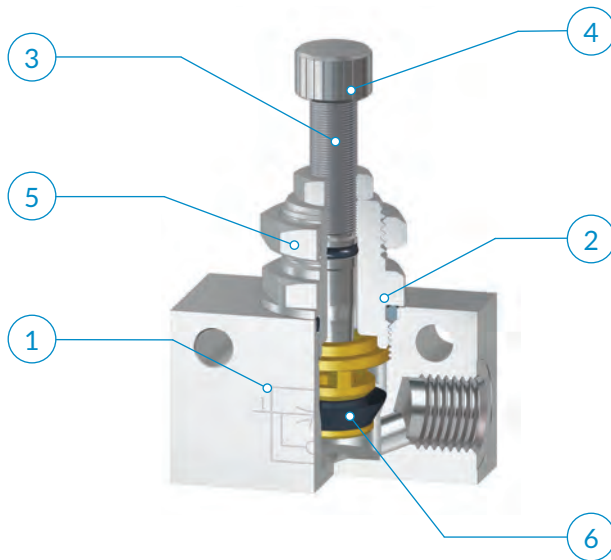
NBR  
NBR



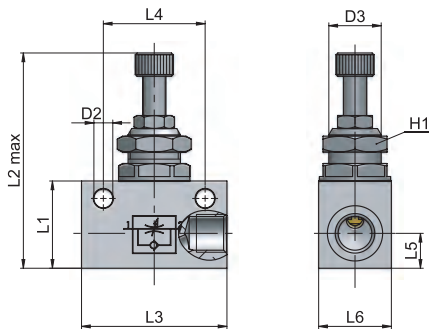
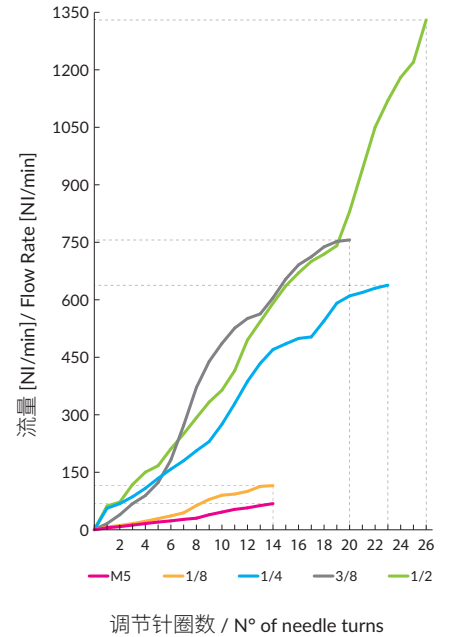
-20° ÷ 80°C



10 bar

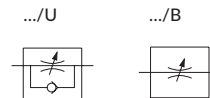


P = 6 bar - Δp = 1 bar



类型	D1	D2	D3	L1	L2 max	L3	L4	L5	L6	H1	g Δ
21 00 M5	M5x0,8	3,2	M9x0,75	15	36,2	25	18	7	12	11	20,0
21 00 18	G1/8	4,5	M12x0,75	21	49,3	34	24	8	16	15	50,0
21 00 14	G1/4	6,5	M18x1,5	30	75,2	50	35	12	25	22	162,0
21 00 38	G3/8	6,5	M18x1,5	30	75,2	58	40	12	25	22	171,0
21 00 12	G1/2	6,5	M22x1,5	40	92,9	65	50	17	30	26	299,0

可用版本:  
Available as:



**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 21-P

MV  
LINE

推拉锁定线型节流阀

Push to Lock In-line flow control

- 1** 本体  
Body

PA66 FV  
PA66 GR
- 2** 旋钮  
Handwheel

PA6 FV  
PA6 GR
- 3** 针阀  
Needle

PA66 FV  
PA66 GR
- 4** 密封圈  
Seals

NBR  
NBR
- 5** 插装阀芯  
Cartridge

PBT  
PBT
- 6** 拧紧螺母  
Thread and Nut

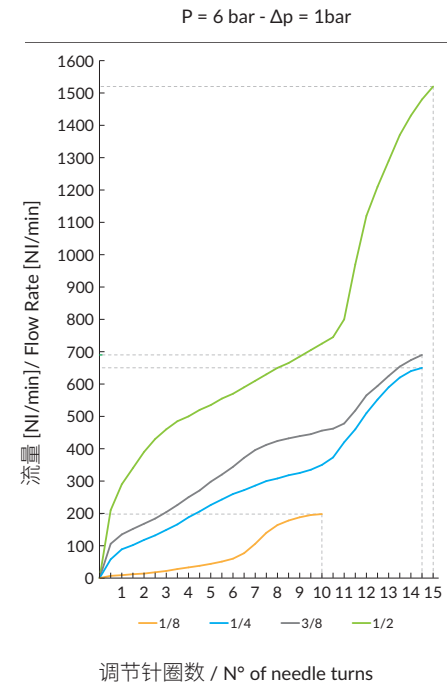
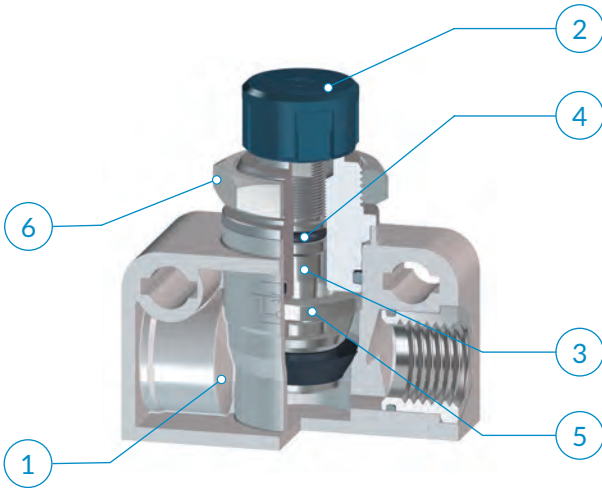
黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated



-20° + 80°C

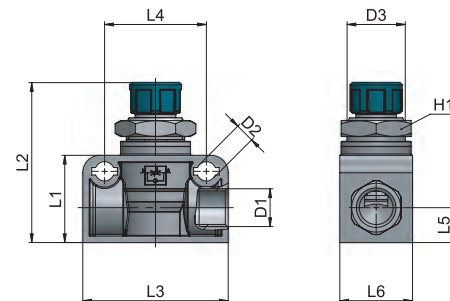
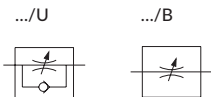


10 bar



类型	D1	D2	D3	L1	L2	L3	L4	L5	L6	H1	g ΔΔ
21 00 18 - P	G1/8	4,3	M14x1	21,75	35,8	32,5	24	8	16	17	32,7
21 00 14 - P	G1/4	6,5	M20x1	30	53,5	50	35	12	25	24	100,0
21 00 38 - P	G3/8	6,5	M20x1	32,5	53,5	50	39	12	25	24	105,0
21 00 12 - P	G1/2	6,5	M20x1	40	67,6	62	50	16,5	30	24	171,4

可用版本:  
Available as:



**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 34

塑料线型节流阀

Acetal in-line flow control

1 本体  
Body

POM  
POM

2 阀芯  
Valve

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 针阀  
Needle

4 旋转螺丝刀槽  
Knob and screwdriver slot

5 密封圈  
Seals

NBR  
NBR

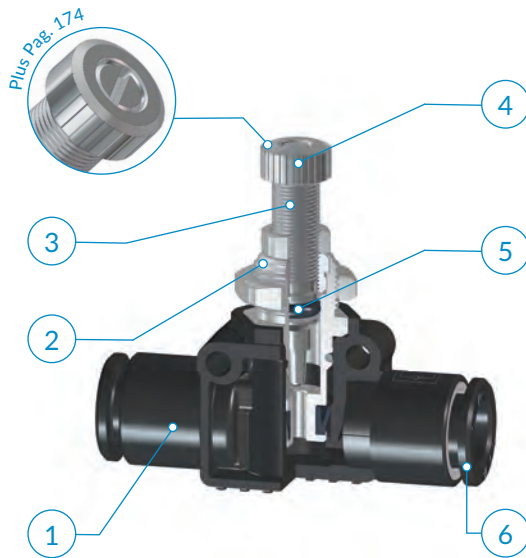
6 M8快插接头  
M8 line push-in fittings



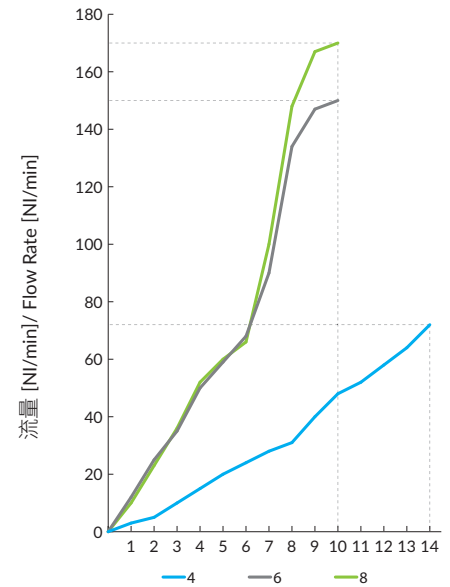
-20° ± 70°C



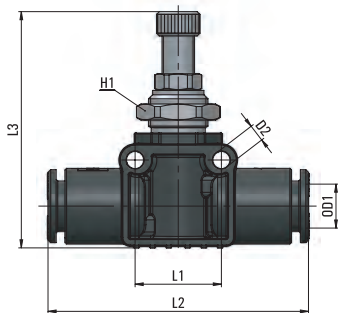
10 bar



P = 6 bar - Δp = 1 bar



调节针圈数 / N° of needle turns



类型	OD1	D2	L1	L2	L3 max	H1	g ΔΔ
34 04 04	4	3,2	13	36,4	35,9	11	11,8
34 06 06	6	3,2	16	47	42,3	14	24,0
34 08 08	8	3,2	16	48	43,8	14	28,0

可用版本:  
Available as:

.../U

.../B



**建议的连接管路:**

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**Recommended tubings:**

PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**应用领域:**

空气经过过滤和润滑处理的气动系统。

**Application field:**

Pneumatic installations fed with filtered, lubricated air.

# MV 49

MV  
LINE

铰接式节流阀

Banjo with integrated flow control

**1** 本体  
Body

**2** 针阀  
Needle

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

**3** 密封圈  
Seals

NBR  
NBR

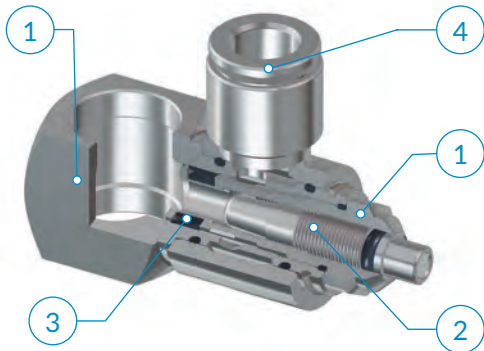
**4** MA快插接头  
MA line push-in fittings



-20° + 80°C



10 bar

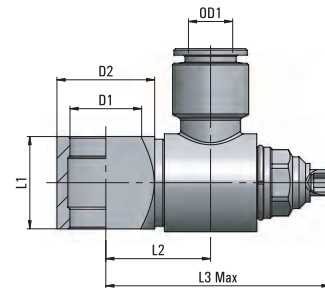


+ MV46  
气动开关  
Controlled Pneumatic Switch



+ MV45  
关断阀  
Controlled Stop Valve

类型	OD1	D1	D2	L1	L2	L3 max	g $\Delta$
49 06 14	6	13,2	18	17	19,3	41,3	66,0
49 08 14	8	13,2	18	17	19,3	41,3	66,0
49 08 38	8	17	21	20	22	51,2	110,0
49 10 38	10	17	21	20	22	51,2	110,0



可用版本:  
Available as:



**建议的连接管路:**

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**Recommended tubings:**

PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**应用领域:**

空气经过过滤和润滑处理的气动系统。

**Application field:**

Pneumatic installations fed with filtered, lubricated air.

AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# MV 44

节流接头

Throttle fitting

1 MA快插接头  
MA line push-in fittings

2 阀芯  
Cartridge

3 密封圈  
Seals

黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

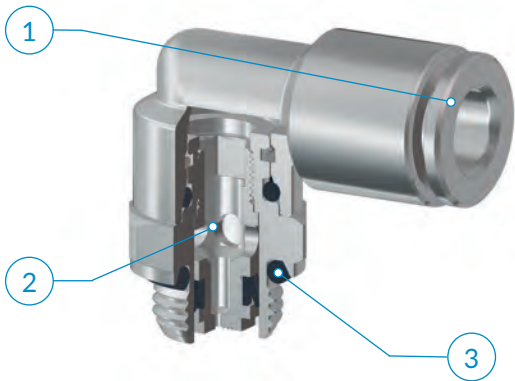
NBR  
NBR



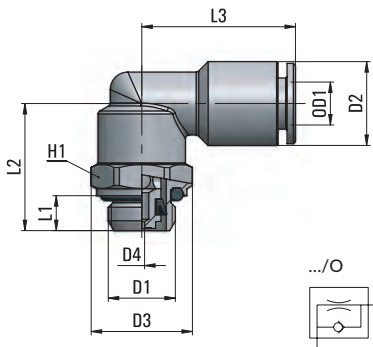
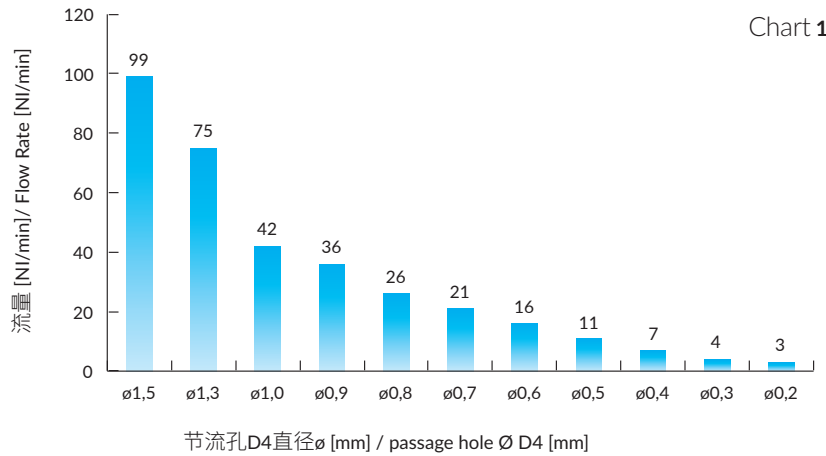
-20° + 80°C



15 bar



P = 6 bar - Δp = 1bar



类型	OD1	D1	D2	D3	D4	L1	L2	L3	H1	g $\triangle$
44 04 M5	4	M5x0,8	9,1	10	0,2	4	12,5	18,5	6	11,4
44 04 18	4	G1/8	9,1	14,5	0,2	5	18,2	19,5	13	18
44 06 M5	6	M5x0,8	12	10	0,2	4	12,5	21,5	6	13
44 06 18	6	G1/8	12	14,5	0,2	5	18,2	22	13	20
44 06 14	6	G1/4	12	16	0,2	6,5	22,7	22	13	24
44 08 18	8	G1/8	14	14,5	0,2	5	18	22,5	13	22
44 08 14	8	G1/4	14	16	0,2	6,5	22,5	22,5	13	26



订购时，注明物料代码后，指定所需孔径 (D4)，例如 (MV 44 06 18 0.3)  
In case of order, please state after the part number, the size of the calibrated orifice (D4). I.e. (MV 44 06 18 0.3)

**i** 节流接头内部阀芯上有节流孔，不同节流孔对应不同流量，您在使用前需要依照情况对节流孔尺寸进行选择；节流接头通常用于控制活塞速度保持恒定不变的气缸运动，优点在于不存在由于意外情况更发生更改设定流量的情况，且在存在震动的情况下，依旧可以保证流量稳定。

### 建议的连接管路：

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

### 应用领域：

空气经过过滤和润滑处理的气动系统。

**i** This fitting houses a cartridge with a calibrated orifice. The orifice diameter causes a flow throttling thereby allowing the desired flow (see our Chart 1). The throttle fittings are mostly used when the user knows the exact cylinder speed and when no further settings of the cylinder are requested. The major advantage is that no undesired tamperings can occur and in case of vibrations the flow setting will remain stable.

### Recommended tubings:

PA11, PA12, PA6, Polyurethane PU (98 Shore A).

### Application field:

Pneumatic installations fed with filtered, lubricated air.

# MV 47

调压阀

Pressure control

MV  
LINE

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

3 密封圈  
Seals

NBR  
NBR



-20° ÷ 80°C



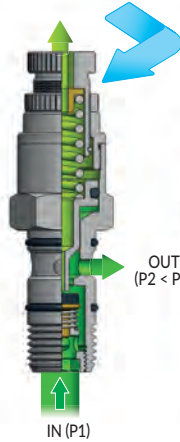
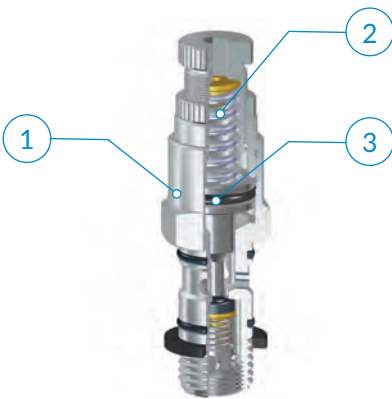
10 bar



8 bar



排气  
VENTING  
(P1-P2)



OUT  
(P2 < P1)

OUT  
(P2 < P1)

IN (P1)

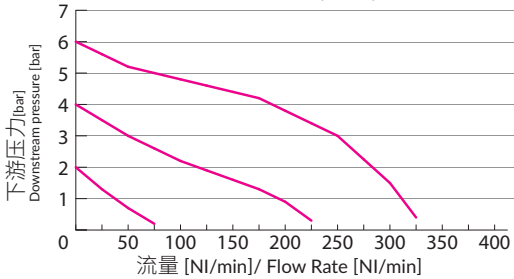
IN (P1)

(6 bar - Δp = 1bar)

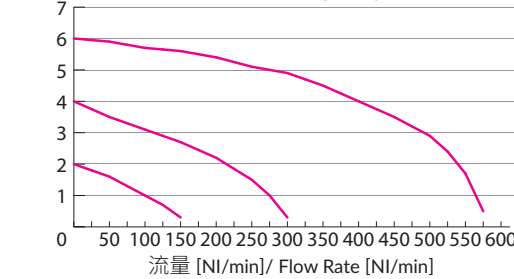
流量  
Flow rate

1/8 205 NI/min  
1/4 290 NI/min

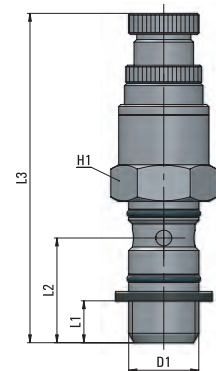
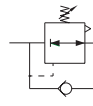
MV47 1/8" 搭配 MA35 06 1/8" 使用的流量特性, 上游压力 6.5bar  
Flow characteristics MV47 1/8" with MA35 06 1/8" upstream pressure 6,5 bar



MV47 1/4" 搭配 MA38 08 1/4" 使用的流量特性, 上游压力 6.5bar  
Flow characteristics MV47 1/4" with MA38 08 1/4" upstream pressure 6,5 bar



类型	D1	L1	L2	L3	H1	g
47 00 18	G1/8	6.2	15.5	56.8	15	33,6
47 00 14	G1/4	8.2	18.5	62.9	17	54,0



**i** 安装在气动回路中, 可调节所连接设备的工作压力, 长时间保持调节值恒定。可视作气缸和控制阀之间的节气单元, 调整压力使降低到气缸活塞获得合适速度, 因此产生节能效果。

**建议的连接管路:**  
取决于与调压阀相连的接头类型。

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** When installed in a pneumatic circuit, the pressure control sets the working pressure of all the connected components. The pressure adjustment will be thereby kept steady for a long time. It can also be used as an economizer when connected between the valve and the cylinder to operate. Pressure is being saved and rod speed decreased in the desired direction. A big energy saving is this way obtained.

**Recommended tubings:**  
According to the fitting connected to the pressure control.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# MV 45

先导式单向阀

Pilot operated check valve

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 活塞  
Piston

AISI 304 不锈钢  
Stainless steel AISI 304

3 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

4 密封圈  
Seals

NBR-PU  
NBR-PU

5 垫圈  
Gasket

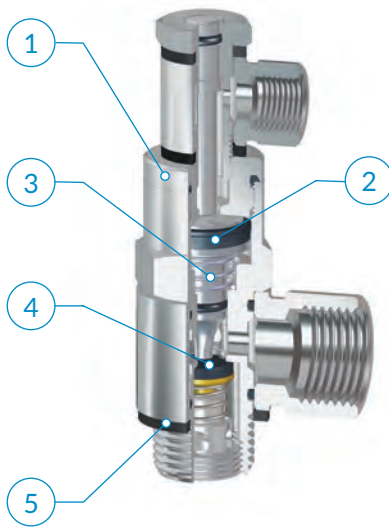
PA6  
PA6



-20° ÷ 80°C

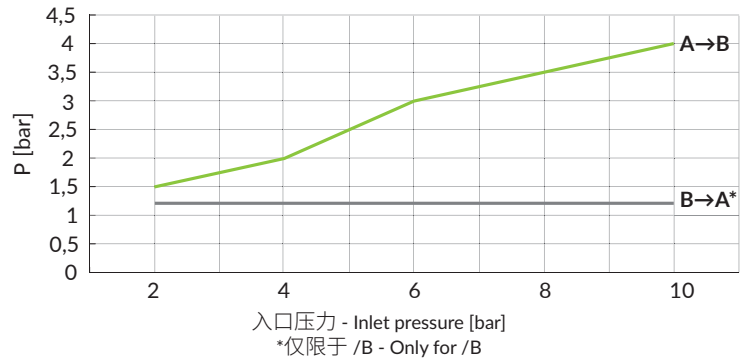


10 bar

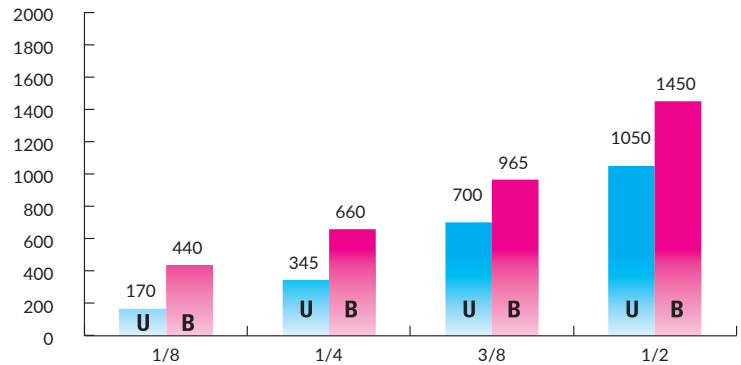


手动控制单独有售 - Manual control sold separately  
M5 p/n: 11000015-MA/RA  
1/8 p/n: 11000016-MA/RA

先导压力 - Pilot pressure P [bar]



流量 - Flow capacity [NI/min] 6 bar - Δp1



**i** 先导式单向阀 如果成对安装在缸上,当控制压力突然下降时,则能确保防止气缸运动。通过解锁装置,可以手动重置活塞行程,这在调整阶段或缺少空气时特别有用。

**建议的连接管路:**  
取决于与阀相连的接头类型。

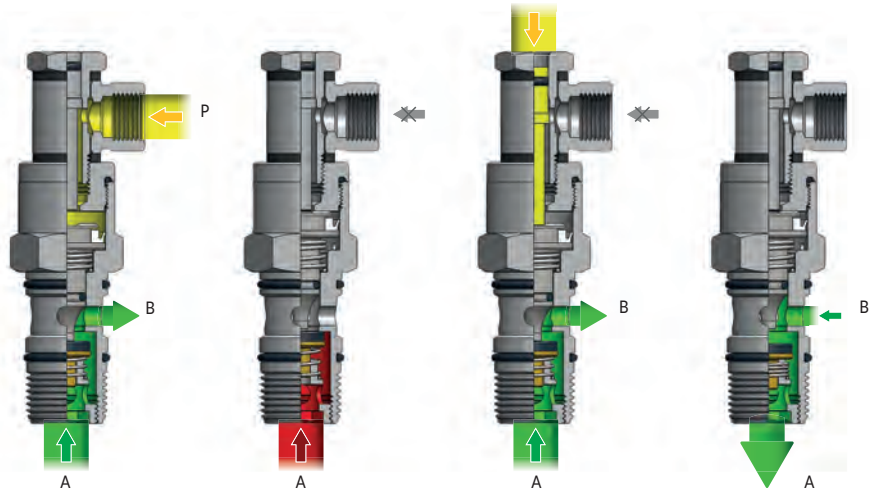
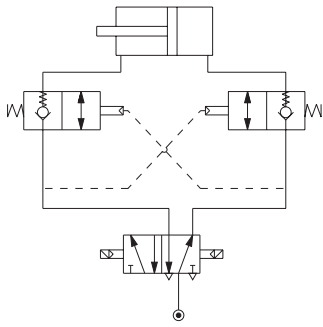
**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** Should a sudden pressure failure happen, if the stop valves are assembled in pairs on the cylinder, the stop valves make sure, that the cylinder piston rapidly stops. By operating the override device, it is possible to reset manually the piston stroke, which is particularly important during a set-up phase or in case of air shortage.

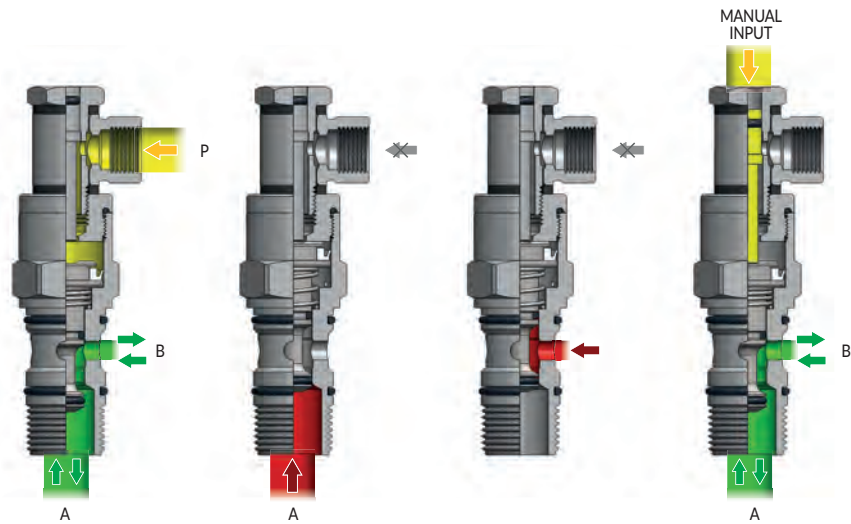
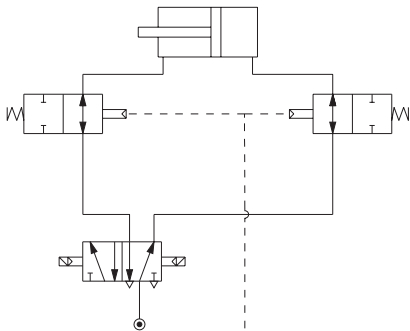
**Recommended tubings:**  
according to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

/U = 单向阀 - One Way

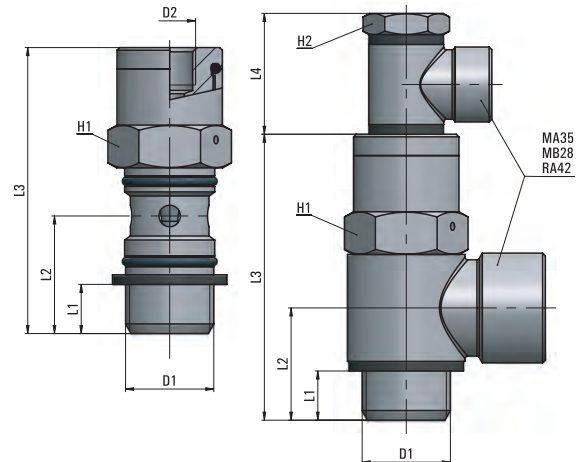
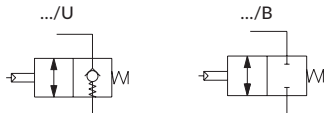


/B = 双向阀 - Bidirectional



类型	D1	D2	L1	L2	L3	L4	H1	H2	g $\Delta$
45 00 18	G1/8	M5x0,8	6,2	15,5	42,8	20	13	8	24,0
45 00 14	G1/4	M5x0,8	8,2	18,3	47,5	20	17	8	46,0
45 00 38	G3/8	G1/8	9,2	21	55	23	20	14	77,5
45 00 12	G1/2	G1/8	10,5	25	61,5	23	25	14	138,5

可用版本:  
Available as:



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# MV 23

单向阀

Check valve

1 本体  
Body  
黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 阀芯  
Valve

3 密封圈  
Seals  
NBR  
NBR

4 弹簧  
Spring  
AISI 302 不锈钢  
Stainless steel AISI 302



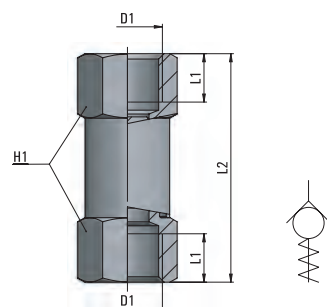
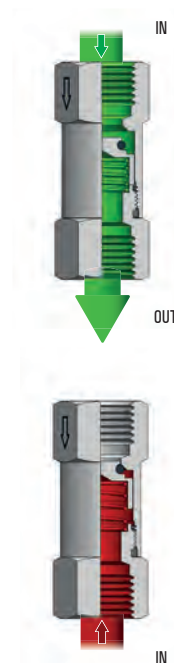
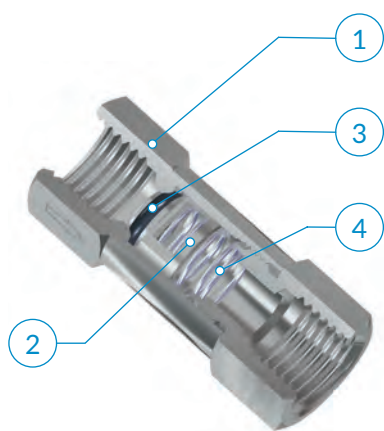
-20° + 80°C



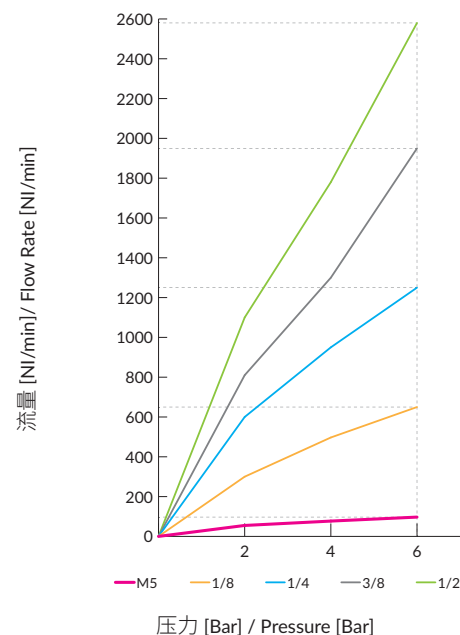
2÷10 bar



0,2 bar



P = 6 bar - Δp = 1 bar



类型	D1	L1	L2	H1	g Δ
23 00 M5	M5x0,8	6	25	8	7,2
23 00 18	G1/8	8	36,5	13	25,8
23 00 14	G1/4	9	42,5	16	38,3
23 00 38	G3/8	10,5	51	20	72,0
23 00 12	G1/2	12,5	62	24	120,0

**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 33

MV  
LINE

快插式单向阀

Straight connection with check valve

- 1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated
- 2 阀芯  
Valve
- 3 密封圈  
Seals

NBR  
NBR
- 4 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302
- 5 MA快插接头  
MA line push-in fittings



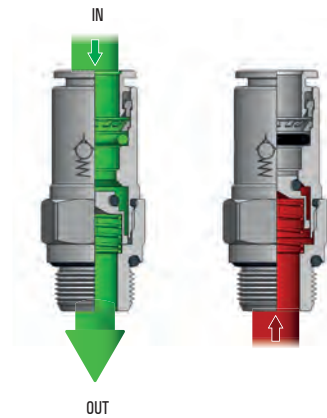
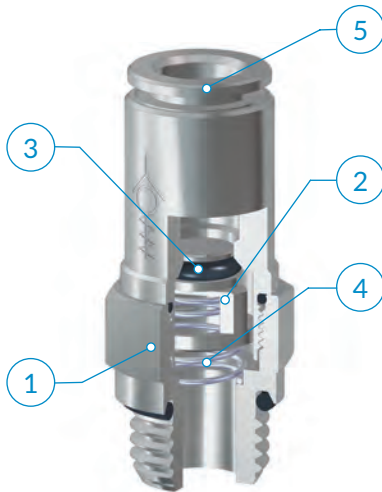
-20° ÷ 80°C



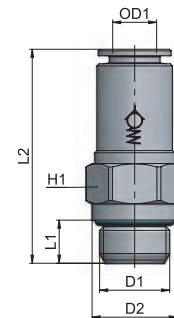
2÷10 bar



0,2 bar



类型	OD1	D1	D2	L1	L2	H1	g $\Delta$
33 04 M5	4	M5x0,8	8	4	37,2	9	10,0
33 04 18	4	G1/8	13	6	30,9	11	13,0
33 06 18	6	G1/8	13	6	38	13	18,0
33 06 14	6	G1/4	16	8	39	14	26,0
33 08 18	8	G1/8	13	6	38,5	15	23,0
33 08 14	8	G1/4	16	8	39,5	16	27,0
33 10 14	10	G1/4	16	8	44	18	36,0
33 10 38	10	G3/8	20	9	43,5	18	42,0
33 12 12	12	G1/2	25	10	46,5	22	68,0
33 14 12	14	G1/2	25	10	54,7	25	90,0



**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**建议的连接管路:**

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**应用领域:**

空气经过过滤和润滑处理的气动系统。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**Recommended tubings:**

PA11, PA12, PA6, Polyurethane PU (98 Shore A)

**Application field:**

Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 33-T

快插式单向阀

Straight connection with check valve

1 本体  
Body

2 阀芯  
Valve

3 密封圈  
Seals

4 弹簧  
Spring

5 MA快插接头  
MA line push-in fittings

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

NBR  
NBR

AISI 302-不锈钢  
Stainless steel AISI 302



-20° ÷ 80°C



2 ÷ 10 bar



0,2 bar



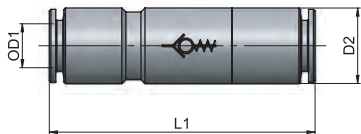
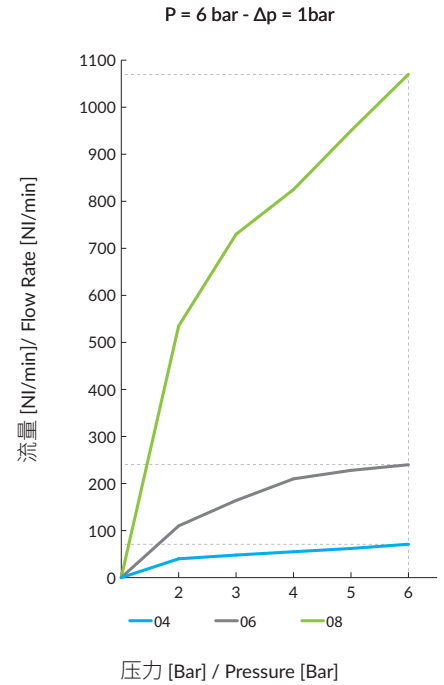
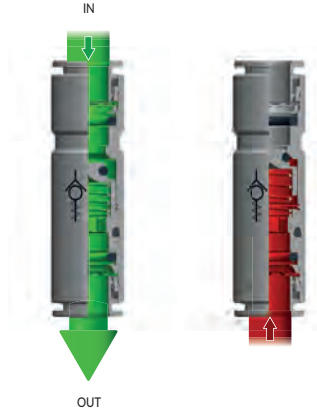
RoHS



REACH



SILICONE FREE



类型	OD1	D2	L1	g Δ
33 04 04 T	4	9	41	-
33 06 06 T	6	12	49	-
33 08 08 T	8	14	49	-



**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**Recommended tubings:**

PA11, PA12, PA6, Polyurethane PU (98 Shore A)

**应用领域:**

空气经过过滤和润滑处理的气动系统。

**Application field:**

Pneumatic installations fed with filtered, lubricated air.

# MV 22

MV  
LINE

线型快排阀

Line quick exhaust valve

1 本体  
Body

阳极氧化铝Al2011  
Anodized aluminium Al2011

2 唇式密封圈  
Lip ring

PU-NBR, 仅用于1/4  
PU-NBR only for 1/4

3 密封圈  
Seals

NBR  
NBR

4 消声器  
Muffler

AISI 316不锈钢  
Stainless steel AISI 316

5 挡圈  
Seeger

AISI 302不锈钢  
Stainless steel AISI 302



-20° ÷ 80°C



2÷10 bar



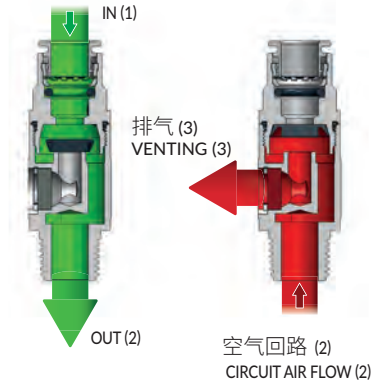
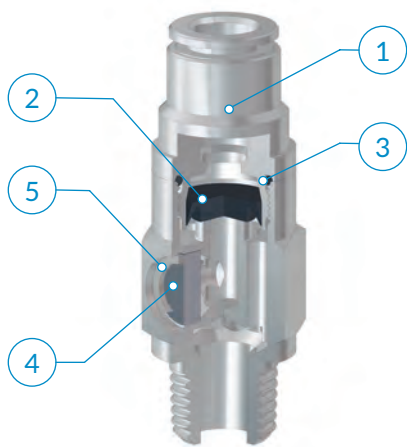
RoHS



REACH



SILICONE FREE



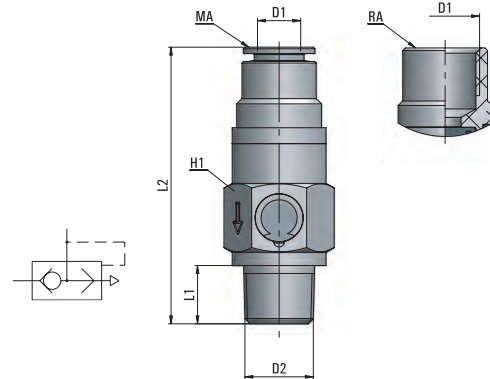
IN OUT OUT VENT  
1→2 2→3

(6 bar - Δp = 1bar)

流量  
Flow rate

1/4	1050 NI/min	660 NI/min
3/8	3000 NI/min	1900 NI/min
1/2	3420 NI/min	2280 NI/min

类型	D1	D2	L1	L2	H1	g Δ
22 18 18 -RA	G1/8	R1/8	7,5	43	18	15,5
22 08 14 -MA	8	R1/4	11	52	18	18,2
22 14 14 -RA	G1/4	R1/4	11	49	18	17,5
22 10 38 -MA	10	R3/8	11,5	64,5	27	47,0
22 38 38 -RA	G3/8	R3/8	11,5	59,5	27	47,5
22 12 12 -MA	12	R1/2	14	76	34	84,0
22 12 12 -RA	G1/2	R1/2	14	69,5	34	87,5



**i** 断开供气时阀门能够迅速排出回路中空气;如果用于气缸,则可提高速度。

**建议的连接管路:**  
PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** This valve can easily vent the circuit in case of an air supply failure. If assembled on the cylinder port, it increases the cylinder speed.

**Recommended tubings:**  
PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# MV 26

滑阀

Slide valve

1 本体  
Body

黄铜UNI EN 12164 CW614N镀铬  
Brass UNI EN 12164 CW614N, chrome plated

2 滑套  
Sleeve

阳极氧化铝Al6060  
Anodized aluminium Al6060

3 密封圈  
Seals

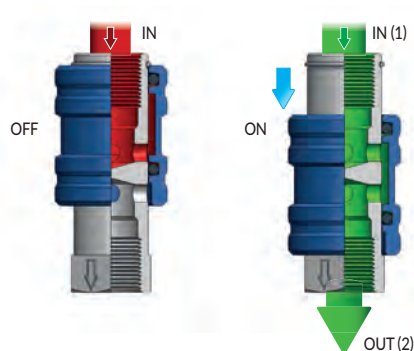
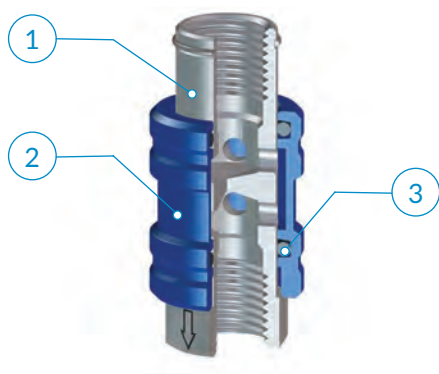
NBR  
NBR



-20° + 80°C

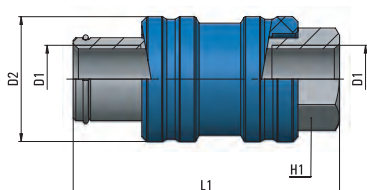


10 bar



流量  
Flow rate

	IN	OUT
	1 → 2	
	(6 bar - Δp = 1bar)	
MV 26 00 M5	125	NI/min
MV 26 00 18	620	NI/min
MV 26 00 14	920	NI/min
MV 26 00 38	1520	NI/min
MV 26 00 12	2720	NI/min



类型	D1	D2	L1	H1	g ΔΔ
26 00 M5	M5x0,8	13	30,3	9	10,3
26 00 18	G1/8	21	46	14	40,0
26 00 14	G1/4	24	51,2	17	57,7
26 00 38	G3/8	31	58,9	22	117,2
26 00 12	G1/2	34,7	72,5	26	175,5

**i** 可用于气动系统的阻隔。滑套有开和关两个位置，当滑套背离六角方向滑动，阀门处于开的位置，气流按箭头方向流动；反之则阀门关闭，气源切断，并释放背压。

**建议的连接管路：**  
取决于与阀相连的接头类型。

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**i** The valve is used to section a pneumatic installation. Sliding the sleeve on the rod, both ON and OFF positions can be achieved. When the sleeve is against the rod hexagon, the flow goes in the arrow direction (ON); pushing it backwards the air supply is cut off and the installation is vented (OFF).

**Recommended tubings:**  
According to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 27

MV  
LINE

快排阀

Quick exhaust valve

1 本体  
Body

黄铜镀镍 UNI EN 12165 CW617N  
Brass UNI EN 12165 CW617N, nickel plated

2 唇式密封圈  
Lip ring

PU - NBR, 仅用于 M5  
PU - NBR only for M5

3 垫圈  
Gasket

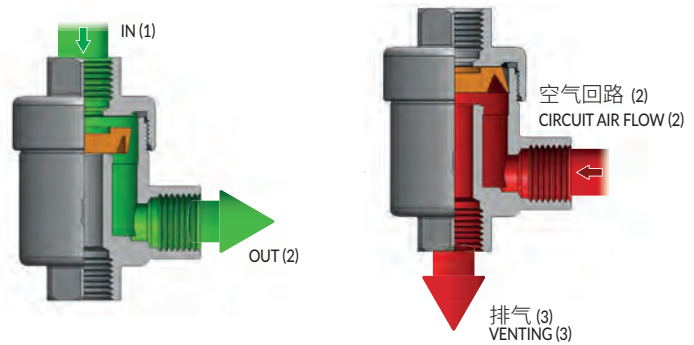
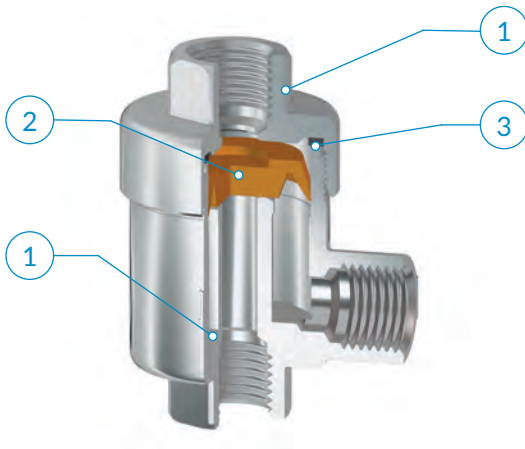
PA6  
PA6



-20° ÷ 80°C



2÷10 bar



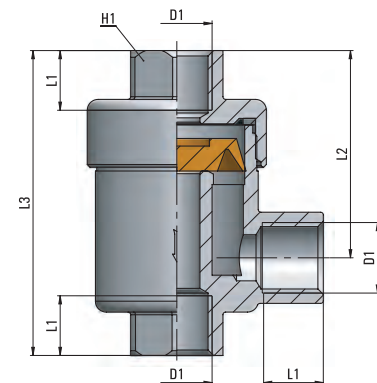
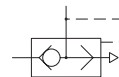
(6 bar - Δp = 1bar)

流量  
Flow rate

	IN OUT 1→2	OUT VENT 2→3
M5	133 NI/min	150 NI/min
1/8	450 NI/min	760 NI/min
1/4	780 NI/min	1840 NI/min
3/8	1160 NI/min	2600 NI/min
1/2	1260 NI/min	5300 NI/min
3/4*	1530 NI/min	3300 NI/min

\*3bar 压力下的流量特性 - Flow rate at 3 bar

类型	D1	L1	L2	L3	H1	g
27 00 M5	M5x0,8	4,5	15,6	24,8	10	34,0
27 00 18	G1/8	8	28	42	15	84,8
27 00 14	G1/4	11	34,5	53	19	148,2
27 00 38	G3/8	12	36	55	21	149,2
27 00 12	G1/2	14	44	71	26	326,0
27 00 34	G3/4	18	52	86	32	451,6



**i** 断开供气时阀门能够迅速排出回路中空气;如果用于气缸,则可提高速度。

**建议的连接管路:**  
取决于与阀相连的接头类型。

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** This valve can easily vent the circuit in case of an air supply failure. If assembled on the cylinder port, it increases the cylinder speed.

**Recommended tubings:**  
According to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 32

梭阀

Shuttle valve

1 本体  
Body

阳极氧化铝 Al2011  
Anodized aluminium Al2011

2 阀芯  
Cartridge

黄铜 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N

3 密封圈  
Seals

NBR  
NBR

4 滚珠  
Ball

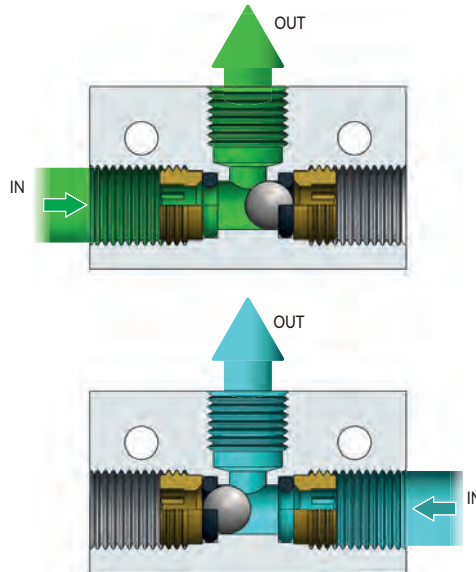
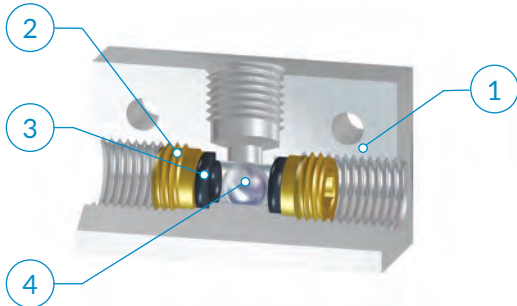
AISI 420 不锈钢  
Stainless steel AISI 420



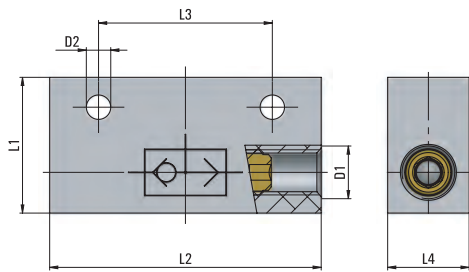
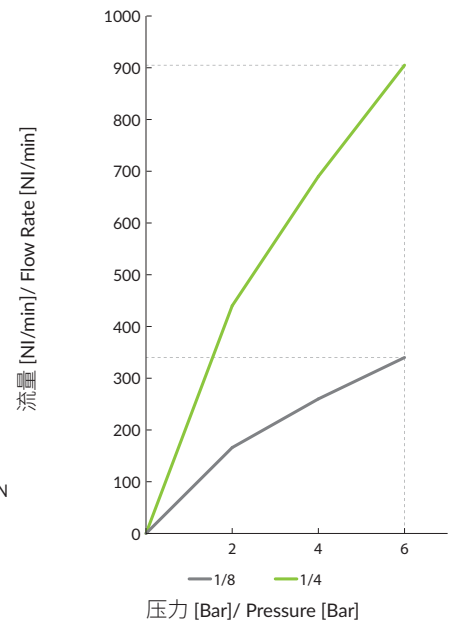
-20° ÷ 80°C



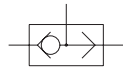
2÷10 bar



P = 6 bar - Δp = 1 bar



类型	D1	D2	L1	L2	L3	L4	g
32 00 18	G1/8	4,5	25	50	32	15	57,4
32 00 14	G1/4	5,5	30	52	35	20	74,0



**i** 逻辑或门控制, 当两个阀控制同一设备时, 来自任一控制阀的信号, 都将使梭阀动作, 以完成控制。

**i** It is used when two valves have to operate the same equipment. The signal, no matter from which of the two valves it comes, is received by the shuttle valve and transmitted to the device to operate.

**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 46

MV  
LINE

气动开关

Pneumatic switch

1 本体  
Body  
黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 手柄  
Handle

3 密封圈  
Seals  
NBR  
NBR

4 弹簧  
Spring  
AISI 302 不锈钢  
Stainless steel AISI 302

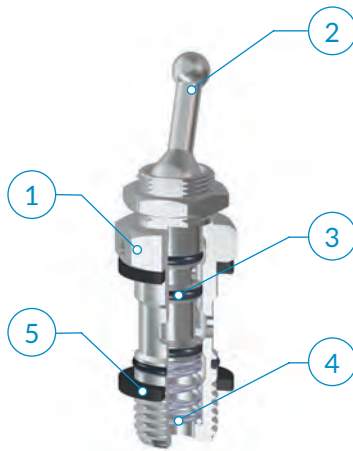
5 垫圈  
Gasket  
PA6  
PA6



-20° + 80°C

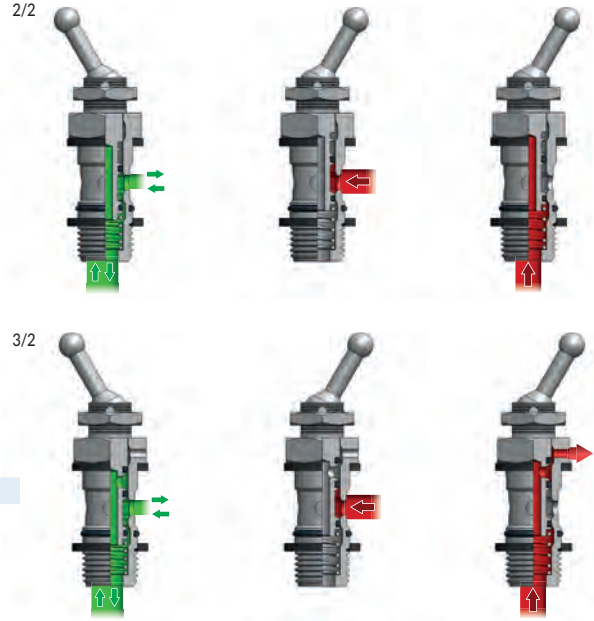


15 bar

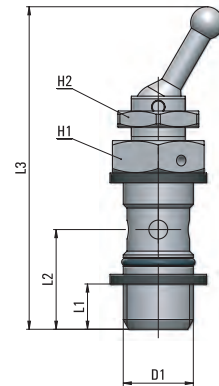


(6 bar - Δp = 1bar)

流量 Flow rate	1/8	235 NI/min
	1/4	265 NI/min



类型	D1	L1	L2	L3	H1	H2	g $\Delta$
46 00 18	G1/8	6,5	15,9	54,8	14	15	25,0
46 00 14	G1/4	8	18,7	59,8	17	15	41,0



**i** 这些阀能够通过简单操作控制杆的方式截断回路(开/关);有二通阀和三通阀两种,通过使用三通阀,除了可以断开回路外,还可以进行排气。

**i** The MV 46 is a pneumatic switch. It is available in a 2/2 and 3/2-way version. The goal of the 2/2 way switch is to cut off the flow in the circuit whenever needed by simply operating the lever. The 3/2 way valve cuts off the flow and vents to atmosphere the terminal part of the circuit.

**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# MV 48

线型气动开关

In-line pneumatic switch

1 本体  
Body

POM  
POM

2 气动开关  
Pneumatic switch

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

4 密封圈  
Seals

NBR  
NBR

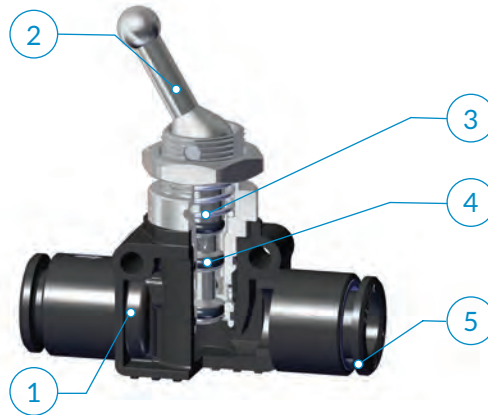
5 MB快插接头  
MB line push-in fittings



-20° ± 70°C

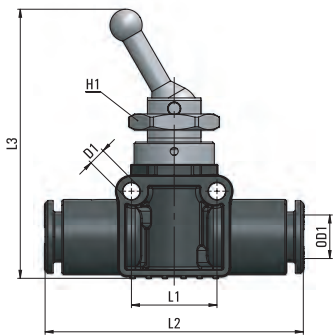


15 bar



(6 bar - Δp = 1bar)

流量 Flow rate	Ø6	185 NI/min
	Ø8	190 NI/min



类型	OD1	D1	L1	L2	L3	H1	g
48 06 06	6	3,2	16	47	48,8	15	30,5
48 08 08	8	3,2	16	48	50,3	15	32,0



**i** 这些阀能够通过简单操作控制杆的方式截断回路（开/关）；有二通阀和三通阀两种，通过使用三通阀，除了可以断开回路外，还可以进行排气。

**建议的连接管路：**  
PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**i** The MV 48 is a pneumatic switch. It is available in a 2/2 and 3/2-way version. The goal of the 2/2 way switch is to cut off the flow in the circuit whenever needed by simply operating the lever. The 3/2 way valve cuts off the flow and vents to atmosphere the terminal part of the circuit.

**Recommended tubings:**  
PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 51

MV  
LINE

带压力表接头

Pressure gauge fitting

1 本体  
Body

POM  
POM

2 螺纹  
Thread

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 压力表  
Gauge

ABS  
ABS

4 MB快插接头  
MB line push-in fittings



0° ÷ 70°C



10 bar



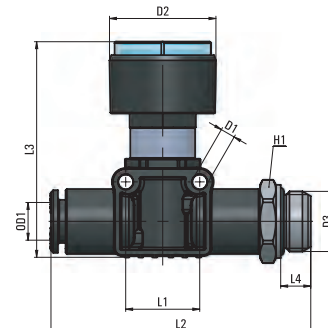
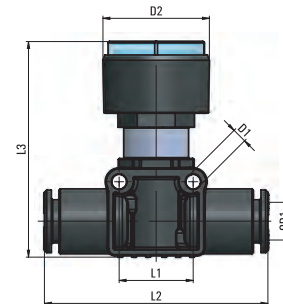
## 快插式 - Push-in version

类型	OD1	D1	D2	L1	L2	L3	g Δ
51 06 06	6	3,2	23	16	47	45,1	14,0
51 08 08	8	3,2	23	16	48	46,6	16,0



## 快插/螺纹式 - Push-in/threaded version

类型	OD1	D1	D2	D3	L1	L2	L3	L4	H1	g Δ
51 06 18	6	3,2	23	G1/8	16	53	45,1	5	13	21,0
51 06 14	6	3,2	23	G1/4	16	55	45,1	6,5	16	23,0
51 08 18	8	3,2	23	G1/8	16	54	46,6	5	14	23,0
51 08 14	8	3,2	23	G1/4	16	56	46,1	6,5	16	25,0



### 建议的连接管路:

PA11、PA12、PA6、PU聚氨酯(98 Shore A)  
精度:4

### Recommended tubings:

PA11, PA12, PA6, Polyurethane PU  
(98 Shore A).  
Accuracy: 4

### 应用领域:

空气经过过滤和润滑处理的气动系统。

### Application field:

Pneumatic installations fed with filtered,  
lubricated air.

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# MV 50

## 软启动接头

## Slow starter

- |  |                               |  |  |  |  |
|--|-------------------------------|--|--|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>2</b> 针阀<br/>Needle</p> | <p><b>3</b> 弹簧<br/>Spring</p> <p>AISI 302 不锈钢<br/>Stainless steel AISI 302</p> | <p><b>4</b> 密封圈<br/>Seals</p> <p>NBR-PU<br/>NBR-PU</p> | <p><b>5</b> 铰接本体<br/>Banjo Ring</p> <p>黄铜镀镍 UNI EN 12165 CW617N<br/>Brass UNI EN 12165 CW617N, nickel plated</p> | <p><b>6</b> 垫圈<br/>Gasket</p> <p>PA6<br/>PA6</p> |
|--|-------------------------------|--|--|--|--|

P1

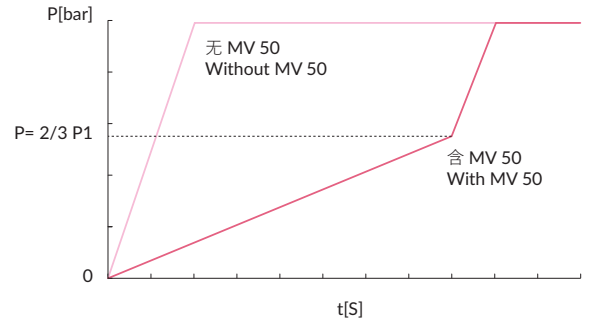
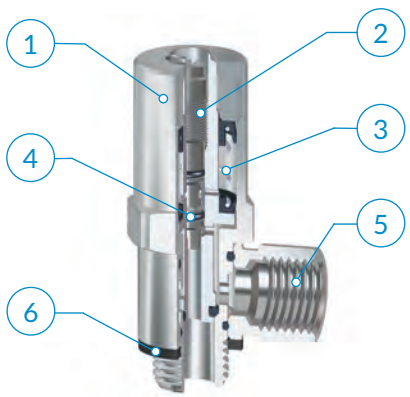
-20° ÷ 70°C

3 ÷ 10 bar

SILICONE FREE

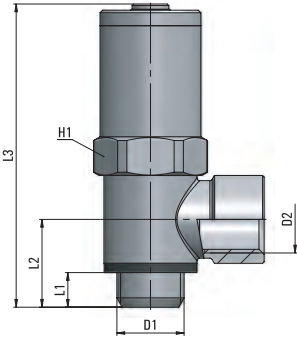
RoHS

REACH

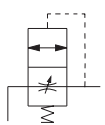


(6 bar - Δp = 1bar)

流量 Flow rate	MV50 1/4	1040 NI/min
	MV50 3/8	1900 NI/min
	MV50 1/2	2570 NI/min



类型	D1	D2	L1	L2	L3	H1	g
50 00 14	G1/4	G1/4	6,7	17	63,9	20	99,0
50 00 38	G3/8	G3/8	9,2	21	69,4	20	130,0
50 00 12	G1/2	G1/2	10,5	24,5	72,4	25	180,0



**i** 这种功能接头能够为系统逐渐增压，避免之前已经排放的系统在突然加压之后在线路上产生的所谓“水锤”效应。软启动接头由用户通过特殊调节螺丝以预设方式缓慢打开，逐渐将压力引入回路中，从而使执行机构逐渐到达工作位置，因此避免突然变化。回路压力上升速度取决于调节针阀旋转：顺时针阀旋转时就可以达到压力平稳上升的效果。

**i** This fitting allows for a progressive pressurization of the installation and prevents the actuators from being hit hard in case of sudden pressure feeding of the previously vented circuit. Depending on the desired spindle setting, the Slow Start Fitting will open gradually, pressure will progressively flow into the circuit and the actuators will go back to their working position without being hit. Pressure feeding speed is indeed determined by the rotation of the spindle. If turned clockwise, a very smooth pressurization will be achieved

**建议的连接管路：**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# MV 52

MV  
LINE

感测接头

Threshold sensor

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 密封圈  
Seals

NBR-PU  
NBR-PU

3 MA快插接头  
MA line push-in fittings



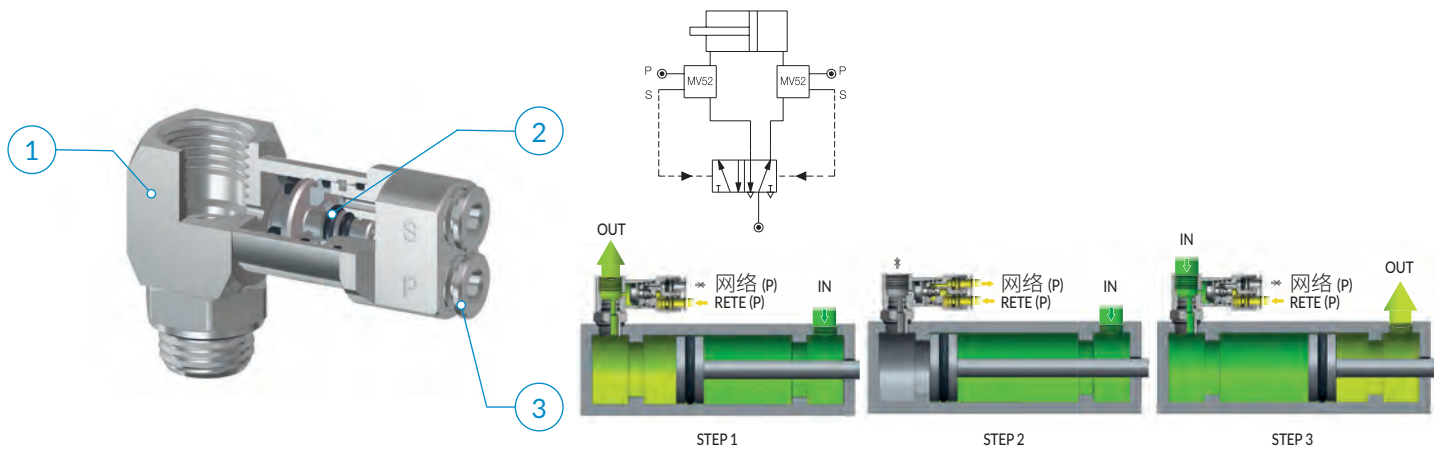
-20° + 80°C



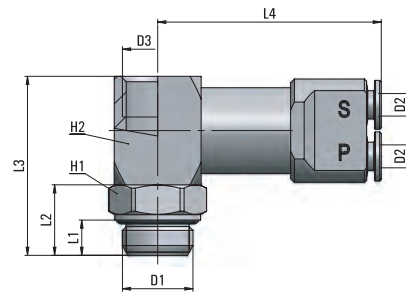
10 bar



3	0,3	开关压力 (bar) Switching pressure (bar)
4	0,5	
5	0,65	
6	0,9	
7	1	
8	1,2	
9	1,4	
10	1,6	



类型	D1	D2	D3	L1	L2	L3	L4	H1	H2	g $\Delta$
52 00 18	G1/8	4	G1/8	5	11	27	39	14	16	69,0
52 00 14	G1/4	4	G1/4	6,5	13	33	41	16	16	78,3
52 00 38	G3/8	4	G3/8	7	14,5	34,5	43,3	20	20	98,0



**i** 感测接头能够监测到压力下降并输出命令信号。直接安装在气缸上尤其有用，当活塞到达行程末端（被压消失），命令信号输出致方向控制阀换向。活塞在中间位置时，感测开关不起作用。该接头主要优点是用电信号来触动。

**i** Threshold sensor can detect a pressure drop and signal it with a command signal (s). This component turns out to be especially useful when assembled directly on the cylinder. When the piston completes its stroke (no more counter pressure available in the cylinder), a command signal is given out to a direction valve to have the piston change the stroke. Sole condition required for perfect component performance is that the piston has to complete its stroke. No intermediate positions are allowed. Major advantage of this component is to command the piston stroke changes without electrical connections.

**建议的连接管路：**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# MV 55

关闭接头

Stop fitting

- 1** 本体  
Body

黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated
- 2** 阀芯  
Valve
- 3** 弹簧  
Spring

AISI 302不锈钢  
Stainless steel AISI 302
- 4** 密封圈  
Seals

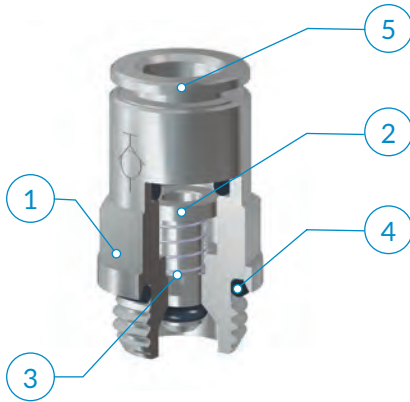
NBR  
NBR
- 5** MA快插接头  
MA line push-in fittings



-20° + 80°C

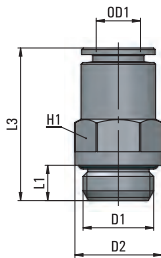
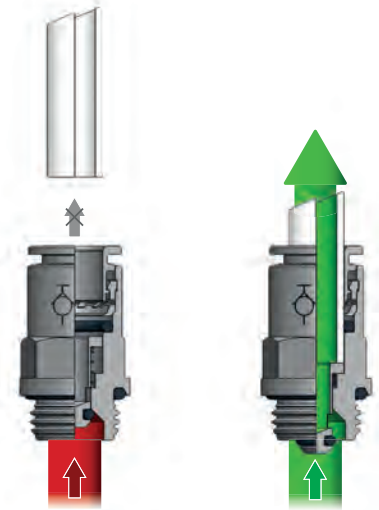


10 bar



流量  
Flow rate (6 bar - Δp = 1bar)

1/8	365 NI/min
1/4	380 NI/min



类型	D1	D2	D3	L1	L2	H1	g
55 06 18	G1/8	13,5	6	5	27,7	12	14,9
55 06 14	G1/4	16	6	6,5	27,7	12	18,0
55 08 18	G1/8	14,5	8	5	27,9	13	17,0
55 08 14	G1/4	16	8	6,5	27,9	13	20,4



**i** 该接头内置单向阀, 只有当插入气管后, 气路导通, 任何意外导致的气管脱落, 都将使气路关闭。

**i** This fitting is provided with a check valve that opens when inserting the tubing into the fitting. Only then the air flow is allowed. Should the tube accidentally get released, the valve would immediately close again and the air flow would stop.

**建议的连接管路:**

PA11、PA12、PA6、PU聚氨酯(98 Shore A)

**Recommended tubings:**

PA11, PA12, PA6, Polyurethane PU (98 Shore A).

**应用领域:**

空气经过过滤和润滑处理的气动系统。

**Application field:**

Pneumatic installations fed with filtered, lubricated air.

# MV 11-14

MV  
LINE

消声器

Air mufflers

	本体 Body	消声器 Muffler	密封圈 Seals		
MV11-FE	黄铜镀镍 UNI EN 12164 CW614N Brass UNI EN 12164 CW614N, nickel plated	AISI 304 不锈钢 Stainless steel AISI 304		0 ÷ 12 bar	-10 ÷ 70 °C
MV11-FEP	PA6	AISI 304 不锈钢 Stainless steel AISI 304		0 ÷ 12 bar	-10 ÷ 70 °C
MV11-PL	POM			0 ÷ 6 bar	-10 ÷ 70 °C
MV11-CO - MV11-CQ MV11-BE - MV11-VE MV11-P	黄铜 UNI EN 12164 CW614N Brass UNI EN 12164 CW614N	烧结青铜 Sintered bronze 89/11		0 ÷ 12 bar	-10 ÷ 70 °C
MV14	黄铜镀镍 UNI EN 12164 CW614N Brass UNI EN 12164 CW614N, nickel plated	烧结青铜 Sintered bronze 89/11	NBR NBR	0 ÷ 10 bar	-10 ÷ 70 °C

6 bar时的噪音水平 - Noise level at 6 bar

类型	1/8	1/4	3/8	1/2
MV11-FE	74 dB	72 dB	88 dB	90 dB
MV11-FEP	74 dB	72 dB	88 dB	90 dB
MV11-CO	70 dB	67 dB	77 dB	80 dB
MV11-CQ	70 dB	67 dB	77 dB	80 dB
MV11-BE	75 dB	81 dB	82 dB	85 dB
MV11-P	72 dB	73 dB	84 dB	88 dB
MV11-PL	87 dB	84 dB	90 dB	90 dB
MV11-VE	72 dB	73 dB	84 dB	88 dB


过滤阈值 - Filtration threshold

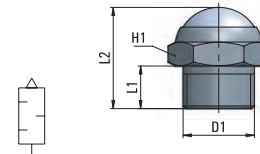
类型	
MV11-FE	100-200 µm
MV11-FEP	100-200 µm
MV11-CO	35 µm
MV11-CQ	35 µm
MV11-BE	35 µm
MV11-P	80 µm
MV11-PL	-
MV11-VE	80 µm

## MV 11-FE

黄铜-不锈钢消音器

Air muffler with stainless steel wire


类型	D1	L1	L2	H1	g 
11 00 18-FE	G1/8	6	15	13	6,2
11 00 14-FE	G1/4	8	19	16	10,9
11 00 38-FE	G3/8	7,5	19	19	16,0
11 00 12-FE	G1/2	10	22	24	28,5

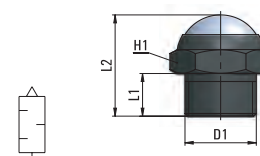


## MV 11-FEP

尼龙-不锈钢消音器

Air muffler with stainless steel wire


类型	D1	L1	L2	H1	g 
11 00 18-FEP	G1/8	6	16	13	2,0
11 00 14-FEP	G1/4	8	19	16	3,5
11 00 38-FEP	G3/8	7,5	19	19	4,9
11 00 12-FEP	G1/2	10	23	24	8,4

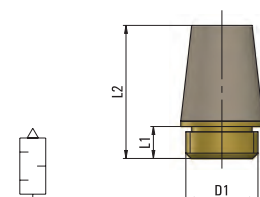


## MV 11-CO

烧结青铜消音器

Sintered bronze air muffler

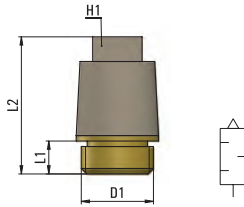
类型	D1	L1	L2	g 
11 00 M5-CO	M5x0,8	4,5	14,5	1,5
11 00 18-CO	G1/8	6	22	6,2
11 00 14-CO	G1/4	6	26	11,0
11 00 38-CO	G3/8	8	38,5	27,3
11 00 12-CO	G1/2	9	41	42,0



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MV 11-CQ

烧结青铜消音器

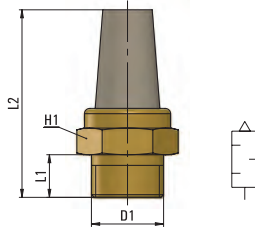


Sintered bronze air muffler

类型	D1	L1	L2	H1	g $\Delta\Delta$
11 00 18-CQ	G1/8	6	22	7	6,0
11 00 14-CQ	G1/4	6	26	9	11,9
11 00 38-CQ	G3/8	8	38	10	25,8
11 00 12-CQ	G1/2	9	41	14	46,1

## MV 11-BE

烧结青铜消音器

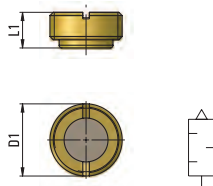


Sintered bronze air muffler

类型	D1	L1	L2	H1	g $\Delta\Delta$
11 00 M5-BE	M5x0,8	4	16	8	2,0
11 00 18-BE	G1/8	6	28	13	8,8
11 00 14-BE	G1/4	8	32	16	15,2
11 00 38-BE	G3/8	7,5	41	19	25,7
11 00 12-BE	G1/2	10	46,5	24	47,0

## MV 11-P

平垫消音器

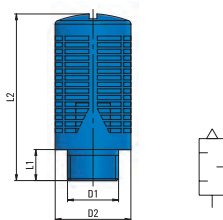


Flat muffler

类型	D1	L1	g $\Delta\Delta$
11 00 18-P	G1/8	4,5	1,3
11 00 14-P	G1/4	6,5	3,5
11 00 38-P	G3/8	7,5	6,9
11 00 12-P	G1/2	8,5	11,2

## MV 11-PL

塑料球消音器

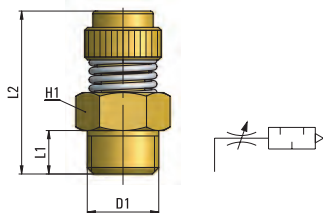


Plastic ball muffler

类型	D1	D2	L1	L2	g $\Delta\Delta$
11 00 18-PL	G1/8	15	6	32,5	3,4
11 00 14-PL	G1/4	19,5	8	43	6,5
11 00 38-PL	G3/8	24,5	11	58	13,5
11 00 12-PL	G1/2	24,5	11	58	15,1

## MV 11-VE

铜制消音器带排气控制

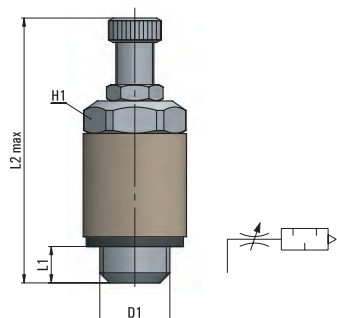


Exhaust control with sintered bronze air muffler

类型	D1	L1	L2 max	H1	g $\Delta\Delta$
11 00 18-VE	G1/8	6	29	13	16,5
11 00 14-VE	G1/4	8	33	15	25,6
11 00 38-VE	G3/8	11	36	22	50,3
11 00 12-VE	G1/2	11	37	22	58,7

## MV 14

消音器带排气控制



Exhausting Control with muffler

类型	D1	L1	L2 max	H1	g $\Delta\Delta$
14 00 M5	M5x0,8	3	39,1	8	6,0
14 00 18	G1/8	4,9	41,7	14	28,9
14 00 14	G1/4	6,4	48,8	17	50,6
14 00 38	G3/8	6,7	62,2	20	92,9

# MV 24-25/53-54

MV  
LINE

球阀

Ball valves

MV24 - MV25

1 本体  
Body  
黄铜UNI EN 12165 CW617N 镀铬  
Brass UNI EN 12165 CW617N, chrome plated

2 球套  
Cartridge  
3 球芯  
Ball  
4 阀杆  
Stem  
黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

5 阀座o型环  
Ball seat oring  
P.T.F.E  
P.T.F.E

6 密封圈  
Seals  
NBR  
NBR

7 手柄  
Handle  
ABS  
ABS

MV53 - MV54

1 本体  
Body  
黄铜 UNI EN 12164 CW614N  
UNI EN 12165 CW617N 镀铬  
Brass UNI EN 12164 CW614N  
UNI EN 12165 CW617N, chrome plated

2 球芯  
Ball  
3 阀杆  
Stem  
黄铜镀镍UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

4 阀座o型环  
Ball seat oring  
P.T.F.E  
P.T.F.E

5 密封圈  
Seals  
NBR  
NBR

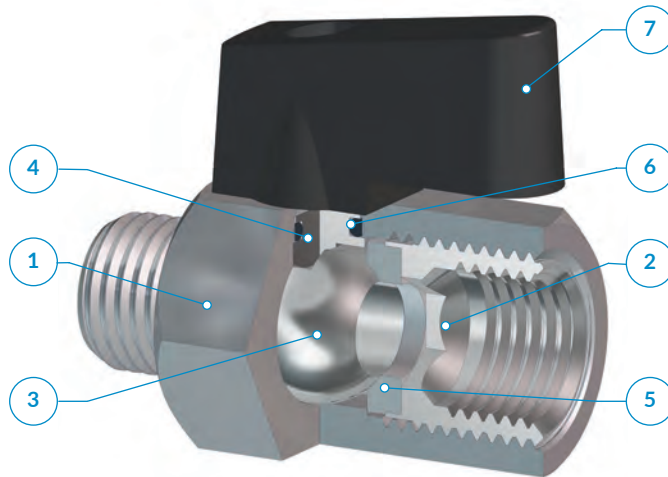
6 手柄  
Handle  
PA66  
PA66



-20° ÷ 80°C



10 bar



应用领域：  
气动、液压和油压系统。

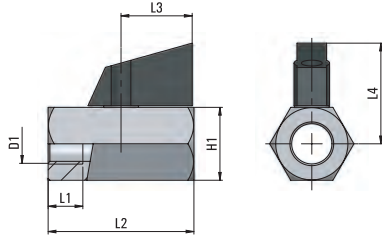
Application fields:  
Pneumatic, hydraulic and oleodynamic circuits.

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## MV 24

内螺纹-内螺纹球阀

Ball valve, female

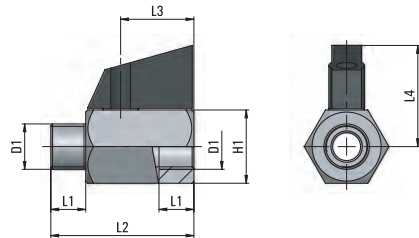


类型	D1	L1	L2	L3	L4	H1	g $\Delta$
24 00 18	G1/8	8	39	20,5	29	20	90,0
24 00 14	G1/4	10	39	20,5	29	20	95,6
24 00 38	G3/8	10	42	20,5	29	20	83,3
24 00 12	G1/2	10,5	47	20,5	31	24	128,0

## MV 25

外螺纹-内螺纹球阀

Ball valve, male

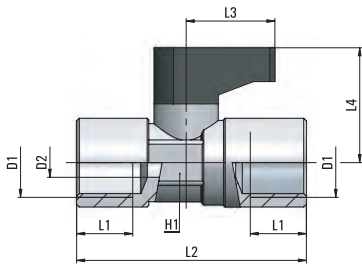


类型	D1	L1	L2	L3	L4	H1	g $\Delta$
25 00 18	G1/8	8	39	20,5	29	20	84,0
25 00 14	G1/4	10	39	20,5	29	20	79,7
25 00 38	G3/8	10	42	20,5	29	20	77,5
25 00 12	G1/2	10,5	47	20,5	31	24	115,5

## MV 53

内螺纹-内螺纹球阀

Ball valve, female

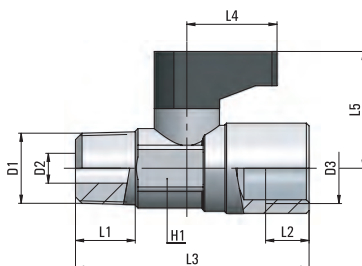


类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
53 00 18	G1/8	5,5	8	36,5	19	21,5	14	37,3
53 00 14	G1/4	5,5	11	43	19	21,5	14	49,5
53 00 38	G3/8	8	10,5	43	24	24	17	74,5
53 00 12	G1/2	10	12	49	34	27	21	138,9

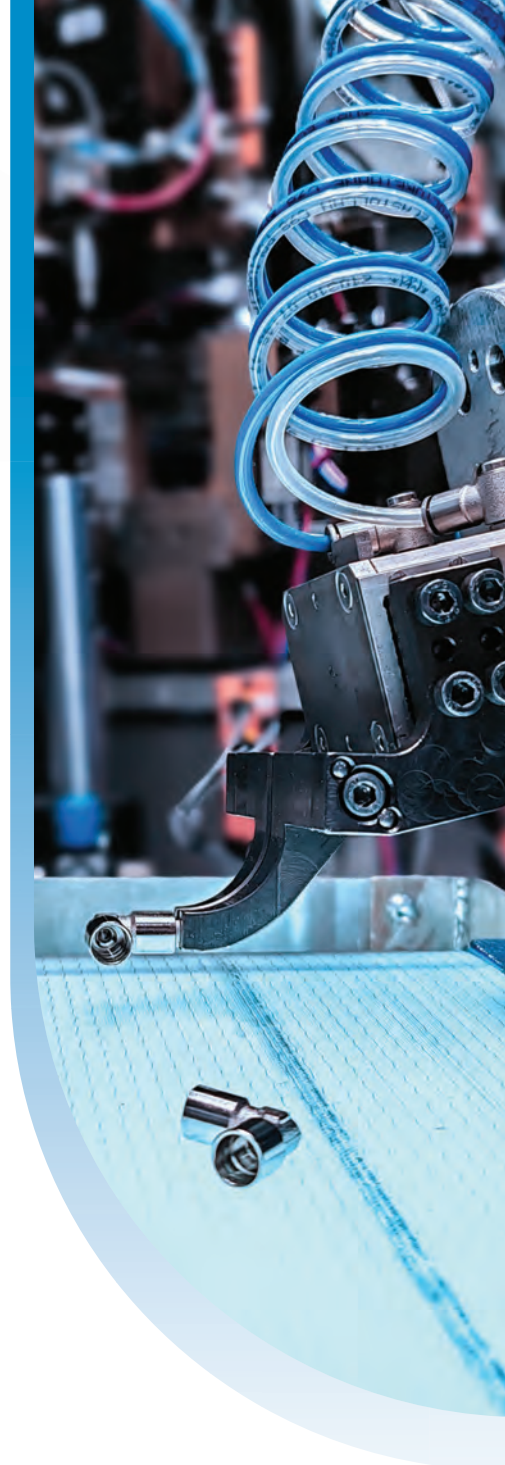
## MV 54

锥形外螺纹-内螺纹球阀

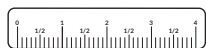
Ball valve, taper male-female



类型	D1	D2	D3	L1	L2	L3	L4	L5	H1	g $\Delta$
54 00 18	R1/8	5,5	G1/8	8	8	35,5	19	21,5	14	34,3
54 00 14	R1/4	5,5	G1/4	11	11	40,5	19	21,5	14	43,2
54 00 38	R3/8	8	G3/8	11,5	10,5	43	24	24	17	67,3
54 00 12	R1/2	10	G1/2	15	12	50	34	27	21	89,5



INCH



**PV LINE**



CN

EN

### INCH/NPT功能接头

功能接头是在实现常规管道连接的同时, 兼具多种气动控制功能的管接头。其产品类型包括流量调节阀、单向阀、气动开关、压力调节器及消声器等。PV系列提供英制尺寸及NPT螺纹规格。

### INCH/NPT Function Fittings

Function fittings are fittings that, in addition to the usual tube connection, they offer a variety of pneumatic functions. Function fittings include flow regulators, one-way valves, pneumatic switches, pressure regulators and silencers, just to name a few. The PV line is available in inch sizes and NPT threads.

# PV Line

## INCH/NPT功能接头

## INCH/NPT Function Fittings

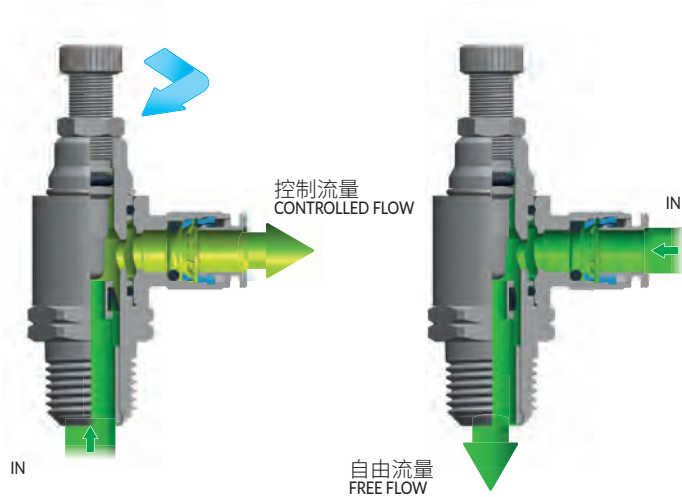
节流阀用于调节气路中流量, 根据应用类型, 可以分为双向节流阀和单向节流阀。其中单向节流阀非常适合进行气缸速度的调节。

They can adjust the flow in a pneumatic circuit. Depending on the flow control used, the setting can be made both ways (Bidirectional Flow Control), or just one way (Unidirectional Flow Control). The Unidirectional Flow Control is particularly used to adjust the speed of pneumatic cylinders.

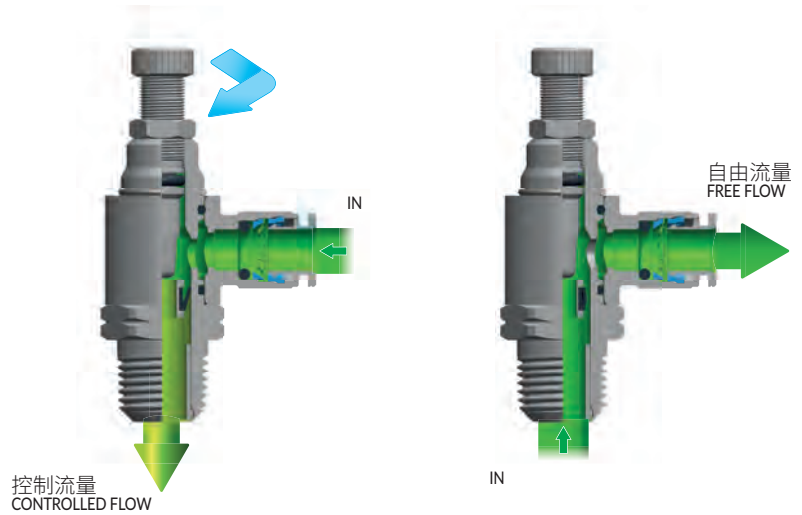
### 流量调节范围

### Possible Flow Adjustments

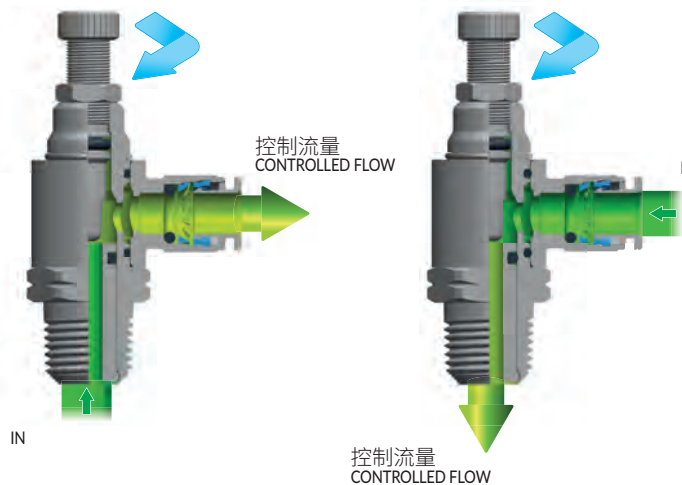
.../O = 排气节流  
Meter out flow control



.../I = 进气节流  
Meter in flow control



.../B = 双向流量调节  
Bidirectional flow control



# PV 18

PV  
LINE

快插式可调节流阀

Flow control with swivel push-in fitting

- 1 本体  
Body
- 2 针阀  
Needle
- 3 插装阀芯  
Cartridge
- 4 旋转螺丝刀槽  
Knob and screwdriver slot

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

- 5 密封圈  
Seals  
NBR  
NBR

- 6 PN快插接头  
PN line push-in fittings



-20° ÷ 80°C



10 bar



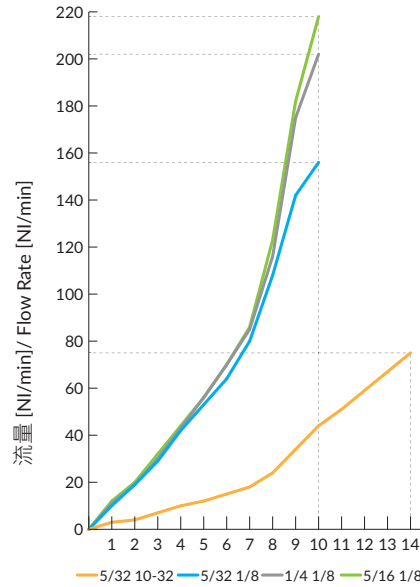
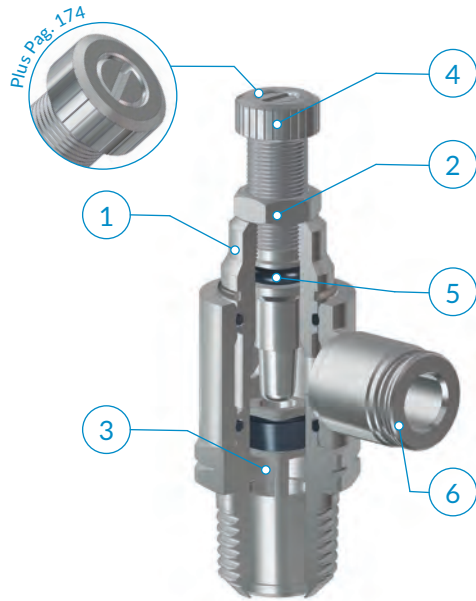
RoHS



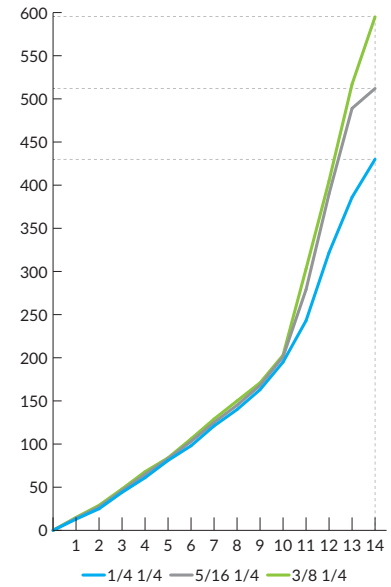
REACH



SILICONE FREE



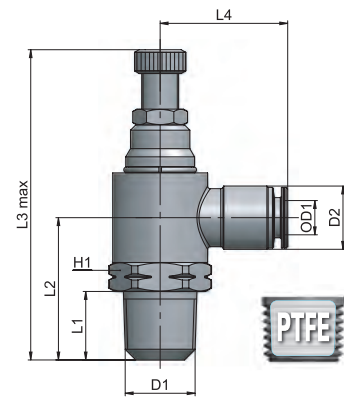
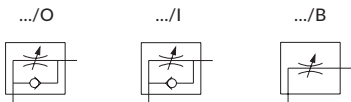
P = 6 bar - Δp = 1 bar



调节针圈数 / N° of needle turns

类型	OD1	D1	D2	L1	L2	L3 max	L4	H1	g ΔΔ
18 5/32 10-32	5/32	10-32 UNF	9,5	5	13,5	18,5	27	6	-
18 5/32 1/8	5/32	1/8 NPTF	9,5	8,2	21,2	20,5	41,2	9/16	35,5
18 1/4 1/8	1/4	1/8 NPTF	12	8,2	21,2	22,5	41,3	9/16	35,0
18 1/4 1/4	1/4	1/4 NPTF	12	12,7	26,7	24	49,6	11/16	50,0
18 5/16 1/8	5/16	1/8 NPTF	14	8,2	21,2	23	41,2	9/16	38,0
18 5/16 1/4	5/16	1/4 NPTF	14	12,7	26,7	24,5	49,6	11/16	61,0
18 3/8 1/4	3/8	1/4 NPTF	16	12,7	26,7	26,5	49,6	11/16	65,5

可用版本:  
Available as:



节流阀安装完成后, 铰接头本体部分仍可自由转动。  
The banjo ring swivels also after flow control installation.

**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# PV 21

线型节流阀

In-line flow control

1 本体  
Body

阳极氧化铝 Al2011  
Anodized aluminium Al2011

2 阀芯  
Valve

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 阀针  
Needle

4 旋钮  
Handwheel

5 螺母  
Nut

6 密封圈  
Seals

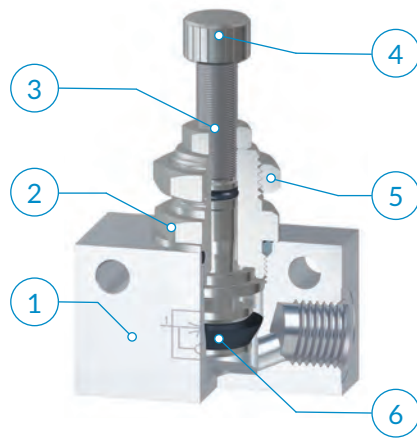
NBR  
NBR



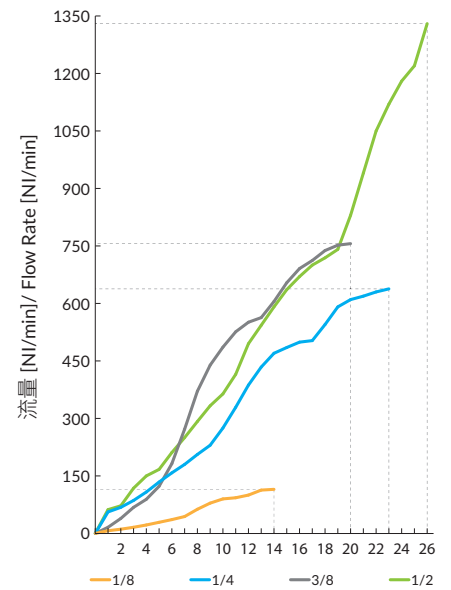
-20° ± 80°C



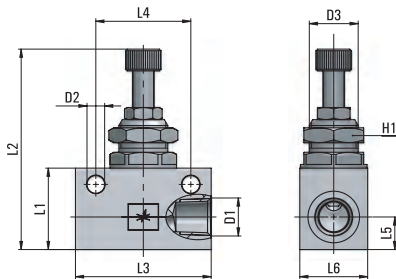
10 bar



P = 6 bar - Δp = 1bar

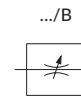
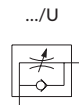


调节针圈数 / N° of needle turns



类型	D1	D2	D3	L1	L2 max	L3	L4	L5	L6	H1	g ΔΔ
21 00 1/8	1/8 NPTF	4,5	M12x0,75	21	49,4	34	24	8	16	15	49,5
21 00 1/4	1/4 NPTF	6,5	M18x1,5	30	75,2	50	35	12	25	22	162,5
21 00 3/8	3/8 NPTF	6,5	M18x1,5	30	75,2	58	40	12	25	22	169,1
21 00 1/2	1/2 NPTF	6,5	M22x1,5	40	93,1	65	50	17	30	26	301,0

可用版本:  
Available as:



**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# PV 23

PV  
LINE

单向阀

Check valve

**1** 本体  
Body  
黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

**2** 阀芯  
Valve

**3** 弹簧  
Spring  
AISI 302 不锈钢  
Stainless steel AISI 302

**4** 密封圈  
Seals  
NBR  
NBR



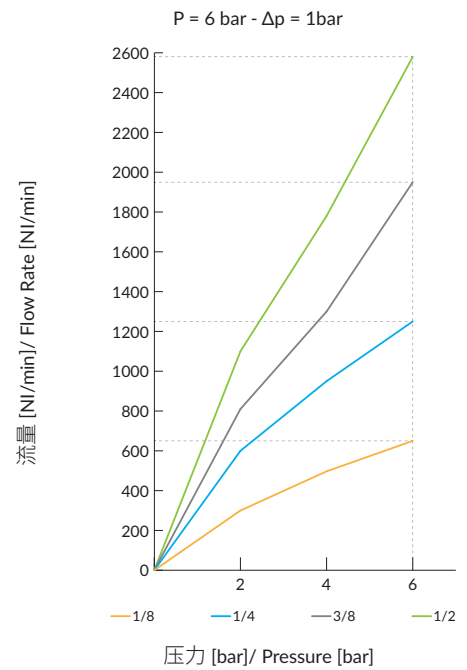
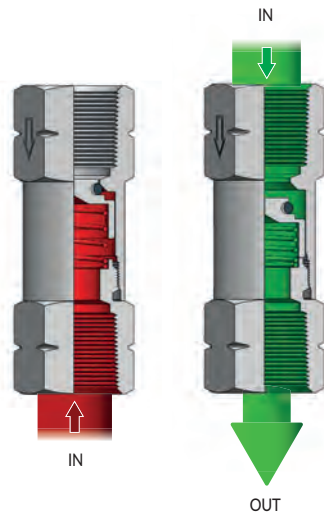
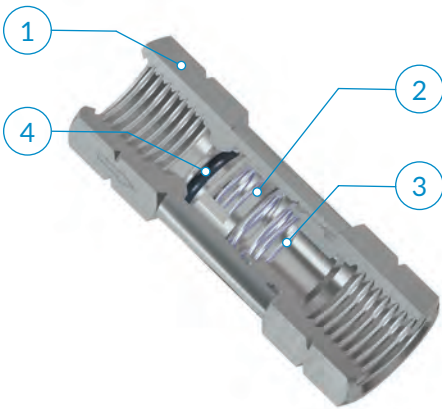
-20° ÷ 80°C



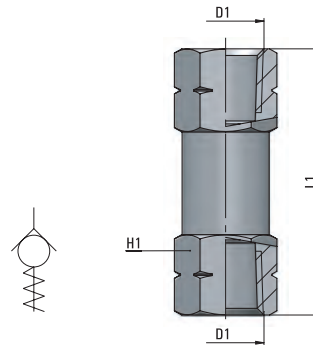
2 ÷ 10 bar



0,2 bar



类型	D1	L1	H1	g Δ
23 00 1/8	1/8 NPTF	39,5	13	27,1
23 00 1/4	1/4 NPTF	48	16	42,9
23 00 3/8	3/8 NPTF	52	20	74,4
23 00 1/2	1/2 NPTF	62	24	121,6



**i** 流体仅允许单向通过(沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# PV 26

滑阀

Slide valve

1 本体  
Body

黄铜UNI EN 12164 CW614N 镀铬  
Brass UNI EN 12164 CW614N, chrome plated

2 滑套  
Sleeve

阳极氧化铝Al6060  
Anodized aluminium Al6060

3 密封圈  
Seals

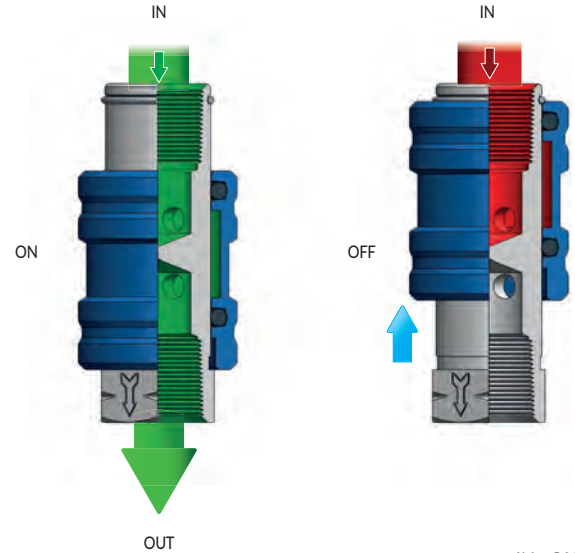
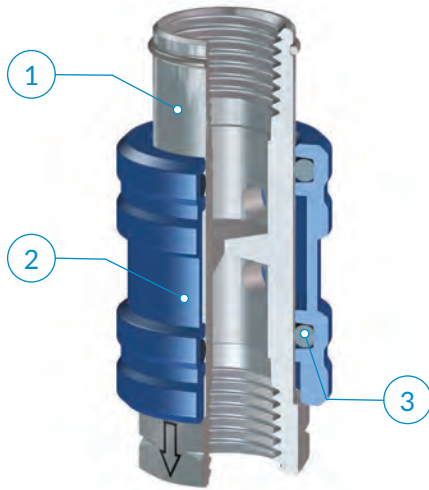
NBR  
NBR



-20° ÷ 80°C



10 bar

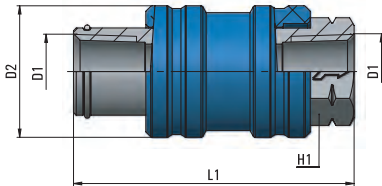


流量  
Flow rate

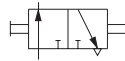
(6 bar - Δp = 1bar)

PV 26 00 18	620 NI/min
PV 26 00 14	920 NI/min
PV 26 00 38	1520 NI/min
PV 26 00 12	2720 NI/min

IN OUT  
1→2



类型	D1	D2	L1	H1	g
26 1/8 1/8	1/8 NPTF	21	46	14	50,0
26 1/4 1/4	1/4 NPTF	24	51,2	17	61,4
26 3/8 3/8	3/8 NPTF	31	58,9	22	116,5
26 1/2 1/2	1/2 NPTF	34,7	72,5	26	-



**i** 可用于气动系统的阻隔。滑套有开和关两个位置，当滑套背离六角方向滑动，阀门处于开的位置，气流按箭头方向流动；反之则阀门关闭，气源切断，并释放背压。

**建议的连接管路：**  
取决于与阀相连的接头类型。

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**i** The valve is used to section a pneumatic installation. Sliding the sleeve on the rod, both ON and OFF positions can be achieved. When the sleeve is against the rod hexagon, the flow goes in the arrow direction (ON); pushing it backwards the air supply is cut off and the installation is vented (OFF).

**Recommended tubings:**  
According to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

## 快插式单向阀

## Straight connection with check valve

- 1** 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated
- 2** 阀芯  
Valve
- 3** 密封圈  
Seals

NBR  
NBR
- 4** 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302
- 5** PN快插接头  
PN line push-in fittings



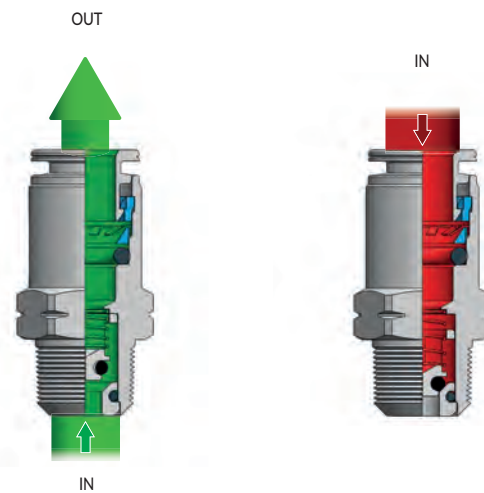
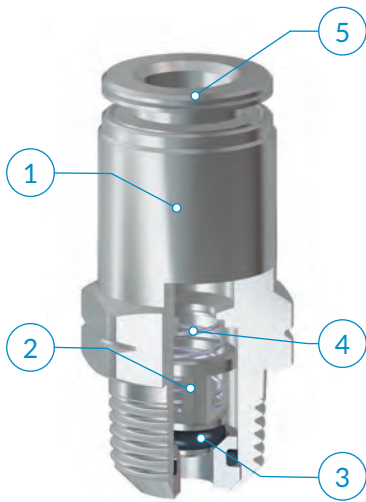
-20° ÷ 80°C



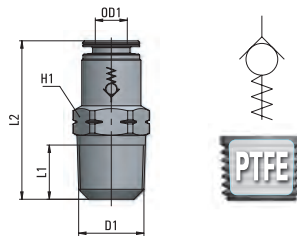
2 ÷ 10 bar



0,2 bar



Meter Out Version



Meter Out Version

类型	OD1	D1	L1	L2	H1	g
33 1/4 1/8	1/4	1/8 NPTF	8,2	28,2	13	14,7
33 1/4 1/4	1/4	1/4 NPTF	13	32	14	20,8

**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# PV 22

## 线型快排阀

## In line quick exhaust valve

- 1** 本体  
Body

阳极氧化铝 Al2011  
Anodized aluminium Al2011
- 2** 唇式密封圈  
Lip ring

PU - NBR, 仅用于1/4  
PU - NBR only for 1/4
- 3** 密封圈  
Seals

NBR  
NBR
- 4** 消声器  
Muffler

AISI 316 不锈钢  
Stainless steel AISI 316
- 5** 挡圈  
Seeger

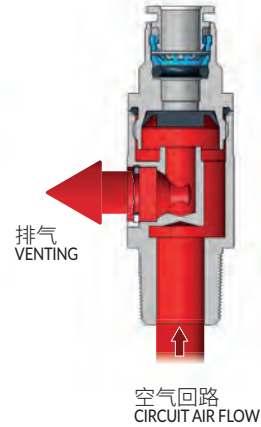
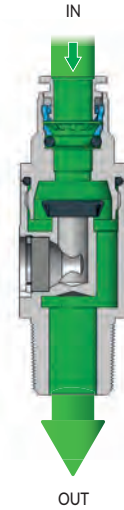
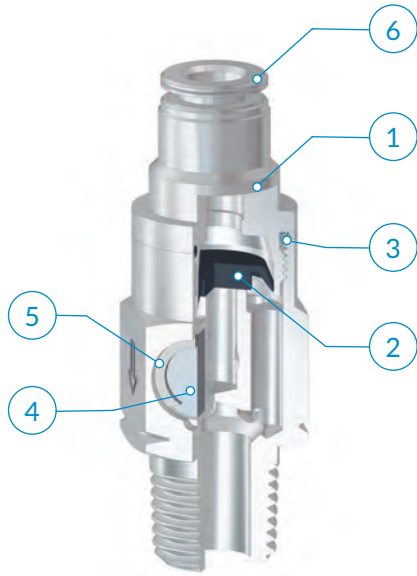
AISI 302 不锈钢  
Stainless steel AISI 302
- 6** PN快插接头  
PN line push-in fittings



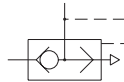
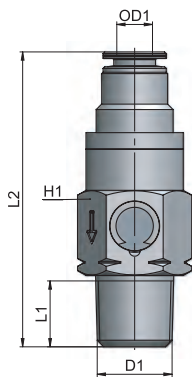
-20 ° ÷ 80°C



2 ÷ 10 bar



流量 Flow rate	(6 bar - Δp = 1bar)	
	IN OUT 1→2	OUT VENT 2→3
1/4	1050 NI/min	660 NI/min
3/8	3000 NI/min	1900 NI/min
1/2	3420 NI/min	2280 NI/min



类型	OD1	D1	L1	L2	H1	g ΔΔ
22 1/4 1/4	1/4	1/4 NPTF	13	53,5	18	19,7
22 3/8 3/8	3/8	3/8 NPTF	13	66	27	-
22 1/2 1/2	1/2	1/2 NPTF	17	79	34	-

**i** 断开供气时阀门能够迅速排出回路中空气;如果用于气缸,则可提高速度。

**建议的连接管路:**  
取决于与阀相连的接头类型。

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** This valve can easily vent the circuit in case of an air supply failure. If assembled on the cylinder port, it increases the cylinder speed.

**Recommended tubings:**  
According to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

快排阀

Quick exhaust valve

1 本体  
Body

黄铜镀镍 UNI EN 12165 CW617N  
Brass UNI EN 12165 CW617N, nickel plated

2 唇式密封圈  
Lip ring

PU - NBR, 仅用于 M5  
PU - NBR only for M5

3 垫圈  
Gasket

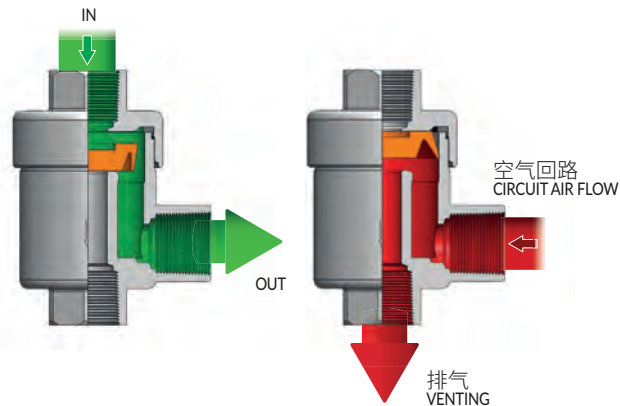
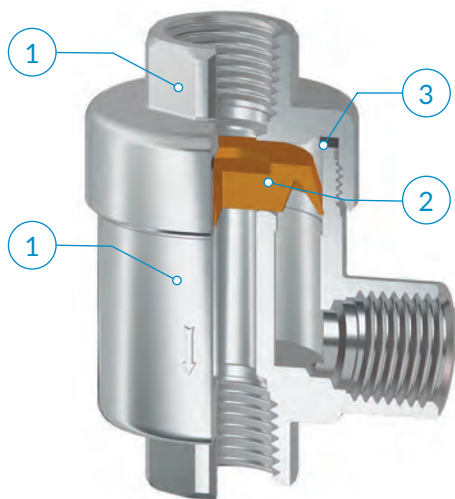
PA6  
PA6



-20° + 80°C



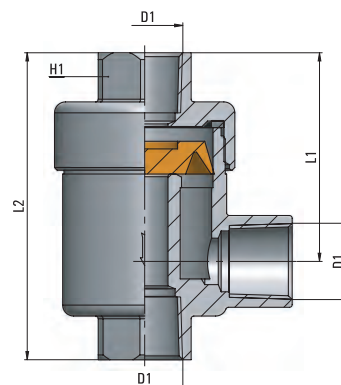
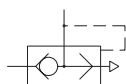
2 ÷ 10 bar



流量 Flow rate	IN OUT	OUT VENT
	1→2	2→3
	(6 bar - Δp = 1bar)	
1/8	450 NI/min	760 NI/min
1/4	780 NI/min	1840 NI/min
3/8	1160 NI/min	2600 NI/min
1/2	1260 NI/min	5300 NI/min
3/4*	1530 NI/min	3300 NI/min

\*3 bar 压力下的流量特性 - Flow rate at 3 bar

类型	D1	L1	L2	H1	g Δ
27 00 1/8	1/8 NPTF	28	42	14	84,2
27 00 1/4	1/4 NPTF	34,5	53	19	147,7
27 00 3/8	3/8 NPTF	36	55	21	163,7
27 00 1/2	1/2 NPTF	44	71	26	314,9
27 00 3/4	3/4 NPTF	55	90	32	511,0



**i** 断开供气时阀门能够迅速排出回路中空气;如果用于气缸,则可提高速度。

**i** This valve can easily vent the circuit in case of an air supply failure. If assembled on the cylinder port, it increases the cylinder speed.

**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the valve.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# PV 45

先导式单向阀

Pilot operated check valve

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 活塞  
Piston

AISI 304 不锈钢  
Stainless steel AISI 304

3 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

4 密封圈  
Seals

NBR-PU  
NBR-PU

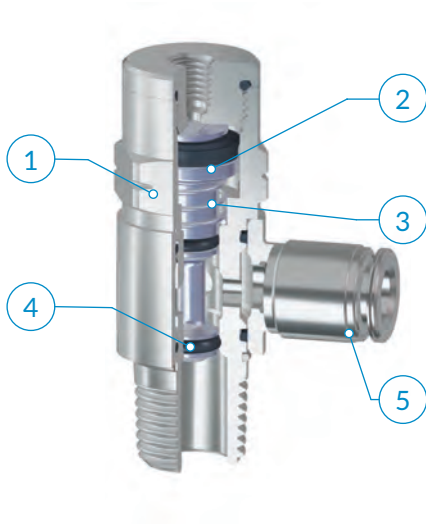
5 PN快插接头  
PN line push-in fittings



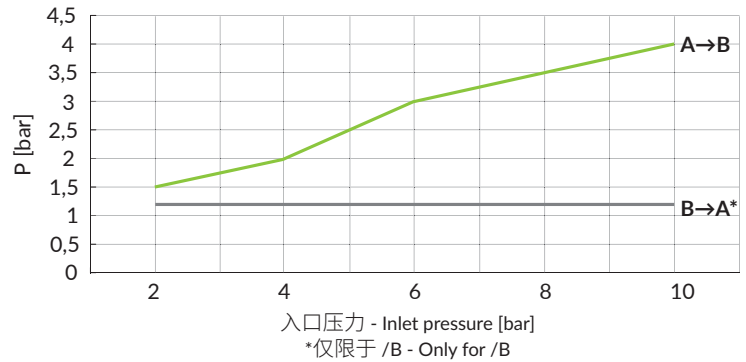
-20° ÷ 80°C



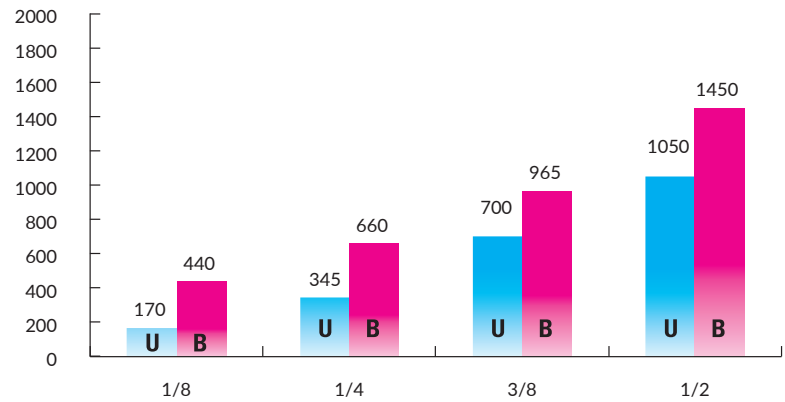
10 bar



先导压力 - Pilot pressure P [bar]



流量 - Flow capacity [NI/min] 6 bar - Δp1



**i** 先导式单向阀 如果成对安装在缸上,当控制压力突然下降时,则能确保防止气缸运动。通过解锁装置,可以手动重置活塞行程,这在调整阶段或缺少空气时特别有用。

**建议的连接管路:**  
取决于与阀相连的接头类型。

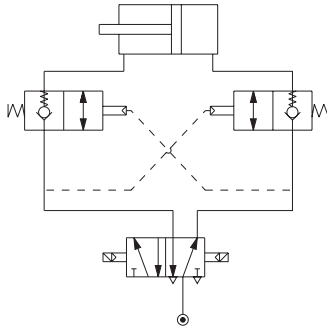
**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** Should a sudden pressure failure happen, if the stop valves are assembled in pairs on the cylinder, the stop valves make sure, that the cylinder piston rapidly stops. By operating the override device, it is possible to reset manually the piston stroke, which is particularly important during a set-up phase or in case of air shortage.

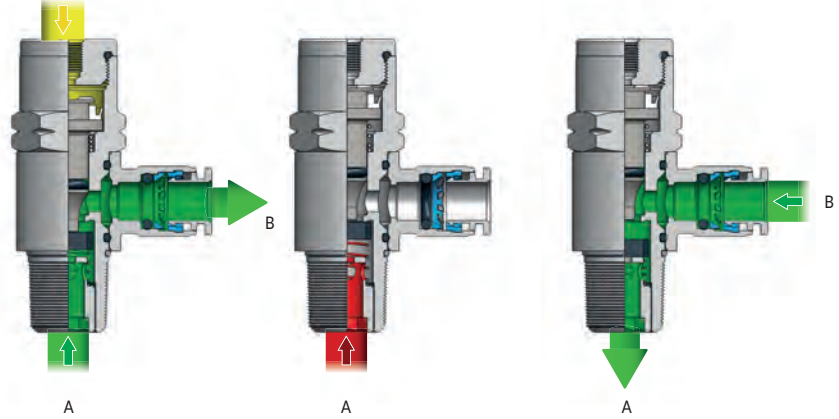
**Recommended tubings:**  
According to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

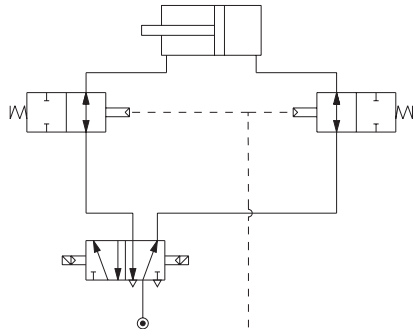
/U = 单向阀 One Way



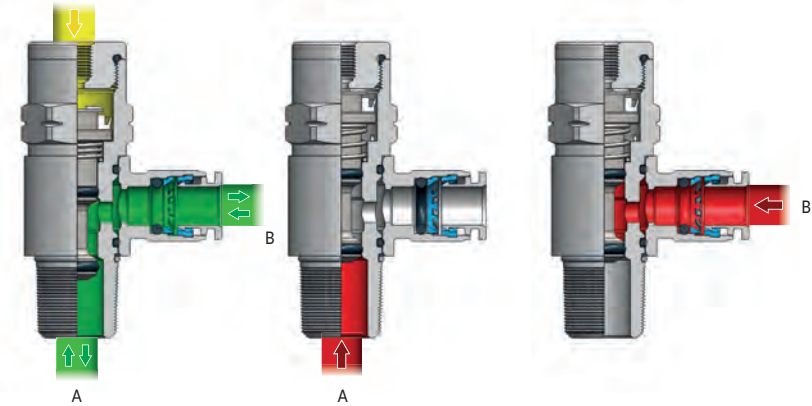
先导压力 (P)  
PILOT PRESSURE (P)



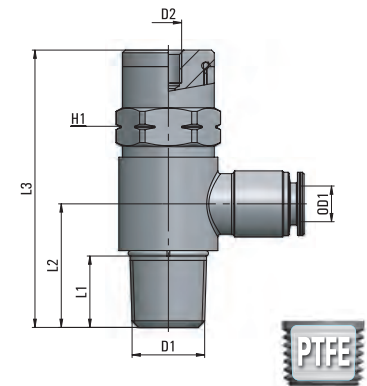
/B = 双向阀 Bidirectional



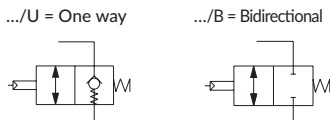
先导压力 (P)  
PILOT PRESSURE (P)



类型	OD1	D1	D2	L1	L2	L3	H1	g ΔΔ
PV45 1/4 1/8 /B	1/4	1/8NPTF	10-32UNF	9,5	17	44,3	13	40,1
PV45 1/4 1/4 /B	1/4	1/4NPTF	10-32UNF	14	22,5	50,5	17	69,8
PV45 3/8 3/8 /B	3/8	3/8NPTF	1/8NPTF	14	24	58,5	20	117,6
PV45 1/2 1/2 /B	1/2	1/2NPTF	1/8NPTF	18,2	30,2	67,7	25	193,8
PV45 1/4 1/8 /U	1/4	1/8NPTF	10-32UNF	8,4	17	42,8	13	40,7
PV45 1/4 1/4 /U	1/4	1/4NPTF	10-32UNF	13	21,5	50,5	17	71,7
PV45 3/8 3/8 /U	3/8	3/8NPTF	1/8NPTF	13	25	57	20	118,6
PV45 1/2 1/2 /U	1/2	1/2NPTF	1/8NPTF	17	30,7	67,7	25	198,4



可用版本:  
Available as:



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# PV 46

气动开关

Pneumatic switch

1 本体  
Body  
黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

2 手柄  
Handle

3 密封圈  
Seals  
NBR  
NBR

4 弹簧  
Spring  
AISI 302 不锈钢  
Stainless steel AISI 302

5 PN快插接头  
PN line push-in fittings



-20° ÷ 80°C



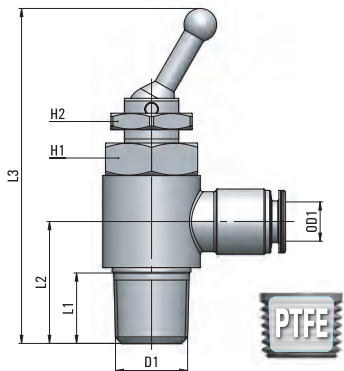
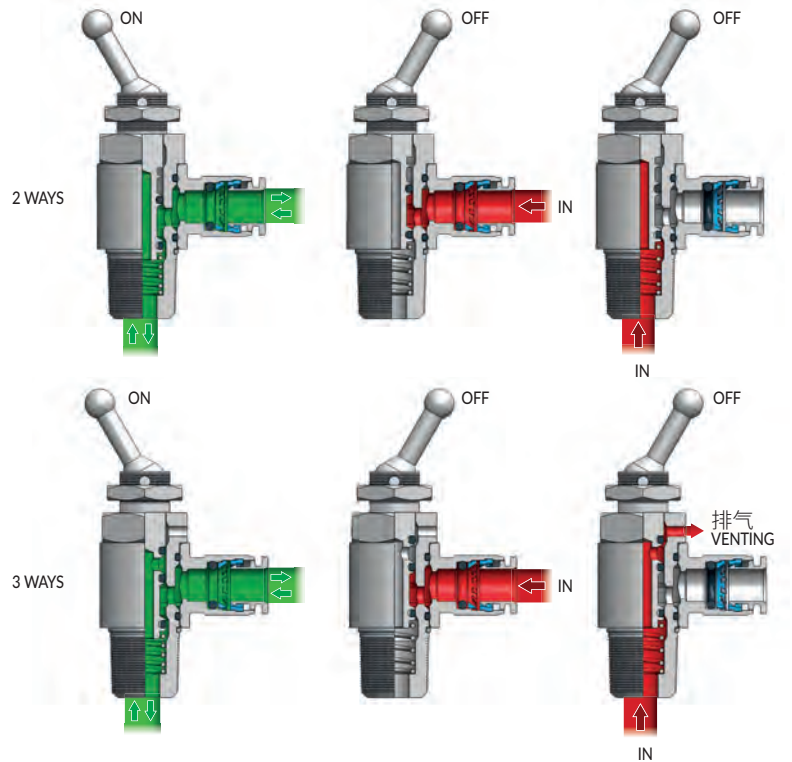
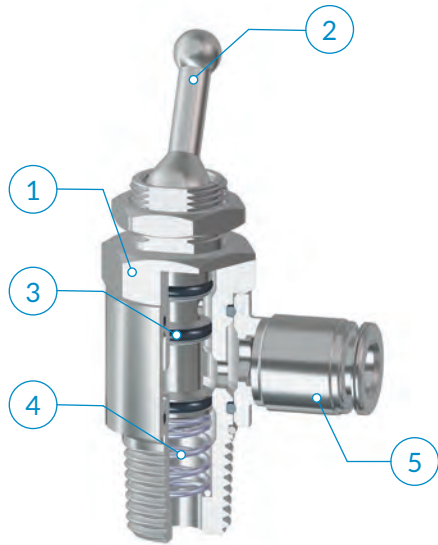
15 bar



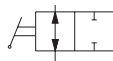
流量  
Flow rate

(6 bar - Δp = 1bar)

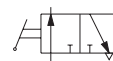
1/8	235 NI/min
1/4	265 NI/min



类型	OD1	D1	L1	L2	L3	H1	H2	g $\Delta$
46 1/4 1/8	1/4	1/8 NPTF	9,5	17	54,3	14	15	39,8
46 1/4 1/4	1/4	1/4 NPTF	14	22,5	61,8	17	15	63,3



二通阀



三通阀

**i** 这些阀能够通过简单操作控制杆的方式截断回路(开/关)；有二通阀和三通阀两种，通过使用三通阀，除了可以断开回路外，还可以进行排气。

**建议的连接管路：**  
取决于与阀相连的接头类型。

**应用领域：**  
空气经过过滤和润滑处理的气动系统。

**i** The PV 46 is a pneumatic switch. It is available in a 2/2 and 3/2-way version. The goal of the 2/2 way switch is to cut off the flow in the circuit whenever needed by simply operating the lever. The 3/2 way valve cuts off the flow and vents to atmosphere the terminal part of the circuit.

**Recommended tubings:**  
According to the fitting connected to the valve.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

消声器


Air mufflers

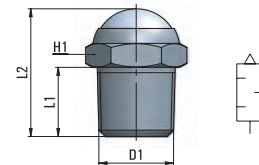
	本体 Body	消声器 Muffler		
PV11-FE	黄铜镀镍UNIEN 12164 CW614N Brass UNI EN 12164 CW614N nickel plated	AISI 304不锈钢 Stainless steel AISI 304	0 ÷ 12 bar	-10 ÷ 70 °C
PV11-BE	黄铜镀镍UNIEN 12164 CW614N Brass UNI EN 12164 CW614N	烧结青铜 Sintered bronze 89/11	0 ÷ 12 bar	-10 ÷ 70 °C

## PV 11-FE

黄铜-不锈钢消音器

Air muffler with stainless steel wire


类型	D1	L1	L2	H1	g 
11 00 1/8-FE	1/8 NPTF	6	15	13	6,2
11 00 1/4-FE	1/4 NPTF	11	22	16	12,4
11 00 3/8-FE	3/8 NPTF	11	23	19	19,0
11 00 1/2-FE	1/2 NPTF	13	25	24	27,7

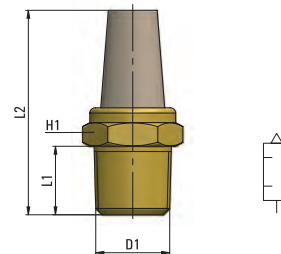


## PV 11-BE

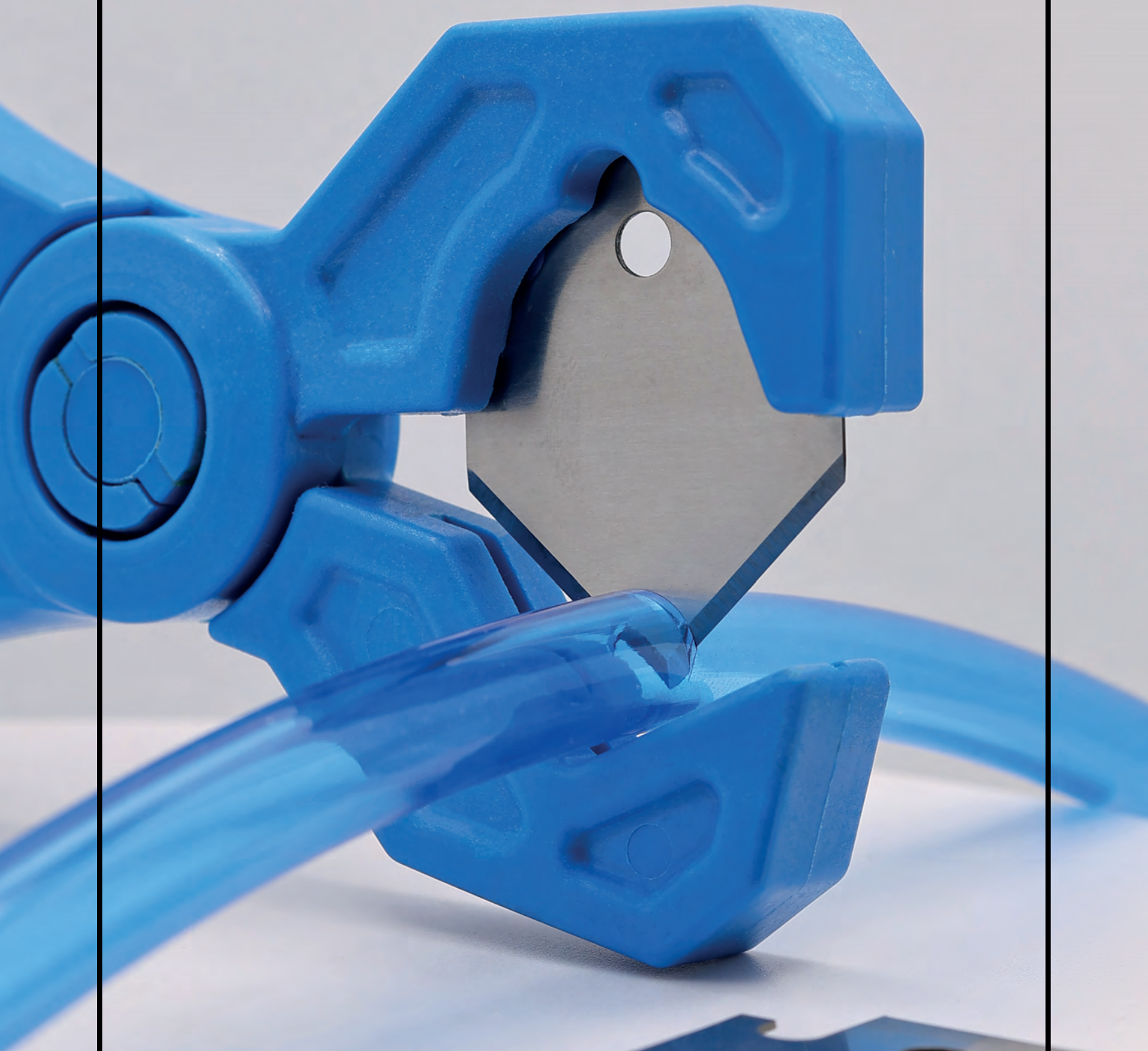
烧结青铜消音器

Sintered bronze air muffler

类型	D1	L1	L2	H1	g 
11 00 1/8-BE	1/8 NPTF	6	29	13	9,0
11 00 1/4-BE	1/4 NPTF	11	36	16	17,0
11 00 3/8-BE	3/8 NPTF	11	43	19	29,0
11 00 1/2-BE	1/2 NPTF	13	49	24	46,0

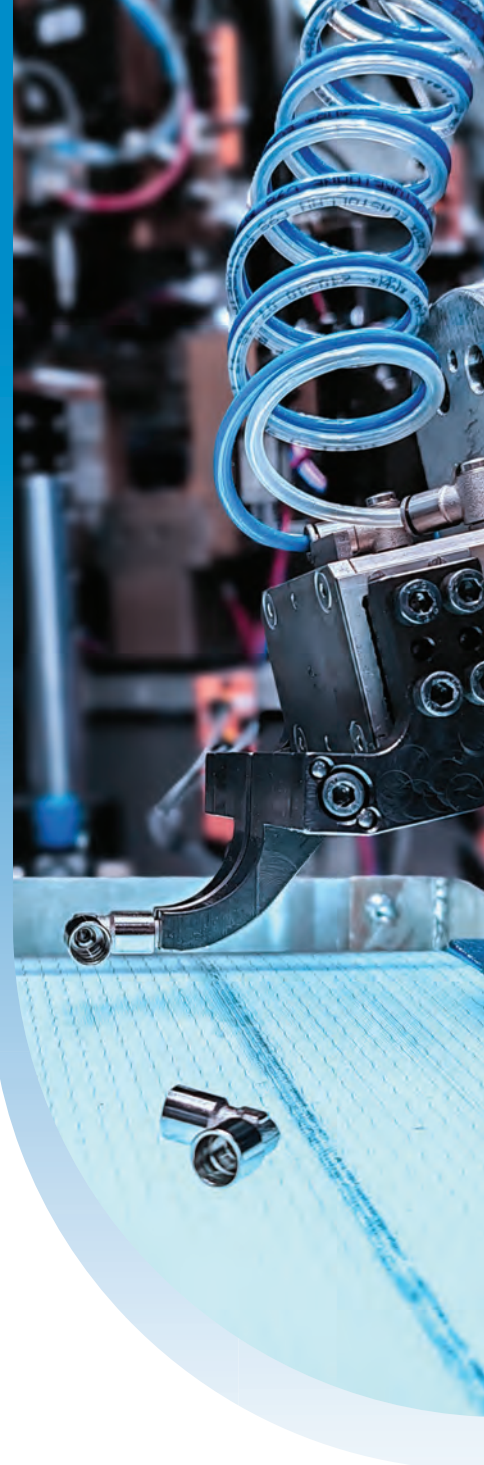


AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU	135
Safety	
GX	281
Safety	
GX	291
Safety	
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU	149
Safety	
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*

**cmatic**<sup>®</sup>  
PNEUMATIC FITTINGS



**EV LINE**



IT

### 模拟量或者开关量控制的电子比例流量控制

该电子流量控制装置包含一块印刷电路板 (PCBa), 可读取电输入信号, 经处理后驱动伺服电机。该电机通过调节孔板内的针阀开度, 使流量变化与电输入信号保持线性比例关系。控制接口支持模拟量0-10V直流信号或基于MODBUS RS485协议的数字化通信

EN

### Electronic Proportional Flow Control with dual Analog/Digital Interface

The electronic flow control consists of a PCBa that reads an electrical input signal, processes it and operates the servo motor that moves a needle valve inside an orifice to make a linear flow rate change proportional to the electrical input signal.  
The command interface can be Analog 0-10 Vdc or Digital according to MODBUS RS485 protocol.

# EV10

- 1 本体  
Body

阳极氧化铝  
Anodized aluminium
- 2 快插接头  
Push-In Fitting
- 3 螺纹  
Thread

黄铜镀镍  
Brass Nickel Plated
- 4 针阀  
Needle

黄铜  
Brass
- 5 密封圈  
Seals

NBR  
NBR
- 6 外套  
Cover

ABS



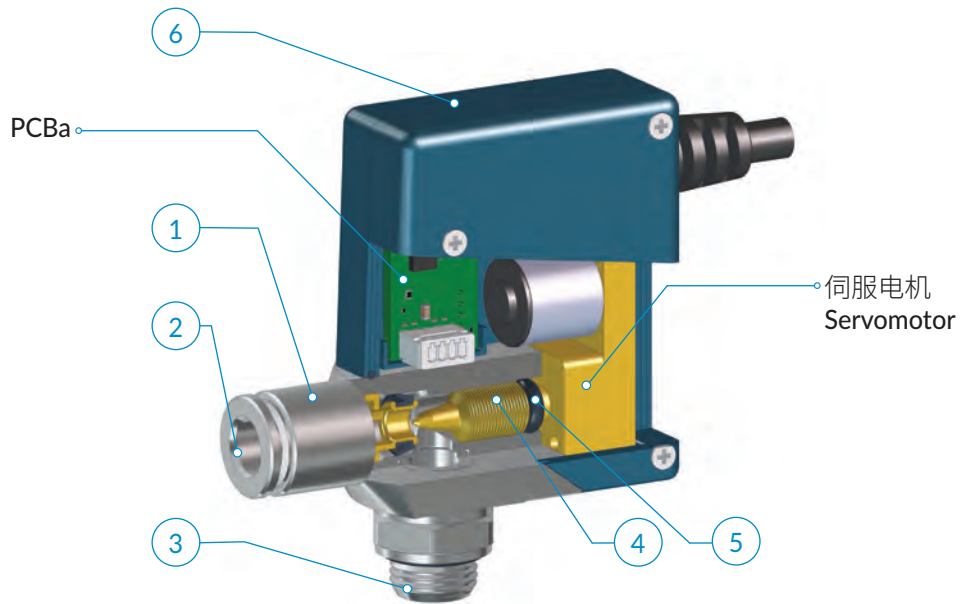
0° ± 50°C



10 bar



-99 KPa



	G1/8	G1/4	G3/8	G1/2
6	●	●		
8	●	●	●	
10		●	●	●

**建议的连接管路:**

PA11、PA12、PA6、PE聚乙烯、PU聚氨酯 (98 Shore A)。

**Recommended tubings:**

PA11, PA12, PA6, Polyethylene PE, Polyurethane PU (98 Shore A)

**可接受的管路公差:**

+/- 0.07 mm, 最大直径 10 mm

**Acceptable Tolerances on the tubings:**

+/- 0,07 mm up to Ø 10 mm

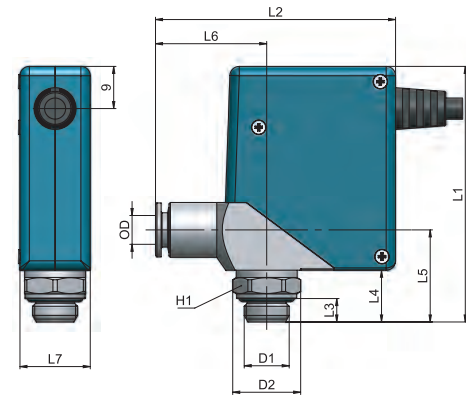
**应用领域:**

气动系统。

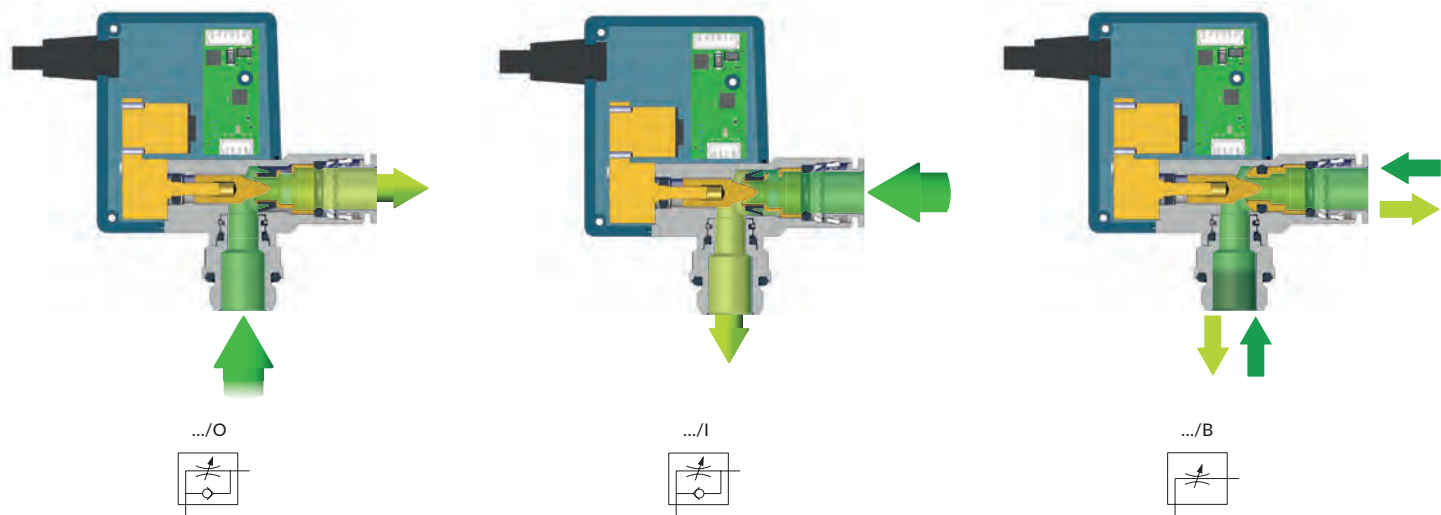
**Application fields:**

Pneumatic circuits

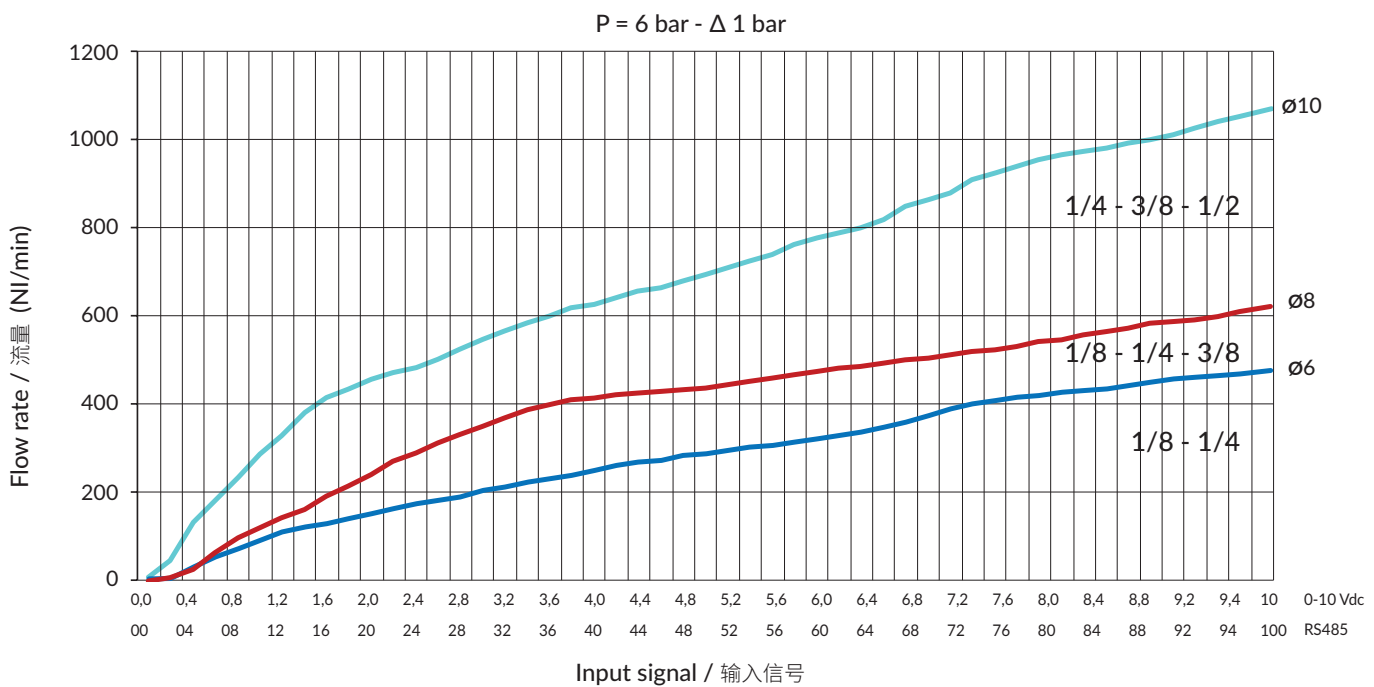
OD1	D1	D2	L1	L2	L3	L4	L5	L6	L7	H1	g Δ
Ø6	G1/8	14,5	54,6	50,9	5	11,1	19,7			13	45,1
	G1/4	16	58,1		6,5	14,6	23,2	23,4	15	13	48,2
Ø8	G1/8	14,5	55,6		5	12,1	20,7			13	48,5
	G1/4	16	59,1	55,1	6,5	15,6	24,2	26,3	15	13	52,5
	G3/8	20	61,1		7	17,6	26,2			16	57,7
Ø10	G1/4	18	59,7		6,5	16,2	24,8			16	50,0
	G3/8	20	63,2	65,5	7	19,7	28,3	31,6	16	16	70,1
	G1/2	25	65,2		8,5	21,7	30,3			16	83,4



可用版本:  
Available as:

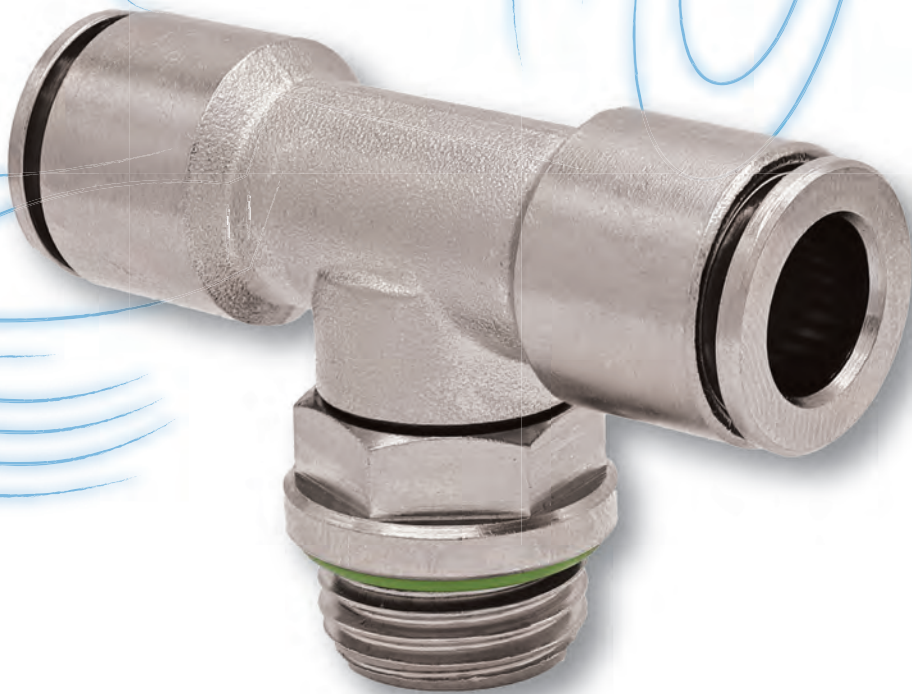


- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299



# EV10

Size 尺寸		∅ 6 (mm)	∅ 8 (mm)	∅ 10 (mm)
Power supply 电源规格		24 Vdc ± 10%		
Standby current 待机电流		20 mA		
Maximum current 最大电流		130 mA		
Maximum Supply Pressure 最大供气压力		10 Bar		
Operating Temperature 工作温度		0-50° C		
Linearity 线性度		Max ± 1% f.s.		
Positioning repeatability 重复精度		± 0,5% f.s.		
Hysteresis 滞环		Max 1% f.s.		
Sensibility 灵敏度		Max 0.25% f.s.		
Max Standby Power 最大待机功耗		0.48 W		
Rated power during movement 运行额定功率		3.5 W		
Max Flow Rate 最大流量	P= 6 bar & ΔP=1 bar	470 NI/min	620 NI/min	1070 NI/min
Max Response Time 最大响应时间	Power on / 上电	20 sec		
	Movement / 运行 10% f.s.	4 sec		
	Movement / 运行 30% f.s.	7 sec		
	Movement / 运行 50% f.s.	10 sec		
Digital Interface 数字接口		RS485 - Half Duplex		
Analog Input 模拟量输入		0-10 Vdc		
	Impedence / 阻抗	10 kOhm		
	Filter / 滤波	low pass / 低通 1.5 kHz		
Digital Output 数字量输出		Mosfet open drain		
	Pull-up/ 上拉	24 Vdc-pull up 100 kOhm		
	Current / 电流	500 mA max		
Cable 电缆		6 poles (极数), 28AWG, PVC ∅5 shield (屏蔽层) L=250 mm		
Standards 标准		CE, ROHS, REACH, EMC (EN IEC 61000-6-2 & 61000-6-4)		
IP Class IP等级		IP40		



**AV LINE**



CN

### 食品行业用高性能黄铜快插接头

AV系列快插式管接头采用黄铜材质制造，并经过化学镀镍处理。该产品系列已通过NSF 169认证，因其在腐蚀性和高温环境中表现出良好的耐受性，成为食品和化学行业的理想选择产品。所有AV管接头均采用含磷化学镀镍工艺处理，并通过NSF 51标准认证。

EN

### Brass Push-in Fittings for Food and High Performance Applications

The push-in fittings of the AV line are made of brass, chemical nickel plated. This product family is NSF 169 certified and as such it is a good alternative product for food and chemical industry, given the good resistance in corrosive and high temperature rated environments. All AV fittings are subject to a phosphorous chemical nickel-plating treatment. certified NSF 51.

# AV Line

- 1** 本体  
Body

黄铜UNI EN 12164 CW614N - UNI EN 12165 CW617N化学镀镍  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, chemical nickel Plated
- 2** 释放环  
Release ring
- 3** 支撑环  
Holding ring

树脂  
Resin
- 4** 卡爪  
Gripping ring

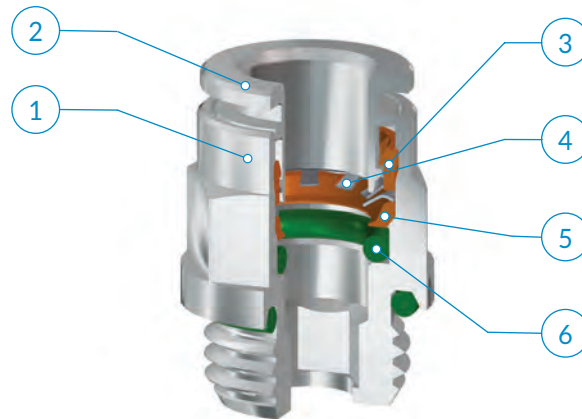
(PEI)  
(PEI)

AISI 301 不锈钢  
Stainless steel AISI 301
- 5** 保护环  
Protection ring

树脂  
Resin
- 6** 密封圈  
Seals

(PEI)  
(PEI)

满足FDA规范的FPM  
FPM, FDA compliant



	M5x0,8	1/8	1/4	3/8	1/2
4	●	●	●		
6	●	●	●		
8		●	●	●	
10			●	●	●
12			●	●	●



涉及蒸汽应用, 请联络销售技术团队。  
For steam applications, please contact our sales engineering team.

### 建议的连接管路:

PA11、PA12、PA6、PE聚乙烯、  
PU聚氨酯 (98 Shore A)。

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 直径从12到 14 mm。

### 应用领域:

气动系统。

### Recommended tubings:

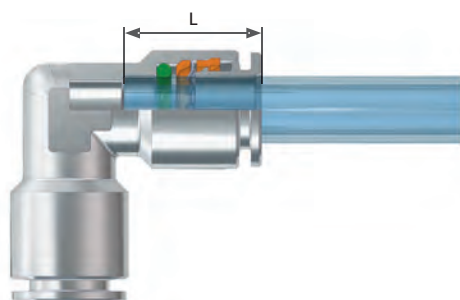
PA11, PA12, PA6, Polyethylene PE,  
Polyurethane PU (98 Shore A)

### Acceptable Tolerances on the tubings:

+/- 0,07 mm up to Ø 10 mm  
+/- 0,1 mm from Ø 12 up to Ø 14 mm

### Application fields:

Pneumatic circuits



OD	L
4	13,2
6	16,1
8	16,2
10	18,3
12	19,5

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。使用金属管路连接时,需要通过专用设备 (TINC) 在管路上开槽。开槽尺寸需要考虑管路直径,以保证可靠的连接。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval. In case of use with metal hoses, make a groove all around the tube diameter with a suitable tool (TINC).The groove must be made according to the tube diameter so that the fitting collect can better grip onto it.

2

将管路插入接头,到底为止。

2

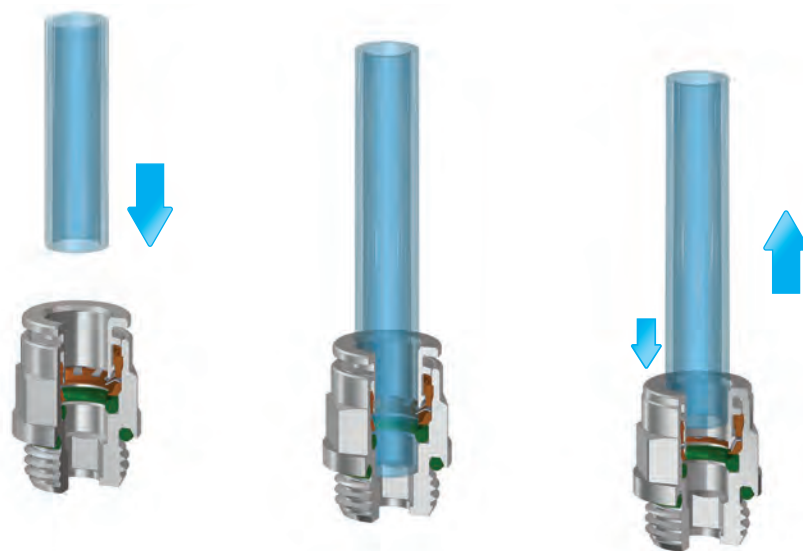
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

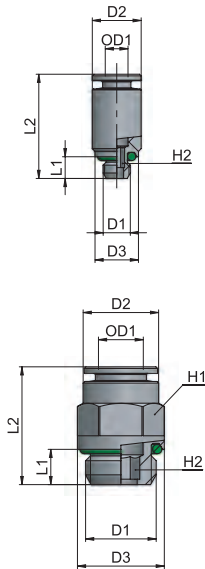


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## AV 12

### 外直螺纹直接头

Parallel straight, male



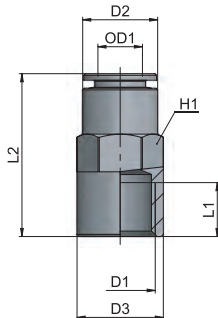
类型	OD1	D1	D2	D3	L1	L2	H2	g	$\Delta$
12 04 M5	4	M5x0,8	9	8	4	19	2,5	4,0	
12 06 M5	6	M5x0,8	12	8	4	22,2	2,5	8,5	

类型	OD1	D1	D2	D3	L1	L2	H1	H2	g	$\Delta$
12 04 18	4	G1/8	9	13	5	16,5	9	3	6,0	
12 04 14	4	G1/4	9	16	6,5	18,5	9	3	12,0	
12 06 18	6	G1/8	11,9	13,5	5	19,5	12	4	9,0	
12 06 14	6	G1/4	11,9	16	6,5	19,5	12	4	12,5	
12 08 18	8	G1/8	13,9	14,5	5	23,5	13	6	11,0	
12 08 14	8	G1/4	13,9	16	6,5	21,5	14	6	14,0	
12 10 38	8	G3/8	13,9	20	7	21	14	6	20,0	
12 10 14	10	G1/4	15,9	16	6,5	27,5	15	8	18,0	
12 10 38	10	G3/8	15,9	20	7	25	16	8	23,0	
12 10 12	10	G1/2	15,9	25	8,5	25,5	16	8	34,5	
12 12 14	12	G1/4	18,9	21	6,5	28,5	19	8	22,0	
12 12 38	12	G3/8	18,9	21	7	28,5	19	10	25,0	
12 12 12	12	G1/2	18,9	25	8,5	26,5	19	10	33,0	

## AV 13

### 内螺纹直接头

Female straight

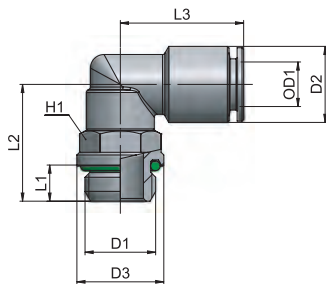


类型	OD1	D1	D2	D3	L1	L2	H1	g	$\Delta$
13 04 18	4	G1/8	9	13	7	23,5	9	10,0	
13 06 18	6	G1/8	11,9	14	7	26	12	15,7	
13 06 14	6	G1/4	11,9	16	10	30	12	19,0	
13 08 18	8	G1/8	13,7	16,2	7	26	14	18,0	
13 08 14	8	G1/4	13,9	16	10	30	14	22,0	
13 10 14	10	G1/4	15,9	18,5	10	32	16	24,4	

## AV 16

### 可调向外直螺纹弯管接头

Parallel swivelling elbow fitting, male



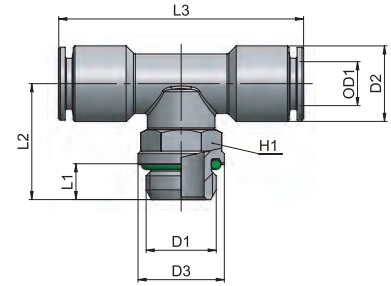
类型	OD1	D1	D2	D3	L1	L2	L3	H1	g	$\Delta$
16 04 M5	4	M5x0,8	9,1	10	4	14	17,5	9	8,5	
16 04 18	4	G1/8	9,1	14,5	5	18,2	19,5	13	16,0	
16 04 14	4	G1/4	9,1	16	6,5	21,7	19,5	13	19,5	
16 06 M5	6	M5x0,8	12	10	4	14	20,5	9	12,0	
16 06 18	6	G1/8	12	14,5	5	18,2	22	13	19,0	
16 06 14	6	G1/4	12	16	6,5	21,7	22	13	22,0	
16 08 18	8	G1/8	14	14,5	5	18	22,5	13	22,0	
16 08 14	8	G1/4	14	16	6,5	21,5	22,5	13	24,0	
16 08 38	8	G3/8	14	20	7	25,5	23	16	36,5	
16 10 14	10	G1/4	16	18	6,5	22	26	16	33,0	
16 10 38	10	G3/8	16	20	7	25,5	26	16	38,0	
16 10 12	10	G1/2	16	25	8,5	27,5	26	16	43,2	
16 12 14	12	G1/4	19	22,5	6,5	25,5	28,5	20	56,5	
16 12 38	12	G3/8	19	22,5	7	26	28,5	20	55,5	
16 12 12	12	G1/2	19	25	8,5	30,5	28,5	20	63,0	

## AV 21

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel

类型	OD1	D1	D2	D3	L1	L2	L3	H1	g $\Delta$
21 04 18	4	G1/8	9,1	14,5	5	18,2	39	13	20,2
21 04 14	4	G1/4	9,1	16	6,5	21,7	39	13	23,9
21 06 18	6	G1/8	12	14,5	5	18	44	13	25,2
21 06 14	6	G1/4	12	16	6,5	21,5	44	13	29,1
21 08 18	8	G1/8	14	14,5	5	18	45	13	30,7
21 08 14	8	G1/4	14	16	6,5	21,5	45	13	34,1
21 08 38	8	G3/8	14	20	7	25,5	46	16	46,4
21 10 14	10	G1/4	16	18	6,5	22	52	16	44,4
21 10 38	10	G3/8	16	20	7	25,5	52	16	49,7
21 12 38	12	G3/8	19	22,5	7	26	57	20	75,3
21 12 12	12	G1/2	19	25	8,5	30,5	57	20	82,0

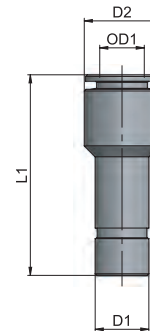


## AV 25

减径接头

Reducer

类型	OD1	D1	D2	L1	g $\Delta$
25 04 06	4	6	9	33,5	7,0
25 06 08	6	8	12	35	11,5
25 08 10	8	10	14	37	15,0
25 10 12	10	12	16	42	20,3

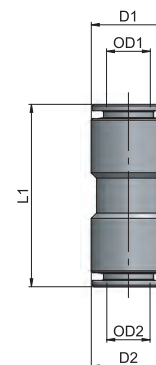


## AV 26

对接接头

Union

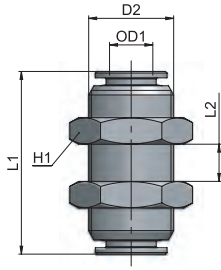
类型	OD1	OD2	D1	D2	L1	g $\Delta$
26 04 04	4	4	9	9	28	6,5
26 06 06	6	6	12	12	33,6	14,6
26 06 04	6	4	12	12	31	15,2
26 08 08	8	8	14	14	34	17,5
26 08 06	8	6	14	14	34	21,0
26 10 10	10	10	16	16	38,6	22,5
26 10 08	10	8	16	16	36,5	25,2
26 12 12	12	12	19	19	41	25,5



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## AV 27

穿板对接接头

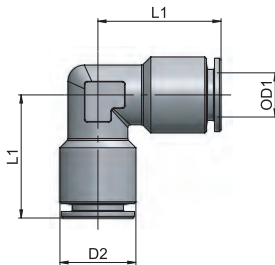


Bulkhead union

类型	OD1	D2	L1	L2	H1	g $\Delta$
27 04 04	4	M12x1	28	11	16	24,0
27 06 06	6	M14x1	34	16	18	34,5
27 08 08	8	M16x1	34	16	20	40,0
27 10 10	10	M18x1	39	19	22	51,0
27 12 12	12	M20x1	41	20	24	59,5

## AV 28

直角对接接头

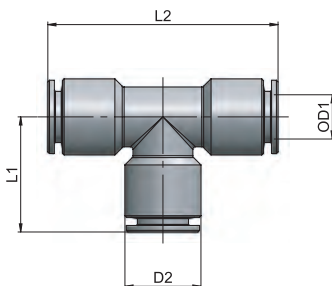


Union elbow

类型	OD1	D2	L1	g $\Delta$
28 04 04	4	9	17,5	8,5
28 06 06	6	12	20,5	16,5
28 08 08	8	14	22,5	22,5
28 10 10	10	16	25	28,5
28 12 12	12	19	26,5	43,5

## AV 29

正T型三通对接接头



Union T

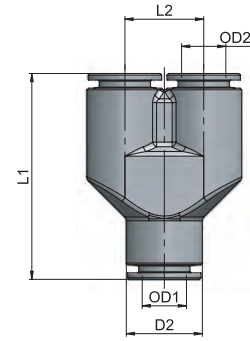
类型	OD1	D2	L1	L2	g $\Delta$
29 04 04	4	9	17,5	35	11,0
29 06 06	6	12	20	40	22,0
29 08 08	8	14	21	42	28,0
29 10 10	10	16	24,5	49	37,5
29 12 12	12	19	26	52	53,0

AV 37

Y型接头

Y fitting

类型	OD1	OD2	D2	L1	L2	g $\Delta$
37 04 04	4	4	9	29,5	9,5	13,5
37 06 06	6	6	12	36,5	12,5	32,0
37 08 08	8	8	14	37,5	14,5	42,5
37 10 10	10	10	16	44,5	16,5	62,7
37 12 12	12	12	19	49	19,5	95,8

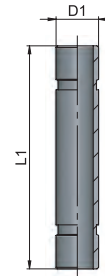


AV 39

接头连接杆

Extention piece

类型	D1	L1	g $\Delta$
39 00 04	4	35	2,7
39 00 06	6	40	5,1
39 00 08	8	42	8,0
39 00 10	10	50	11,8
39 00 12	12	53	15,3
39 00 14	14	54	18,8

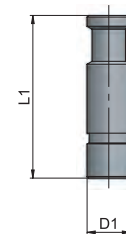


AV 40

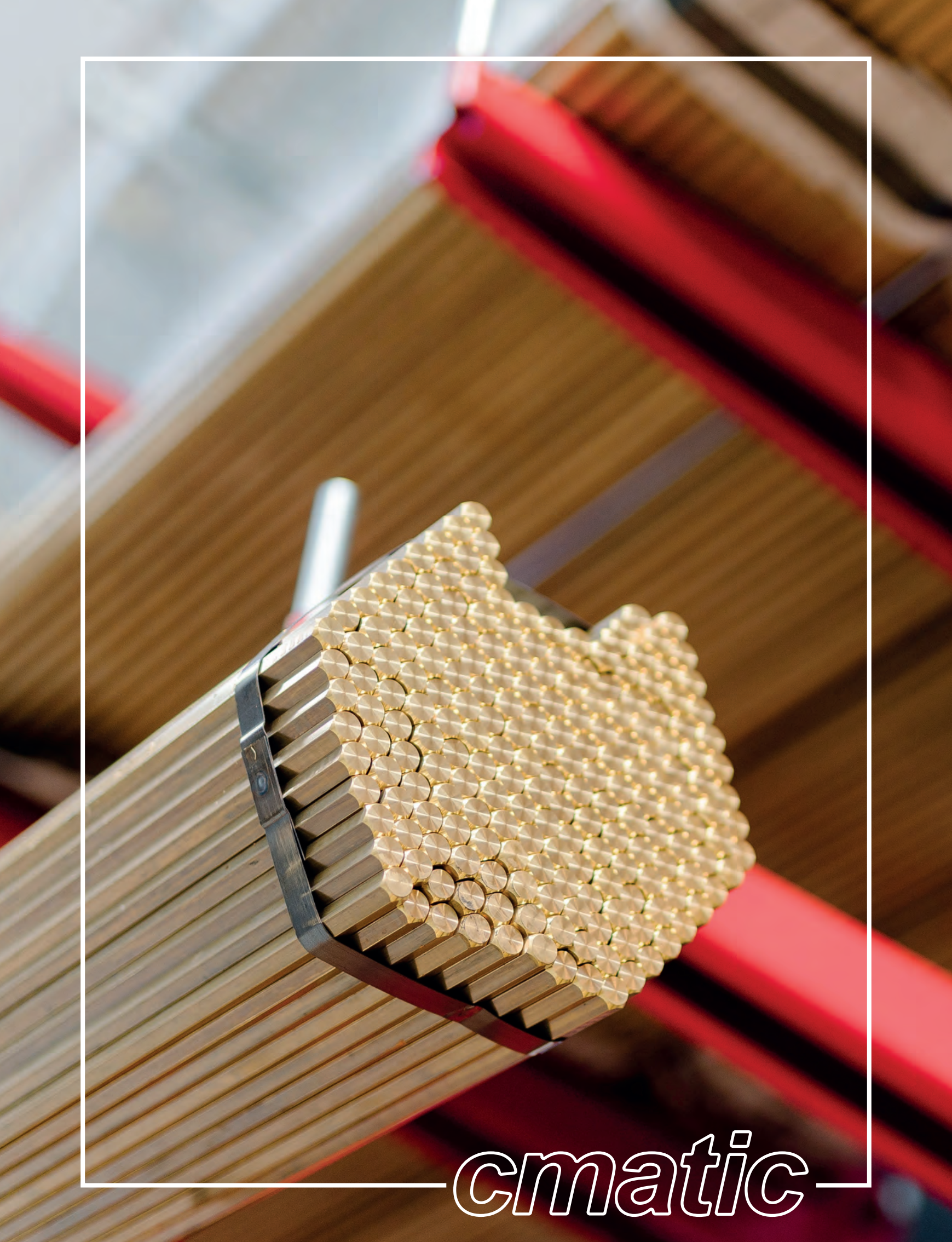
堵头

Plug

类型	D1	L1	g $\Delta$
40 00 04	4	25	2,3
40 00 06	6	25	3,7
40 00 08	8	30	7,2
40 00 10	10	35	11,8
40 00 12	12	40	18,2



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299



*cmatic*



## MY LINE



CN

### PPSU材质快插式管接头

MY系列管接头已通过NSF/ANSI 169认证，可安全接触水、茶和咖啡等饮品，并符合欧盟1935/2004号法规（食品接触材料）要求。该系列接头采用PPSU材料制成，这种高性能热塑性聚合物以其卓越的耐热性、耐化学性与机械强度而著称，是食品饮料、工业及医疗应用的理想选择。PPSU卓越的耐化学腐蚀特性使MY系列产品具备极长的使用寿命，能持续保持最佳性能稳定性，彻底杜绝污染风险与不良反应隐患。

EN

### PPSU Push-in fittings

MY range of fittings is 169 NSF/ANSI certified for contact with water, tea and coffee. It is also compliant with EU 1935/2004 Regulation (MOCA). MY line of fittings is made of PPSU (Polyphenylsulfone), a high-performance thermoplastic polymer, well-known for its excellent thermal, chemical and mechanical properties that make it an excellent choice for Food and Beverage, industrial and medical applications. Especially the exceptional chemical and corrosion resistance of PPSU enables the MY line to ensure maximum durability, optimal performance consistency, complete absence of contamination and unwanted chemical reactions risks.

# MY Line

- 1 本体  
Body

PPSU  
PPSU
- 2 释放环  
Release ring
- 3 螺纹  
Thread

316L 不锈钢  
Stainless steel AISI 316L
- 4 卡爪  
Gripping ring

AISI 301 不锈钢  
Stainless steel AISI 301
- 5 保护环  
Protection Ring

PEI  
PEI
- 6 密封圈  
Seals

满足FDA规范的FPM  
FPM, FDA compliant



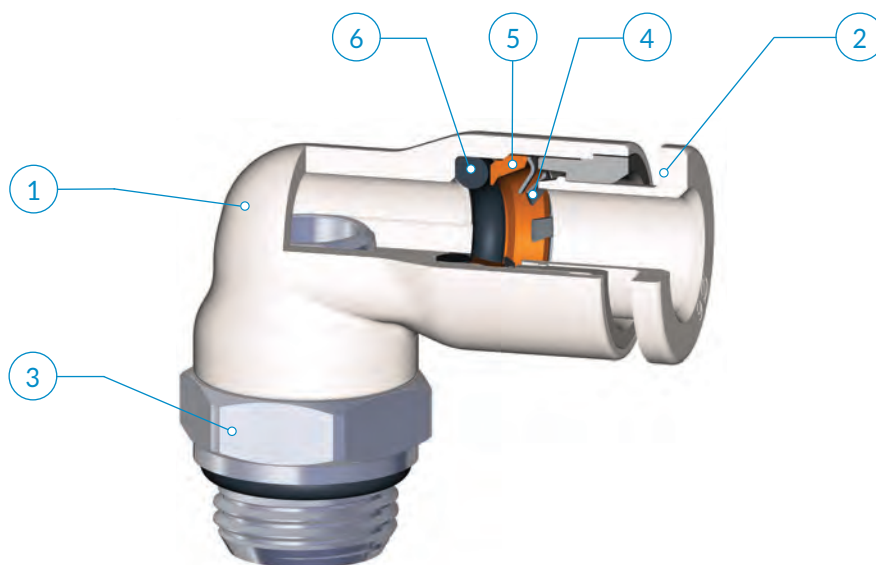
0°±140°C



20 bar @ 20°C



-99 KPa



	G1/8	G1/4
4	●	●
6	●	●
8	●	●

**建议的连接管路:**  
食品饮料行业合规管路

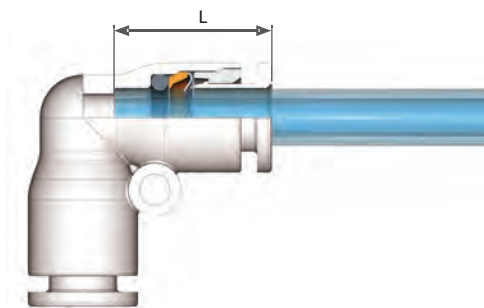
**Recommended tubings:**  
Tubing recommended for Food and Beverage

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0.07 mm up to Ø 8 mm.

**应用领域:**  
食品和饮料行业, 热水, 咖啡, 蒸汽

**Application fields:**  
Food&Beverage, Hot water, Coffee, Steam



OD	L
4	13,4
6	16,3
8	16,5

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。使用金属管路连接时,需要通过专用设备 (TINC) 在管路上开槽。开槽尺寸需要考虑管路直径,以保证可靠的连接。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval. In case of use with metal hoses, make a groove all around the tube diameter with a suitable tool (TINC).The groove must be made according to the tube diameter so that the fitting collect can better grip onto it.

2

将管路插入接头,到底为止。

2

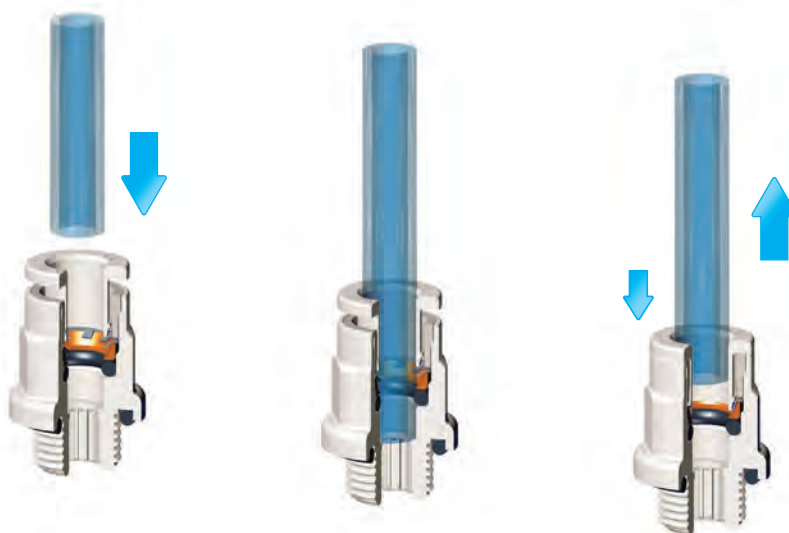
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。

为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。



Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).

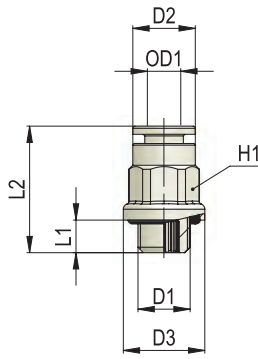
To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.

To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MY 12

外直螺纹直接头

Parallel straight, male

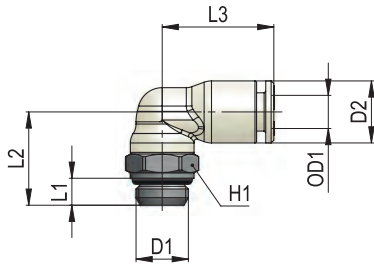


类型	OD1	D1	D2	D3	L1	L2	H1	g Δ
12 04 18	4	G1/8	9,5	15	6	20	10	1,9
12 06 18	6	G1/8	11,5	15	6	23	12	2,4
12 06 14	6	G1/4	11,5	18	7	21	12	-

## MY 16

可调向外直螺纹弯管接头

Parallel swivelling elbow fitting, male

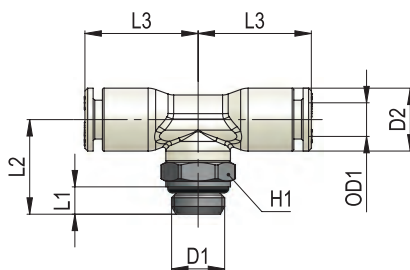


类型	OD1	D1	D2	L1	L2	L3	H1	g Δ
16 04 18 -X	4	G1/8	9,5	5	15	16	12	5,8
16 04 14 -X	4	G1/4	9,5	6,5	17	16	15	9,6
16 06 18 -X	6	G1/8	11,5	5	17,3	20,5	12	7,8
16 06 14 -X	6	G1/4	11,5	6,5	19,3	20,5	15	10,4
16 08 18 -X	8	G1/8	14	5	18	21,5	12	-
16 08 14 -X	8	G1/4	14	6,5	20	21,5	15	-

## MY 21

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel




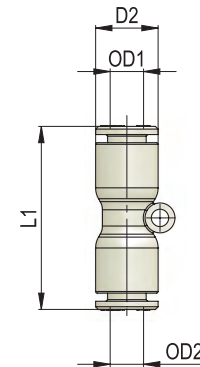
类型	OD1	D1	D2	L1	L2	L3	H1	g Δ
21 04 18 -X	4	G1/8	9,5	5	15	16	12	6,8
21 04 14 -X	4	G1/4	9,5	6,5	17	16	15	10,4
21 06 18 -X	6	G1/8	11,5	5	17,3	20,5	12	8,9
21 06 14 -X	6	G1/4	11,5	6,5	19,3	20,5	15	12,9

## MY 26

对接接头

Union


类型	OD1	OD2	D2	L1	g 
26 04 04	4	4	9,5	27,5	1,7
26 06 04	6	4	11,5	30,6	-
26 06 06	6	6	11,5	33,7	2,7
26 08 08	8	8	14	34,3	-

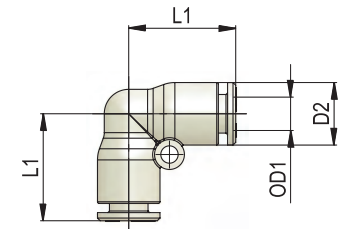


## MY 28

直角对接接头

Union elbow


类型	OD1	D2	L1	g 
28 04 04	4	9,5	15,5	1,8
28 06 06	6	11,5	19,5	3,0
28 08 08	8	14	21	-

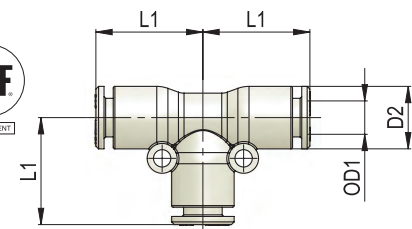


## MY 29

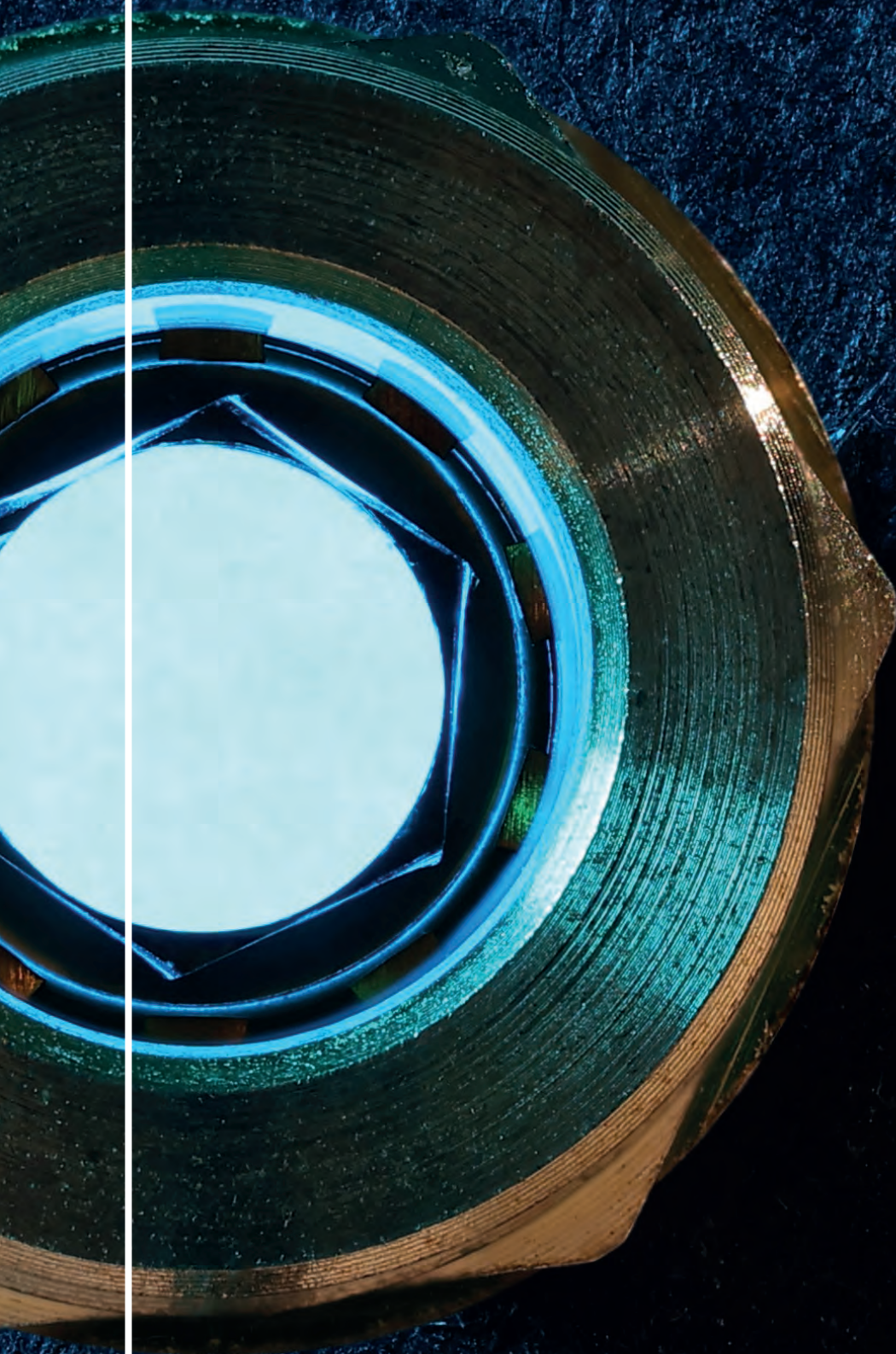
正T型三通对接接头

Union T

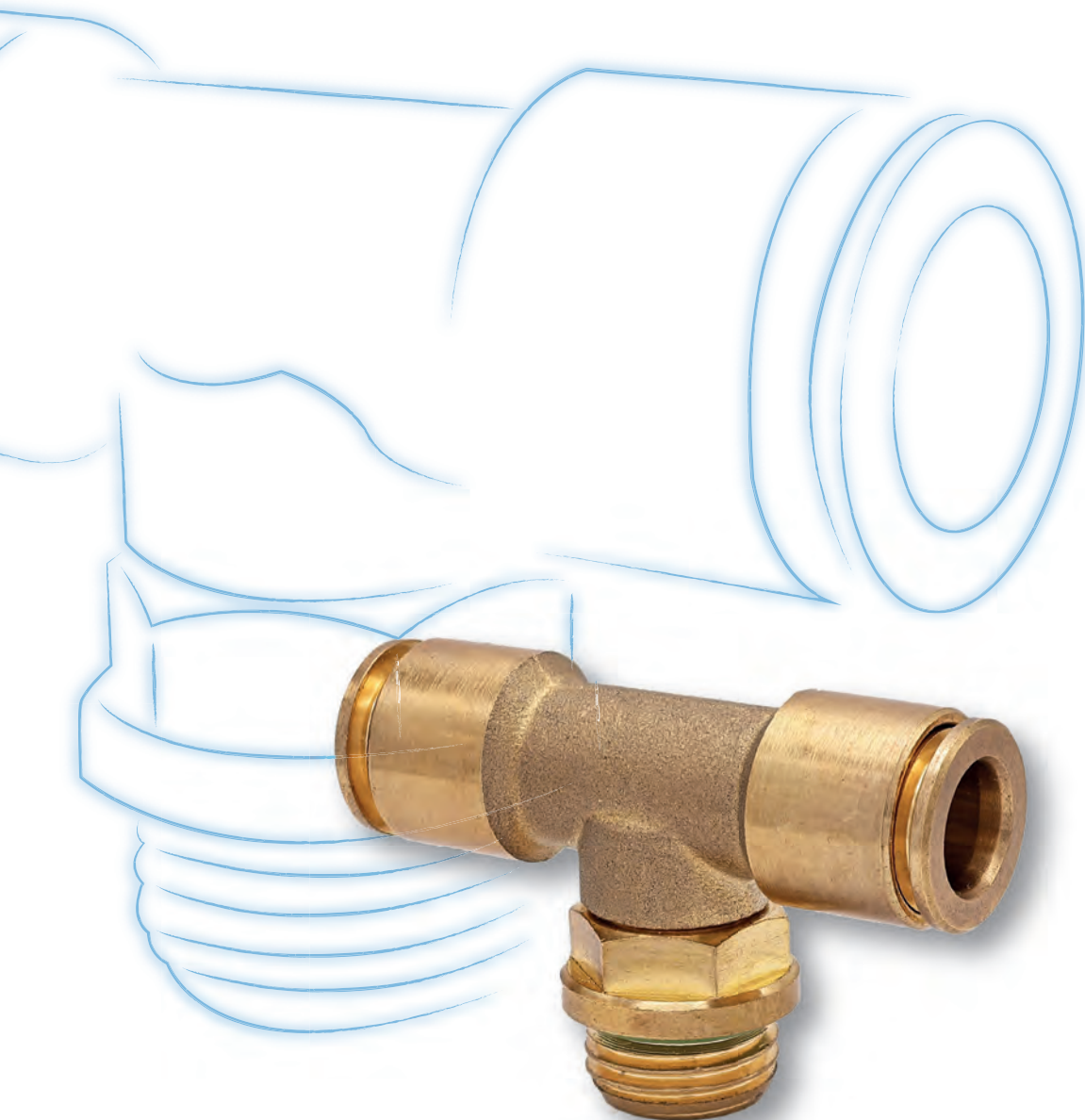
类型	OD1	D2	L1	g 
29 04 04	4	9,5	15,5	2,7
29 06 06	6	11,5	19,5	4,4
29 08 08	8	14	21	-



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*



## MF LINE



IT

EN

### 食品和饮料领域快插接头

MF系列是一款专为食品饮料行业设计的快插接头。该接头采用低铅黄铜材质（铅含量<0.1%），通过NSF/ANSI 169认证，可安全接触水、茶和咖啡等饮品，这使MF系列成为咖啡机和自动售货机行业的理想解决方案。同时，该产品符合NSF/ANSI 372标准关于饮用水接触黄铜材料含铅量的限定要求（铅含量<0.1%），满足美国《安全饮用水法案》规范。MF系列接头还符合ROHS III指令环保标准。

### Push-in Fittings for Food and Beverage Applications

MF is a push-to-connect fitting designed for food and beverage applications. The MF fittings are made of low lead brass (Pb<0,1%) and they are certified NSF/ANSI 169 for contact with water, tea and coffee. This makes the MF line the right solution for the coffee and vending machines industry. The MF fitting also boasts the NSF/ANSI 372 compliance to brass maximum allowed lead content standards (Pb<0,1%) for use in contact with drinking water (U.S. Safe Drinking Water Act). MF fittings are meeting the ROHS III Directive.

# MF Line

- 1 本体  
Body

黄铜 EN 12164 CW510L 符合 NSF/ANSI 372  
Brass UNI EN12164 CW510L, NSF/ANSI 372 compliant
- 2 释放环  
Release ring
- 3 支撑环  
Holding ring

树脂  
Resin
- 4 卡爪  
Gripping ring

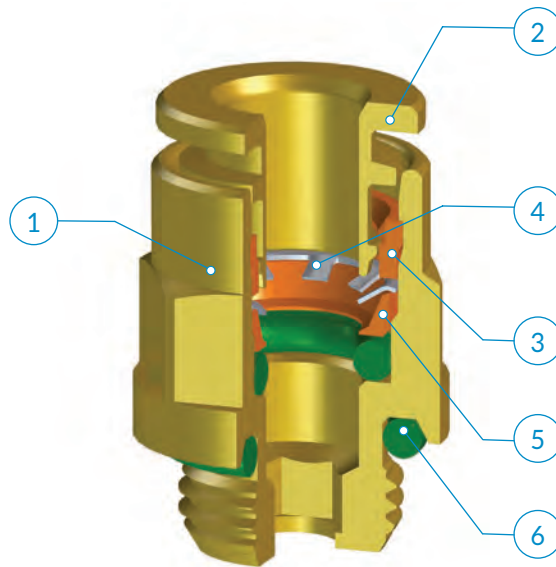
(PEI)  
(PEI)

AISI 301 不锈钢  
Stainless steel AISI 301
- 5 保护环  
Protection ring

树脂  
Resin
- 6 密封圈  
Seals

(PEI)  
(PEI)

满足FDA规范的FPM  
FPM, FDA compliant



	M5x0,8	G1/8	G1/4
4	●	●	
6	●	●	●
8		●	●



涉及蒸汽应用, 请联络销售技术团队。  
For steam applications, please contact our sales engineering team.

**建议的连接管路:**  
食品饮料行业合规管路

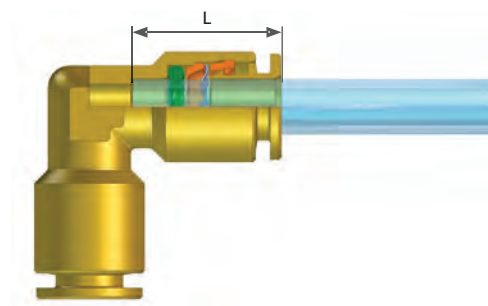
**Recommended tubings:**  
Tubing recommended for Food and Beverage

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0,07 mm up to Ø 8 mm

**应用领域:**  
食品和饮料领域应用。

**Application fields:**  
Food&Beverage



OD	L
4	12,8
6	14,3
8	14,3

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

将管路插入接头,到底为止。

2

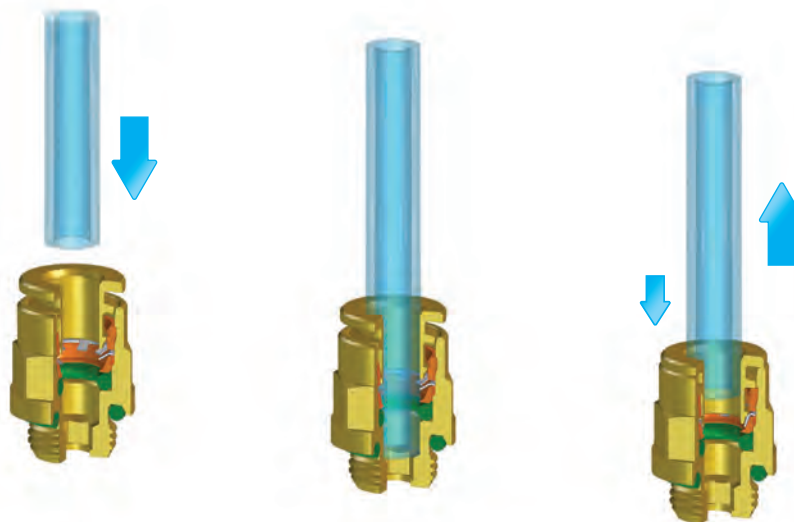
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

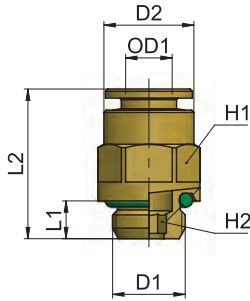


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MF 12

外直螺纹直接头

Parallel straight, male

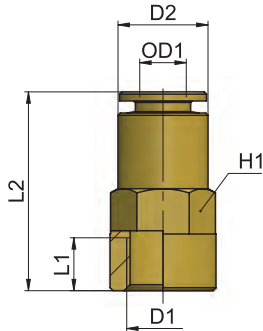


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
12 04 M5	4	M5x0,8	9	4	19	-	2,5	43,5
12 04 18	4	G1/8	9	5	16,5	9	3	6,2
12 06 M5	6	M5x0,8	12	4	22,2	-	2,5	8,8
12 06 18	6	G1/8	11,9	5	19,5	12	4	9,0
12 06 14	6	G1/4	11,9	6,5	19,5	12	4	12,1
12 08 18	8	G1/8	13,9	5	23,5	13	6	8,1
12 08 14	8	G1/4	13,9	6,5	21,5	14	6	9,1

## MF 13

内螺纹直接头

Female straight

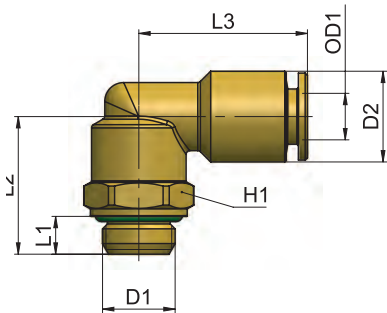


类型	OD1	D1	D2	L1	L2	H1	g $\Delta$
13 04 18	4	G1/8	9	7	23,5	9	10,4
13 06 18	6	G1/8	11,9	7	26	12	15,1
13 06 14	6	G1/4	11,9	10	30	12	17,8
13 08 14	8	G1/4	13,9	10	30	14	15,5

## MF 16

可调向外直螺纹弯管接头

Parallel swivelling elbow fitting, male

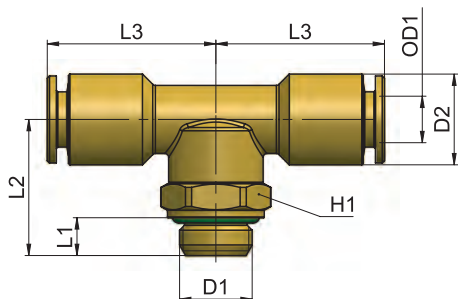


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
16 04 M5	4	M5x0,8	9,1	4	14	17,5	9	9,0
16 04 18	4	G1/8	9,1	5	18,2	19,5	13	16,4
16 06 M5	6	M5x0,8	12	4	14	20,5	9	12,1
16 06 18	6	G1/8	12	5	18,2	22	13	18,8
16 06 14	6	G1/4	12	6,5	21,7	22	13	22,3
16 08 18	8	G1/8	14	5	18	22,5	13	16,5
16 08 14	8	G1/4	14	6,5	21,5	22,5	13	25,8

## MF 21

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel



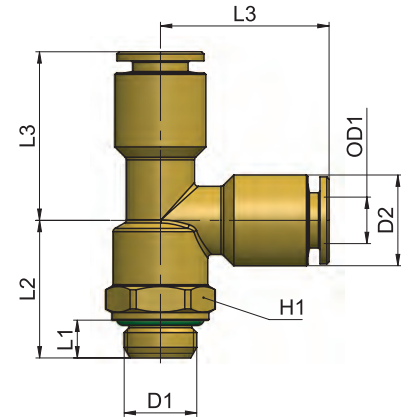
类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
21 04 18	4	G1/8	9,1	5	18,2	19,5	13	20,5
21 06 18	6	G1/8	12	5	18	22	13	25,4
21 06 14	6	G1/4	12	6,5	21,5	22	13	28,9
21 08 18	8	G1/8	14	5	18	22,5	13	30,4
21 08 14	8	G1/4	14	6,5	21,5	22,5	13	33,7

MF 24

外直螺纹直T型三通接头

Lateral run T fitting, parallel

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
24 04 18	4	G1/8	9,1	5	18,2	19,5	13	21,4
24 06 18	6	G1/8	12	5	18,2	22	13	26,3
24 06 14	6	G1/4	12	6,5	21,7	22	13	29,8
24 08 18	8	G1/8	14	5	18	22,5	13	-
24 08 14	8	G1/4	14	6,5	21,5	22,5	13	20,0

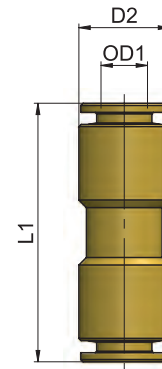


MF 26

对接接头

Union

类型	OD1	D2	L1	g $\Delta$
26 04 04	4	9	28	6,9
26 06 06	6	12	33,6	14,6
26 08 08	8	14	34	-

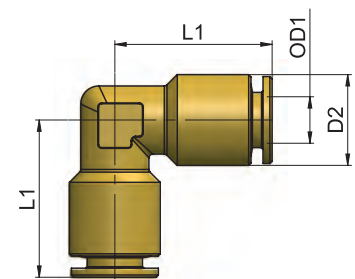


MF 28

直角对接接头

Union elbow

类型	OD1	D2	L1	g $\Delta$
28 04 04	4	9	17,5	88,2
28 06 06	6	12	20,5	16,6
28 08 08	8	14	22,5	10,0

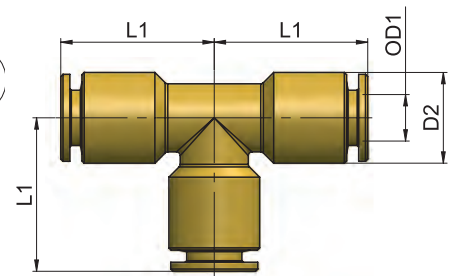


MF 29

正T型三通对接接头

Union T

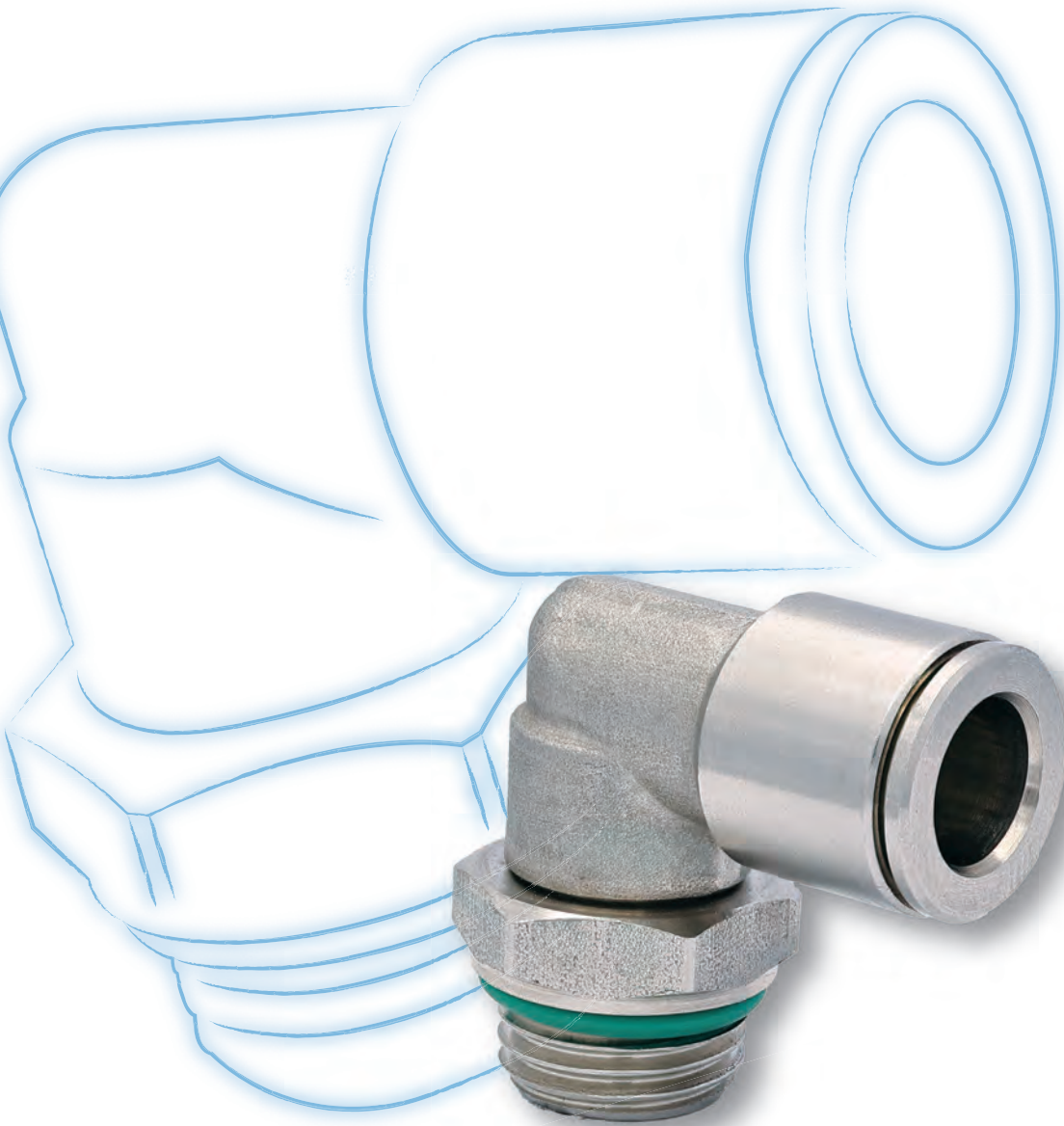
类型	OD1	D2	L1	g $\Delta$
29 04 04	4	9	17,5	12,5
29 06 06	6	12	20	22,2
29 08 08	8	14	21	28,1



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299



*cmatic*



## MX LINE



CN

### 316L不锈钢快插接头

MX系列快插式管接头完全采用AISI 316L ( 1.4404 ) 不锈钢制造，是强腐蚀性环境及高温应用场景的理想解决方案。

EN

### 316L Stainless Steel Push-in Fittings

The push-in fittings of the MX line are entirely made of AISI 316L ( 1,4404) and they are the perfect solution for highly aggressive environments and high temperature rated applications.

# MX Line

- 1** 本体  
Body

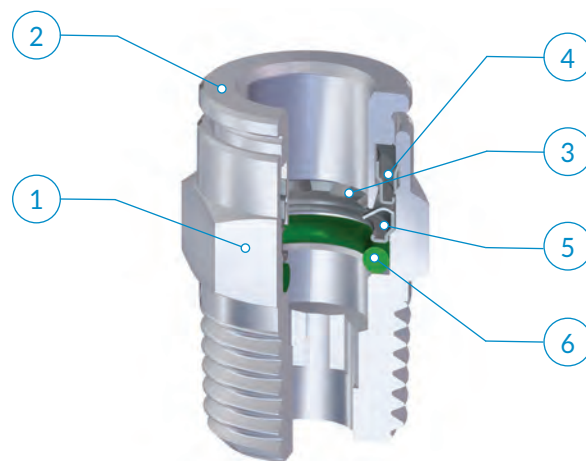
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 2** 释放环  
Release ring
- 3** 卡爪  
Gripping ring

AISI 301 不锈钢  
Stainless steel AISI 301
- 4** 支撑环  
Holding ring

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 5** 保护环  
Protection ring

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 6** 密封圈  
Seals

满足FDA规范的FPM  
FPM, FDA compliant



	M5x0,8	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
3	●								
4	●	●				●	●		
6	●	●	●			●	●		
8		●	●	●		●	●	●	
10			●	●	●		●	●	●
12			●	●	●		●	●	●

### 建议的连接管路:

PVDF管、PTFE管、不锈钢管 (关于金属管的使用, 参见安装说明)

### Recommended tubings:

PVDF, PTFE and Stainless steel tubes (for metal hose assembly see the instructions above).

### 可接受的管路公差:

+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 直径从10到12 mm。

### Acceptable Tolerances on the tubings:

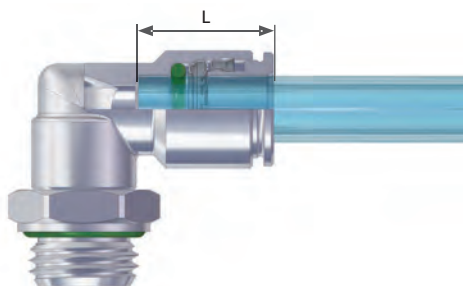
+/- 0.07 mm up to 10 mm.  
+/- 0.1 mm from diam 10 up to 12 mm

### 应用领域:

气动、食品、化学、医疗制药行业。

### Application fields:

Pneumatics, Food Industry, Chemical, Medical and Pharmaceutical Industry



OD	L
4	13,2
6	16,1
8	16,2
10	18,3
12	19,5

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。使用金属管路连接时,需要通过专用设备 (TINC) 在管路上开槽。开槽尺寸需要考虑管路直径,以保证可靠的连接。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval. In case of use with metal hoses, make a groove all around the tube diameter with a suitable tool (TINC).The groove must be made according to the tube diameter so that the fitting collect can better grip onto it.

2

将管路插入接头,到底为止。

2

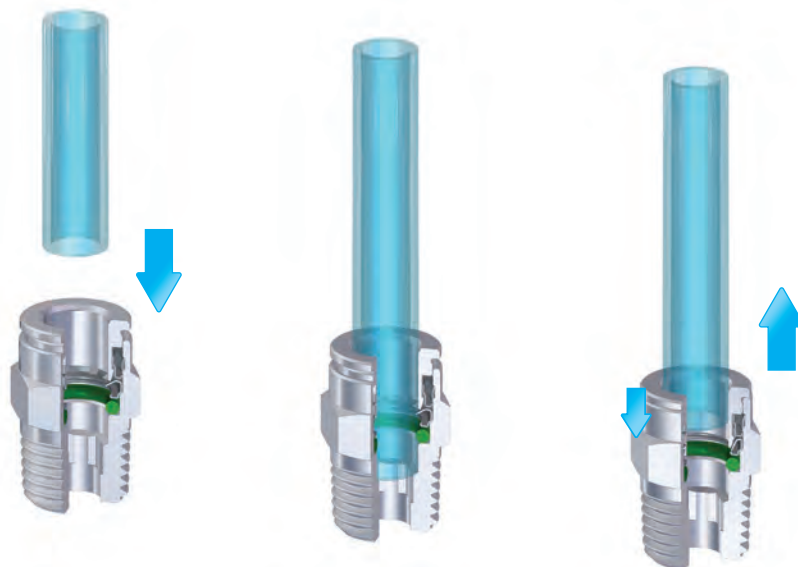
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。

为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。



Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).

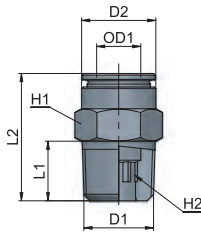
To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.

To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MX 11

外锥螺纹直接头

Taper straight, male

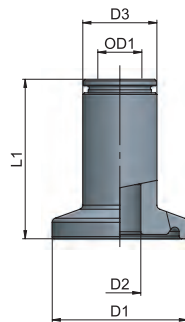


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	9	7,5	16,5	10	3	6,3
11 04 14	4	R1/4	9	11	20,5	14	3	16,1
11 06 18	6	R1/8	11,7	7,5	21	12	4	9,5
11 06 14	6	R1/4	12	11	20,5	14	4	14,3
11 08 18	8	R1/8	13,7	7,5	25	14	6	13,5
11 08 14	8	R1/4	13,7	11	23,5	14	6	14,4
11 08 38	8	R3/8	13,9	11,5	22,5	17	6	23,7
11 10 14	10	R1/4	15,7	11	30,5	16	8	20,3
11 10 38	10	R3/8	16	11,5	24	17	8	21,5
11 10 12	10	R1/2	15,7	14	27	22	8	45,9
11 12 14	12	R1/4	18,7	11	32	19	8	29,1
11 12 38	12	R3/8	18,7	11,5	27,5	19	10	25,7
11 12 12	12	R1/2	19	14	27,5	22	10	42,1

## MX 11 XT

快插卡箍接头

Clamp to push-in fitting



类型	OD1	D1	D2	D3	L1	g $\Delta$
11 06 XT D25	6	25	4,55	12	29,5	29,5
11 06 XT D50,4	6	50,4	4,55	12	29,5	98,2
11 08 XT D25	8	25	7,75	13,7	29,5	34,3
11 08 XT D50,4	8	50,4	7,75	13,7	29,5	105,7
11 10 XT D25	10	25	7,75	16	30	56,8
11 10 XT D50,4	10	50,4	7,75	16	30	102,6

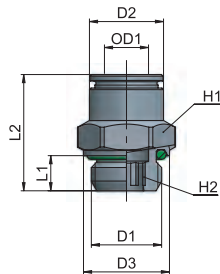


卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

## MX 12

外直螺纹直接头

Parallel straight, male

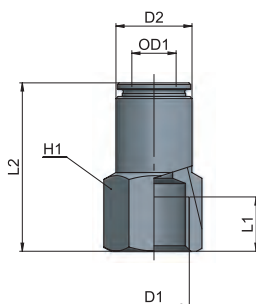


类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 03 M5	3	M5x0,8	6,5	9	4	16	8	-	3,0
12 04 M5	4	M5x0,8	9	8	4	19	9	-	4,9
12 04 18	4	G1/8	9	12,9	5	16,5	13	3	8,1
12 06 M5	6	M5x0,8	11,8	8	4	22,5	12	-	10,3
12 06 18	6	G1/8	11,7	12,9	5	19,5	13	4	9,2
12 06 14	6	G1/4	11,7	15,8	6,5	19,5	16	4	15,8
12 08 18	8	G1/8	13,7	12,9	5	23	14	6	12,8
12 08 14	8	G1/4	13,7	15,9	6,5	21,5	16	6	15,5
12 08 38	8	G3/8	13,7	20	7	21,5	17	6	24,4
12 10 14	10	G1/4	15,7	15,8	6,5	27,5	16	8	19,2
12 10 38	10	G3/8	16	20	7	25	17	8	24,4
12 10 12	10	G1/2	15,8	25	8,5	25,5	22	8	42,5
12 12 14	12	G1/4	18,8	16	6,5	28,5	19	8	13,0
12 12 38	12	G3/8	18,8	20	7	28	21	10	31,8
12 12 12	12	G1/2	18,8	25	8,5	26,5	22	10	41,8

## MX 13

内螺纹直接头

Female straight



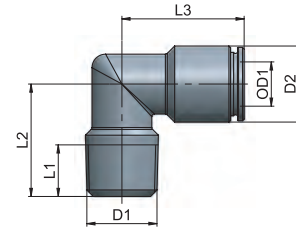
类型	OD1	D1	D2	L1	L2	H1	g $\Delta$
13 04 18	4	G1/8	9	7	24,5	13	11,2
13 06 18	6	G1/8	12	7	26,5	13	15,4
13 06 14	6	G1/4	12	10	31	16	20,8
13 08 18	8	G1/8	13,8	7	26,5	14	18,2
13 08 14	8	G1/4	14	10	31	16	22,7
13 08 38	8	G3/8	14	11	32,5	21	33,2
13 10 14	10	G1/4	15,7	10	33	16	24,0
13 10 38	10	G3/8	16	11	34,5	21	16,6
13 10 12	10	G1/2	16	11	36	24	41,4
13 12 38	12	G3/8	19	11	35,5	21	77,5
13 12 12	12	G1/2	19	11	37	24	48,4

MX 14

外锥螺纹弯管接头

Taper elbow fitting, male

类型	OD1	D1	D2	L1	L2	L3	g $\Delta$
14 04 18	4	R1/8	9	9,8	17	17,5	10,2
14 06 18	6	R1/8	12	9,8	17	20,5	14,0
14 06 14	6	R1/4	12	11,3	20,7	20,5	20,8
14 08 18	8	R1/8	14	9,5	18	22,5	19,6
14 08 14	8	R1/4	14	11,3	20,7	22,5	22,3
14 10 14	10	R1/4	16	12,1	21,5	24,5	39,5

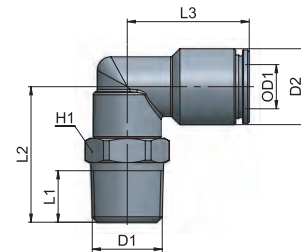


MX 15

可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

类型	Ø Tubo	D1	D2	L1	L2	L3	H1	g $\Delta$
15 04 18	4	R1/8	9	7,5	18	17,5	10	10,8
15 06 18	6	R1/8	12	7,5	20,5	21,5	13	21,2
15 06 14	6	R1/4	12	11	24,5	21,5	14	25,2
15 08 18	8	R1/8	14	7,5	20,5	22,5	13	22,2
15 08 14	8	R1/4	14	11	24,5	22,5	14	26,3
15 08 38	8	R3/8	14	11,5	25	22,5	17	31,3
15 10 14	10	R1/4	16	11	27	26	16	37,5
15 10 38	10	R3/8	16	11,5	27,5	26	17	41,1
15 10 12	10	R1/2	16	14	32	26	22	54,4
15 12 14	12	R1/4	19	11	30,5	28,5	21	63,9
15 12 38	12	R3/8	19	11,5	31	28,5	21	65,1
15 12 12	12	R1/2	19	14	34	28,5	22	71,5



MX 15 XT

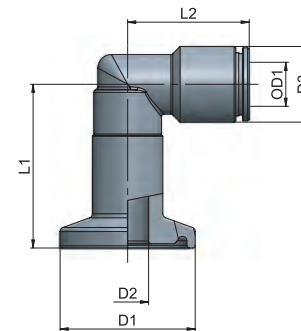
直角快插卡箍接头

Clamp to push-in 90° fitting

类型	OD1	D1	D2	D3	L1	L2	g $\Delta$
15 06 XT D25	6	25	7,75	12	29,8	21,5	39,8
15 06 XT D50,4	6	50,4	7,75	12	29,8	21,5	114,3
15 08 XT D25	8	25	7,75	14	30,3	22,5	41,7
15 08 XT D50,4	8	50,4	7,75	14	30,3	22,5	115,9
15 10 XT D25	10	25	7,75	16	31,8	26	68,0
15 10 XT D50,4	10	50,4	7,75	16	31,8	26	122,0



卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

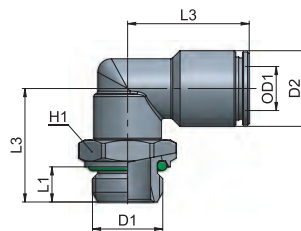


MX 16

可调向外直螺纹弯管接头

Parallel swivelling elbow fitting, male

类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
16 04 M5	4	M5x0,8	9	4	14,5	17,5	9	8,7
16 04 18	4	G1/8	9	5	16,5	17,5	13	12,2
16 06 M5	6	M5x0,8	12	4	15,5	20,5	9	13,2
16 06 18	6	G1/8	12	5	18,5	21,5	13	20,3
16 06 14	6	G1/4	12	6,5	20,5	21,5	16	24,3
16 08 18	8	G1/8	14	5	18,5	22,5	13	21,9
16 08 14	8	G1/4	14	6,5	20,5	22,5	16	25,8
16 08 38	8	G3/8	14	7	22,5	22,5	21	35,1
16 10 14	10	G1/4	16	6,5	23	26	16	34,6
16 10 38	10	G3/8	16	7	24,5	26	21	41,0
16 10 12	10	G1/2	16	8,5	29	26	22	52,3
16 12 14	12	G1/4	19	6,5	26	28,5	21	62,0
16 12 38	12	G3/8	19	7	26,5	28,5	21	59,5
16 12 12	12	G1/2	19	8,5	31	28,5	22	69,2

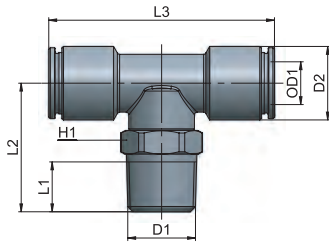


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MX 20

可调向锥螺纹正T型三通接头

Swivelling T fitting, taper

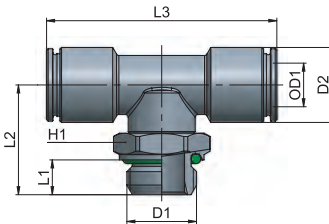


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
20 04 18	4	R1/8	9	7,5	21,5	35	10	16,1
20 06 18	6	R1/8	12	7,5	20,5	43	13	30,3
20 06 14	6	R1/4	12	11	24,5	43	14	33,9
20 08 18	8	R1/8	14	7,5	20,5	43	13	32,2
20 08 14	8	R1/4	14	11	24,5	43	14	35,4
20 10 14	10	R1/4	16	11	27,5	51	16	61,0
20 10 38	10	R3/8	16	11,5	28	51	17	64,1
20 12 38	12	R3/8	19	11,5	31	57	21	82,6
20 12 12	12	R1/2	19	14	34	57	22	88,7

## MX 21

可调向直螺纹正T型三通接头

Swivelling T fitting, parallel

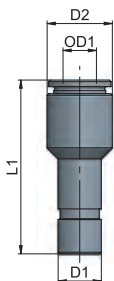


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
21 04 M5	4	M5x0,8	9	4	18	35	9	14,0
21 04 18	4	G1/8	9	5	20	35	13	17,6
21 06 18	6	G1/8	12	5	18,5	43	13	29,2
21 06 14	6	G1/4	12	6,5	20,5	43	16	33,3
21 08 18	8	G1/8	14	5	18,5	43	13	30,7
21 08 14	8	G1/4	14	6,5	20,5	43	16	34,8
21 10 14	10	G1/4	16	6,5	22,5	51	16	57,1
21 10 38	10	G3/8	16	7	24,5	51	21	63,9
21 12 38	12	G3/8	19	7	26,5	57	21	76,9
21 12 12	12	G1/2	19	8,5	31	57	22	85,7

## MX 25

减径接头

Reducer




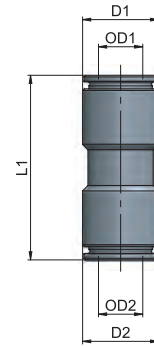
类型	OD1	D1	D2	L1	g $\Delta$
25 04 06	4	6	9	30,5	6,5
25 06 08	6	8	12	32	11,9
25 06 10	6	10	12	35	15,1
25 08 10	8	10	14	35	14,8
25 08 12	8	12	14	38	21,5
25 10 12	10	12	16	41	20,5

**MX 26**

对接接头

Union


类型	OD1	OD2	D1	D2	L1	g 
26 04 04	4	4	9	9	28	7,8
26 06 06	6	6	12	12	33,6	15,7
26 06 04	6	4	12	12	31	15,5
26 08 08	8	8	14	14	34	19,5
26 08 06	8	6	14	14	34	23,8
26 10 10	10	10	16	16	38,6	24,9
26 10 08	10	8	16	14	37,1	23,3
26 12 12	12	12	19	19	41	40,0
26 12 10	12	10	19	16	40,3	34,2

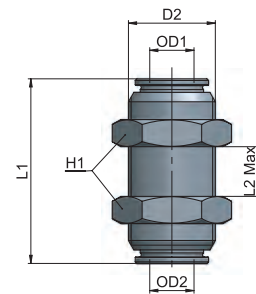


**MX 27**

穿板对接接头

Bulkhead union


类型	OD1	D2	L1	L2	H1	g 
27 04 04	4	M12x1	28	11,5	16	19,9
27 06 06	6	M14x1	34	15,5	17	31,4
27 08 08	8	M16x1	34	15,5	19	36,8
27 10 10	10	M18x1	39	18,5	21	48,4
27 12 12	12	M20x1	41	20,5	24	61,8

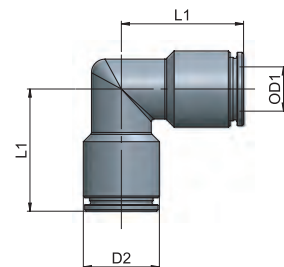


**MX 28**

直角对接接头

Union elbow

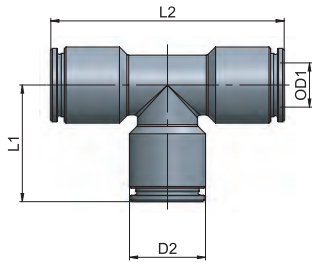
类型	OD1	D2	L1	g 
28 04 04	4	9	17,5	11,7
28 06 06	6	12	21	18,0
28 08 08	8	14	22,5	24,1
28 10 10	10	16	24,5	43,0
28 12 12	12	18	27	49,3



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MX 29

正T型三通对接接头

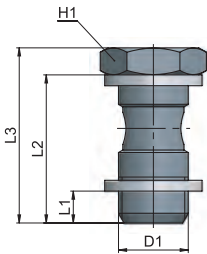


Union T

类型	OD1	D2	L1	L2	g $\Delta$
29 04 04	4	9	17,5	35	14,6
29 06 06	6	12	21	42	29,9
29 08 08	8	14	21,5	43	30,6
29 10 10	10	16	24,5	49	56,1
29 12 12	12	18	27	54	65,9

## MX 31

单层铰接螺栓



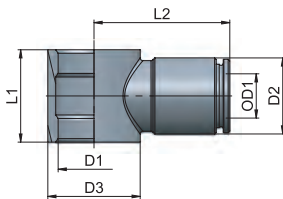
Simple screw

类型	D1	L1	L2	L3	H1	g $\Delta$
31 00 18	G1/8	5,4	24,9	28,9	14	15,1
31 00 14	G1/4	6,4	27,4	32,4	17	26,1
31 00 38	G3/8	6,4	30	36	21	43,6
31 00 12	G1/2	7,5	35,5	41,5	26	76,5

PTFE 垫圈 - Standard PTFE gasket

## MX 35

单通铰接接头本体

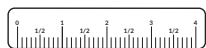


Single banjo ring

类型	OD1	D1	D2	D3	L1	L2	g $\Delta$
35 04 18	4	10	9	14	15	20,5	13,1
35 06 18	6	10	12	14	15	22,5	16,1
35 06 14	6	13,2	12	17	17	24	18,7
35 08 18	8	10	14	14	15	23	16,6
35 08 14	8	13,2	14	17	17	25	20,4
35 10 14	10	13,2	16	17	17	27	23,1
35 10 38	10	17	16	22	20	29	35,5
35 12 38	12	17	16	22	20	31	40,8
35 12 12	12	21	19	26	24	33	52,2



INCH



**PX LINE**



CN

EN

**英制/NPT 316L不锈钢快插接头**

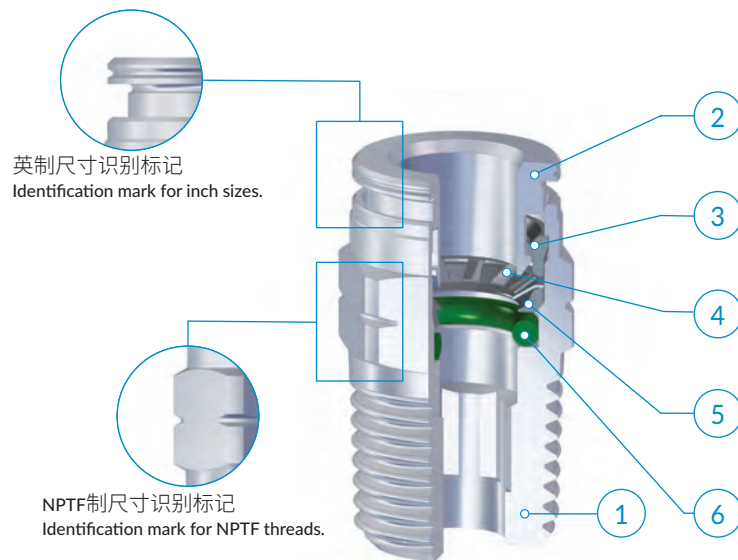
PX系列快插式管接头采用英制尺寸及NPT螺纹设计，完全由AISI 316L ( 1.4404 ) 不锈钢制成，是强腐蚀性环境与高温额定应用场景的理想解决方案。

**316L Stainless Steel Push-in Fittings, Inch/NPT**

The push-in fittings of the PX line, available in inch sizes and NPT threads, are entirely made of AISI 316L (1,4404) and they are the perfect solution for highly aggressive environments and high temperature rated applications.

# PX Line

- |  |                               |  |   |  |   |
|--|-------------------------------|--|---|--|---|
| <p>1 本体<br/>Body</p> <p>316L (1.4404) 不锈钢<br/>Stainless steel AISI 316L (1.4404)</p> | <p>2 释放环<br/>Release ring</p> | <p>3 卡爪<br/>Gripping ring</p> <p>AISI 301 不锈钢<br/>Stainless steel AISI 301</p> | <p>4 支撑环<br/>Holding ring</p> <p>316L (1.4404) 不锈钢<br/>Stainless steel AISI 316L (1.4404)</p> | <p>5 保护环<br/>Protection ring</p> <p>316L (1.4404) 不锈钢<br/>Stainless steel AISI 316L (1.4404)</p> | <p>6 密封<br/>Seals</p> <p>满足FDA规范的FPM<br/>FPM, FDA compliant</p> |
|--|-------------------------------|--|---|--|---|



	1/8 NPTF	1/4 NPTF	3/8 NPTF	1/2 NPTF
5/32	●			
1/4	●	●		
5/16		●		
3/8		●	●	
1/2			●	●

### 建议的连接管路:

PVDF管、PTFE管、Inox不锈钢管 (关于硬质管路的使用, 参见安装说明部分)

### 可接受的管路公差:

+/- 0.07 mm, 最大直径Ø 3/8"  
+/- 0.1mm, 直径Ø 1/2".

### 应用领域:

气动、食品、化学、医疗制药行业。

### Recommended tubings:

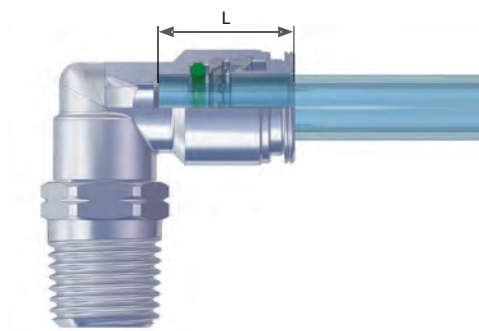
PVDF, PTFE and Stainless steel tubes (for rigid hose assembly see the instructions above)

### Acceptable Tolerances on the tubings:

+/- 0.07 mm up to Ø 3/8"  
+/- 0.1 mm Ø 1/2"

### Application fields:

Pneumatics, Food Industry, Chemical, Medical and Pharmaceutical Industry



OD	L
5/32	13,2
1/4	16,1
5/16	16,2
3/8	18,3
1/2	19,5

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

将管路插入接头,到底为止。

2

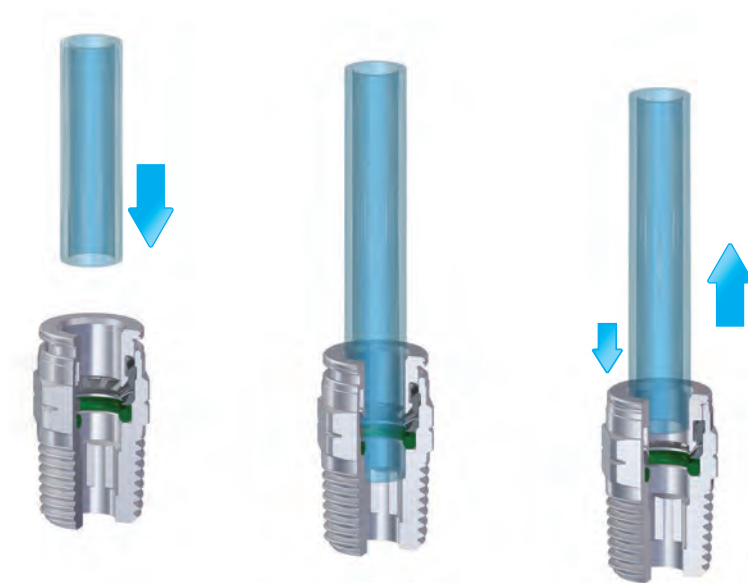
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

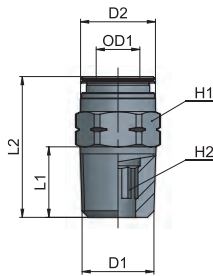


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## PX 11

外锥螺纹直接头

Taper straight, male

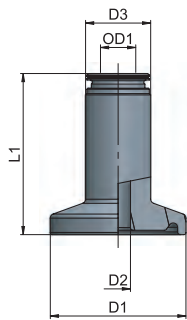


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 5/32 1/8	5/32	1/8 NPTF	9,5	8,5	19,5	12	1/8	9,8
11 1/4 1/8	1/4	1/8 NPTF	12	8,5	22	13	5/32	10,9
11 1/4 1/4	1/4	1/4 NPTF	12	13	24,5	14	5/32	18,2
11 5/16 1/4	5/16	1/4 NPTF	14	13	25,5	14	1/4	16,2
11 3/8 1/4	3/8	1/4 NPTF	16	13	32	17	1/4	26,2
11 3/8 3/8	3/8	3/8 NPTF	16	13	25,5	18	5/16	25,9
11 1/2 3/8	1/2	3/8 NPTF	20	13	29,5	21	3/8	31,9
11 1/2 1/2	1/2	1/2 NPTF	20	17	30,5	22	3/8	46,5

## PX 11 XT

快插卡箍接头

Clamp to push-in fitting



类型	OD1	D1	D2	D3	L1	g $\Delta$
11 1/4 XT D25	1/4	25	4,55	12	29,5	-
11 1/4 XT D50,4	1/4	50,4	4,55	12	29,5	-
11 3/8 XT D25	3/8	25	7,75	16	30	-
11 3/8 XT D50,4	3/8	50,4	7,75	16	30	-

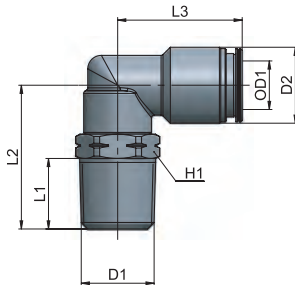


卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

## PX 15

可调向锥外螺纹弯管接头

Taper swivelling elbow fitting, male

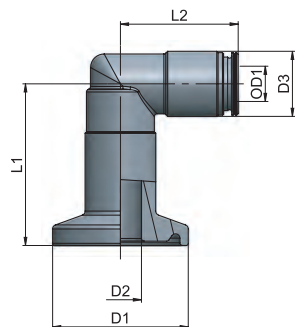


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 5/32 1/8	5/32	1/8 NPTF	9	8,5	19	17,5	12	12,6
15 1/4 1/8	1/4	1/8 NPTF	12	8,5	21	21,5	13	21,0
15 1/4 1/4	1/4	1/4 NPTF	12	13	26	21,5	14	25,3
15 5/16 1/4	5/16	1/4 NPTF	14	13	26,5	22,5	14	27,3
15 3/8 1/4	3/8	1/4 NPTF	16	13	29,4	25,5	17	41,2
15 3/8 3/8	3/8	3/8 NPTF	16	13	29,4	25,5	18	43,0
15 1/2 3/8	1/2	3/8 NPTF	20	13	32,5	28	21	67,6
15 1/2 1/2	1/2	1/2 NPTF	20	17	37	28	22	77,1

## PX 15 XT

直角快插卡箍接头

Clamp to push-in 90° fitting



类型	OD1	D1	D2	D3	L1	L2	g $\Delta$
15 1/4 XT D25	1/4	25	7,75	12	29,8	21,5	-
15 1/4 XT D50,4	1/4	50,4	7,75	12	29,8	21,5	-
15 3/8 XT D25	3/8	25	7,75	16	31,8	26	-
15 3/8 XT D50,4	3/8	50,4	7,75	16	31,8	26	-



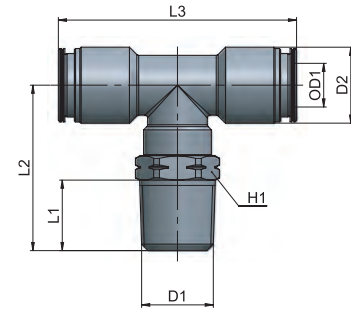
卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

PX 20

可调向锥螺纹正T型三通接头

Swivelling T fitting, taper

类型	OD1	D1	D2	L1	L2	L3	H1	g
20 5/32 1/8	5/32	1/8 NPTF	9,5	8,5	22,5	35	12	18,6
20 1/4 1/8	1/4	1/8 NPTF	12	8,5	21,5	43	13	29,3
20 1/4 1/4	1/4	1/4 NPTF	12	13	26,5	43	14	33,8
20 5/16 1/4	5/16	1/4 NPTF	14	13	30,5	43	14	37,2
20 3/8 1/4	3/8	1/4 NPTF	16	13	32	51	17	64,4
20 3/8 3/8	3/8	3/8 NPTF	16	13	32	51	18	66,6

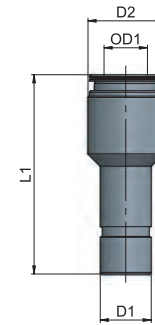


PX 25

减径接头

Reducer

类型	OD1	D1	D2	L1	g
25 5/32 1/4	5/32	1/4	9,5	31,5	7,7
25 1/4 5/16	1/4	5/16	12	34,5	11,7
25 1/4 3/8	1/4	3/8	12	34,5	13,8
25 5/16 3/8	5/16	3/8	14	36,5	15,4

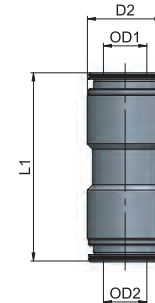


PX 26

对接接头

Union

类型	OD1	OD2	D2	L1	g
26 5/32 5/32	5/32	5/32	9,5	28	8,8
26 1/4 1/4	1/4	1/4	12	33,6	14,7
26 5/16 5/16	5/16	5/16	14	34	19,7
26 3/8 3/8	3/8	3/8	16	38,6	26,8
26 1/2 1/2	1/2	1/2	20	41	44,0

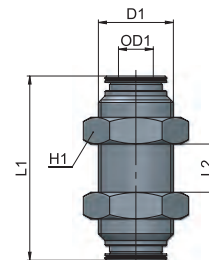


PX 27

穿板对接接头

Bulkhead union

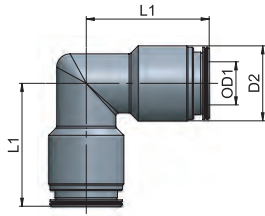
类型	OD1	D1	L1	L2	H1	g
27 5/32 5/32	5/32	M12x1	28	11,5	16	19,8
27 1/4 1/4	1/4	M14x1	34	14,5	17	29,6
27 5/16 5/16	5/16	M16x1	34	15,5	19	36,2
27 3/8 3/8	3/8	M18x1	39	17,5	21	50,0
27 1/2 1/2	1/2	M22x1,5	41	18,5	26	74,8



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## PX 28

直角对接接头

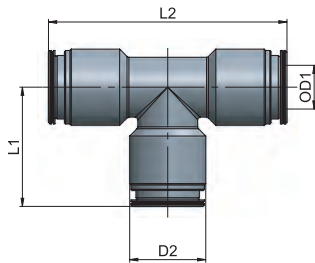


Union elbow

类型	OD1	D2	L1	g $\Delta$
28 5/32 5/32	5/32	9,5	17,5	12,7
28 1/4 1/4	1/4	12	21	16,9
28 5/16 5/16	5/16	14	22,5	24,7
28 3/8 3/8	3/8	16	25,5	43,5
28 1/2 1/2	1/2	20	27,5	51,0

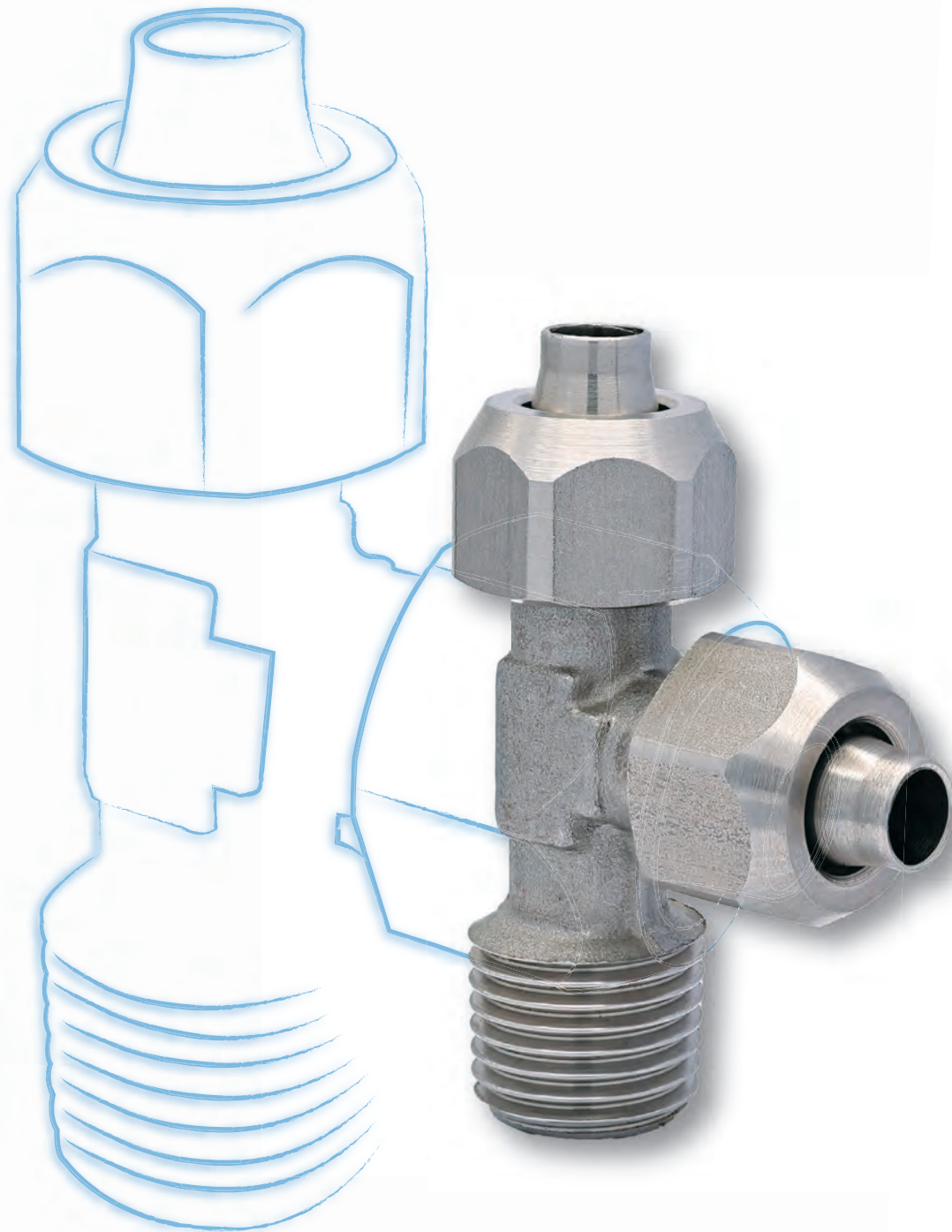
## PX 29

正T型三通对接接头



Union T

类型	OD1	D2	L1	L2	g $\Delta$
29 5/32 5/32	5/32	9,5	17,5	35	16,0
29 1/4 1/4	1/4	12	21	42	28,1
29 5/16 5/16	5/16	14	21,5	43	33,0
29 3/8 3/8	3/8	16	25	50	57,8
29 1/2 1/2	1/2	20	27,5	55	70,0



**CX LINE**



CN

EN

### 316L 不锈钢快拧接头

CX系列快拧式管接头采用AISI 316L不锈钢制造, 其创新之处在于完全省去了O型圈设计。该产品专为高温、强腐蚀性流体等恶劣工况研发, 在这些FPM材质O型圈无法适用的环境中表现出卓越的适应性。

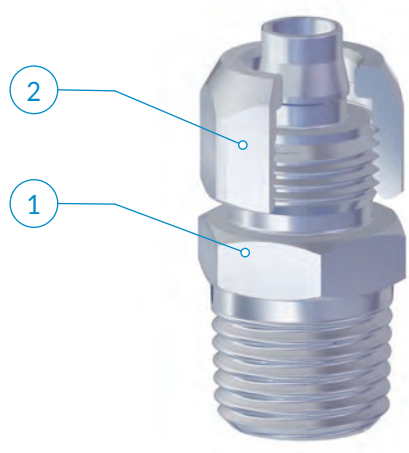
### 316L Stainless Steel Push-on Fittings

CX is a "push-on" fitting made of AISI 316L, completely free of Orings since developed for heavy duty applications with high temperatures and aggressive fluids, environment where FPM Orings would not be suitable.

# CX Line

1 本体  
Body  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

2 螺母  
Nut  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)



	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
6	●	●			●	●		
8	●	●	●		●	●		
10		●	●			●	●	
12			●	●		●	●	●

**建议的连接管路:**  
PTFE管路

**Recommended tubings:**  
PTFE tubings

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径 10 mm  
+/- 0.1 mm, 最大直径 Ø 12 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0.07 mm up to Ø 10 mm  
+/- 0.1 mm up to Ø 12 mm

**应用领域:**  
气动、食品、化学、医疗制药行业。

**Application fields:**  
Pneumatics, Food Industry, Chemical, Medical and Pharmaceutical Industry

- 1 垂直切割管路, 确认管路内外壁没有毛刺
- 2 将螺母套入管路
- 3 将管路套在锥面上, 用力推入至压紧程度
- 4 用手或者扳手拧紧螺母

- 1 Cut the tube at 90° making sure that no burr is left;
- 2 Push the nut onto the tube;
- 3 Push the tube and nut onto the fitting nozzle and make sure that the tube goes all the way up to the nozzle base;
- 4 Tighten the nut by hand or if necessary by a spanner.

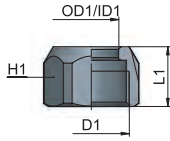


**!** 完成连接后, 请确保管路上不承受外力; 此外, 请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱, 任何物体均不要接触释放环。作用在释放环上任何外力, 包括侧向力, 均可能导致管路意外松脱。螺纹拧紧时, 请参考第10页列出的建议扭矩。

**!** Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To tighten threads, please check out our tightening torque chart illustrated at page 10.

## CX 10

螺母

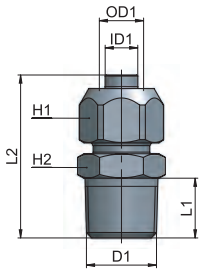


Nut

类型	OD1	ID1	D1	L1	H1	g $\Delta$
10 06 10	6	4	M10x1	10	12	4,4
10 08 12	8	6	M12x1	10	14	5,5
10 10 14	10	8	M14x1	11	16	7,0
10 12 16	12	10	M16x1	12	19	-

## CX 11

外锥螺纹直接头

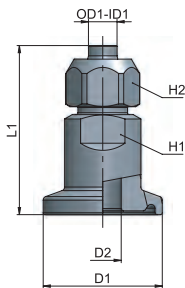


Taper straight, male

类型	OD1	ID1	D1	L1	L2	H1	H2	g $\Delta$
11 06 18	6	4	R1/8	7,5	26	12	10	11,6
11 06 14	6	4	R1/4	11	29,5	12	14	17,5
11 08 18	8	6	R1/8	7,5	26,5	14	13	16,5
11 08 14	8	6	R1/4	11	30	14	14	20,3
11 10 14	10	8	R1/4	11	32,5	16	14	23,6
11 10 38	10	8	R3/8	11,5	33	16	17	29,9
11 12 14	12	10	R1/4	11	34	19	17	34,8
11 12 38	12	10	R3/8	11,5	34,5	19	17	34,6
11 12 12	12	10	R1/2	14	38	19	22	48,4

## CX 11 XT

卡箍连接转快拧接头



Clamp to push on fitting

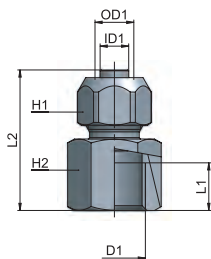
类型	OD1	D1	D2	L1	H1	H2	g $\Delta$
11 06 XT D25	6	25	7,75	35	12	12	37,6
11 06 XT D50,4	6	50,4	7,75	35	12	12	-
11 08 XT D25	8	25	7,75	35,5	13	14	49,9
11 08 XT D50,4	8	50,4	7,75	35,5	13	14	114,0
11 10 XT D25	10	25	7,75	37,5	16	16	55,9
11 10 XT D50,4	10	50,4	7,75	37,5	16	16	105,5



卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

## CX 13

内螺纹直接头



Female straight

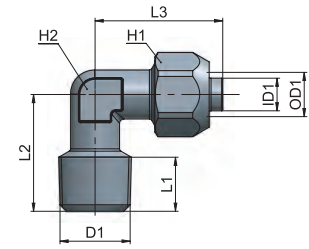
类型	OD1	ID1	D1	L1	L2	H1	H2	g $\Delta$
13 06 18	6	4	G1/8	7	25	12	13	14,6
13 06 14	6	4	G1/4	10	28,5	12	17	22,8
13 08 18	8	6	G1/8	7	25,5	14	13	17,7
13 08 14	8	6	G1/4	10	29,5	14	17	26,9
13 08 38	8	6	G3/8	11	31	14	21	37,4
13 10 14	10	8	G1/4	10	31,5	16	17	29,5
13 10 38	10	8	G3/8	11	33	16	17	40,8
13 12 38	12	10	G3/8	11	34,5	19	21	47,6
13 12 12	12	10	G1/2	11	35	19	24	50,5

CX 14

外锥螺纹弯管接头

Taper elbow fitting, male

类型	OD1	ID1	D1	L1	L2	L3	H1	H2	g $\Delta$
14 06 18	6	4	R1/8	6,5	17	23	12	10	16,6
14 06 14	6	4	R1/4	10	21,5	23	12	10	20,5
14 08 18	8	6	R1/8	6,5	17	23,5	14	10	17,6
14 08 14	8	6	R1/4	10	21,5	23,5	14	10	21,1
14 10 14	10	8	R1/4	9,5	21,5	26	16	12	29,5
14 10 38	10	8	R3/8	11	24	26	16	12	35,3
14 12 38	12	10	R3/8	12,6	35,5	30,5	19	17	52,2
14 12 12	12	10	R1/2	13,5	30	33	19	19	52,2

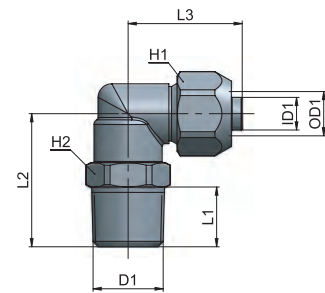


CX 15

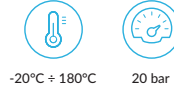
可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

类型	OD1	ID1	D1	L1	L2	L3	H1	H2	g $\Delta$
15 06 18	6	4	R1/8	7,5	20	21	12	13	27,1
15 06 14	6	4	R1/4	11	24	21	12	14	26,5
15 08 18	8	6	R1/8	7,5	20	21	14	13	24,6
15 08 14	8	6	R1/4	11	24	21	14	14	28,6
15 10 14	10	8	R1/4	11	25,5	24	16	14	33,7
15 10 38	10	8	R3/8	11,5	26	24	16	17	37,9



符合FDA的FPM密封 - FPM Seals, FDA compliant

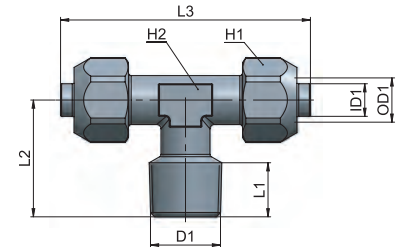


CX 20

锥螺纹正T型三通接头

Taper male T

类型	OD1	ID1	D1	L1	L2	L3	H1	H2	g $\Delta$
20 06 18	6	4	R1/8	6,5	17	46	12	10	29,0
20 06 14	6	4	R1/4	9,5	21	46	12	10	31,6
20 08 18	8	6	R1/8	6,5	17	46	14	10	30,3
20 08 14	8	6	R1/4	10	21,5	46	14	10	33,7
20 10 14	10	8	R1/4	9,5	21,5	52	16	12	39,7
20 10 38	10	8	R3/8	11	24	52	16	12	53,0
20 12 38	12	10	R3/8	12,6	60	52	19	17	80,7
20 12 12	12	10	R1/2	13,9	60	52	19	17	88,2

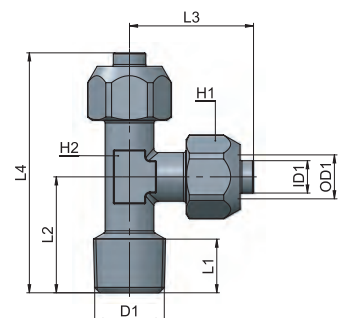


CX 23

锥螺纹直T型三通接头

Taper lateral T

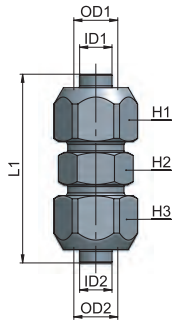
类型	OD1	ID1	D1	L1	L2	L3	L4	H1	H2	g $\Delta$
23 06 18	6	4	R1/8	9,9	17	23	40	12	10	28,3
23 06 14	6	4	R1/4	10	21,5	23	44,5	12	10	31,2
23 08 18	8	6	R1/8	6,5	17	23	40	14	10	30,4
23 08 14	8	6	R1/4	10	21,5	23	44,5	14	10	34,1
23 10 14	10	8	R1/4	9,5	21,5	26	47,5	16	12	39,5
23 10 38	10	8	R3/8	11	24	26	50	16	12	53,2
23 12 38	12	10	R3/8	12,6	25,5	30	55,5	19	17	79,6
23 12 12	12	10	R1/2	13,9	28	30	58	19	17	86,9



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## CX 26

对接接头

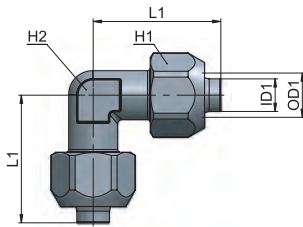


Union

类型	OD1	ID1	OD2	ID2	L1	H1	H2	H3	g $\Delta$
26 06 06	6	4	6	4	34	12	10	12	20,0
26 08 08	8	6	8	6	35	14	12	14	25,7
26 08 06	8	6	6	4	34,5	14	12	12	23,5
26 10 10	10	8	10	8	39	16	14	16	35,8
26 10 08	10	8	8	6	37	16	14	14	31,8
26 12 12	12	10	12	10	42	19	16	19	50,8
26 12 10	12	10	10	8	40,5	19	16	16	44,8

## CX 28

直角对接接头

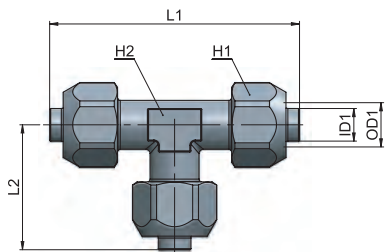


Union elbow

类型	OD1	ID1	L1	H1	H2	g $\Delta$
28 06 06	6	4	23	12	10	24,9
28 08 08	8	6	23,5	14	10	26,9
28 10 10	10	8	26	16	12	33,3
28 12 12	12	10	30	19	17	67,6

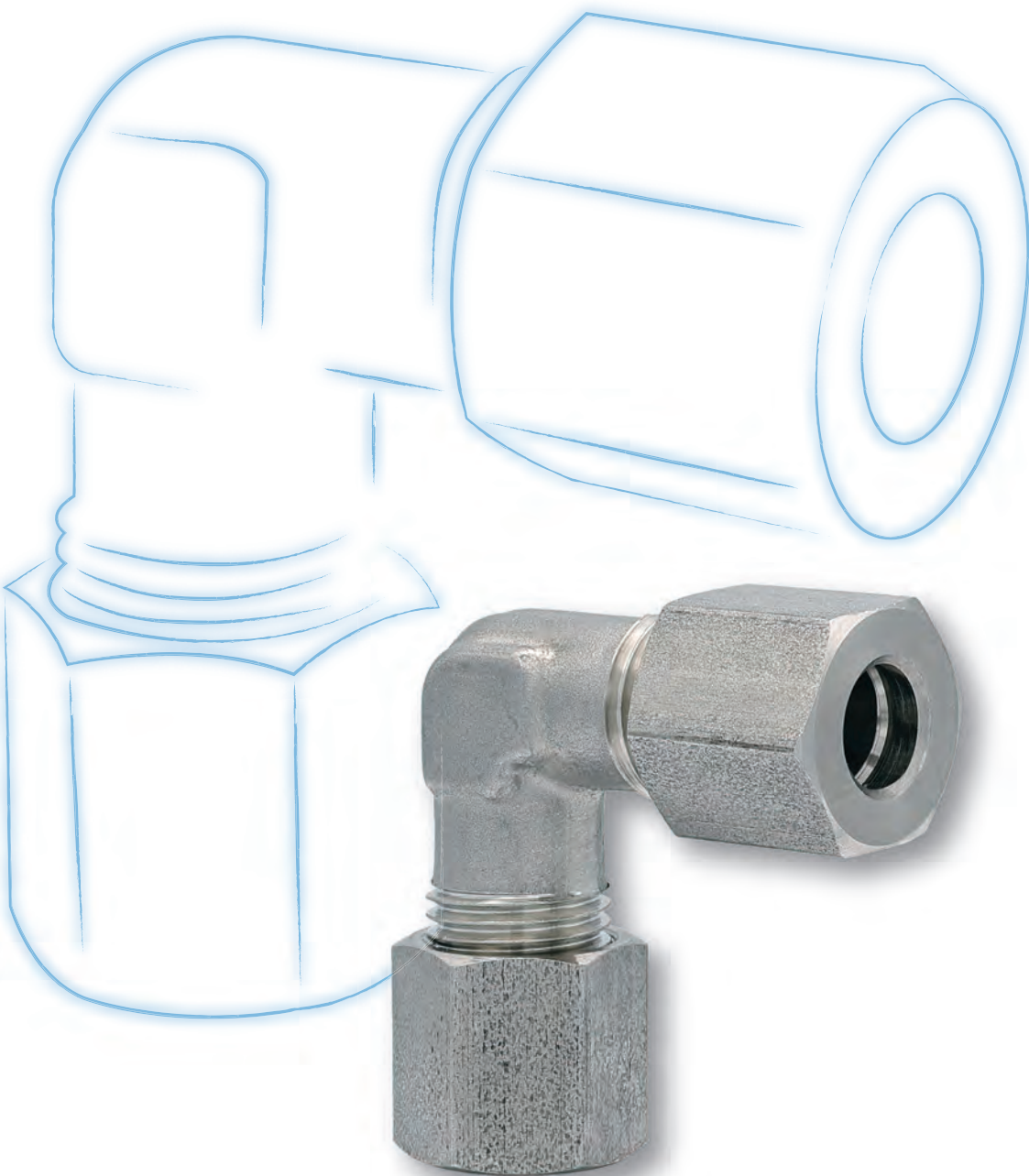
## CX 29

正T型三通对接接头



Union T

类型	OD1	ID1	L1	L2	H1	H2	g $\Delta$
29 06 06	6	4	46	23	12	10	36,4
29 08 08	8	6	46	23	14	10	39,0
29 10 10	10	8	52	26	16	12	47,6
29 12 12	12	10	60	30	19	17	94,7



## OX LINE



CN

EN

### 316L不锈钢卡套接头

OX系列管接头完全采用AISI 316L ( 1.4404 ) 不锈钢制造, 适用于不锈钢管道连接。管道安装简便且无需使用润滑剂, 从而确保产品符合食品级标准。本体, 卡套及螺母均按照ISO8434/ DIN 2353标准规范制造。

### 316L Stainless Steel Compression Fittings

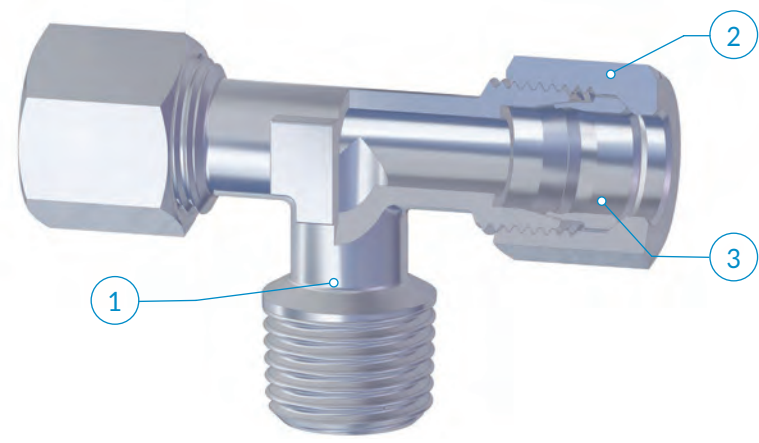
The OX fittings are completely made in AISI 316L (1.4404) and they are suitable for assembly with stainless steel pipes. The pipe connection is easy and needs no grease, allowing thereby to keep the food grade degree of the product. The olive seat, the olives and the nuts are all manufactured according to ISO8434/DIN 2353 norm.

# OX Line

**1** 本体  
Body  
  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

**2** 螺母  
Nut  
  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

**3** 卡箍  
Olive  
  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)



	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
4					●			
6	●				●	●		
8		●			●	●		
10		●	●			●	●	
12			●	●			●	●

**建议的连接管路:**  
符合DIN EN 10216-5规范的无缝不锈钢管路

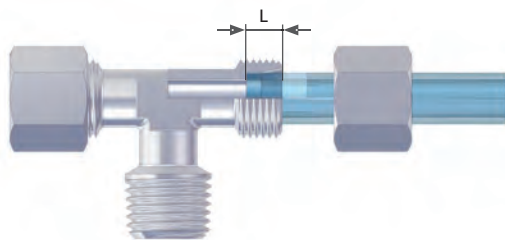
**Recommended pipes:**  
Seamless Stainless steel pipes according to the DIN EN 10216-5 Norm

**可接受的管路公差:**  
根据DIN EN 10216-5规范

**Acceptable hoses tolerances:**  
According to DIN EN 10216-5

**应用领域:**  
食品、制药和仪器仪表行业。

**Application fields:**  
Food and Pharma industry and instrumentation



OD	L
4	4
6	5,5
8	5,5
10	7
12	7

管路准备和提示

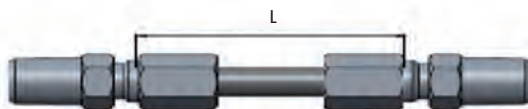
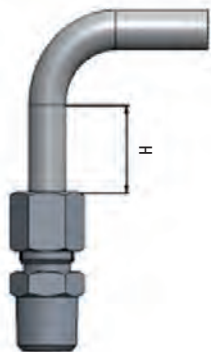
PIPE PREPARATION AND WARNINGS

两个相邻接头间的距离L, 至少应为螺母长度的2.5-3倍。如果要连接弯管, 请确保弯管端长度H至少为2倍的螺母长度。L与H, 可参看下方图示。

The min. pipe length "L" between two fittings has to be at least 2.5-3 times the nut height. To connect a curved pipe, make sure the pipe curve be at least at a distance "H" equaling twice the nut height.

管路  
拆装后再次装配时, 管端位置需要与之前一样。  
切管时, 应使用专用工具, 以保证切口平直, 避免毛刺。

**Pipe**  
If disassembled, the pipe endings have to be re-assembled in the same fitting shoulder as previously used.  
To cut the tube, DO NOT use a pipe cutter but a saw that allows for a square cut and limits burrs.



管径Ø	Ø 4	Ø 6	Ø 8	Ø 10	Ø 12
H min.	22	23	24	31	31
L min.	33	34	36	46	46

## i 安装说明

1

垂直切割管路，截面最大允许偏差角度为0.5°

2

清除管路内外壁毛刺，注意不要损坏管端

3

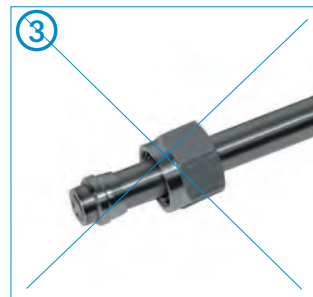
将螺母和卡箍套在管子上，确保卡箍朝向管端

4

将管路插入接头体，直到底部。同时确保接头体，管路，卡箍，螺母同轴

5

用手完全拧紧螺母。



6

借助扳手，根据所使用接头尺寸，拧紧 $\frac{1}{4}$  - 1圈左右，将螺母最后拧紧，确定管路不会随螺母一同旋转。建议使用扭矩扳手，参见表中指示的拧紧扭矩。

7

再次确认

仅在检查时，拧松螺母并检查卡箍是否正确卡在管路上

8

最终安装

在第6点所示的拧紧基础上，将螺母再次拧紧 $\frac{1}{4}$ 圈。

6

By means of a wrench, tighten the nut by  $\frac{1}{4}$  - 1 turn depending upon the fitting size. Avoid any pipe rotation during this phase. For this purpose, it is recommended to use a torque wrench and to refer to the torque force stated in the chart above.

7

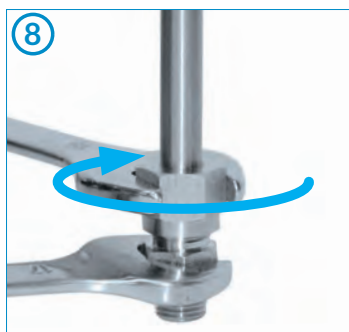
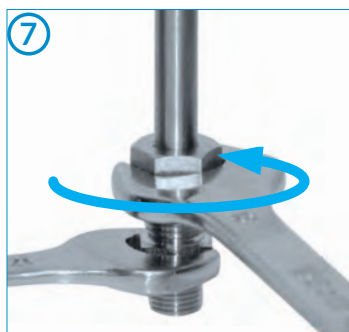
DOUBLECHECK

Loosen the nut and make sure that the ferrule has left an even groove on the pipe.

8

FINAL ASSEMBLY

Tighten the nut by  $\frac{1}{4}$  of a turn beyond the number of turns stated at point 6.



## i 螺纹拧紧力矩 Tightening torques

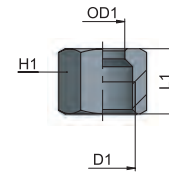
管径Ø	Nm
Ø 4	10
Ø 6	20
Ø 8	25
Ø 10	30
Ø 12	65

**OX 10**

螺母

Nut

类型	OD1	D1	L1	H1	g $\Delta$
10 00 04	4	M8x1	11	10	4,3
10 00 06	6	M10x1	11,5	12	5,6
10 00 08	8	M12x1	12	14	7,1
10 00 10	10	M16x1,5	15,5	19	18,4
10 00 12	12	M18x1,5	15,5	22	25,8

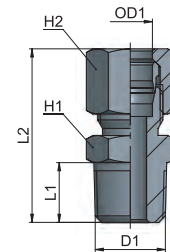


**OX 11**

外锥螺纹直接头

Taper straight, male

类型	OD1	D1	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	8	27	10	10	12,9
11 06 18	6	R1/8	8	27	11	12	14,7
11 06 14	6	R1/4	11	31	14	12	24,0
11 08 18	8	R1/8	8	29	12	14	17,5
11 08 14	8	R1/4	11	32	14	14	25,0
11 10 14	10	R1/4	11	35,5	17	19	42,4
11 10 38	10	R3/8	11,5	37	17	19	51,2
11 12 38	12	R3/8	11,5	37	19	22	59,3
11 12 12	12	R1/2	14	40,5	22	22	81,1



**OX 11 XT**

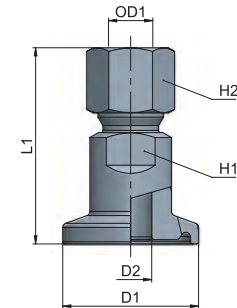
卡套卡箍接头

Clamp to compression fitting

类型	OD1	D1	D2	L1	H1	H2	g $\Delta$
11 06 XT D25	6	25	4,55	35,5	12	12	-
11 06 XT D50,4	6	50,4	4,55	35,5	12	12	-
11 08 XT D25	8	25	7,75	36	12	14	-
11 08 XT D50,4	8	50,4	7,75	36	12	14	-
11 10 XT D25	10	25	7,75	40,5	16	19	-
11 10 XT D50,4	10	50,4	7,75	40,5	16	19	-



卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

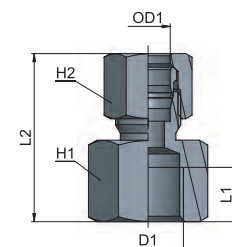


**OX 13**

内螺纹直接头

Female straight

类型	OD1	D1	L1	L2	H1	H2	g $\Delta$
13 06 18	6	G1/8	8,5	28	14	12	20,5
13 08 14	8	G1/4	10,5	31	19	14	35,1
13 10 14	10	G1/4	10,5	34,5	19	19	51,6
13 10 38	10	G3/8	10,5	36,5	22	19	61,8
13 12 38	12	G3/8	10,5	36,5	22	22	70,2
13 12 12	12	G1/2	12,5	37,5	24	22	69,2

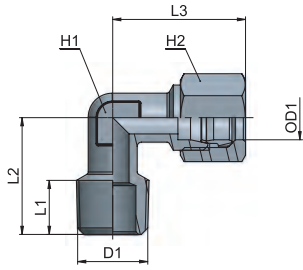


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX Safety 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## OX 14

外锥螺纹弯管接头

Taper elbow fitting, male

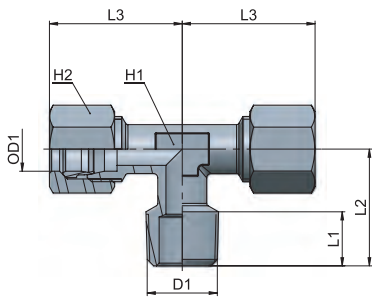


类型	OD1	D1	L1	L2	L3	H1	H2	g $\Delta$
14 04 18	4	R1/8	6,5	17	23	10	10	16,7
14 06 18	6	R1/8	6,5	17	24	10	12	19,2
14 06 14	6	R1/4	10	21,5	24	10	12	21,9
14 08 14	8	R1/4	10	21,5	24,5	10	14	23,1
14 10 14	10	R1/4	12,5	24,5	30,5	12	19	46,8
14 10 38	10	R3/8	11,5	24,5	30,5	12	19	49,8
14 12 38	12	R3/8	12,5	25,5	33	17	22	72,5
14 12 12	12	R1/2	13,5	30	35	19	22	91,2

## OX 20

锥螺纹正T型三通接头

Taper male T

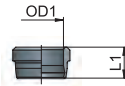


类型	OD1	D1	L1	L2	L3	H1	H2	g $\Delta$
20 04 18	4	R1/8	6,5	17	23	10	10	25,3
20 06 18	6	R1/8	6,5	17	24	10	12	29,6
20 06 14	6	R1/4	10	21,5	24	10	12	32,7
20 08 14	8	R1/4	10	21,5	24,5	10	14	35,1
20 10 14	10	R1/4	12,5	24,5	30,5	12	19	72,6
20 10 38	10	R3/8	11,5	24,5	30,5	12	19	76,9
20 12 38	12	R3/8	12,5	25,5	33	17	22	117,1
20 12 12	12	R1/2	13,5	30	33	19	22	126,2

## OX 22

卡箍

Olive

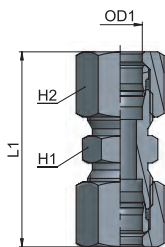


类型	OD1	L1	g $\Delta$
22 00 04	4	5,5	0,3
22 00 06	6	6	0,8
22 00 08	8	5,7	1,0
22 00 10	10	8	2,2
22 00 12	12	8	2,5

## OX 26

对接接头

Union




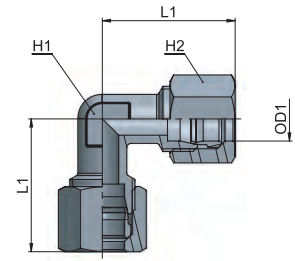
类型	OD1	L1	H1	H2	g $\Delta$
26 04 04	4	34	9	10	14,9
26 06 06	6	34	11	12	20,4
26 08 08	8	36	12	14	26,5
26 10 10	10	45	17	19	66,4
26 12 12	12	45	19	22	85,8

## OX 28

直角对接接头

Union elbow


类型	OD1	L1	H1	H2	g 
28 04 04	4	23	10	10	21,5
28 06 06	6	24	10	12	25,3
28 08 08	8	24,5	10	14	28,3
28 10 10	10	30,5	12	19	66,0
28 12 12	12	33	17	22	99,2

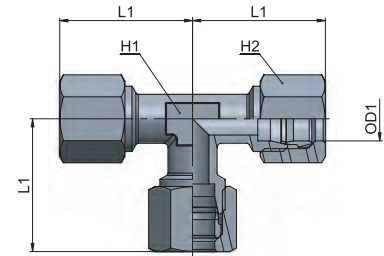


## OX 29

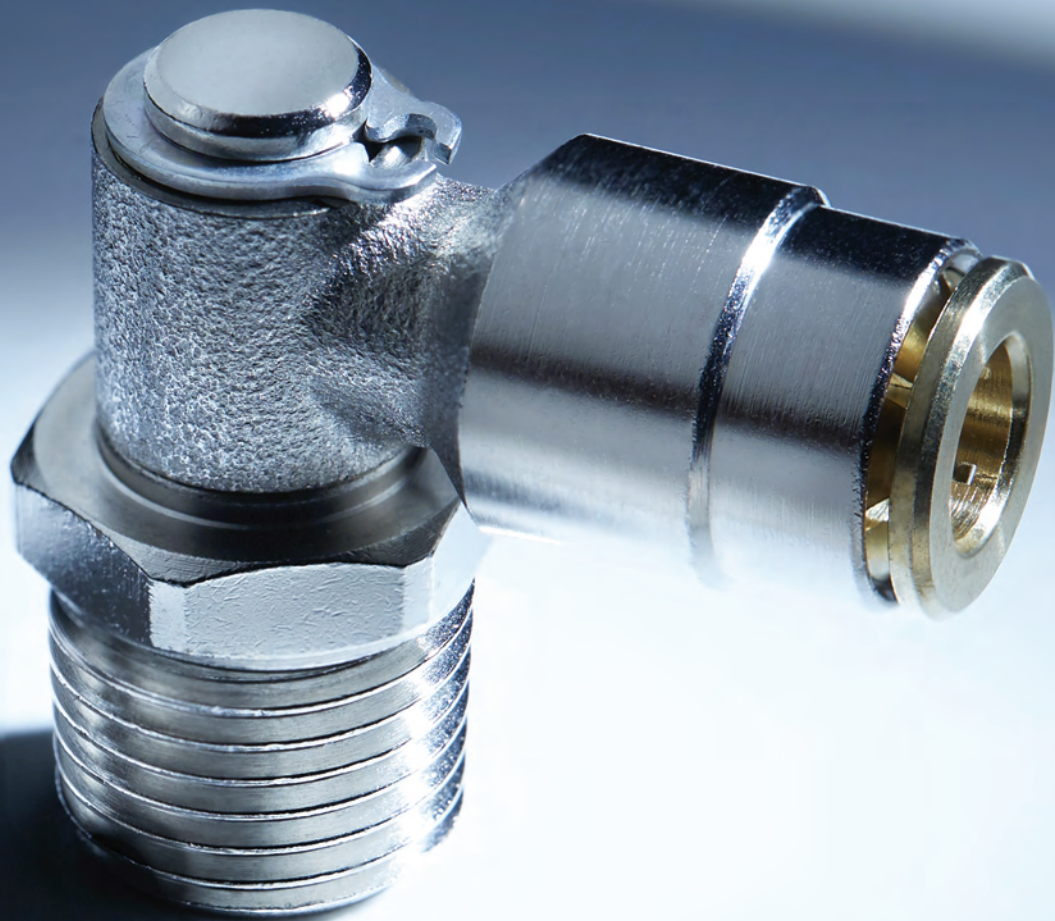
正T型三通对接接头

Union T

类型	OD1	L1	H1	H2	g 
29 04 04	4	23	10	10	30,2
29 06 06	6	24	10	12	36,2
29 08 08	8	24,5	10	14	40,9
29 10 10	10	30,5	12	19	94,1
29 12 12	12	33	17	22	143,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*

**cmatic**<sup>®</sup>  
PNEUMATIC FITTINGS



**RF LINE**



CN

EN

### 食品和饮料应用领域标准接头

RF系列管接头配件采用低铅黄铜制造(铅含量<0.1%),通过NSF/ANSI 169认证,可安全接触水、茶及咖啡等饮品,这使其成为咖啡设备与自动售卖机行业的理想解决方案。该系列产品同时符合NSF/ANSI 372标准对与饮用水接触黄铜材料的最大含铅量要求(铅含量<0.1%),满足美国《安全饮用水法案》规定,并全面符合ROHS III指令环保标准。

### Standard Fittings for Food and Beverage Applications

The RF fittings are accessories made of low lead brass (Pb <0.1%) and they are NSF/ANSI169 certified for contact with water, tea and coffee. This makes the RF line The Right Solution for the coffee and vending machines industry. The RF fitting also boasts the NSF/ANSI 372 brass compliance with the maximum lead content standards (Pb<0.1%) allowed for contact with drinking water (U.S. Safe Drinking Water Act). RF fittings are meeting the ROHS III Directive.

# RF Line

1 本体  
Body

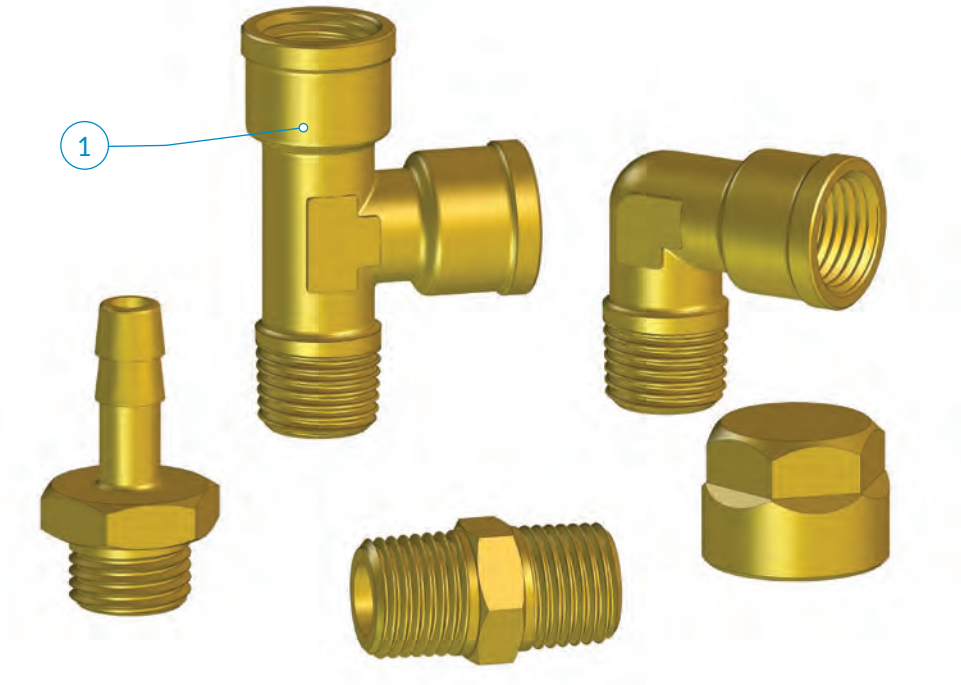
黄铜 EN 12164 CW510L 符合 NSF/ANSI 372  
Brass EN12164 CW510L compliant NSF/ANSI 372



-40° ÷ 150°C



60 bar



	1/8	1/4	3/8	R1/8	R1/4	R3/8
	●	●	●	●	●	●

应用领域：  
食品和饮料领域应用。

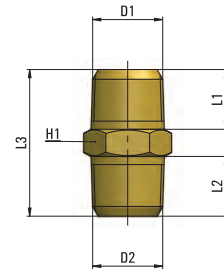
Application fields:  
Food and Beverage Applications

RF 12

锥螺纹转接头

Nipple, taper

类型	D1	D2	L1	L2	L3	H1	g $\Delta$
12 18 18	R1/8	R1/8	7,5	7,5	19,5	12	8,2
12 18 14	R1/8	R1/4	7,5	11	23,5	14	14,1
12 14 14	R1/4	R1/4	11	11	27	14	17,3
12 14 38	R1/4	R3/8	11	11,5	27,5	17	21,1
12 38 38	R3/8	R3/8	11,5	11,5	28	17	23,3

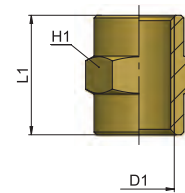


RF 13

内螺纹转接头

Joint piece

类型	D1	L1	H1	g $\Delta$
13 00 18	G1/8	15	14	10,4
13 00 14	G1/4	22	17	18,8
13 00 38	G3/8	23	20	21,4

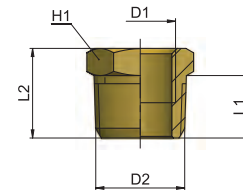


RF 14

内外螺纹减径接头

Taper female-male reducing connector

类型	D1	D2	L1	L2	H1	g $\Delta$
14 18 14	G1/8	R1/4	11	16	14	10,5
14 18 38	G1/8	R3/8	11,5	16,5	17	20,0
14 14 38	G1/4	R3/8	11,5	16,5	17	12,8

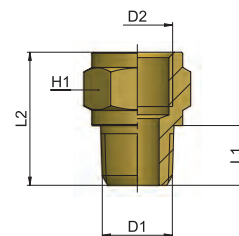


RF 16

内外螺纹转接头

Adaptor male-female, taper

类型	D1	D2	L1	L2	H1	g $\Delta$
16 18 18	R1/8	G1/8	7,5	17,5	12	10,7
16 18 14	R1/8	G1/4	7,5	21	17	16,9
16 14 14	R1/4	G1/4	11	24,5	17	20,4
16 14 38	R1/4	G3/8	11	25,5	20	23,9
16 38 38	R3/8	G3/8	11,5	26	20	28,2

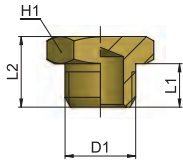


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RF 19

直螺纹堵头

Parallel plug

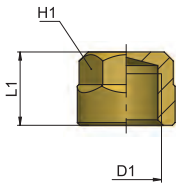


类型	D1	L1	L2	H1	g $\Delta$
19 00 18	G1/8	6	10	14	7,3
19 00 14	G1/4	8	13	17	13,3
19 00 38	G3/8	9	14	20	19,8

## RF 20

内螺纹堵头

Female plug

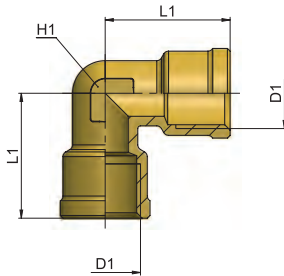


类型	D1	L1	H1	g $\Delta$
20 00 18	G1/8	10	14	6,5
20 00 14	G1/4	13,5	15	19,8
20 00 38	G3/8	14	19	17,6

## RF 21

内螺纹直角转接头

Female elbow

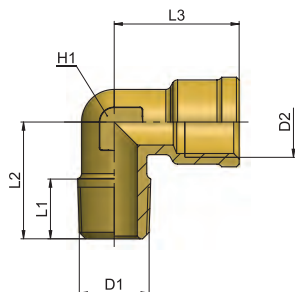


类型	D1	L1	H1	g $\Delta$
21 18 18	G1/8	18,5	10	14,7
21 14 14	G1/4	22,5	12	24,9
21 38 38	G3/8	25,5	15	42,3

## RF 22

内外螺纹直角转接头

Male-female elbow




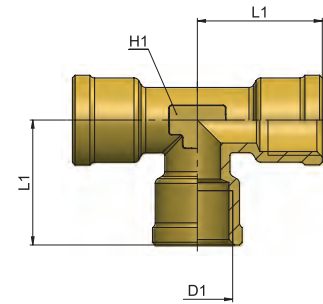
类型	D1	D2	L1	L2	L3	H1	g $\Delta$
22 18 18	R1/8	G1/8	8,2	17	18,5	10	12,3
22 14 14	R1/4	G1/4	11	21,5	22,5	12	22,6
22 38 38	R3/8	G3/8	12	24,5	25,5	15	39,4

RF 23

内螺正T型转接头

Female T


类型	D1	L1	H1	g 
23 18 18	G1/8	18,5	10	21,0
23 14 14	G1/4	22,5	12	35,5
23 38 38	G3/8	25,5	15	59,8

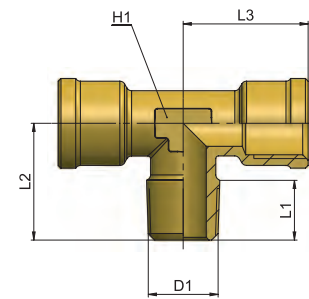


RF 24

内外螺纹正T型转接头

Female-male-female T


类型	D1	D2	L1	L2	L3	H1	g 
24 18 18	R1/8	G1/8	8,2	17	18,5	10	18,9
24 14 14	R1/4	G1/4	11	21,5	22,5	12	33,1
24 38 38	R3/8	G3/8	12	24,5	25,5	15	57,2

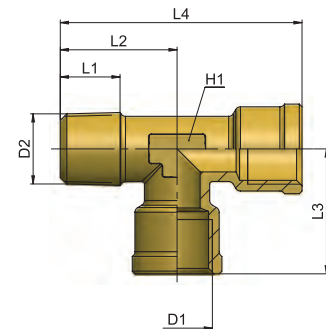


RF 25

内外螺纹直T型转接头

Male-female-female T


类型	D1	D2	L1	L2	L3	L4	H1	g 
25 18 18	G1/8	R1/8	8,2	17	18,5	35,5	10	18,8
25 14 14	G1/4	R1/4	11	21,5	22,5	44	12	32,9
25 38 38	G3/8	R3/8	12	24,5	25,5	50	15	57,3

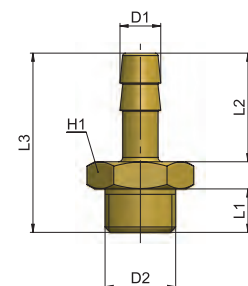


RF 30

宝塔接头

Hose connector

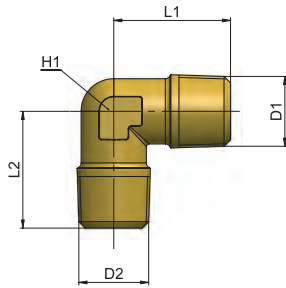
类型	OD1	D1	D2	L1	L2	L3	H1	g 
30 6,5 18	6	6,5	G1/8	6	20	30	14	9,7
30 6,5 14	6	6,5	G1/4	8	20	33	17	15,8



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RF 35

外螺纹弯头

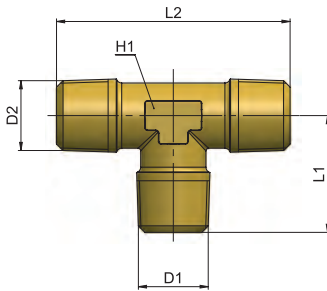


Male-male elbow

类型	D1	D2	L1	L2	H1	g $\Delta$
35 18 18	R1/8	R1/8	17	17	10	10,3
35 18 14	R1/8	R1/4	19	21,5	12	19,6
35 14 14	R1/4	R1/4	21,5	21,5	12	20,6
35 14 38	R1/4	R3/8	23	24,5	15	34,0
35 38 38	R3/8	R3/8	24,5	24,5	15	36,0

## RF 36

外螺纹正T型转接头

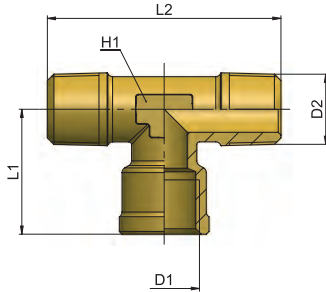


Male T

类型	D1	D2	L1	L2	H1	g $\Delta$
36 18 18	R1/8	R1/8	17	34	10	14,4
36 14 14	R1/4	R1/4	21,5	43	12	28,5
36 38 38	R3/8	R3/8	24,5	49	15	50,2

## RF 45

内外螺纹正T型转接头

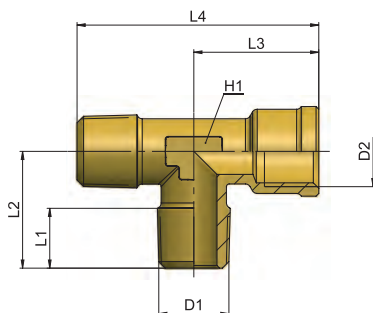


Male-female-male T

类型	D1	D2	L1	L2	H1	g $\Delta$
45 18 18	G1/8	R1/8	18,5	34	10	16,7
45 14 14	G1/4	R1/4	22,5	43	12	30,8
45 38 38	G3/8	R3/8	25,5	49	15	53,3

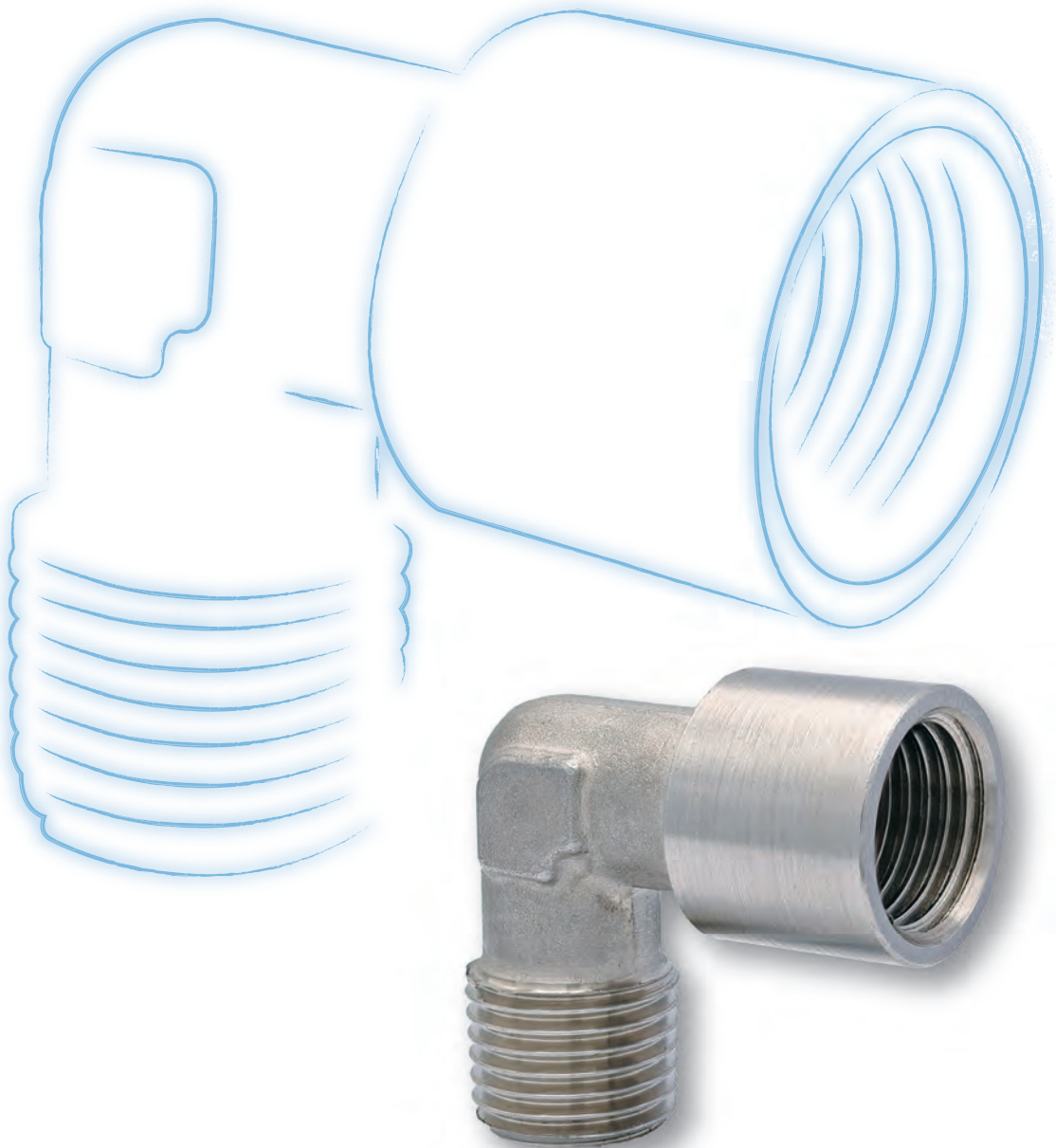
## RF 47

内外螺纹直T型转接头



Male-male-female T

类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
47 18 18	R1/8	G1/8	8,2	17	18,5	35,5	10	16,6
47 14 14	R1/4	G1/4	11	21,5	22,5	44	12	30,5
47 38 38	R3/8	G3/8	12	24,5	25,5	50	15	53,4



## RX LINE



CN

### 316L 不锈钢标准接头

RX系列是我们AISI 316L 不锈钢标准接头,可作为我们现有AISI 316L管接头产品的理想补充。

EN

### 316L Stainless Steel Standard Fittings

RX are our standard fittings in stainless steel AISI 316L; the right complement to our AISI 316L Fittings program.

# RX Line

1 本体  
Body

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

2 密封圈  
Seals

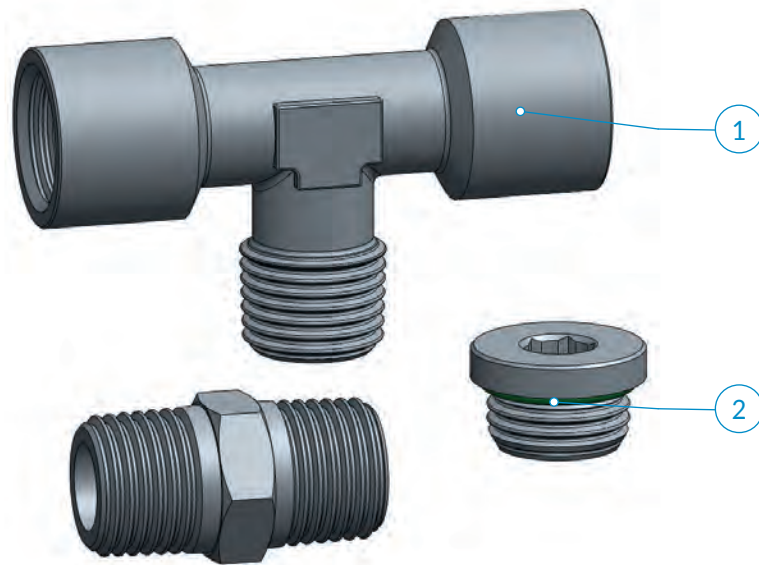
满足FDA规范的FPM  
FPM, FDA compliant



-40° ÷ 200°C



150 bar



	M5x0,8	G1/8	G1/4	G3/8	G1/2	R1/8	R1/4	R3/8	R1/2
	•	•	•	•	•	•	•	•	•


**应用领域：**  
气动、食品、化学、医疗制药行业。

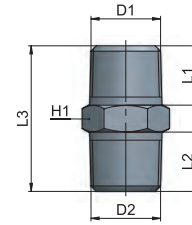
**Application fields:**  
Pneumatics, Food Industry, Chemical, Medical and Pharmaceutical Industry

RX 12

锥螺纹转接头

Nipple, taper


类型	D1	D2	L1	L2	L3	H1	g 
12 18 18	R1/8	R1/8	7,5	7,5	20	12	8,1
12 18 14	R1/8	R1/4	7,5	11	23,5	14	12,5
12 14 14	R1/4	R1/4	11	11	27	14	14,8
12 14 38	R1/4	R3/8	11	11,5	27,5	17	20,9
12 14 12	R1/4	R1/2	11	14	31	22	33,0
12 38 38	R3/8	R3/8	11,5	11,5	28	17	24,3
12 38 12	R3/8	R1/2	11,5	14	31,5	22	38,5
12 12 12	R1/2	R1/2	14	14	34	22	38,9

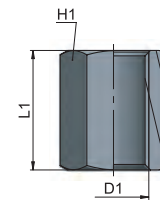


RX 13

内螺纹转接头

Joint piece


类型	D1	L1	H1	g 
13 00 18	G1/8	15	14	11,8
13 00 14	G1/4	22	17	21,6
13 00 38	G3/8	24	22	40,5
13 00 12	G1/2	30	27	73,8

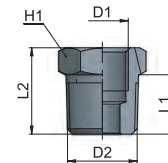


RX 14

内外螺纹减径接头

Taper female-male reducing connector


类型	D1	D2	L1	L2	H1	g 
14 18 14	G1/8	R1/4	11	16	14	8,8
14 18 38	G1/8	R3/8	11,5	16,5	17	18,6
14 18 12	G1/8	R1/2	14	19,5	22	32,0
14 14 38	G1/4	R3/8	11,5	16,5	17	11,9
14 14 12	G1/4	R1/2	14	20	22	34,6
14 38 12	G3/8	R1/2	14	20	22	22,7

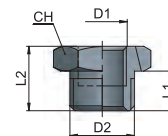


RX 15

直螺纹内外螺纹减径接头

Parallel female-male reducing connector

类型	D1	D2	L1	L2	H1	g 
15 M5 18	M5x0,8	G1/8	6	10,5	14	7,8
15 18 14	G1/8	G1/4	8	13	17	10,5
15 14 38	G1/4	G3/8	9	14	19	12,7

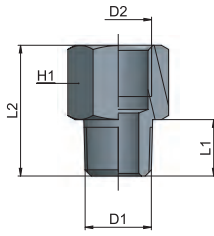


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RX 16

内外螺纹转接头

Adaptor male-female, taper

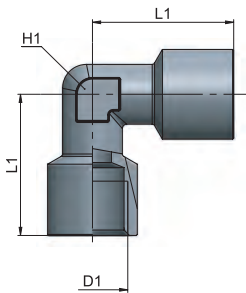


类型	D1	D2	L1	L2	H1	g $\Delta$
16 18 14	R1/8	G1/4	7,5	21	17	17,1
16 14 14	R1/4	G1/4	11	24,5	17	21,3
16 14 38	R1/4	G3/8	11	26	22	34,0
16 14 12	R1/4	G1/2	11	28,5	24	36,7
16 38 38	R3/8	G3/8	11,5	26,5	22	35,7
16 38 12	R3/8	G1/2	11,5	28,5	24	36,4
16 12 12	R1/2	G1/2	14	33,5	24	39,9

## RX 21

内螺纹直角转接头

Female elbow

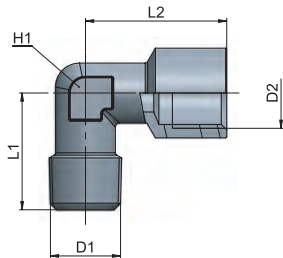


类型	D1	L1	H1	g $\Delta$
21 18 18	G1/8	22	10	19,0
21 14 14	G1/4	26	12	37,4
21 38 38	G3/8	28	17	44,0
21 12 12	G1/2	34	19	75,6

## RX 22

内外螺纹直角转接头

Male-female elbow

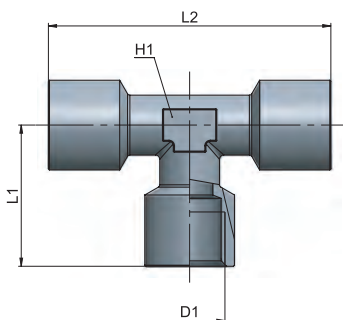


类型	D1	D2	L1	L2	H1	g $\Delta$
22 18 18	R1/8	G1/8	17	22	10	16,3
22 14 14	R1/4	G1/4	21,5	26	12	24,2
22 38 38	R3/8	G3/8	24,5	28	17	40,9
22 12 12	R1/2	G1/2	30,5	34	19	75,5

## RX 23

内螺纹正T型转接头

Female T



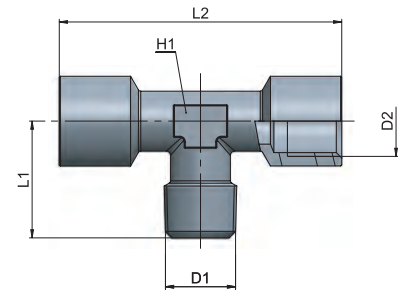
类型	D1	L1	L2	H1	g $\Delta$
23 18 18	G1/8	22	44	10	27,5
23 14 14	G1/4	26	52	12	41,0
23 38 38	G3/8	28	56	17	60,0
23 12 12	G1/2	34	68	19	121,5

RX 24

内外螺纹正T型转接头

Male-female stud T

类型	D1	D2	L1	L2	H1	g $\Delta$
24 18 18	R1/8	G1/8	17	44	10	22,5
24 14 14	R1/4	G1/4	21,5	52	12	34,6
24 38 38	R3/8	G3/8	24,5	56	17	57,5
24 12 12	R1/2	G1/2	30,5	68	19	110,5

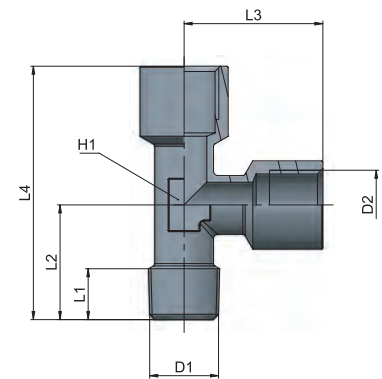


RX 25

内外螺纹直T型转接头

Male-female, lateral T

类型	D1	D2	L1	L2	L3	L4	H1	g $\Delta$
25 18 18	R1/8	G1/8	6,5	17	22	39	10	22,5
25 14 14	R1/4	G1/4	9,5	21,5	26	47,5	12	35,7
25 38 38	R3/8	G3/8	10	24,5	28	52,5	17	57,5
25 12 12	R1/2	G1/2	12	30,5	42,5	64,5	19	108,0

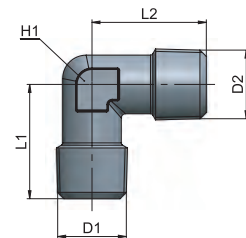


RX 35

外螺纹弯头

Male-male elbow

类型	D1	D2	L1	L2	H1	g $\Delta$
35 18 18	R1/8	R1/8	17	17	10	10,1
35 14 14	R1/4	R1/4	21,5	21,5	12	18,8
35 38 38	R3/8	R3/8	24,5	24,5	17	37,9
35 12 12	R1/2	R1/2	30,5	30,5	19	62,0

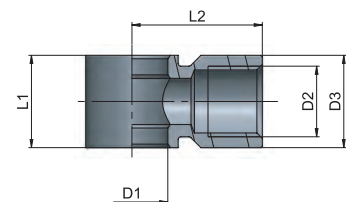


RX 42

单通铰接头本体

Single banjo ring

类型	D1	D2	D3	L1	L2	g $\Delta$
42 00 18	10	G1/8	14	15	18,5	15,0
42 00 14	13,2	G1/4	17	17	24	22,8
42 00 38	17	G3/8	20	20	29	37,2
42 00 12	21	G1/2	26	24	34,5	60,1

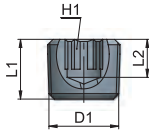


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RX 43

锥螺纹堵头

Taper plug

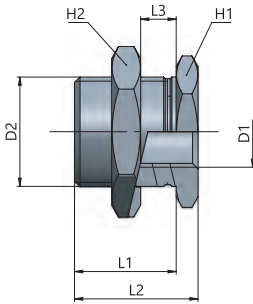


类型	D1	L1	L2	H1	g $\Delta$
43 00 18	R1/8	7,5	6	5	2,6
43 00 14	R1/4	11	7	6	8,4
43 00 38	R3/8	11,5	8	8	13,3
43 00 12	R1/2	14	9,9	10	25,7

## RX 44

穿板接头

Bulkhead connector

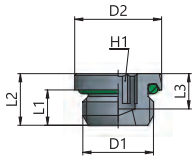


类型	D1	D2	L1	L2	L3	H1	H2	g $\Delta$
44 00 14	G1/4	M20x1,5	17,5	22,6	13	24	27	48,4
44 00 38	G3/8	M26x1,5	18,5	24,5	13	30	32	84,0
44 00 12	G1/2	M28x1,5	24,5	31,5	19	32	36	102,7

## RX 46

带o型圈外螺纹堵头

Male plug with oring

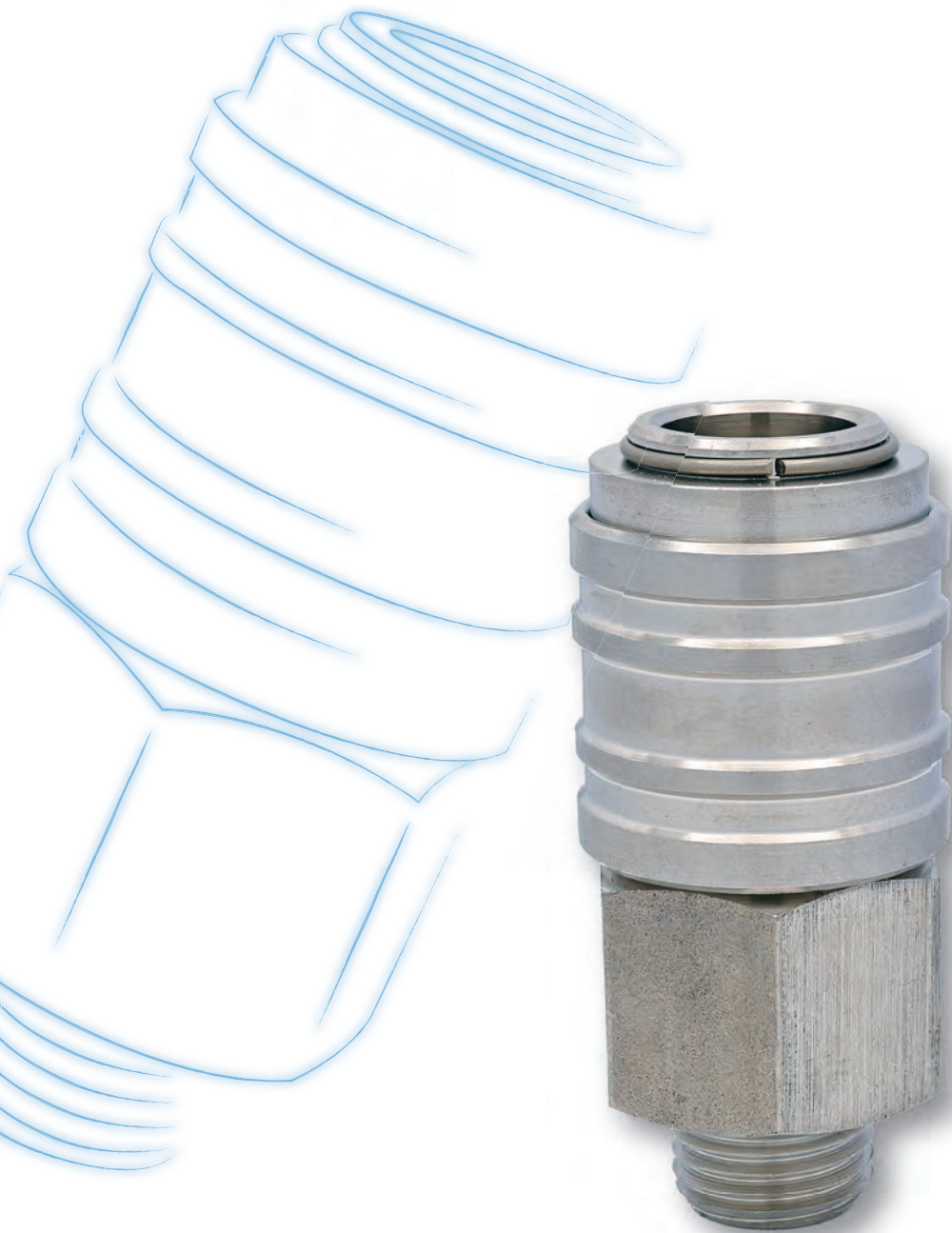


类型	D1	D2	L1	L2	L3	H1	g $\Delta$
46 00 18	G1/8	13	5	8	6	5	4,1
46 00 14	G1/4	16	6,5	9,5	6,5	6	8,3
46 00 38	G3/8	20	7	10,5	8	8	14,2
46 00 12	G1/2	25	8,5	13	8,5	10	28,8

FPM 密封-FPM Seals



-20°C ÷ 200°C



**GX LINE**



CN

316L 不锈钢快换接头  
不锈钢快换接头

EN

316L Stainless Steel Couplings  
Stainless steel quick couplings.

# GX 10

不锈钢多插座快换接头

Stainless steel multi socket quick coupling

- 1** 本体  
Body

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 2** 控制滑套  
Command sleeve
- 3** 阀芯  
Valve
- 4** 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302
- 5** 滚珠  
Balls

AISI 420 不锈钢  
Stainless steel AISI 420
- 6** 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant With FDA
- i** 插头体  
Plugs

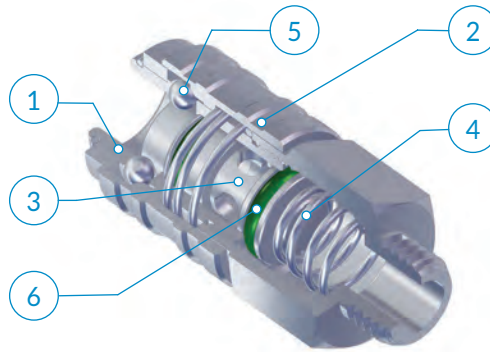
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)



-20° ÷ 150°C

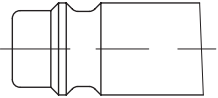
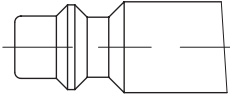
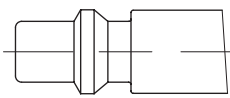





15 bar



应用领域：  
气动系统。

Application fields:  
Pneumatic circuits

适用以下插头体外形 Suitable with following plugs profiles		流量 Flow rate
		NI/min (6 bar - Δp = 1bar)
	欧洲标准外形 European Profile	820
	ISO 6150 B标准外形 ISO 6150 B Profile	715
	瑞典标准外形 Standard Swedisch Profile	725
	意大利标准外形 Standard Italian Profile	670
	MIL C4109标准外形 MIL C4109 Profile	715
	ARO 210标准外形 ARO 210 Profile	705

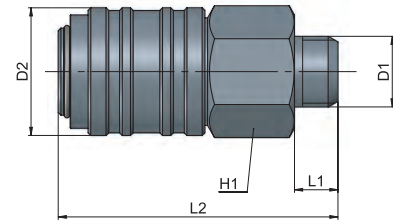
比例尺 1:1 - Scale 1:1

GX 10-11

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g
11 00 14	G1/4	23,5	8	51,5	21	87,8
11 00 38	G3/8	23,5	9	51,5	21	86,7

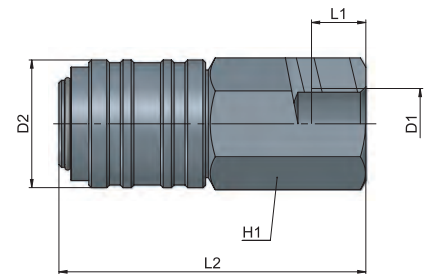


GX 10-12

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g
12 00 14	G1/4	23,5	10	56,5	21	110,9
12 00 38	G3/8	23,5	10	58	21	106,3

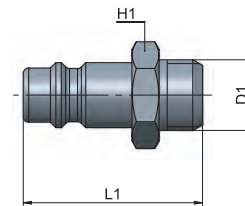


GX 10-20

外螺纹插头体, 欧洲标准外形

Male plug according to european profile

类型	D1	L1	H1	g
20 00 14	G1/4	33	17	20,5
20 00 38	G3/8	33	21	30,4

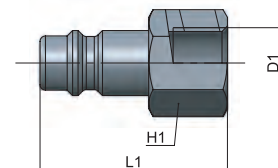


GX 10-21

内螺纹插头体, 欧洲标准外形

Female plug according to european profile

类型	D1	L1	H1	g
21 00 14	G1/4	34,5	17	23,6
21 00 38	G3/8	35	21	31,7
21 00 12	G1/2	38	24	39,3



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# GX 30

## ISO6150C-8 按钮型快换接头

## Push-Button coupling according to ISO 6150 C-8

- 1** 本体  
Body

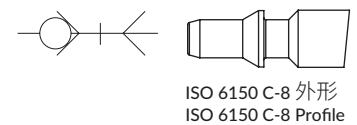
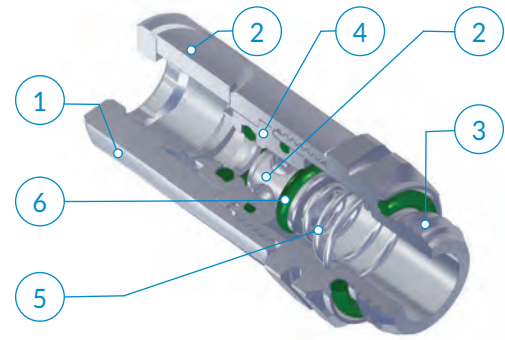
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 2** 按钮和阀芯  
Button and valve
- 3** 螺纹  
Thread
- 4** 套筒  
Cartridge
- 5** 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302
- 6** 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant With FDA
- i** 插头体  
Plugs

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 20° ÷ 180°C
- 25 bar
- 3 mm
- 345 NI/min  
(6 bar - Δp = 1bar)
- SILICONE FREE
- RoHS
- REACH
- NSF
- 



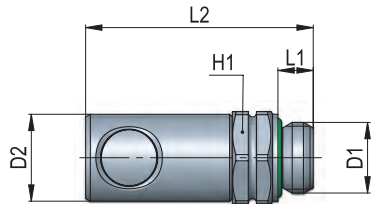
应用领域：  
气动系统

Application fields:  
Pneumatic circuits

### GX 30-10

外螺纹接头体

Male coupling



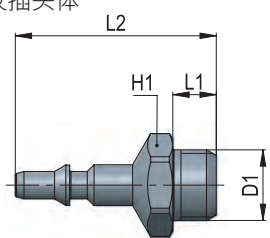
类型	D1	D2	L1	L2	H1	g $\Delta\Delta$
10 00 18	G1/8	16	5	41	17	-
10 00 14	G1/4	16	6,5	41,9	17	51,4



### GX 30-20

外螺纹插头体

Male plug



类型	D1	L1	L2	H1	g $\Delta\Delta$
20 00 18	G1/8	7	35	14	-
20 00 14	G1/4	8	37	17	18,2

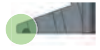


**GX 30-10 XT**

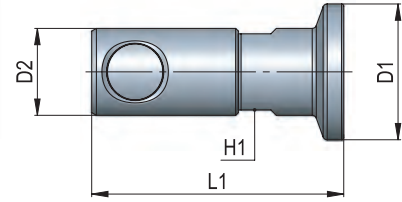
ISO6150C-8 卡箍式接头体 DN3 外形

Clamp to quick coupling ISO 6150 C-8  
DN3 profile

类型	D1	D2	L1	H1	g 
30-10 00 XT D25	25	16	46,4	14	57,6



卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class

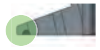


**GX 30-20 XT**

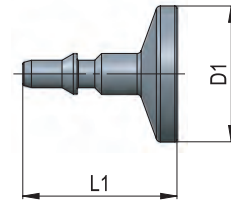
ISO6150C-8 卡箍式插头体 DN3 外形

Clamp to plug, ISO 6150 C-8 DN3

类型	D1	L1	g 
30-20 00 XT D25	25	28,4	20,0



卡箍表面处理等级: SF1级  
Surface finishing of the Clamp side: SF1 Class



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# GX 31

符合ISO 6150C-10的按钮式快换接头

Push-Button coupling according to ISO 6150 C-10

- 1** 本体  
Body

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 2** 按钮和阀芯  
Button and valve
- 3** 螺纹  
Thread
- 4** 套筒  
Cartridge
- 5** 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302
- 6** 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant With FDA
- i** 插头体  
Plugs

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 20° ÷ 180°C
- 25 bar
- 5,5 mm
- 933 NI/min (6 bar - Δp = 1bar)
- 600 NI/min (6 bar - Δp = 1bar)

**应用领域:**  
气动系统

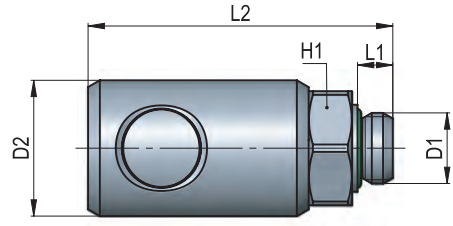
**Application fields:**  
Pneumatic circuits

ISO 6150 C-10 外形  
ISO 6150 C-10 Profile

## GX 31-10

外螺纹接头体

Male coupling



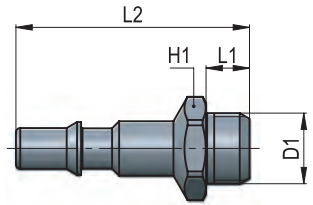
类型	D1	D2	L1	L2	H1	g ΔΔ
10 00 18	G1/8	25	5	55,1	21	-
10 00 14	G1/4	25	6,5	56,1	21	-
10 00 38	G3/8	25	7	56,6	21	-
10 00 12	G1/2	25	8,5	58,6	25	-



## GX 31-20

外螺纹插头体

Male plug



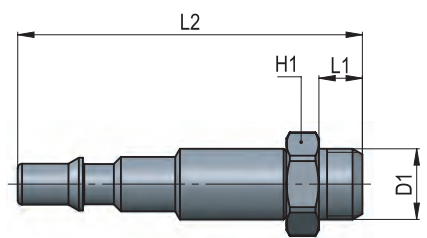
类型	D1	L1	L2	H1	g ΔΔ
20 00 18	G1/8	7	42	14	-
20 00 14	G1/4	8	43	17	-
20 00 38	G3/8	9	44	21	-



## GX 31-30

带阀外螺纹插头体

Checked male plug

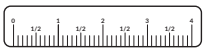


类型	D1	L1	L2	H1	g ΔΔ
30 00 18 CKD	G1/8	7	61,5	14	-
30 00 14 CKD	G1/4	8	63,5	17	-
30 00 38 CKD	G3/8	9	64,5	21	-





INCH



**PUX LINE**



CN

NPT 316L 不锈钢快换接头  
NPT 螺纹不锈钢快换接头.

EN

316L Stainless Steel Couplings, NPT  
Stainless steel quick couplings available with NPT threads.

# PUX 10

不锈钢多插座快换接头

Stainless steel multi socket quick coupling

- 1** 本体  
Body


316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 2** 控制滑套  
Command sleeve
- 3** 阀芯  
Valve
- 4** 弹簧  
Springs

AISI 302 不锈钢  
Stainless steel AISI 302
- 5** 滚珠  
Balls

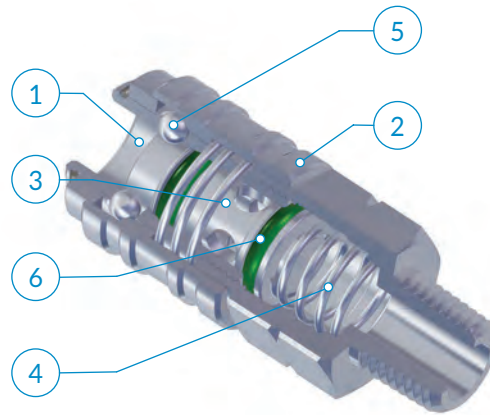
AISI 420 不锈钢  
Stainless steel AISI 420
- 6** 密封圈  
Seals

FPM  
FPM
- i** 插头体  
Plugs

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

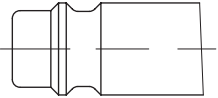
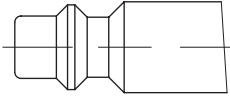
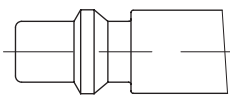



  
-20° ÷ 150°C

  
15 bar



应用领域：  
气动系统。

Application fields:  
Pneumatic circuits


适用以下插头体外形 Suitable with following plugs profiles		流量 Flow rate
		NI/min (6 bar - Δp = 1bar)
	欧洲标准外形 European Profile	820
	ISO 6150 B标准外形 ISO 6150 B Profile	715
	瑞典标准外形 Standard Swedish Profile	725
	意大利标准外形 Standard Italian Profile	670
	MIL C4109标准外形 MIL C4109 Profile	715
	ARO 210标准外形 ARO 210 Profile	705

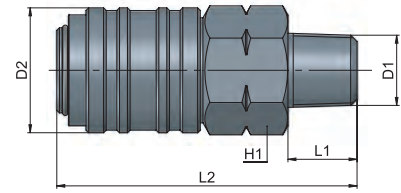
比例尺 1:1 - Scale 1:1

PUX 10-11

外螺纹接头体

Male coupling


类型	D1	D2	L1	L2	H1	g 
11 00 14	1/4 NPTF	23,5	13	56,5	21	90,3
11 00 38	3/8 NPTF	23,5	13	55,5	21	91,8

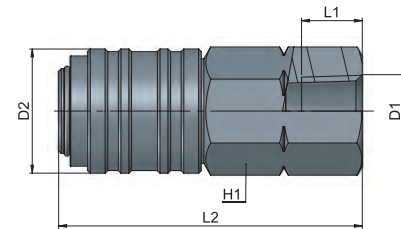


PUX 10-12

内螺纹接头体

Female coupling


类型	D1	D2	L1	L2	H1	g 
12 00 14	1/4 NPTF	23,5	12,5	57,5	21	-
12 00 38	3/8 NPTF	23,5	12,5	58,5	21	-

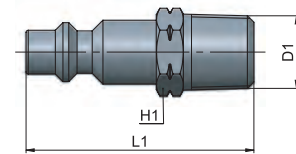


PUX 10-20

外螺纹插头体, ISO6150 B-12外形

Male plug according to ISO6150 B-12 profile


类型	D1	L1	H1	g 
20 00 14	1/4 NPTF	42	14	23,3
20 00 38	3/8 NPTF	42	18	-

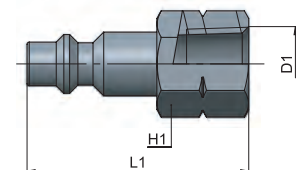


PUX 10-21

内螺纹插头体, ISO6150 B-12外形

Female plug according to ISO6150 B-12 profile

类型	D1	L1	H1	g 
21 00 14	1/4 NPTF	41	17	-
21 00 38	3/8 NPTF	42	21	41,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

cmatic  
P  
N  
W  
U  
M  
A  
T  
T  
E  
M  
P  
T  
I  
V  
E  
S

*cmatic*



## GX Safety



CN

316L不锈钢安全快换接头  
符合ISO4414的316L不锈钢安全型快换接头

EN

316L Stainless Steel Safety Couplings  
AISI 316L stainless steel quick couplings with ISO 4414-compliant safety feature.

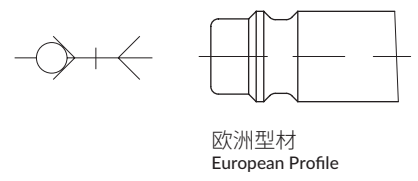
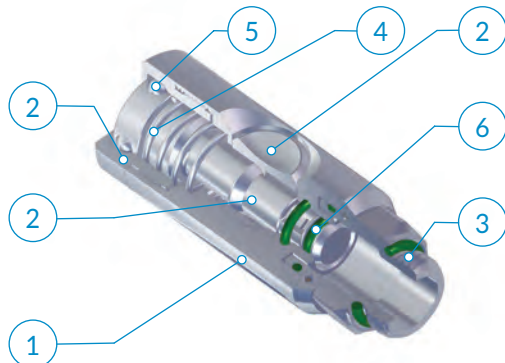
# GX 46

安全型按钮式快换接头，欧洲外形

Push-button safety coupling according european profile

- 1** 本体  
Body  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)
- 2** 按钮、阀芯和排气环  
Button, valve and venting ring
- 3** 螺纹  
Thread
- 4** 弹簧  
Springs  
AISI 302 不锈钢  
Stainless steel AISI 302
- 5** 滚珠  
Balls  
AISI 420 不锈钢  
Stainless steel AISI 420
- 6** 密封圈  
Seals  
FPM  
FPM
- i** 插头体  
Plugs  
316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

-   
-20° ÷ 150°C
-   
12 bar
-   
7,4 mm
-   
1500 NI/min  
(6 bar - Δp = 1bar)
- 
- 
- 
- 
- 
- 



**i** 快换接头在安装后依然可以调整方向。  
The Coupling will remain swivelling after installation.

**应用领域：**  
食品和药品工业，精密仪器

**Application fields:**  
Food and Pharma industry and instrumentation

## **i** 连接 - 断开

## CONNECTION - RELEASE

将插头体插入接头体

Insert the plug into the Coupling.

断开连接，需依照以下指导步骤：  
插头体已经插入接头体

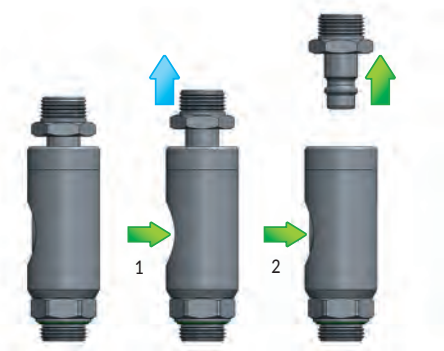
To disconnect the plug follow instructions below:  
Plug inserted in Coupling.

**1**  
按压按钮，排出下游回路中的空气，此时，插头体依旧锁定接头体；

**1**  
Press the button once to vent the downstream air from the circuit; at this time the plug is still captive in the Coupling.

**2**  
再次按压按钮，完成插头体的分离。

**2**  
Press the button one more time to release the plug.

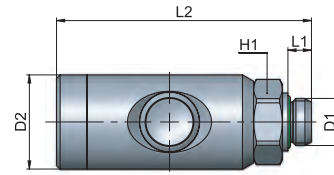


**GX 46-10**

外螺纹接头体

Male coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
10 00 14	G1/4	26	6,5	70,4	21	177,0
10 00 38	G3/8	26	7	69,9	21	176,5
10 00 12	G1/2	26	8,5	72,4	25	197,5

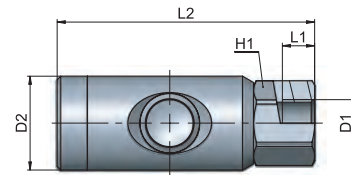


**GX 46-12**

内螺纹接头体

Female coupling

类型	D1	D2	L1	L2	H1	g $\Delta$
12 00 14	G1/4	26	9	71,4	21	190,0
12 00 38	G3/8	26	10	75,4	21	190,0
12 00 12	G1/2	26	11	77,4	24	200,5

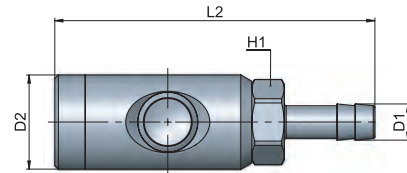


**GX 46-13**

软管用接头体

Coupling with hose connection

类型	ID1	D1	D2	L2	H1	g $\Delta$
13 06 00	6	7	26	88,4	21	178,5
13 09 00	9	10	26	88,4	21	183,4
13 10 00	10	11	26	88,4	21	184,0
13 13 00	13	14	26	88,4	21	188,5

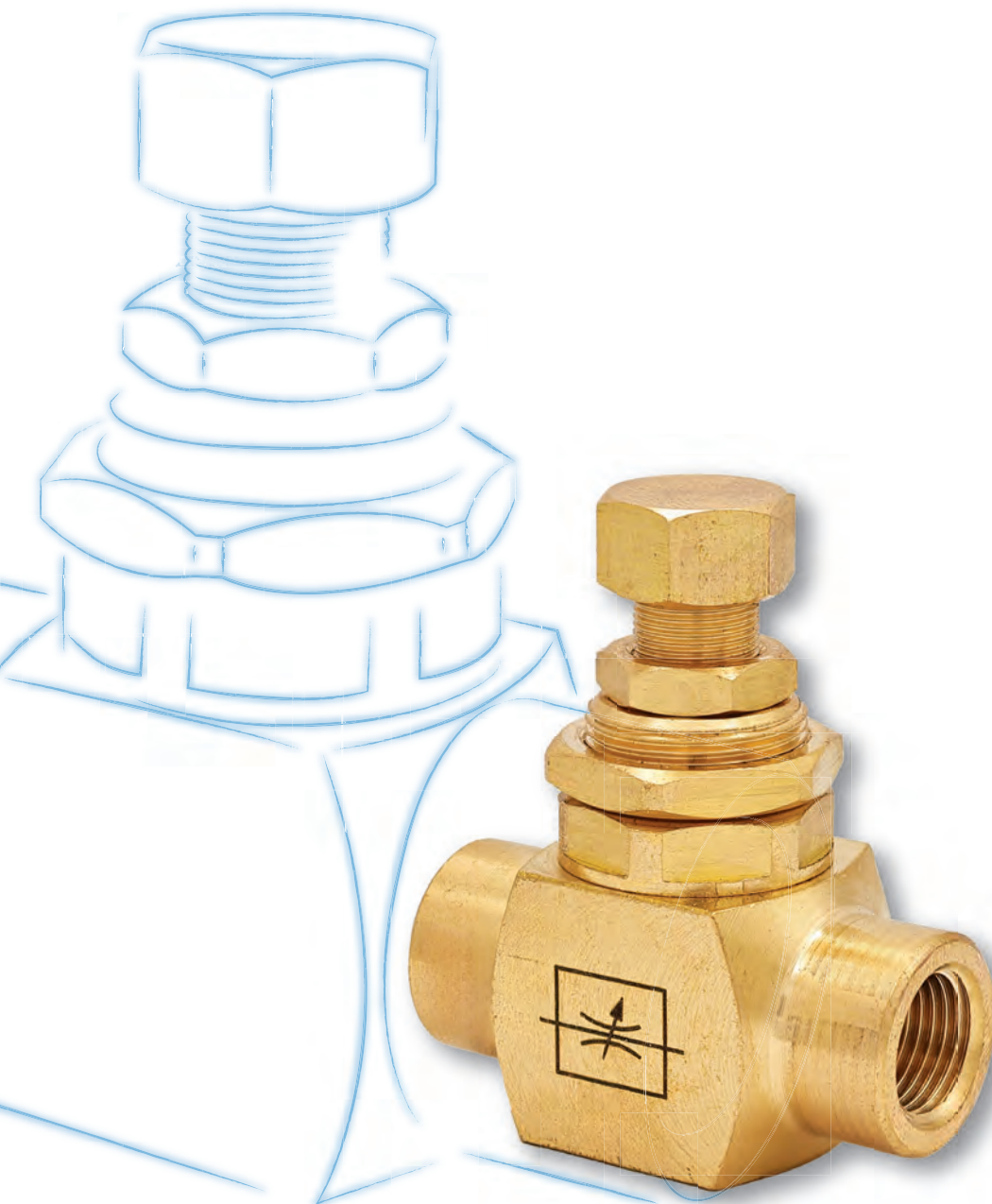


**i** 更多插头体信息，请参看GX10相关部分。  
For further info on the plugs to use, please revert to the GX10 section.

AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299



*cmatic*



## VF LINE



IT

### 适用于食品与饮料行业的功能接头

VF系列是专为食品饮料应用设计的功能接头。该系列采用低铅黄铜制造（铅含量<0.1%），通过NSF/ANSI 169认证，可安全接触水、茶和咖啡等饮品，这使其成为咖啡设备和自动售卖机行业的理想解决方案。VF接头同时符合NSF/ANSI 372标准对饮用水接触材料含铅量的限定要求（铅含量<0.1%），满足美国《安全饮用水法案》规定，并全面符合ROHS III指令环保标准。

EN

### Function Fittings for Food and Beverage Applications

VF is a function fitting designed for food and beverage applications. The VF fittings are made of low lead brass (Pb<0,1%) and they are certified NSF/ANSI 169 for contact with water, tea and coffee. This makes the VF line the right solution for the coffee and vending machines industry. The VF fitting also boasts the NSF/ANSI 372 compliance to brass maximum allowed lead content standards (Pb<0,1%) for use in contact with drinking water (U.S. Safe Drinking Water Act). VF fittings are meeting the ROHS III Directive.

# VF 21

线型节流阀

In-line flow control

- 1 本体  
Body
- 2 针阀  
Needle valve
- 3 旋钮  
Handwheel
- 4 阀针  
Needle
- 5 螺母  
Nut

- 6 密封圈  
Seals

黄铜 UNI EN 12164 CW510N  
Brass UNI EN12164 CW510L

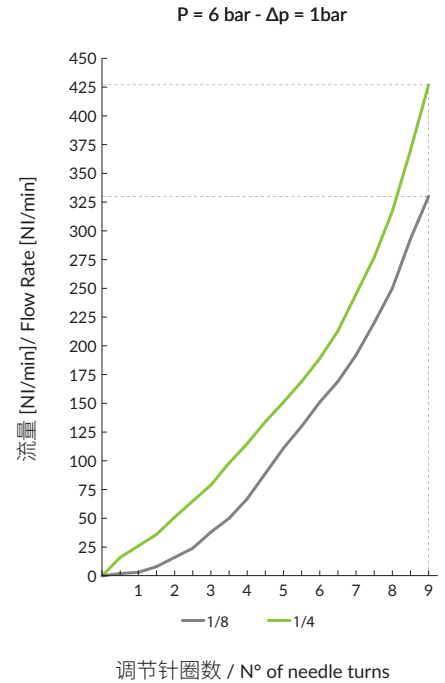
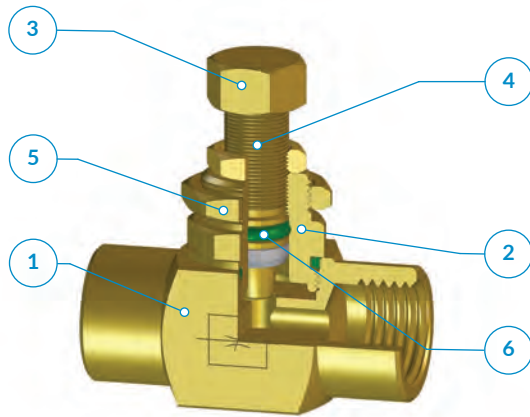
满足FDA规范的FPM  
FPM, FDA compliant



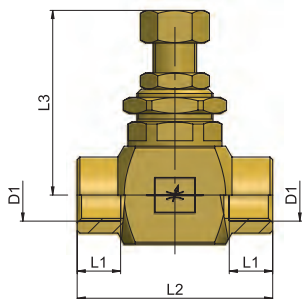
-20° ÷ 150°C



10 bar



涉及蒸汽应用, 请联络销售技术团队。  
For steam applications, please contact our sales engineering team.



类型	D1	L1	L2	L3 max	g	g
21 18 18	G1/8	8	36	34	79,1	
21 14 14	G1/4	9	41	34	86,5	

.../B =



**建议的连接管路:**  
食品饮料行业合规管路

**Recommended tubings:**  
Tubing recommended for Food and Beverage

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0.07 mm up to Ø 8 mm.

**应用领域:**  
食品和饮料领域应用。

**Application fields:**  
Food&Beverage

# VF 25

手动两通球阀

2 way manual valve

- 1 本体  
Body
- 2 手柄  
Handle

黄铜UNI EN 12164 CW510N  
Brass UNI EN12164 CW510L

- 3 垫圈  
Gasket

PTFE  
PTFE

- 4 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant with FDA



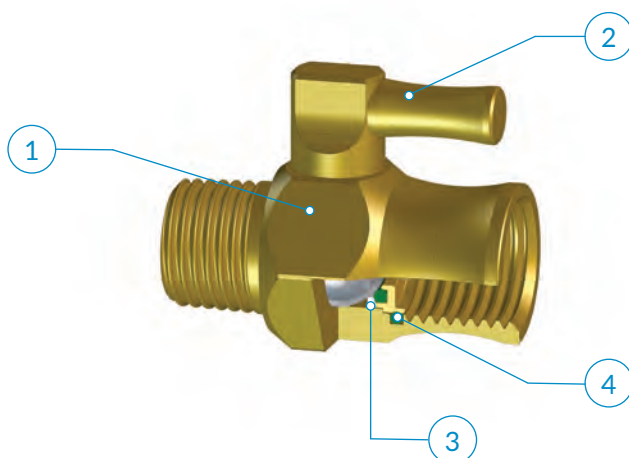
-20° ÷ 150°C



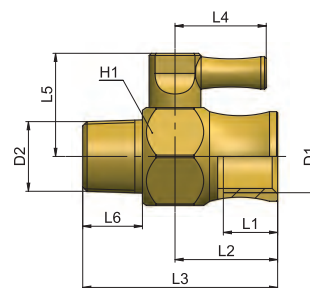
2 ÷ 10 bar



1/8	6 mm
1/4	6 mm
3/8	8 mm
1/2	10 mm



类型	D1	D2	L1	L2	L3	L4	L5	L6	H1	g	△
25 00 18	G1/8	R1/8	8	19	32,8	17	19	7,5	18	45,3	
25 00 14	G1/4	R1/4	9	19	35,9	17	19	11	18	43,6	



**建议的连接管路:**  
食品饮料行业合规管路

**Recommended tubings:**  
Tubing recommended for Food and Beverage

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0,07 mm up to Ø 8 mm.

**应用领域:**  
食品和饮料领域应用。

**Application fields:**  
Food&Beverage

# VF 33T

单向阀

Check valve

- 1 本体  
Body
- 2 阀芯  
Valve

黄铜 UNI EN 12164 CW510N  
Brass UNI EN 12164 CW510L

- 3 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant with FDA

- 4 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

- 5 MF快插接头  
MF line push-in fittings



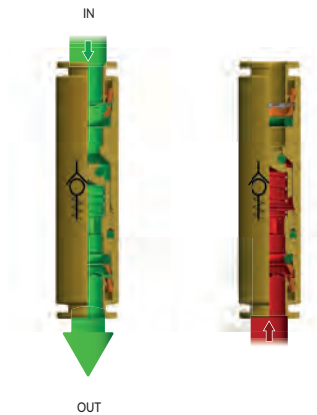
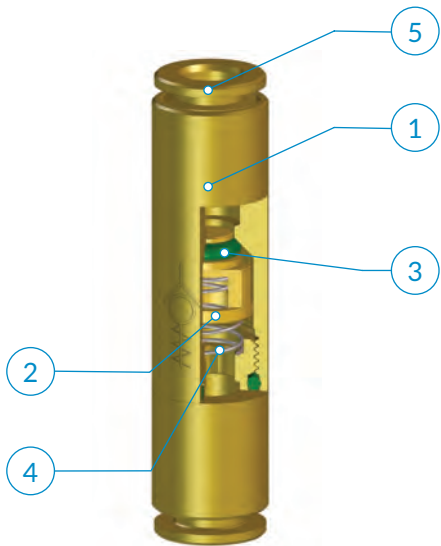
-20° ÷ 150°C



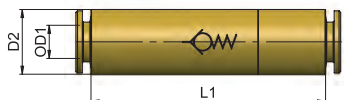
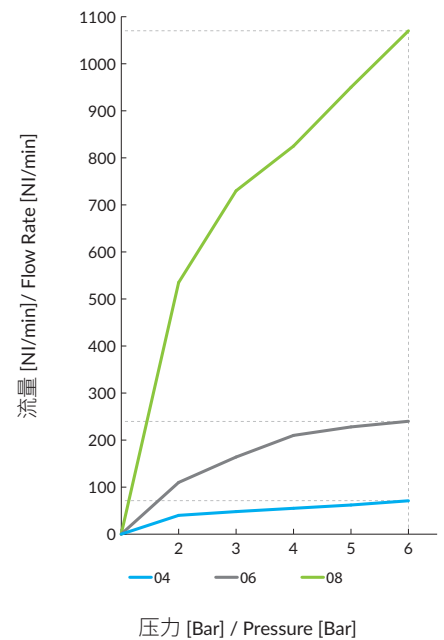
2÷10 bar



0,2 bar



P = 6 bar - Δp = 1bar



类型	OD1	D2	L1	g ΔΔ
33 04 04 T	4	9	40,9	11,8
33 06 06 T	6	12	48,5	25,2
33 08 08 T	8	14	48,9	20,8

**i** 流体仅允许单向通过(沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
食品饮料行业合规管路

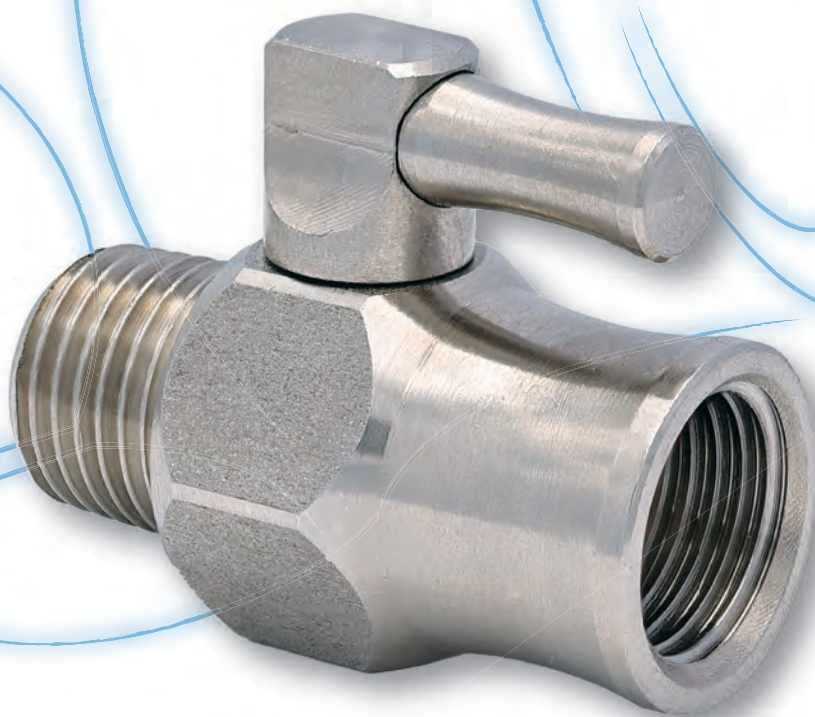
**Recommended tubings:**  
Tubing recommended for Food and Beverage

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0,07 mm up to Ø 8 mm.

**应用领域:**  
食品和饮料领域应用。

**Application fields:**  
Food&Beverage



**VX LINE**



IT

316L 不锈钢功能接头

VX系列功能接头是对SS316L全系列产品的补充

EN

316L Stainless Steel Function Fittings

The VX function fittings line complements all our SS316L product offer.

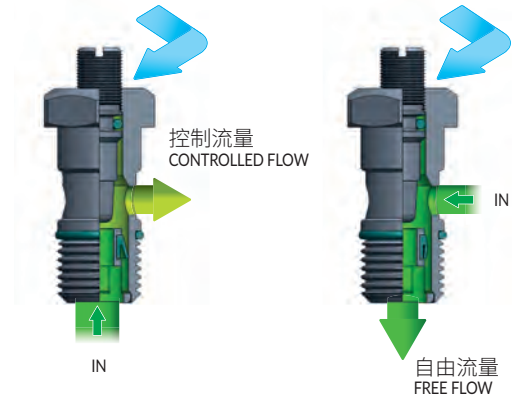
流量调节阀可用于控制气动回路中的流量。根据采用的调节阀类型, 可实现双向流量调节 (双向流量控制阀) 或单向调节 (单向流量控制阀)。单向流量控制阀尤其适用于调节气缸的运行速度。

They can adjust the flow in a pneumatic circuit. Depending on the flow control used, the setting can be made both ways (Bidirectional Flow Control), or just one way (Unidirectional Flow Control). The Unidirectional Flow Control is particularly used to adjust the speed of pneumatic cylinders.

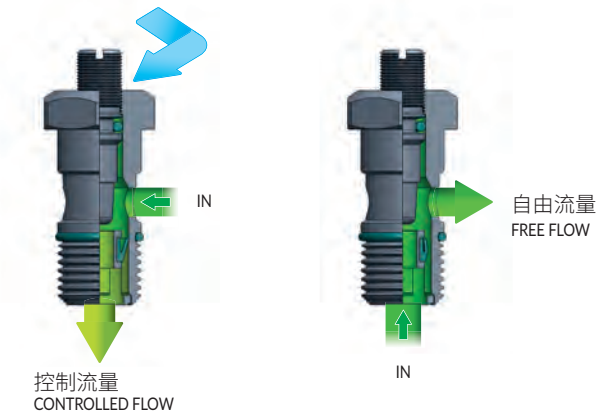
**i** 流量调节范围

Possible Flow Adjustments

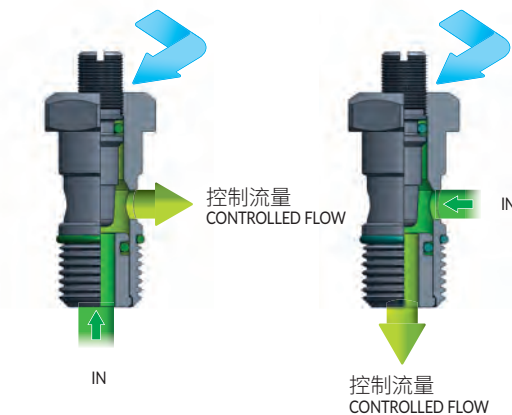
**.../O** = 排气节流  
Meter out flow control



**.../I** = 进气节流  
Meter in flow control



**.../B** = 双向流量调节  
Bidirectional flow control



# VX 15

VX  
LINE

节流阀

Flow control

- 1 本体  
Body
- 2 阀针  
Needle
- 3 插装阀芯  
Cartridge

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 4 密封圈  
Seals

满足FDA规范的FPM  
FPM, FDA compliant

- 5 垫圈  
Gasket

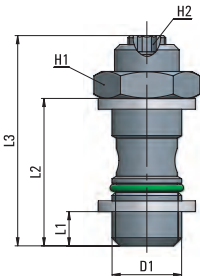
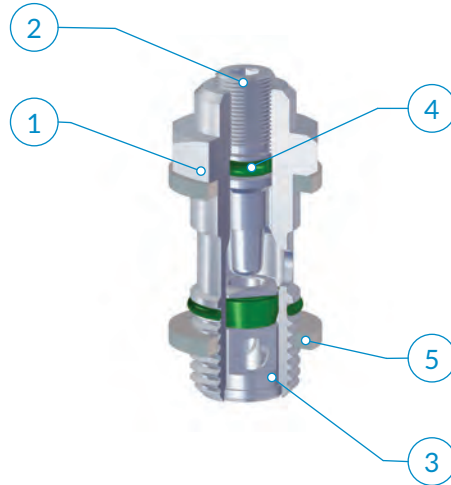
PTFE  
PTFE



-20° ÷ 150°C



10 bar



类型	D1	L1	L2	L3 max	H1	H2	g $\Delta$
15 00 18	G1/8	5,1	22,1	32,9	14	2,5	18,3
15 00 14	G1/4	6,4	27,4	41,8	17	3	34,5

可用版本:  
Available as:

.../O



.../I



.../B



**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# VX 18

可调节流阀

Flow Control with swivelling push-in fitting

- 1 本体  
Body
- 2 阀针  
Needle
- 3 插装阀芯  
Cartridge

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 4 密封圈  
Seals

满足FDA规范的FPM  
FPM, FDA compliant

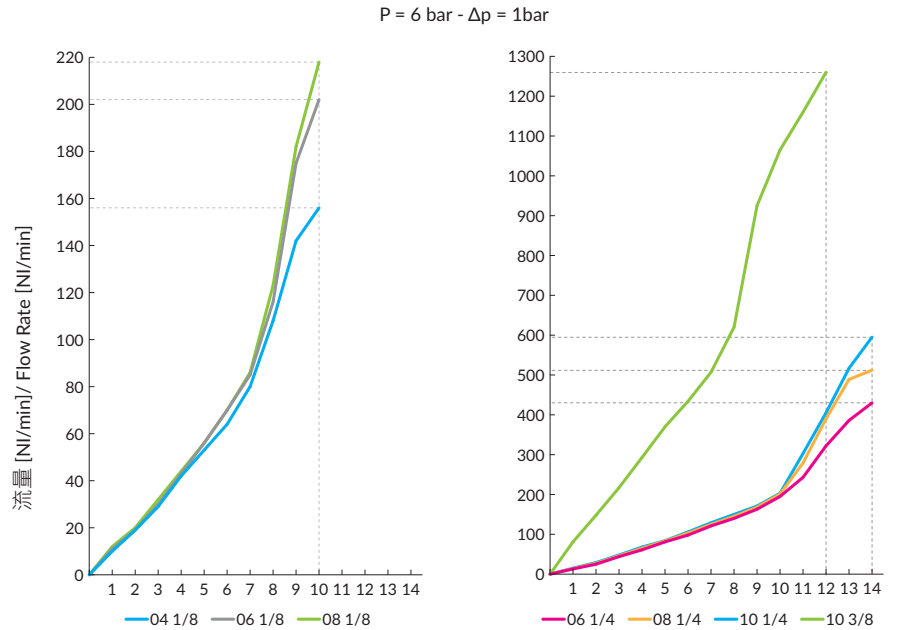
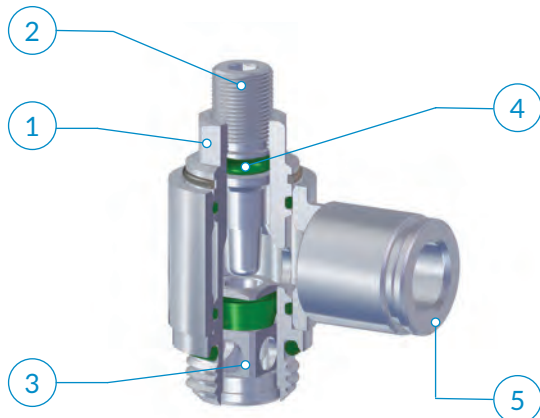
- 5 MX快插接头  
MX line push-in fittings



-20° ÷ 150°C



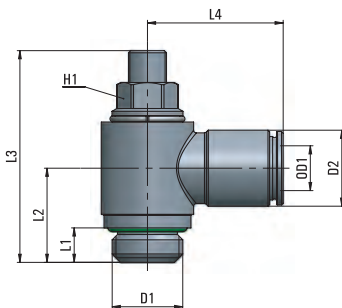
10 bar



调节针圈数 / N° of needle turns



流量控制装置安装完成后, 铰接接头本体部分仍可自由转动。  
The banjo ring swivels also after flow control installation.



类型	OD1	D1	D2	L1	L2	L3 max	L4	H1	g Δ
18 04 18	4	G1/8	9	5,1	15	32,9	20,5	9	26,0
18 06 18	6	G1/8	12	5,1	15	32,9	22,5	9	28,8
18 06 14	6	G1/4	12	6,4	17,4	39	24	10	43,1
18 08 18	8	G1/8	14	5,1	15	32,9	23	9	29,5
18 08 14	8	G1/4	14	6,4	17,4	39	25	10	45,4
18 10 14	10	G1/4	16	6,4	17,4	39	27	10	47,0
18 10 38	10	G3/8	16	7	20	50	26	14	85,2

可用版本:  
Available as:

.../O



.../I



.../B



建议的连接管路:  
PVDF管, PTFE管。

Recommended tubings:  
PVDF and PTFE tubings.

应用领域:  
空气经过过滤和润滑处理的气动系统。

Application field:  
Pneumatic installations fed with filtered, lubricated air.

线型节流阀

In-line flow control

- 1 本体  
Body
- 2 针阀  
Needle valve
- 3 旋钮  
Handwheel
- 4 阀针  
Needle
- 5 螺母  
Nut
- 6 密封圈  
Seals

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

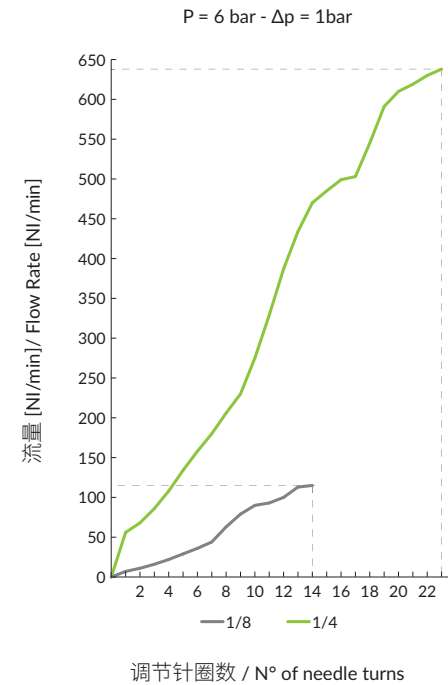
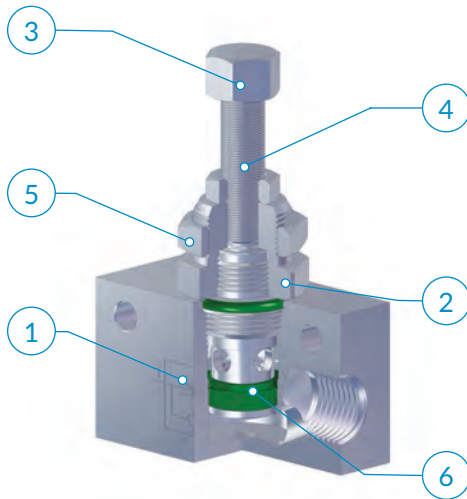
满足FDA规范的FPM  
FPM compliant with FDA



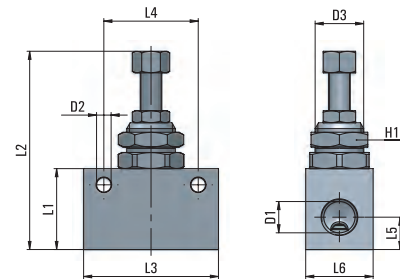
-20° ÷ 150°C



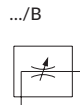
10 bar



类型	D1	D2	D3	L1	L2 max	L3	L4	L5	L6	H1	g ΔΔ
21 00 18	G1/8	4,5	M12x0,75	20	51,6	34	24	7,5	15	14	72,5
21 00 14	G1/4	5,4	M18x1	30	74,6	50	35	12	25	21	281,4



可用版本:  
Available as:



**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# VX 22

## 不锈钢快排阀

## Stainless steel quick exhaust valve

1 本体  
Body

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

2 消声器  
Muffler

AISI 316 不锈钢  
Stainless steel AISI 316

3 挡圈  
Seeger

AISI 302 不锈钢  
Stainless steel AISI 302

4 密封圈  
Seals

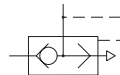
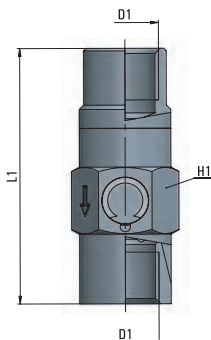
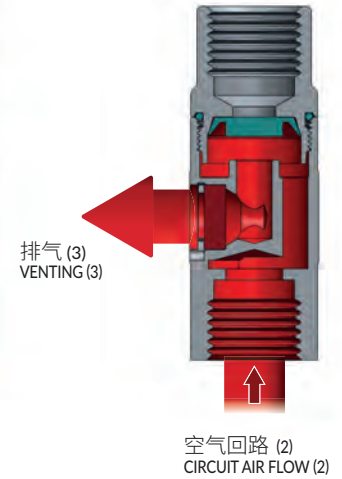
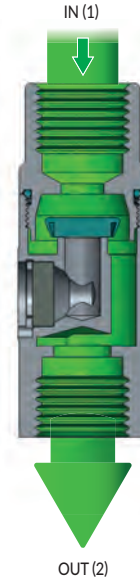
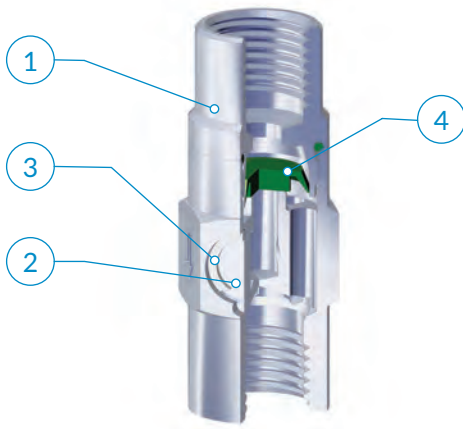
FPM  
FPM



-20° ÷ 150°C



2:10 bar



6 bar时流量  
Flow rate at 6 bar

	IN OUT 1→2	OUT VENT 2→3
1/4	1050 NI/min	660 NI/min
3/8	3000 NI/min	1900 NI/min
1/2	3420 NI/min	2280 NI/min

类型	D1	L1	H1	g
22 00 14	G1/4	49,5	18	51,5
22 00 38	G3/8	60,5	27	133,1
22 00 12	G1/2	68,5	35	257,0

**i** 断开供应时阀门能够迅速排出回路中空气;如果用于气缸,则可提高速度。

**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**i** This valve can easily vent the circuit in case of an air supply failure. If assembled on the cylinder port, it increases the cylinder speed.

**Recommended tubings:**  
According to the fitting connected to the flow control.

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# VX 23

VX  
LINE

单向阀

Check valve

- 1 本体  
Body
- 2 阀芯  
Valve

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 3 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant with FDA

- 4 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302



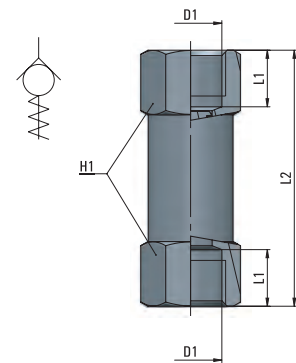
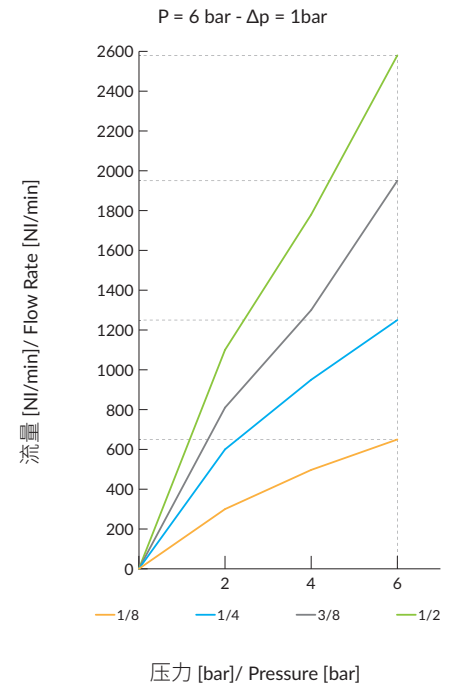
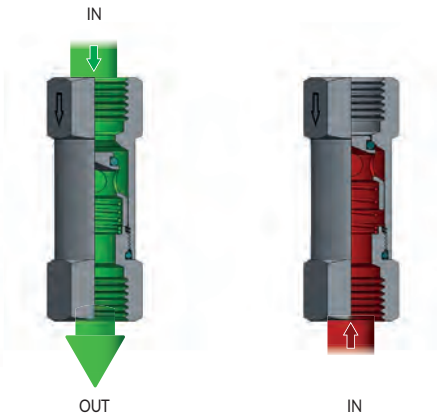
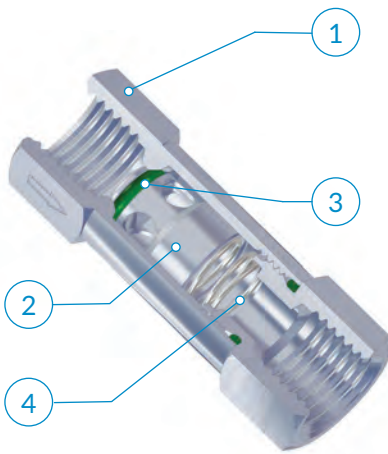
-20° ÷ 150°C



2÷10 bar



0,2 bar



类型	D1	L1	L2	H1	g
23 00 18	G1/8	8	39,7	13	26,0
23 00 14	G1/4	8,5	47,5	16	38,1
23 00 38	G3/8	10,5	51	21	76,1
23 00 12	G1/2	12,5	62	24	111,4



**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# VX 24-25

手动两通球阀

2 way manual valve

- 1 本体  
Body
- 2 手柄  
Handle

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 3 垫圈  
Gasket

PTFE  
PTFE

- 4 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant with FDA



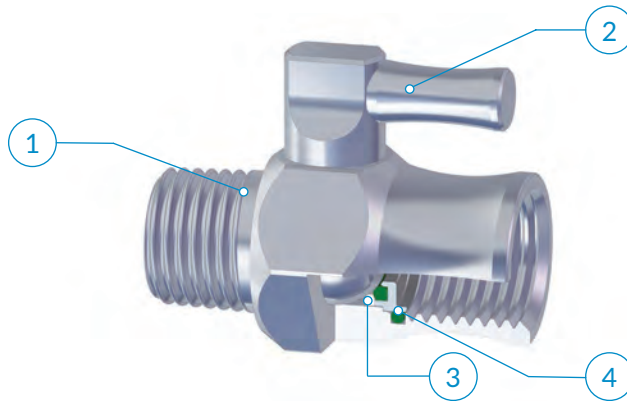
-20° ÷ 150°C



10 bar



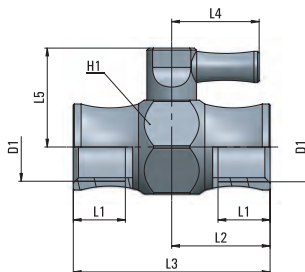
1/8	6 mm
1/4	6 mm
3/8	8 mm
1/2	10 mm



## VX 24

双通手动阀，内螺纹-内螺纹

2 way manual valve, female

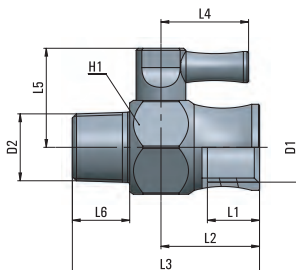


类型	D1	L1	L2	L3	L4	L5	H1	g $\Delta$
24 00 18	G1/8	8	19	37,8	17	19	18	54,0
24 00 14	G1/4	9	19	37,8	17	19	18	43,4
24 00 38	G3/8	10	24,5	39	24,5	26	22	67,0
24 00 12	G1/2	11	28,5	45,5	24,5	28	26	132,5

## VX 25

双通手动阀，外螺纹-内螺纹

2 way manual valve, male-female



类型	D1	D2	L1	L2	L3	L4	L5	L6	H1	g $\Delta$
25 00 18	G1/8	R1/8	8	19	32,8	17	19	7,5	18	46,4
25 00 14	G1/4	R1/4	9	19	35,9	17	19	11	18	41,5
25 00 38	G3/8	R3/8	10	24,5	37,3	24,5	26	11,5	22	85,7
25 00 12	G1/2	R1/2	11	28,5	43,1	24,5	28	14	26	90,1

# VX 33-T

VX  
LINE

单向阀

Check valve

- 1 本体  
Body
- 2 阀芯  
Valve

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 3 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant with FDA

- 4 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

- 5 MX快插接头  
MX line push-in fittings



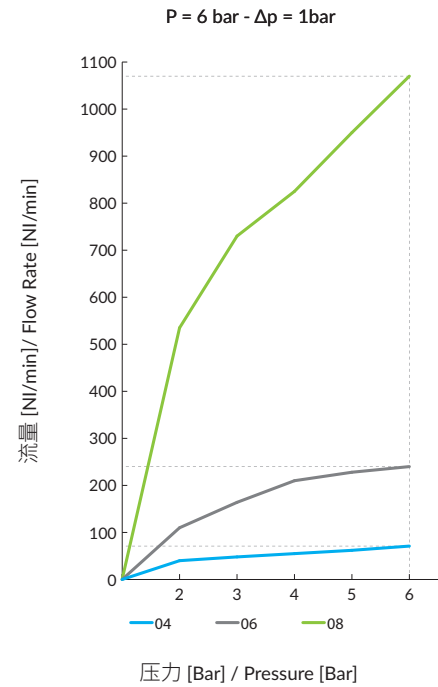
-20° ÷ 150°C



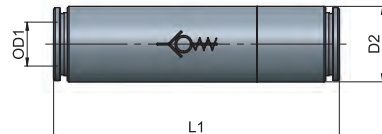
2÷10 bar



0,2 bar



类型	OD1	D2	L1	g
33 04 04 T	4	9	43	-
33 06 06 T	6	12	52	-
33 08 08 T	8	14	53	-



**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# VX 45

先导式单向阀

Pilot operated check valve

1 本体  
Body

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

2 活塞  
Piston

AISI 304 不锈钢  
Stainless steel AISI 304

3 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

4 密封圈  
Seals

满足FDA规范的FPM  
FPM compliant with FDA

5 垫圈  
Gasket

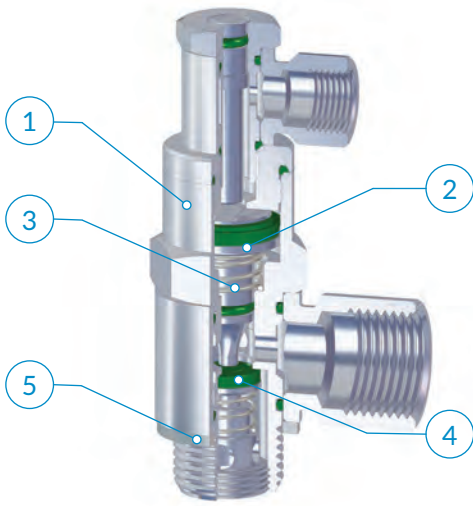
PTFE  
PTFE



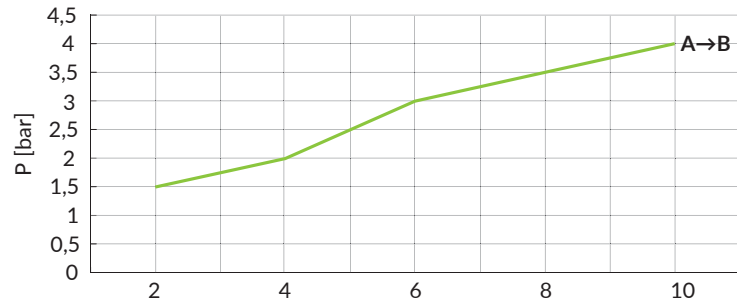
-20° ÷ 150°C



10 bar

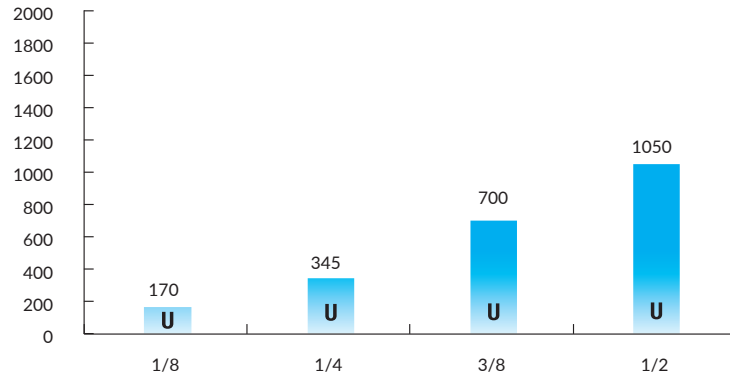


先导压力 - Pilot pressure P [bar]



供应压强 - Inlet pressure [bar]

流量 - Flow capacity [Nl/min] 6 bar - Δp1



**i** 先导式单向阀 如果成对安装在缸上,当控制压力突然下降时,则能确保气缸活塞快速停止。通过解锁装置,可以手动重置活塞行程,这在调整阶段或供气出现不足时特别有用。

**i** Should a sudden pressure failure happen, if the stop valves are assembled in pairs on the cylinder, the stop valves make sure, that the cylinder piston rapidly stops. By operating the override device, it is possible to reset manually the piston stroke, which is particularly important during a set-up phase or in case of air shortage.

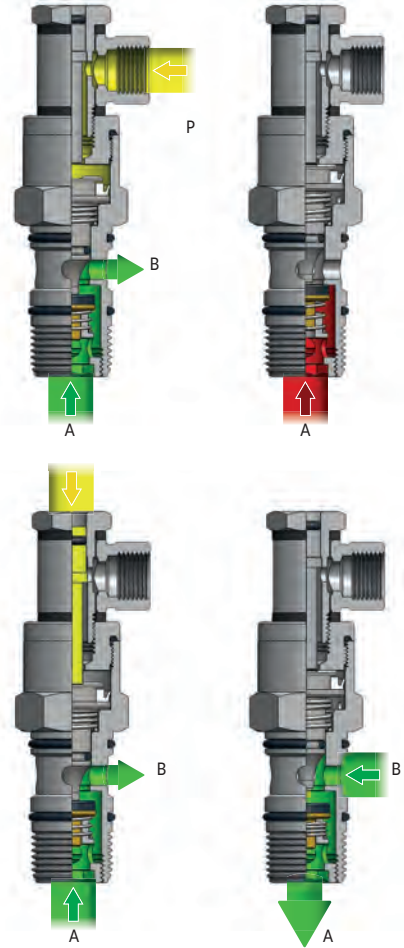
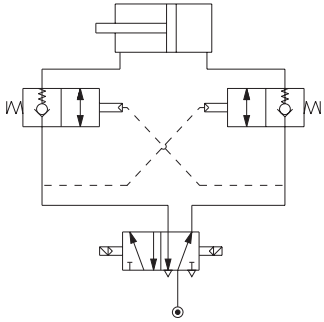
**建议的连接管路:**  
取决于与阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

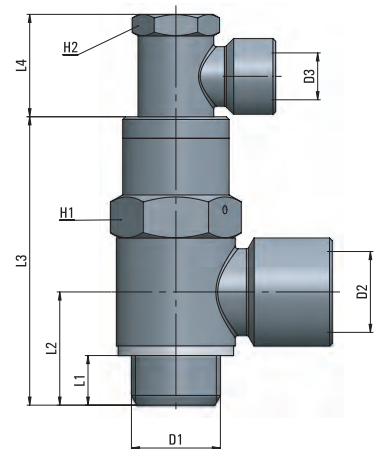
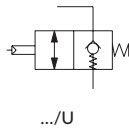
**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

/U = 单向阀 - One Way



类型	D1	D2	D3	L1	L2	L3	L4	H1	H2	g $\Delta$
45 18 18 RX /U + K	G1/8	G1/8	M5x0,8	6	15,5	42	20,5	13	8	55,1
45 14 14 RX /U + K	G1/4	G1/4	M5x0,8	8	18,5	46,5	20,5	17	8	85,2
45 38 38 RX /U + K	G3/8	G3/8	G1/8	9	21	53,5	19	21	14	142,2
45 12 12 RX /U + K	G1/2	G1/2	G1/8	10,5	24,5	61,5	19	25	14	222,6

可用版本:  
Available as:



- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU 135
- Safety
- GX 281
- Safety
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU 149
- Safety
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# VX 11

消声器

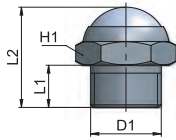
Air mufflers


	本体 Body	消声器 Muffler		
VX11	AISI 304不锈钢 Stainless steel AISI 304	AISI 304不锈钢 Stainless steel AISI 304	0 ÷ 12 bar	-20°C ÷ 150°C

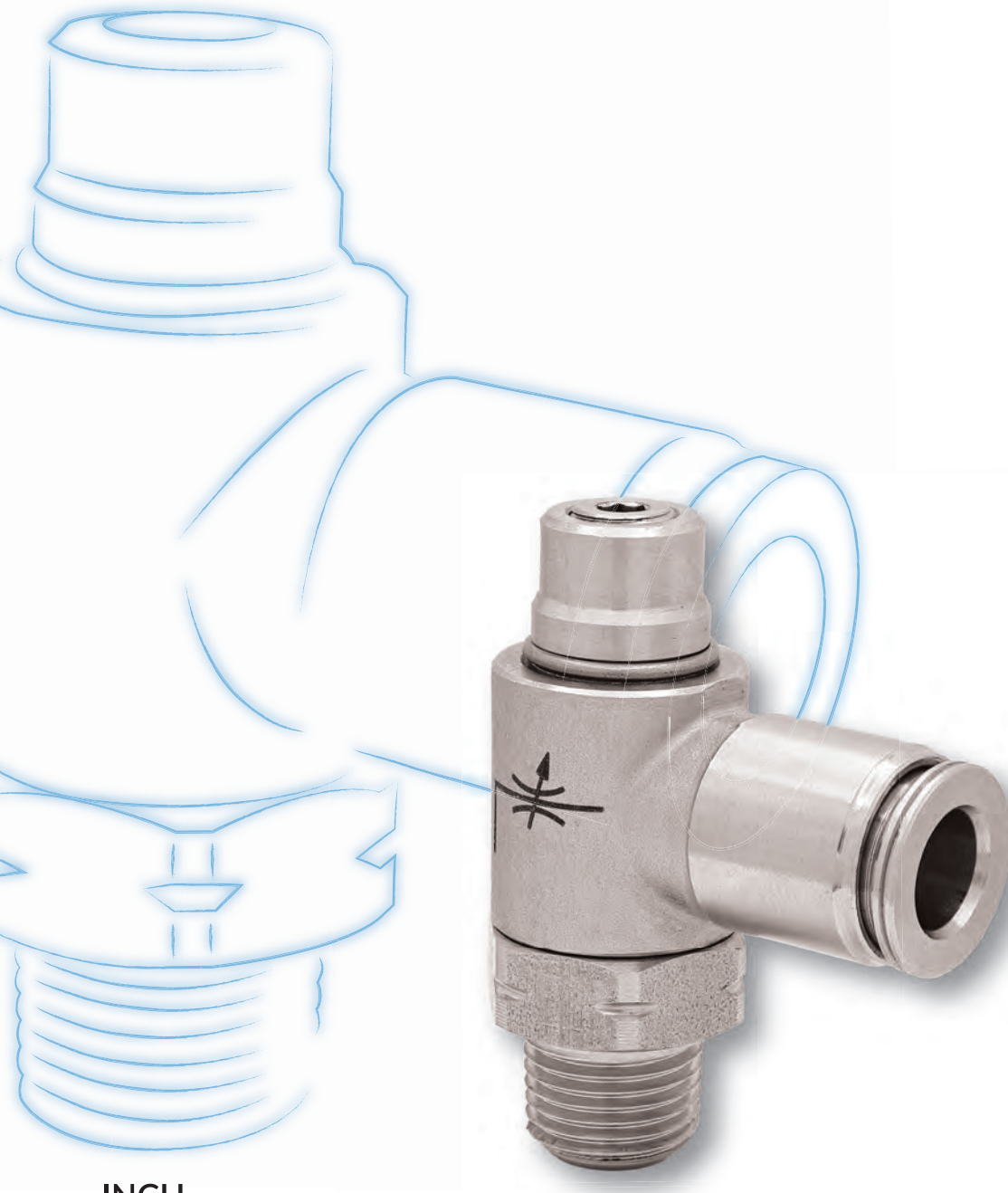
## VX 11

不锈钢消音器

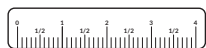
Air muffler with stainless steel wire



类型	D1	L1	L2	H1	g 
11 00 18	G1/8	6	15	13	5,5
11 00 14	G1/4	8	18	16	10,0
11 00 38	G3/8	8	19	19	14,6
11 00 12	G1/2	9	22	24	21,5



INCH



## PVX LINE



CN

### 英制/NPT 316L不锈钢功能接头

Cmatic PVX功能接头系列, 提供广泛的控制阀和节流阀选择, 完全由符合美国标准的AISI 316L不锈钢制造。

EN

### 316L Stainless Steel Function Fittings, Inch/NPT

Cmatic's line of function fittings is completed by the PVX series, which offers a wide choice of valves and flow regulators made entirely of AISI 316L stainless steel in compliance with US standards.



# PVX Line

“英寸/NPT”功能接头

INCH/NPT Function Fittings

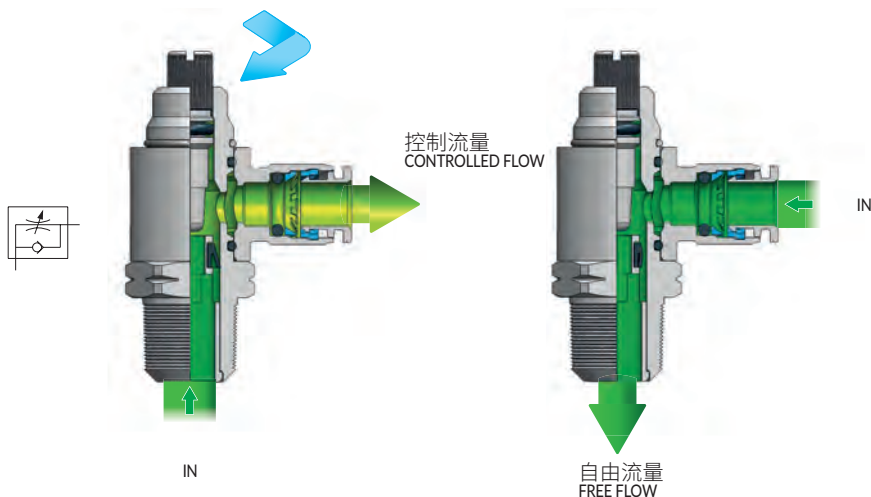
该系列产品可对气动回路中的流量进行精确调节。根据使用的流量控制的不同，既有双向流量调节（双向流量控制阀），也可单向调节（单向流量控制阀）。其中单向流量控制阀尤其适用于调节气缸速度。

They can adjust the flow in a pneumatic circuit. Depending on the flow control used, the setting can be made both ways (Bidirectional Flow Control), or just one way (Unidirectional Flow Control). The Unidirectional Flow Control is particularly used to adjust the speed of pneumatic cylinders.

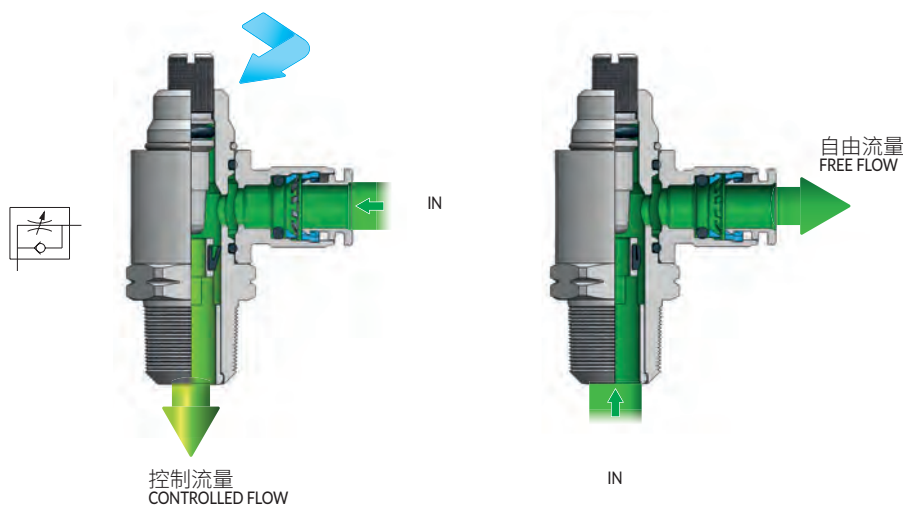
## 流量调节范围

## Possible Flow Adjustments

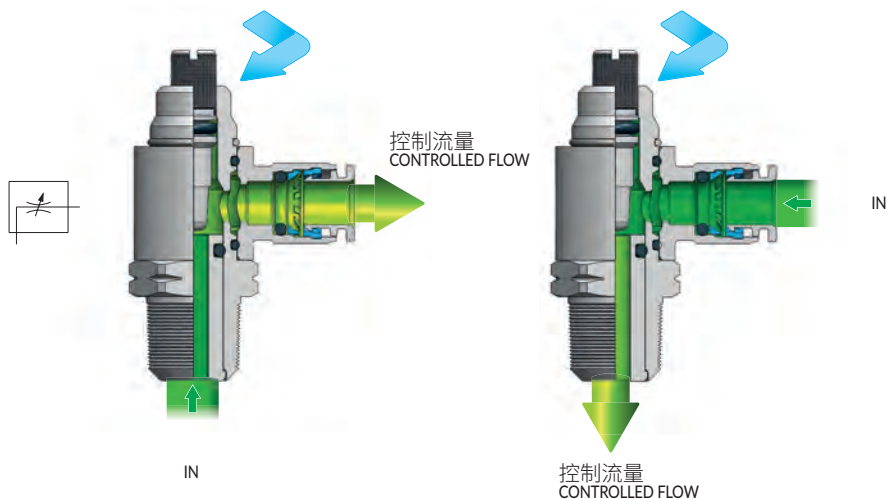
.../O = 排气节流  
Meter out flow control



.../I = 进气节流  
Meter in flow control



.../B = 双向流量调节  
Bidirectional flow control



# PVX 18

PVX  
LINE

可调节流阀

Flow control with swivelling push-in fitting

- 1 本体  
Body
- 2 阀针  
Needle
- 3 插装阀芯  
Cartridge

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 4 密封圈  
Seals

FPM  
FPM

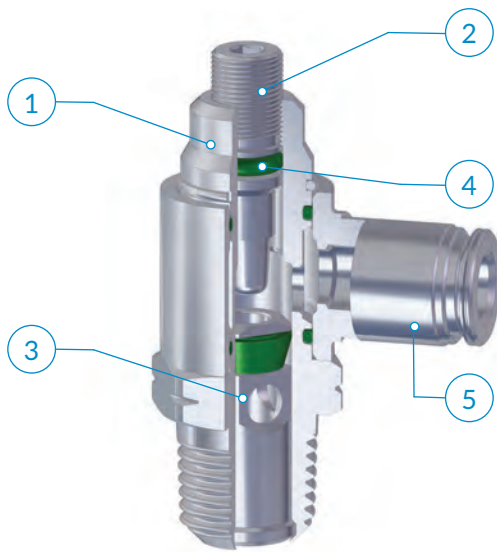
- 5 PX快插接头  
PX line push-in fittings



-20° ÷ 150°C



10 bar



流量控制装置安装完成后, 铰接接头本体部分仍可自由转动。  
The banjo ring swivels also after flow control installation.

类型	OD1	D1	D2	L1	L2	L3	L4 max	H1	g $\Delta$
18 1/4 1/8	1/4	1/8 NPTF	12	8,1	21,1	22,5	40,9	9/16	35,0
18 1/4 1/4	1/4	1/4 NPTF	12	12,7	26,7	24	49,1	11/16	-
18 3/8 1/4	3/8	1/4 NPTF	16	12,7	26,7	27	49,1	11/16	-



可用版本:  
Available as:

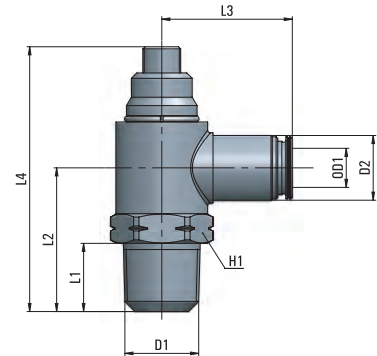
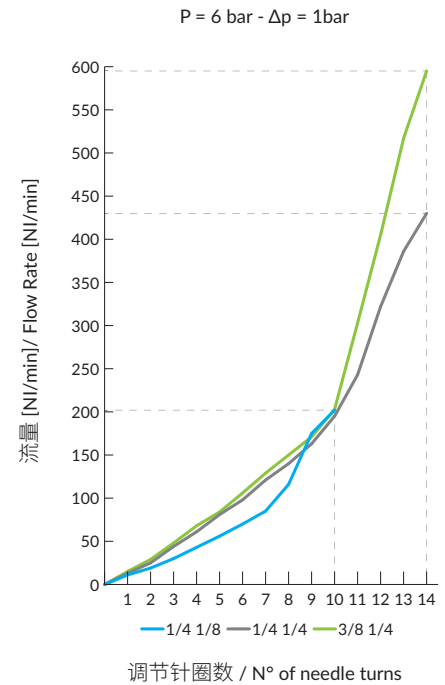
.../O = Meter Out



.../I = Meter In



.../B = Bidirectional



建议的连接管路:  
PVDF管, PTFE管。

应用领域:  
空气经过过滤和润滑处理的气动系统。

Recommended tubings:  
PVDF and PTFE tubings.

Application field:  
Pneumatic installations fed with filtered, lubricated air.

- AP 55
- AR 63
- AV 221
- CO 157
- CX 255
- EV 217
- GU 119
- GU Safety 135
- GX 281
- GX Safety 291
- HP 317
- MA 27
- MB 41
- MC 83
- MF 235
- MM 333
- MO 93
- MP 323
- MT 339
- MV 171
- MX 241
- MY 229
- OX 261
- PA 113
- PE 79
- PM 329
- PN 67
- PT 347
- PU 131
- PU Safety 149
- PUX 287
- PV 203
- PVX 311
- PX 249
- QO 363
- RA 101
- RF 269
- RT 355
- RX 275
- Tools 369
- Tubings 375
- VF 295
- VT 359
- VX 299

# PVX 23

单向阀

Check valve

- 1 本体  
Body
- 2 阀芯  
Valve

316L (1.4404) 不锈钢  
Stainless steel AISI 316L (1.4404)

- 3 密封圈  
Seals

FPM  
FPM

- 4 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302



-20° ± 150°C



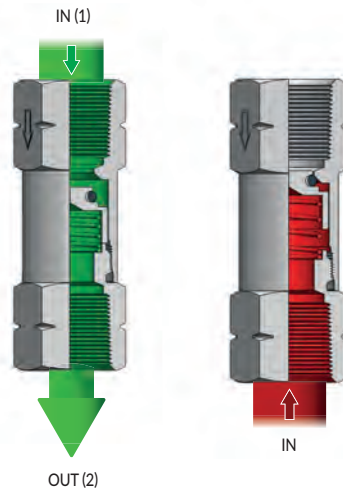
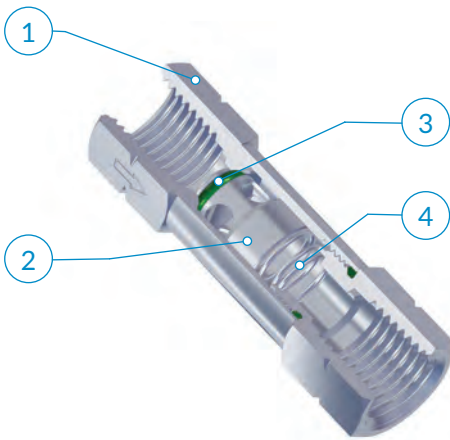
2 ± 10 bar



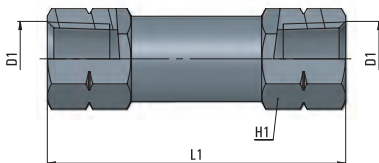
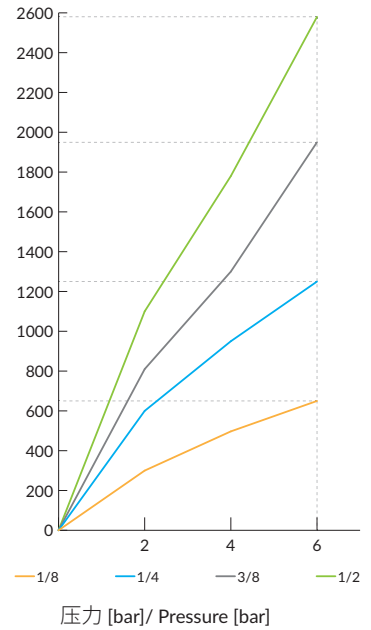
0,2 bar



P = 6 bar - Δp = 1bar



流量 [NI/min]/ Flow Rate [NI/min]



类型	D1	L1	H1	g
23 00 1/8	1/8 NPTF	42,7	13	-
23 00 1/4	1/4 NPTF	55	16	-
23 00 3/8	3/8 NPTF	57	20	-
23 00 1/2	1/2 NPTF	65	24	111,4



**i** 流体仅允许单向通过 (沿着阀体上箭头方向), 反向截止。

**i** The flow is allowed only in one way (the arrow direction engraved on the body) and stopped in the reverse way.

**建议的连接管路:**  
取决于与节流阀相连的接头类型。

**Recommended tubings:**  
According to the fitting connected to the flow control.

**应用领域:**  
空气经过过滤和润滑处理的气动系统。

**Application field:**  
Pneumatic installations fed with filtered, lubricated air.

# PVX 11

PVX  
LINE

消声器


Air mufflers

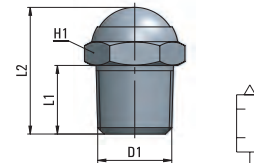
	本体 Body	消声器 Muffler		
PVX11-FE	AISI 304不锈钢 Stainless Steel AISI 304	AISI 304不锈钢 Stainless Steel AISI 304	0 ÷ 12 bar	-20°C ÷ 150°C

## PVX 11

不锈钢消音器

Air muffler with stainless steel wire

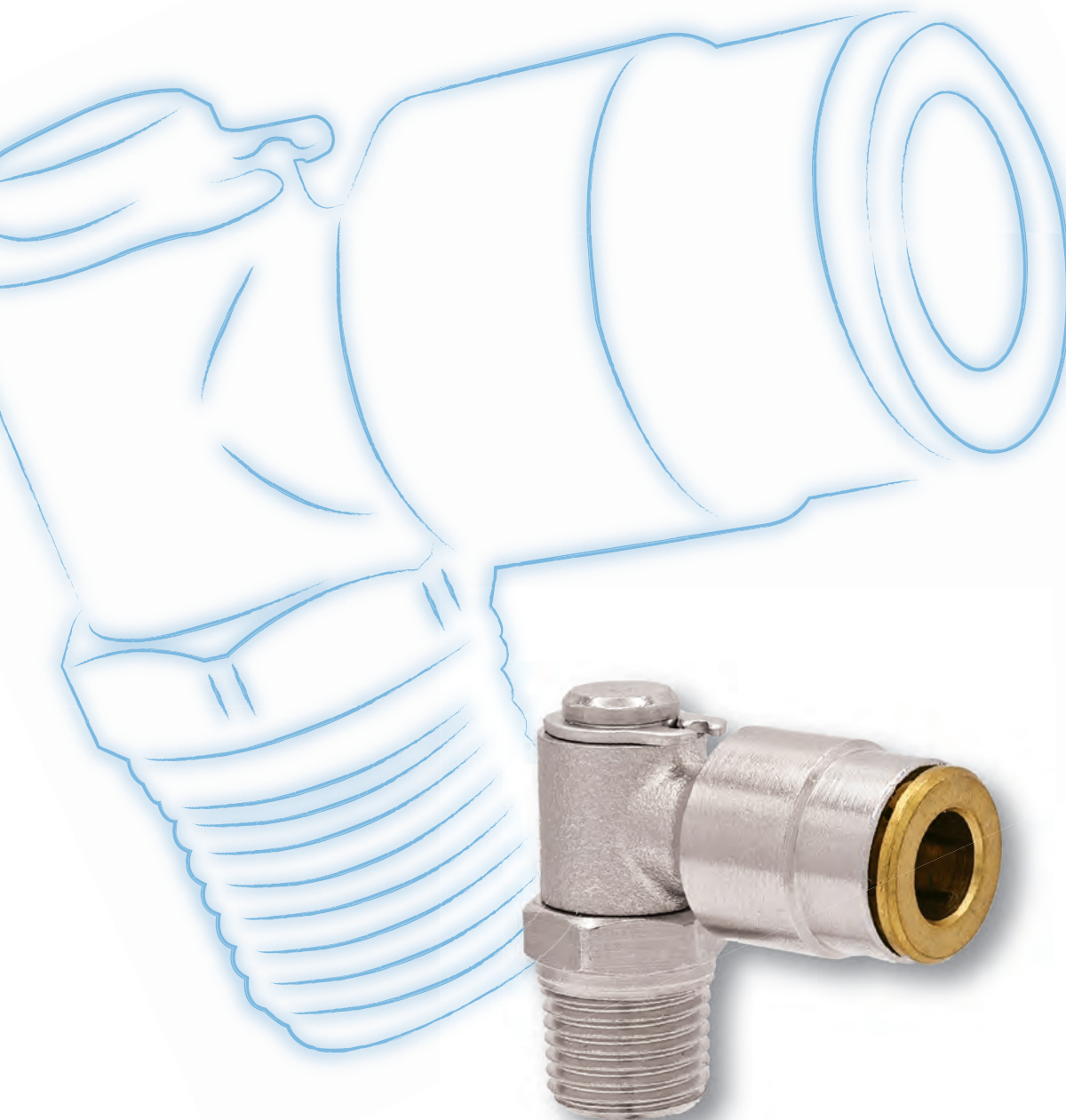
类型	D1	L1	L2	H1	g 
11 00 1/8-FE	1/8 NPT	7,5	16,5	13	6,0
11 00 1/4-FE	1/4 NPT	10	20,5	16	11,9
11 00 3/8-FE	3/8 NPT	11	22	19	20,0
11 00 12-FE	1/2 NPT	13	26	24	27,0



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU	135
Safety	
GX	281
GX	291
Safety	
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU	149
Safety	
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*



## HP LINE



CN

### 250 bar 润滑用自动接头

HP系列是新一代接头,旨在确保为“压力禁区”的场景,提供安全可靠的可插式产品方案。该接头专为润滑系统研发制造,凭借创新的卡爪系统,我们的HP快插式管接头最高可承受250bar的工作压力。

EN

### High Pressure Push-in Fittings, 250 bar

HP is a new generation fitting studied to guarantee tightness with pressure ranges, considered so far “out of reach” with the push-in version. The fitting has been created and developed to be used in the Lubrication systems. Thanks to the innovative gripping system of the collet, our HP push-in fitting can stand up to a maximum of 250 bar pressure.

# HP Line

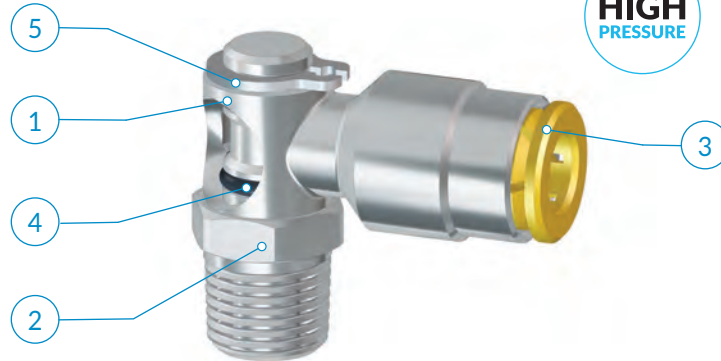
- |  |  |  |  |   |
|--|--|--|--|---|
| <p><b>1</b> 本体<br/>Body</p> <p>黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N<br/>Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated</p> | <p><b>2</b> 螺纹体<br/>Threaded screws</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel plated</p> | <p><b>3</b> 卡爪系统<br/>Gripping collet</p> <p>黄铜 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N</p> | <p><b>4</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> | <p><b>5</b> 卡簧<br/>Seeger</p> <p>钢 C75 镀锌<br/>C75 Steel zinc coated</p> |
|--|--|--|--|---|



-20° ÷ 80°C



250 bar



	M6x0,75*	M6x1*	M8x1*	M10x1*	R1/8**	R1/4**
4	●	●	●	●	●	●
6		●	●	●	●	●

\*UNI 7707  
\*\*ISO 7

### 建议的连接管路:

Pa66 (4x1,5 - 6x3), 高压管路, 带金属尾管。

### Recommended tubings:

PA66 (4x1,5 - 6x3), High pressure tubing with metal stem

### 可接受的管路公差:

+/- 0,07 mm, 最大直径 Ø 6 mm。

### Acceptable Tolerances on the tubings:

+/- 0,07 mm up to Ø 6 mm

### 应用领域:

润滑系统

### Application fields:

Lubrication installations



能到达的压力与所采用的管路以及环境温度有重要关系, 这两个因素可能会降低管路的爆破压力。

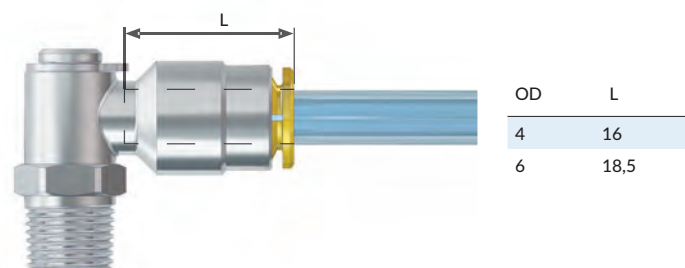


The max pressure rate achievable can vary depending on the tubing used and on the room temperature. These two factors may in fact lower the tube bursting pressure.



### 管路插入深度

### Tubing insertion depth



1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

2

将管路插入接头,到底为止。

拔出管路:

垂直按压释放环,同时拔出管路即可。

1

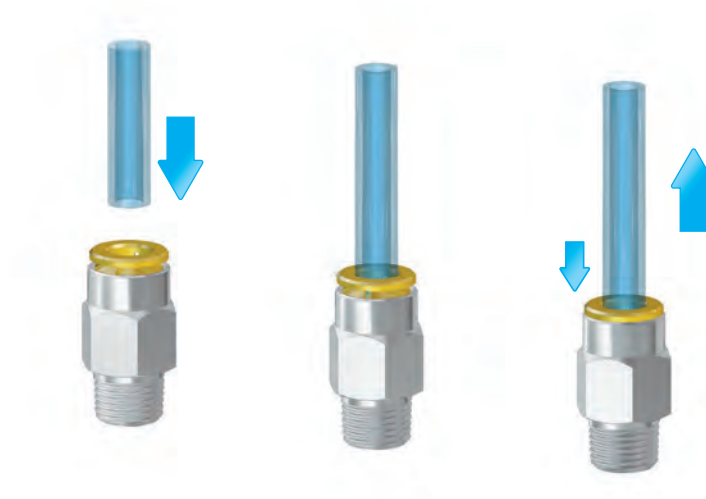
Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

Insert the tube into the fitting until it bottoms.

**Tube release**

While pressing on the release ring, pull out the tube from the fitting.



完成接头连接后,请确保管路不受到任何拉力,管路弯曲也需要符合本样本376页所声明的最小弯曲半径。为避免管路的意外脱落,不应在释放环上施加任何外力以及异常压力,释放环承受侧向的载荷也会引起管路脱落。

螺纹拧紧力矩,请参考本样本第10页

一旦接头已经与金属硬管进行过连接,拆装后,不建议再用同一个接头与塑料管进行连接安装。

如果将金属端管与接头连接,管端截面和尺寸必须与下列建议相符。如果将具有不同规格的管端与接头相连,可能会对接头造成无法修复的损坏,因此无法确保接头的功能。



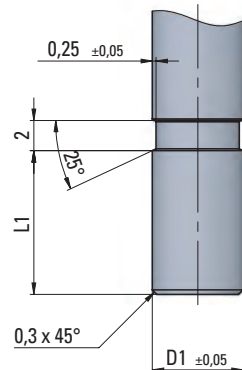
Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).

To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.

To tighten threads, please check out our tightening torque chart illustrated at page 10.

Should the fitting be assembled with metal tubes, in case of disassembly, we do not recommend to reassemble the same fitting with plastic tubing.

If a metal stem is connected to the fitting, the stem has to be manufactured according to the profile and sizes as set forth below. Should the fitting be connected to a metal stem not complying to the technical features recommended, the fitting may get irreversibly damaged and its function would no longer be guaranteed.

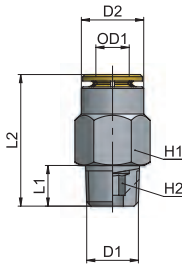


D1	L1
4	8
6	9,5

## HP 11

外锥螺纹直接头

Taper straight, male



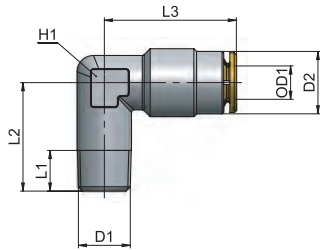
类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	9,5	7,5	21	10	3	8,5
12 04 M6x0,75	4	M6x0,75	9,5	6	23	10	2,5	8,8
11 04 M6x1	4	M6x1	9,5	8	25	10	2,5	8,4
11 04 M8x1	4	M8x1	9,5	8	22,5	10	3	7,9
11 04 M10x1	4	M10x1	9,5	8	21	11	3	9,6
11 06 18	6	R1/8	11,5	7,5	24	12	4	11,5
11 06 14	6	R1/4	11,5	11	26	14	4	19,0
11 06 M6x1	6	M6x1	11,5	8	28	12	2,5	12,8
11 06 M8x1	6	M8x1	11,5	8	28	12	4	13,3
11 06 M10x1	6	M10x1	11,5	8	24,5	12	4	11,8

\*M6x0,75 圆柱形螺纹 - Parallel Thread

## HP 14

外锥螺纹弯管接头

Taper elbow fitting, male

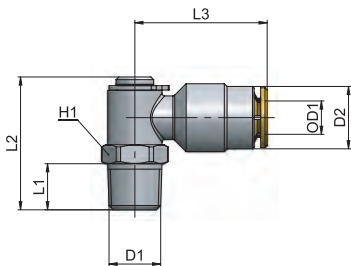


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
14 04 18	4	R1/8	9,5	8	17	21,5	10	16,0
14 04 M6x1	4	M6x1	9,5	7	17	21,5	10	13,9
14 04 M8x1	4	M8x1	9,5	7	17	21,5	10	14,4
14 04 M10x1	4	M10x1	9,5	7	18	21,5	10	16,9
14 06 18	6	R1/8	11,5	7,5	20	24	11	21,0
14 06 M6x1	6	M6x1	11,5	7	20	24	11	19,8
14 06 M8x1	6	M8x1	11,5	7	20	24	11	19,8
14 06 M10x1	6	M10x1	11,5	7	21	24	11	22,7

## HP 18

可调向直外螺纹弯管接头

Parallel swivelling elbow, taper male



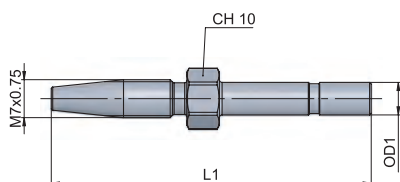
类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
18 04 18	4	R1/8	9,5	8,5	24,5	22	11	18,1
18 04 M6x0,75*	4	M6x0,75	9,5	6	22	22	11	16,8
18 04 M6x1	4	M6x1	9,5	8	24	22	11	16,9
18 04 M8x1	4	M8x1	9,5	8	24	22	11	17,4
18 04 M10x1	4	M10x1	9,5	8	25	22	11	18,9
18 06 18	6	R1/8	11,5	8,5	24,5	24	11	20,0
18 06 14	6	R1/4	11,5	11	28	24	14	25,5
18 06 M6x1	6	M6x1	11,5	8	24	24	11	18,6
18 06 M8x1	6	M8x1	11,5	8	24	24	11	19,4
18 06 M10x1	6	M10x1	11,5	8	25	24	11	20,7

\*M6x0,75 圆柱形螺纹 - Parallel Thread

## HP 90

软管接头

Hose connection, straight




类型	OD1	L1	g $\Delta$
90 04 00	4	53	9,4
90 06 00	6	59	12,1

镀锌处理 11SMnPb37 - Body in Zinc plated steel 11SMnPb37

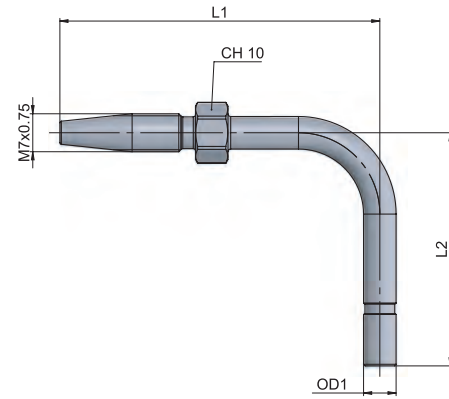
## HP 92

直角软管接头

90° hose connection

类型	OD1	L1	L2	g 
92 06 00	6	59	43	17,6


镀锌处理 11SMnPb37 - Body in Zinc plated steel 11SMnPb37



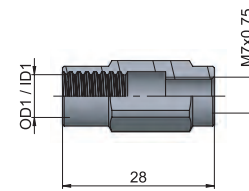
## HP 99

重复用衬套

Reusable ferrule

类型	OD1	ID1	g 
99 04 00	8+8,3	5/32	12,4

镀锌处理 11SMnPb37 - Body in Zinc plated steel 11SMnPb37



## HP LINE

AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

# HP 11-NR

- 1** 本体  
Body

黄铜UNI EN 12164 CW614N镀镍  
Brass UNI EN 12164 CW614N, nickel Plated
- 2** 卡爪  
Gripping collet

镀镍黄铜UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N
- 3** 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302
- 4** 滚珠  
Balls

AISI 420 不锈钢  
Stainless steel AISI 420



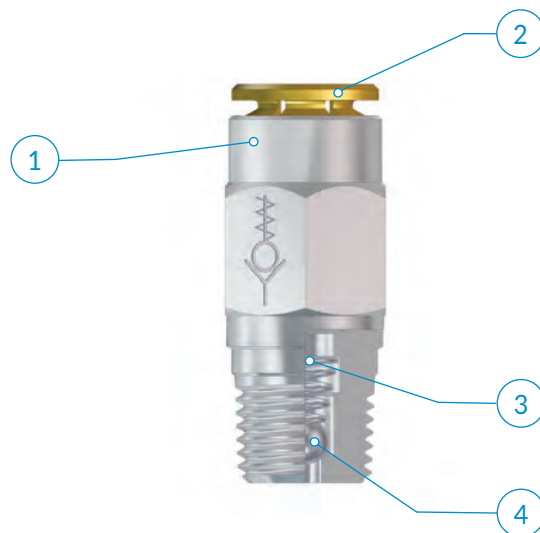
-20° ÷ 80°C



40 ÷ 150 bar



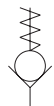
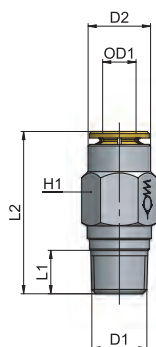
3 bar



## HP 11-NR

150 bar 单向阀

Check valve for 150 bar



类型	OD1	D1	D2	L1	L2	H1	g $\Delta$
11 06 18 NR	6	R1/8	11,5	7,5	29,5	12	15,7
11 06 M10x1 NR	6	M10x1	11,5	8	29,5	12	15,9

### 建议的连接管路:

Pa66 (4x1.5 - 6x3), 高压管路, 带金属端管。

### 可接受的管路公差:

+/- 0.07 mm, 最大直径Ø 6 mm。

### 应用领域:

润滑系统

### Recommended tubings:

PA66 (4x1.5 - 6x3), High pressure tubing with metal stem

### Acceptable Tolerances on the tubings:

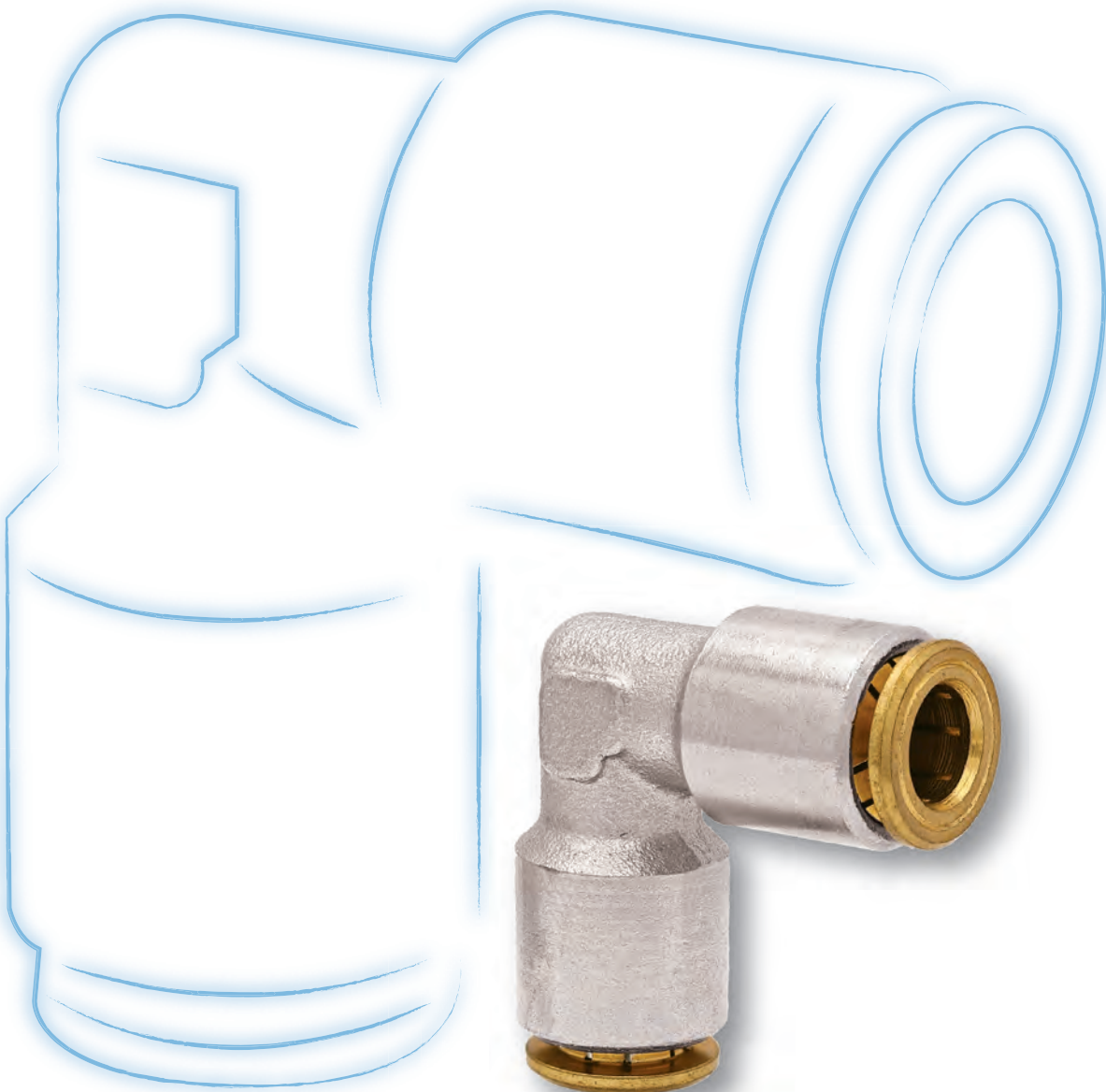
+/- 0,07 mm up to Ø 6 mm

### Application fields:

Lubrication installations

**!** 一旦接头已经与金属硬管进行过连接, 拆装后, 不建议再用同一个接头与塑料管进行连接安装。

**!** Should the fitting be assembled with metal tubes, in case of disassembly, we do not recommend to reassemble the same fitting with plastic tubing.



## MP LINE



CN

### 80 bar 润滑用快插接头

MP是一款专为中压润滑脂应用设计的快插式管接头，最高可承受80bar压力。凭借其技术特性，MP接头进一步完善了现有集中润滑系统应用的接头产品范围，并进一步彰显了Cmatic全线产品的核心优势：快速连接、卓越性能与可靠保障。



EN

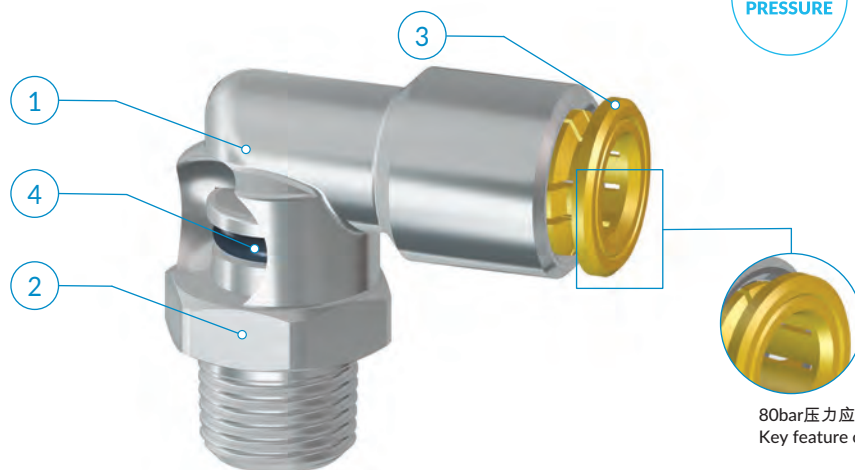
### Medium Pressure Push-in Fittings, 80 bar

MP is a push-in fitting conceived for Medium pressure grease applications up to max 80 bar. MP completes, with its technical features the existing products offer for central lubrication applications and highlights further the distinguishing marks of the whole Cmatic production: quick connections, performance and reliance guarantee.

# MP Line

- |  |   |  |  |
|--|---|--|--|
| <p><b>1</b> 本体<br/>Body</p> <p>黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N<br/>Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated</p> | <p><b>2</b> 螺纹<br/>Threaded screws</p> <p>黄铜镀镍 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N, nickel Plated</p> | <p><b>3</b> 卡爪系统<br/>Gripping collet</p> <p>黄铜 UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N</p> | <p><b>4</b> 密封圈<br/>Seals</p> <p>NBR<br/>NBR</p> |
|--|---|--|--|

 -20° ÷ 80°C   
  80 bar



	M6x1	M8x1	M10x1	R1/8	R1/4
4	●	●	●	●	
6	●	●	●	●	
8			●	●	●

**建议的连接管路:**  
PA66 (4x1,5 - 6x3), PA12 HR


**Recommended tubings:**  
PA66 (4x1,5 - 6x3), PA12 HR


**可接受的管路公差:**  
+/- 0.07 mm, 最大直径 Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0,07 mm up to Ø 8 mm

**应用领域:**  
润滑系统。

**Application fields:**  
Lubrication installations

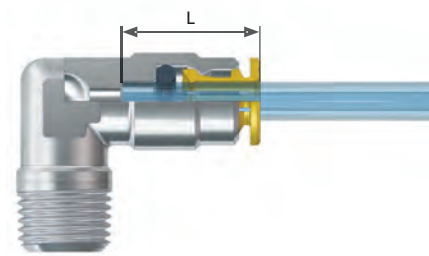
 可承受的最大压力根据使用管路类型和环境温度而有所差异, 这两个因素或许导致管路爆破压力的降低。

 The max pressure rate achievable can vary depending on the tubing used and on the room temperature. These two factors may in fact lower the tube bursting pressure.



管路插入深度

Tubing insertion depth



OD	L
4	14,5
6	17
8	17

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

2

将管路插入接头,到底为止。

拔出管路:

垂直按压释放环,同时拔出管路即可。

1

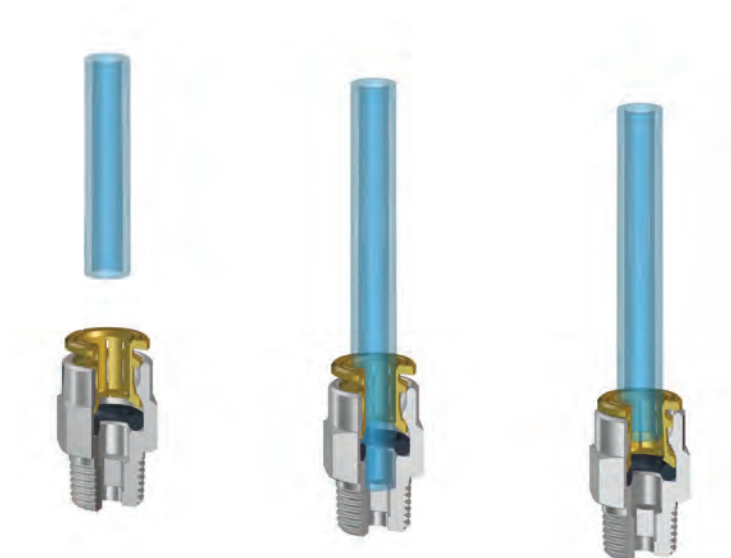
Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

Insert the tube into the fitting until it bottoms.

**Tube release**

While pressing on the release ring, pull out the tube from the fitting.



**!** 完成接头连接后,请确保管路不受到任何拉力,管路弯曲也需要符合本样本376页所声明的最小弯曲半径。为避免管路的意外脱落,不应在释放环上施加任何外力以及异常压力,释放环承受侧向的载荷也会引起管路脱落。  
螺纹拧紧力矩,请参考本样本第10页

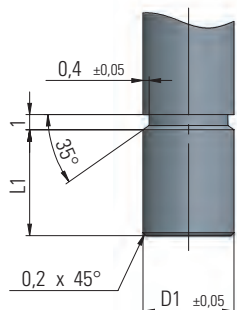
**!** Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).

To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.

To tighten threads, please check out our tightening torque chart illustrated at page 10.

**!** 如果将金属端管与接头连接,端管截面和尺寸必须与下列建议相符。如果将具有不同规格的端管与接头相连,可能会对接头造成无法修复的损坏,因此无法确保接头的正常功能。

**!** If a metal stem is connected to the fitting, the stem has to be manufactured according to the profile and sizes as set forth below. Should the fitting be connected to a metal stem not complying to the technical features recommended, the fitting may get irreversibly damaged and its function would no longer be guaranteed.

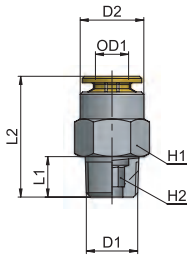


D1	L1
4	6
6	7
8	7

## MP 11

外锥螺纹直接头

Taper straight, male

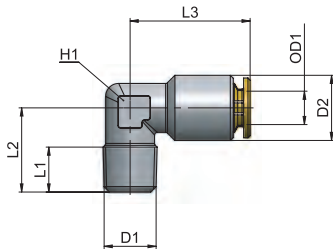


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 04 18	4	R1/8	9	7,5	18,5	10	3	7,3
11 04 M6x1	4	M6x1	9	8	23,2	10	2,5	7,6
11 04 M8x1	4	M8x1	9	8	20	10	3	6,7
11 04 M10x1	4	M10x1	9	8	20	11	3	9,3
11 06 18	6	R1/8	11,8	7,5	22	12	4	10,3
11 06 M6x1	6	M6x1	11,8	8	26	12	2,5	11,8
11 06 M8x1	6	M8x1	11,8	8	26	12	4	12,3
11 06 M10x1	6	M10x1	11,8	8	22,5	12	4	10,9
11 08 18	8	R1/8	13,8	7,5	25	14	5	15,4
11 08 14	8	R1/4	13,8	11	25	14	6	16,4
11 08 M10x1	8	M10x1	13,8	8	25,5	14	5	15,6

## MP 14

外锥螺纹弯管接头

Taper elbow fitting, male

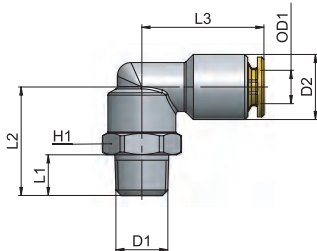


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
14 04 18	4	R1/8	9	8,3	15,5	20	10	12,6
14 04 M6x1	4	M6x1	9	9	17	20	10	13,3
14 04 M8x1	4	M8x1	9	10	17	20	10	13,4
14 04 M10x1	4	M10x1	9	9	18	20	10	14,3
14 06 18	6	R1/8	12	8,3	15,5	21,5	10	14,2
14 06 M6x1	6	M6x1	12	9	17	21,5	10	14,6
14 06 M8x1	6	M8x1	12	10	17	21,5	10	14,8
14 06 M10x1	6	M10x1	12	9	18	21,5	10	15,8
14 08 18	8	R1/8	14	10,5	19	23	12	21,1
14 08 14	8	R1/4	14	10,6	20	23	12	23,9
14 08 M10x1	8	M10x1	14	9	19	23	12	22,1

## MP 15

可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

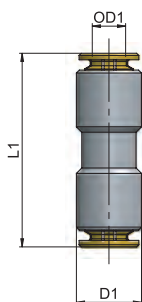


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 04 18	4	R1/8	9	7,5	20	20	13	21,9
15 04 M6x1	4	M6x1	9	8	20,5	20	13	19,9
15 04 M8x1	4	M8x1	9	8	20,5	20	13	20,7
15 04 M10x1	4	M10x1	9	8	21,5	20	13	23,4
15 06 18	6	R1/8	12	7,5	20	22	13	24,2
15 06 M6x1	6	M6x1	12	8	20,5	22	13	21,7
15 06 M8x1	6	M8x1	12	8	20,5	22	13	22,7
15 06 M10x1	6	M10x1	12	8	21,5	22	13	25,8
15 08 18	8	R1/8	14	7,5	20,5	22,5	13	28,3
15 08 14	8	R1/4	14	11	24	22,5	14	35,8
15 08 M10x1	8	M10x1	14	8	22	22,5	13	29,9

## MP 26

对接接头

Union




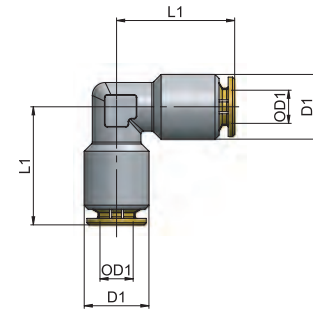
类型	OD1	D1	L1	g $\Delta$
26 04 04	4	9	30	10,1
26 06 06	6	12	34,5	15,7
26 08 08	8	14	35	20,2

MP 28

直角对接接头

Union elbow


类型	OD1	D1	L1	g 
28 04 04	4	9	20	15,8
28 06 06	6	12	22,5	18,9
28 08 08	8	14	23	25,3

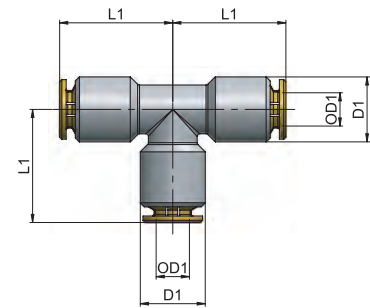


MP 29

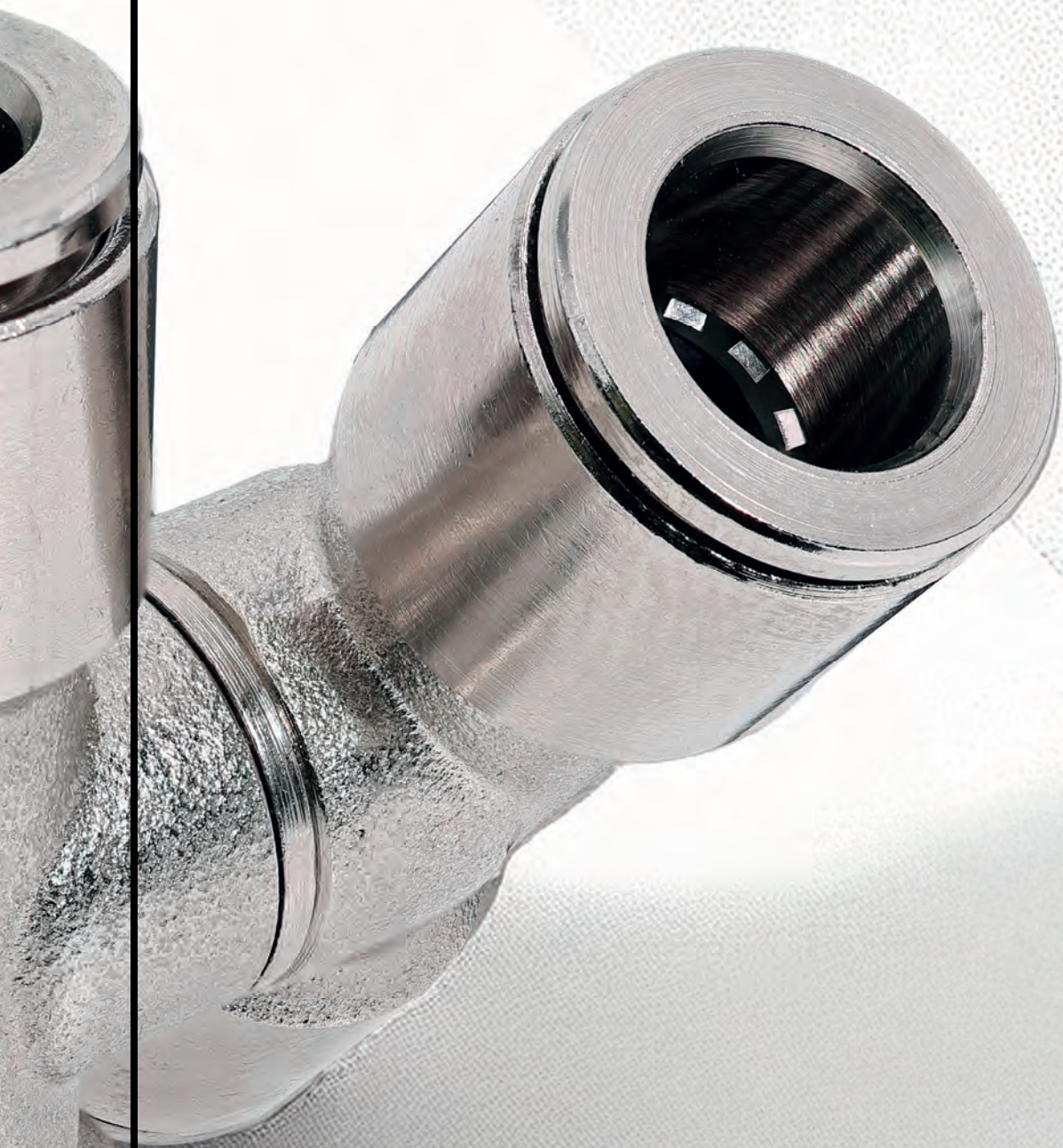
正T型三通对接接头

Union T

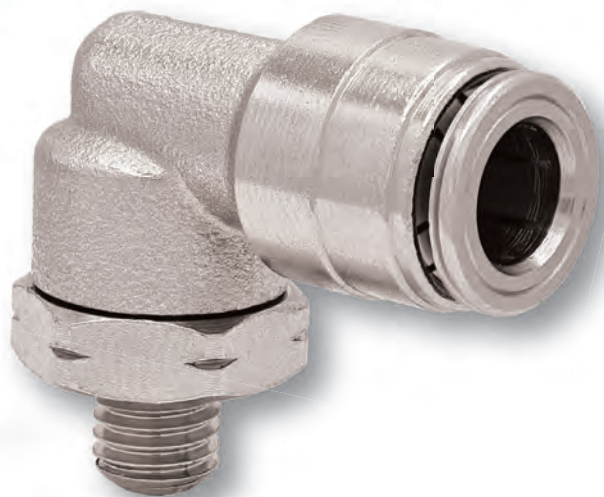
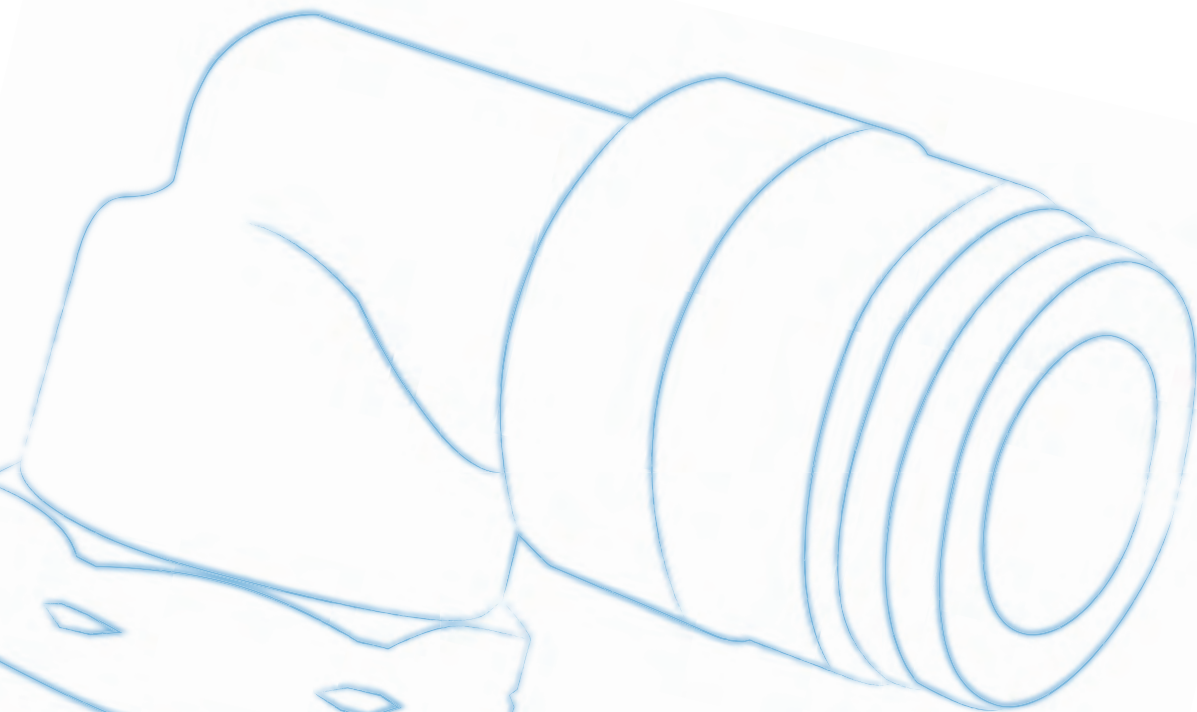
类型	OD1	D1	L1	g 
29 04 04	4	9	19,5	21,3
29 06 06	6	12	20,5	24,8
29 08 08	8	14	21,5	31,7



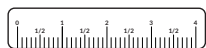
AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299



*cmatic*



INCH



## PM LINE



CN

EN

### 英制/NPT 80bar 润滑用快插接头

PM系列快插式管接头提供英制尺寸及NPT螺纹规格，专为集中润滑系统的高压应用而设计，最高可承受80bar的工作压力。

### Medium Pressure Push-in Fittings, 80 bar Inch/NPT

The push-in fittings of the PM line are available in inch sizes and NPT threads. They are conceived for high pressure rated in central grease applications up to 80 bar.

# PM Line

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated

2 卡爪系统  
Gripping collet

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 密封圈  
Seals

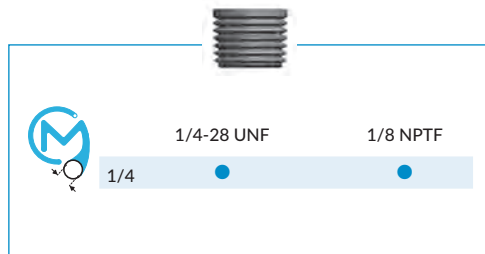
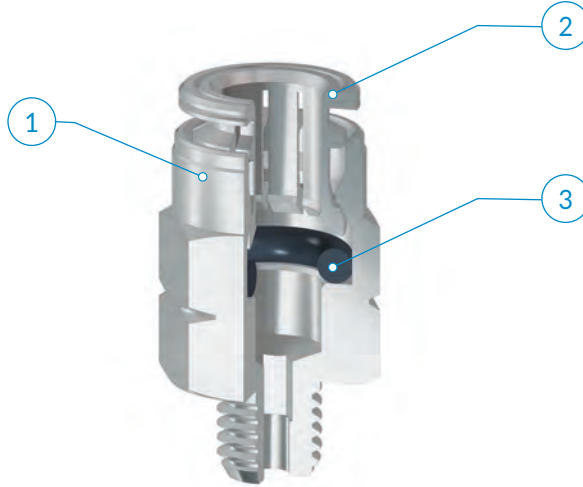
NBR  
NBR



-20° ± 80°C



80 bar



**建议的连接管路:**  
PA66, PA12 HR

**Recommended tubings:**  
PA66, PA12 HR

**可接受的管路公差:**  
+/- 0.07 mm, 最大直径 Ø 8 mm。

**Acceptable Tolerances on the tubings:**  
+/- 0,07 mm up to Ø 1/4

**应用领域:**  
润滑系统。

**Application fields:**  
Lubrication installations



可承受的最大压力根据使用管路类型和环境温度而有所差异, 这两个因素或许导致管路爆破压力的降低。

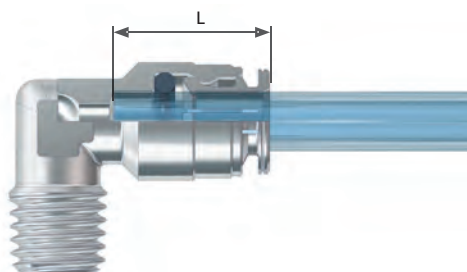


The max pressure rate achievable can vary depending on the tubing used and on the room temperature. These two factors may in fact lower the tube bursting pressure.



管路插入深度

Tubing insertion depth



OD	L
1/4	17

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

2

将管路插入接头,到底为止。

拔出管路:

垂直按压释放环,同时拔出管路即可。

1

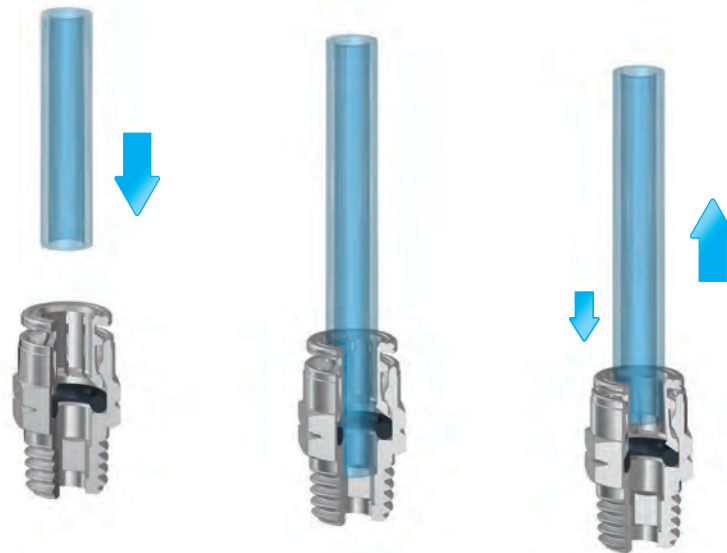
Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

Insert the tube into the fitting until it bottoms.

**Tube release**

While pressing on the release ring, pull out the tube from the fitting.



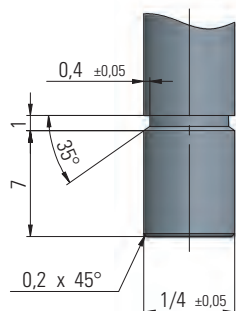
完成接头连接后,请确保管路不受到任何拉力,管路弯曲也需要符合本样本376页所声明的最小弯曲半径。为避免管路的意外脱落,不应在释放环上施加任何外力以及异常压力,释放环承受侧向的载荷也会引起管路脱落。  
螺纹拧紧力矩,请参考本样本第10页



Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).  
To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.  
To tighten threads, please check out our tightening torque chart illustrated at page 10.

如果将金属端管与接头连接,端管截面和尺寸必须与下列建议相符。如果将具有不同规格的端管与接头相连,可能会对接头造成无法修复的损坏,因此无法确保接头的正常功能。

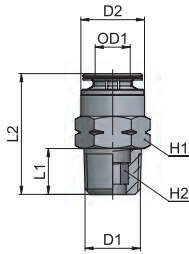
If a metal stem is connected to the fitting, the stem has to be manufactured according to the profile and sizes as set forth below. Should the fitting be connected to a metal stem not complying to the technical features recommended, the fitting may get irreversibly damaged and its function would no longer be guaranteed.



## PM 11

外锥螺纹直接头

Taper straight, male

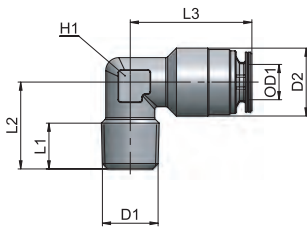


类型	OD1	D1	D2	L1	L2	H1	H2	g $\Delta$
11 1/4 1/8	1/4	1/8 NPTF	11,8	8,5	22	12	5	9,3
11 1/4 1/4-28	1/4	1/4-28 UNF	11,8	6	24	12	2,5	10,9

## PM 14

外锥螺纹弯管接头

Taper elbow fitting, male

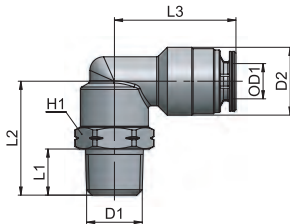


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
14 1/4 1/8	1/4	1/8 NPTF	12,5	8,4	16	22	10	15,1
14 1/4 1/4-28	1/4	1/4-28 UNF	12,5	7	15	22	10	14,9

## PM 15

可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

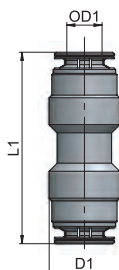


类型	OD1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 1/4 1/8	1/4	1/8 NPTF	12,5	8,5	21	22	13	24,4
15 1/4 1/4-28	1/4	1/4-28 UNF	12,5	6	18,5	22	13	21,2

## PM 26

对接接头

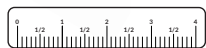
Union



类型	OD1	D1	L1	g $\Delta$
26 1/4 1/4	1/4	13	34,5	16,9



INCH



**MM LINE** 



CN

EN

### 英制/NPT 80bar雾化用快插接头

MM是一款雾化接头系列产品。Cmatic现将其在高压连接领域积累的专业技术与经验应用于全新领域——打造“雾化系统”。通过80bar压力的水流经专用管道，经由喷嘴喷射成数百万微米级雾滴，在特定区域形成环绕效果。这种雾化技术作为兼具成本效益、节能环保的解决方案，已被广泛应用于工业与商业领域，用于控制异味湿度、沉降粉尘、调节室内外环境温度。

### Misting Push-in Fittings, 80 bar Inch/NPT

MM is a misting fittings line.

Cmatic are now using all their know-how and experience in high pressure connections for a completely new purpose. To create "Misting".

Water at 80 bar pressure is channelled through hoses and sprayed by nozzles as millions of very fine mist drops, creating a refreshing effect all around a specific area.

Misting, as a cost effective, energy saving and non polluting technique is used both in industrial and commercial fields to control odours and humidity, to set dusts, to cool down indoor and outdoor temperatures.



# MM Line

1 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N, nickel plated

2 卡爪  
Gripping ring

黄铜镀镍 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N, nickel plated

3 密封圈  
Seals

NBR  
NBR



-20° ÷ 80°C



80 bar



	1/4 NPTF	3/8 NPTF	1/2 NPTF	G1/4
1/4	●			●
3/8	●	●		●
1/2			●	

建议的连接管路：  
PA12 HR

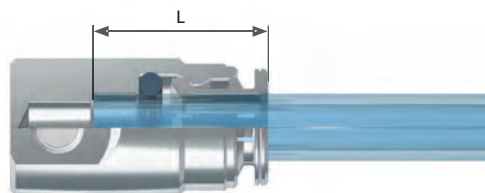
可接受的管路公差：  
+/- 0,07 mm, 最大直径 Ø 3/8"  
+/- 0,1 mm, 最大直径 Ø 1/2"

应用领域：  
雾化回路

Recommended tubings:  
PA12 HR

Acceptable Tolerances on the tubings:  
+/- 0,07 mm up to Ø 3/8"  
+/- 0,1 mm up to Ø 1/2"

Application fields:  
Misting circuits



OD	L
1/4	17
3/8	18,5
1/2	20,4

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

将管路插入接头,到底为止。

2

Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。

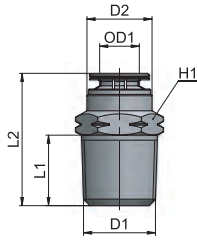


Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## MM 11

外锥螺纹直接头

Taper straight, male

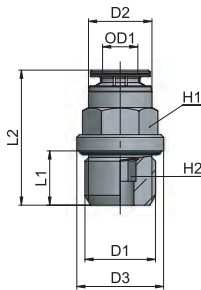


类型	OD1	D1	D2	L1	L2	H1	g $\Delta$
11 1/4 1/4	1/4	1/4 NPTF	12	13	24,5	14	16,6
11 3/8 1/4	3/8	1/4 NPTF	15,8	13	29	16	19,5
11 3/8 3/8	3/8	3/8 NPTF	16	13	28	18	30,1
11 1/2 1/2	1/2	1/2 NPTF	19	17	33	22	52,8

## MM 12

外直螺纹直接头

Parallel straight, male

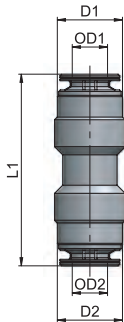


类型	OD1	D1	D2	D3	L1	L2	H1	H2	g $\Delta$
12 1/4 G1/4	1/4	G1/4	11,7	16	10	24,9	12	5	15,8
12 3/8 G1/4	3/8	G1/4	15,8	16,5	10	31,2	15	7	21,7

## MM 26

对接接头

Union

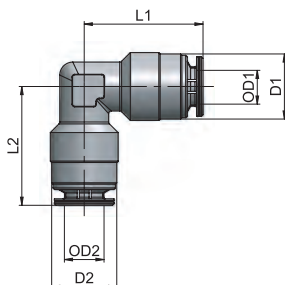


类型	OD1	OD2	D1	D2	L1	g $\Delta$
26 1/4 1/4	1/4	1/4	12	12	35,5	17,0
26 1/4 3/8	1/4	3/8	12	16	37,5	24,1
26 3/8 3/8	3/8	3/8	16	16	38,6	26,8
26 3/8 1/2	3/8	1/2	17	19,5	41,3	38,3
26 1/2 1/2	1/2	1/2	19,5	19,5	43	39,9

## MM 28

直角对接接头

Union elbow




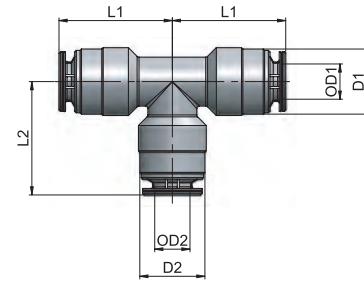
类型	OD1	OD2	D1	D2	L1	L2	g $\Delta$
28 1/4 1/4	1/4	1/4	12	12	22	22	18,0
28 3/8 3/8	3/8	3/8	16	16	25,5	25,5	35,1
28 1/2 1/2	1/2	1/2	19,5	19,5	29,5	29,5	57,9

MM 29

正T型三通对接接头

Union T


类型	OD1	OD2	D1	D2	L1	L2	g 
29 1/4 1/4	1/4	1/4	12	12	21	21	23,3
29 3/8 3/8	3/8	3/8	16	16	25	25	47,4
29 1/2 3/8	1/2	3/8	19,5	16	28,5	27	72,6
29 1/2 1/2	1/2	1/2	19,5	19,5	28,5	28,5	73,1

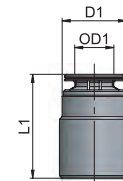


MM 40

终端接头

Terminal

类型	OD1	D1	L1	g 
40 00 1/4	1/4	12	19,5	11,9
40 00 3/8	3/8	16	21,5	19,8
40 00 1/2	1/2	19,5	24,5	29,3

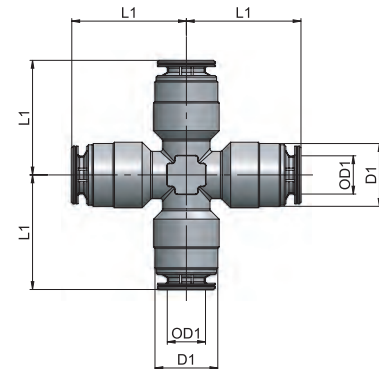


MM 46

十字型接头

Cross fitting


类型	OD1	D1	L1	g 
46 1/4 1/4	1/4	12	22	41,6
46 3/8 3/8	3/8	16	25,5	61,0

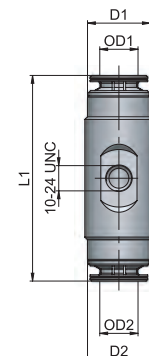


MM 60

带喷嘴的对接接头

Union with nozzle port

类型	OD1	OD2	D1	D2	L1	g 
60 1/4 1/4	1/4	1/4	12	12	39,5	23,2
60 3/8 3/8	3/8	3/8	16	16	44	41,3

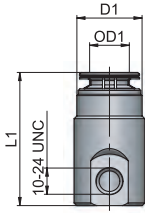


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## MM 61

带喷嘴的终端接头

Terminal with nozzle port



类型	OD1	D1	L1	g
61 00 1/4	1/4	12	24,5	15,9
61 00 3/8	3/8	16	26,5	25,4

## MM 99

喷嘴

Nozzle



类型	D1	D2	g
99 10-24 $\phi$ 0,15	10-24 UNC	0,15	9,9
99 10-24 $\phi$ 0,20	10-24 UNC	0,20	9,9
99 10-24 $\phi$ 0,30	10-24 UNC	0,30	9,9
99 10-24 $\phi$ 0,40	10-24 UNC	0,40	9,9



喷嘴孔径为0.15和0.20，通常用于冷却（民用和畜牧业领域），喷嘴孔径为0.30和0.40，主要用于除尘、除味和加湿。



The nozzles with hole 0.15 and 0.20 are generally used for cooling purposes (both in civil and in animal applications), while 0.30 and 0.40 are used primarily for dust, odors suppression and for moisturizing.

在压强变化时不同孔径下的水流量

Water flow rate per nozzle size and water pressure

孔径 单位mm	35 bar 500 psi	45 bar 640 psi	70 bar 1000 psi	84 bar 1200 psi	
0,15	0,0330 0,0087	0,0380 0,0100	0,0460 0,0122	0,0510 0,0133	l/min USGpm
0,2	0,0568 0,0153	0,0643 0,0175	0,0787 0,0208	0,0980 0,0258	l/min USGpm
0,3	0,0790 0,0205	0,0867 0,0235	0,1080 0,0290	0,1590 0,0420	l/min USGpm
0,4	0,1048 0,0282	0,1190 0,0322	0,1483 0,0398	0,1950 0,0515	l/min USGpm

# **cmatic**<sup>®</sup>

PNEUMATIC FITTINGS



## MT LINE



CN

EN

### 工业与商用车专用快插式管接头

MT系列快插式管接头全部采用黄铜材质制造，是Cmatic专为工业与商用车应用打造的解决方案。该系列产品集高标准质量与持久卓越性能于一身，造就了高度可靠与安全的产品特性。全系列MT接头均通过TÜV认证，符合DIN 74324:1996、DIN EN ISO 9227:2017及60068-2-6:2008标准规范。

### Push-in Fittings for industrial and commercial vehicles

The push-in fittings of the MT Line are completely made of brass and they are Cmatic solution for industrial and commercial vehicles applications. This line combines high quality standards, outstanding performances over time, which then translate into a product highly reliable and safe. All MT fittings are TÜV certified according to DIN 74324:1996, DIN EN ISO 9227:2017 e 60068-2-6:2008.

# MT Line

- 1** 本体  
Body

黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N
- 2** 管路导向套  
Tubing guide

Ø 6-8-10-12: 黑色 PA 66  
Ø 15-16-18: 黄铜, Brass  
UNI EN 12164 CW614N  
Ø 7: 白色 PA66
- 3** 密封圈  
Seal

NBR (低温型)  
NBR (low temperature)
- 4** 卡爪  
Gripping ring

黄铜 UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N
- 5** 防尘环  
Dust cover ring

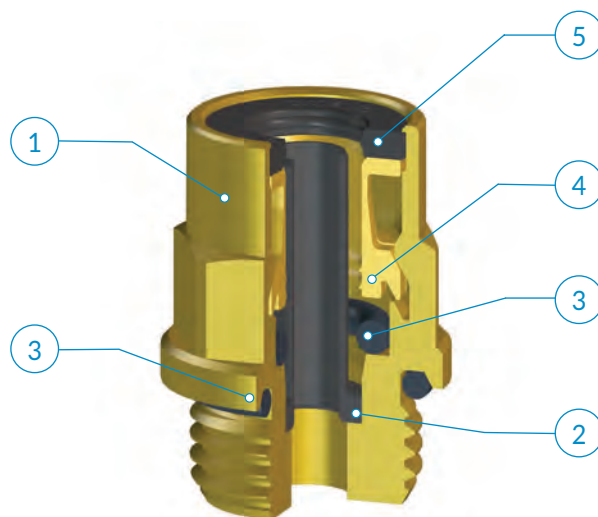
EPDM  
EPDM



-50° ÷ 100°C



16 bar



	M10x1	M12x1.5	M14x1.5	M16x1.5	M22x1.5	NPT1/8
6	●	●	●	●		●
8	●	●	●	●	●	●
10		●	●	●	●	
12		●	●	●	●	
15				●	●	
16				●	●	
18					●	

### 建议的连接管路:

符合DIN74324和DIN73378 的黑色Polyamide 12(PA12)气管

### Recommended tubings:

Flexible Polyamide 12 (PA12) (only black color) tubings according to DIN 74324 and DIN 73378

### 可接受的管路公差:

依据DIN74324和DIN73378标准

### Acceptable Tolerances on the tubings:

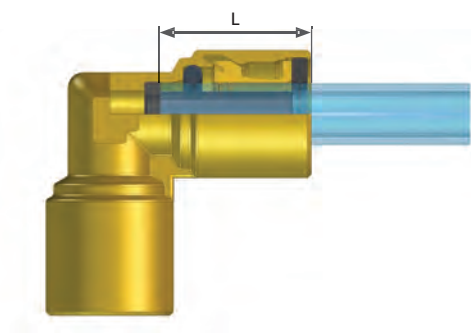
According to DIN 74324 and DIN 73378

### 应用领域:

商用以及工业车辆的气刹系统

### Application fields:

Air Brake Systems for Commercial and Industrial Vehicles



OD	L
6	20
8	20
10	21,9
12	22,3
15	24,9
16	24,9
18	26,4

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

2

将管路插入接头,到底为止。

拔出管路:

通过TREL拔管工具完成

选择合适尺寸TREL拔管工具,并抵住防尘环部位,均匀按压并拔出气管。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

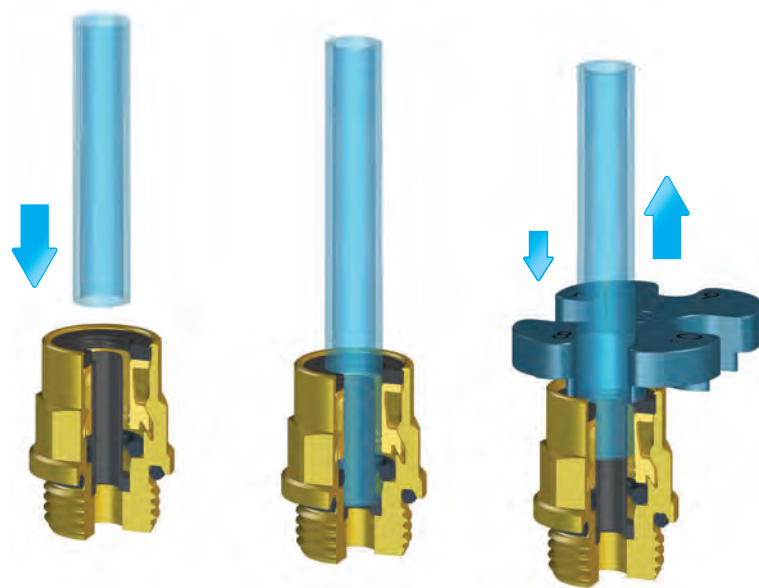
2

Insert the tube into the fitting until it bottoms

**Tube release**

Disconnect the tube by means of the tube release tool TREL.

Select the right tube size section of the tool; lay the TREL over the dust cover ring; apply a uniform pressure on the dust cover ring and pull the tube out.



**TREL**  
拔管器  
Tube release tool

尺寸1

6 - 12 mm  
From 6 mm to 12 mm

尺寸2

5 - 12 mm  
From 15 mm to 18 mm



带压状态下请勿进行拔管操作。  
螺纹拧紧力矩请参照下页相关指导内容。  
建议气管的连接与拔管,均由经过培训的人员进行操作。



Do not release the tube if still under pressure.  
To tighten all threaded parts pls follow instructions related to the torque forces stated in the following page.  
It is recommended that all connections and disconnections operations are performed by trained personnel.

**i** 接头装配:

1

手动完全松开定位螺母, 无需借助任何工具。

2

手动安装螺母到底, 此时, 接头的螺纹密封圈接触内螺纹接口

3

旋转接头至需要的方向, 请确保无论顺时针或者逆时针, 旋转方向不超过180°。

4

在需要的方向位置, 单手保持住接头位置, 同时按照下述规定力矩, 使用扳手拧紧定位螺母。

5

至此完成安装。

FITTINGS ASSEMBLY:

1

Loosen the counter-nut completely. This operation has to be done manually. No assembly tools are needed.

2

Manually assemble the fitting into the female port until it bottoms and the fitting O-ring is in touch with the female port.

3

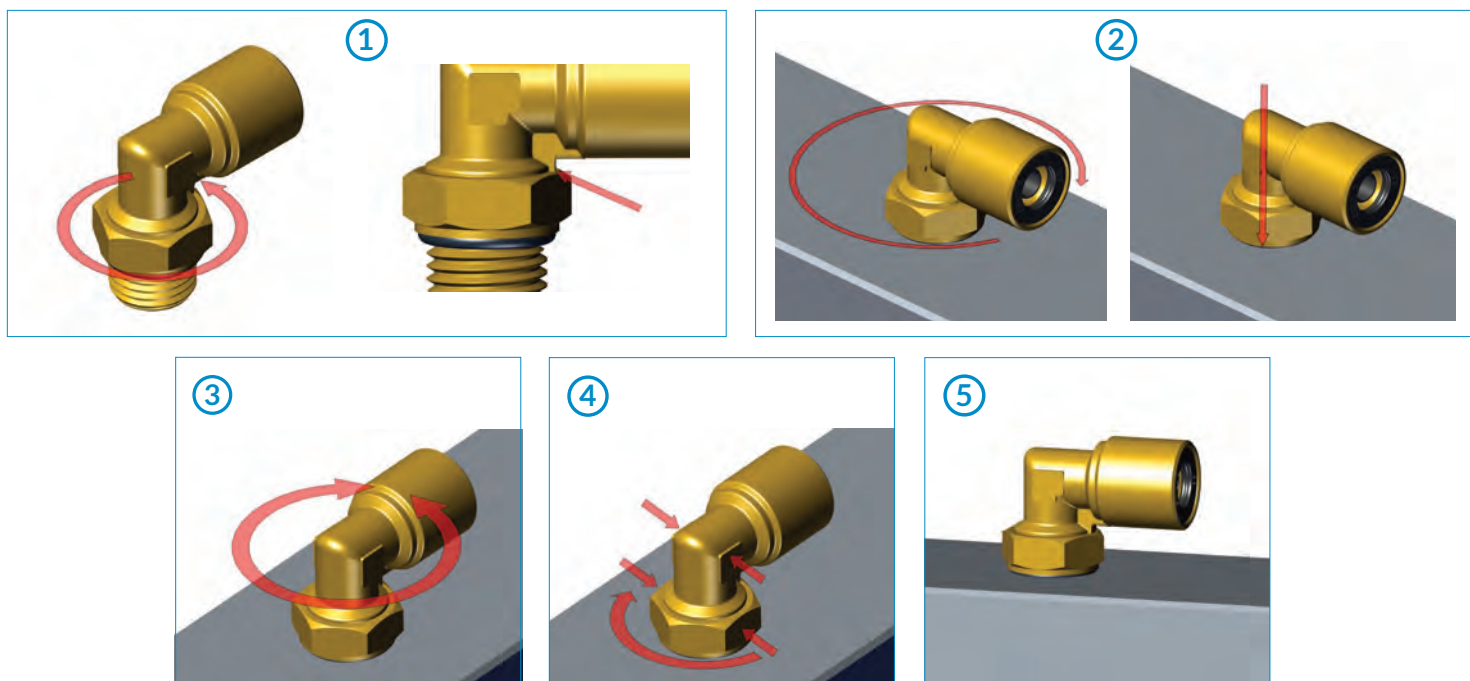
Orientate the fitting into the desired position, making sure not to exceed 180° rotation clockwise and anti-clockwise.

4

Once the right position is reached, hold the fitting with one hand and tighten the fitting counter-nut by means of a wrench, following the torque forces stated below.

5

At this stage the assembly operation is completed.



**i**

螺纹拧紧力矩

Tightening torques

类型	Nm
M10x1	14
M12x1,5	19
M14x1,5	23
M16x1,5	30
M22x1,5	34

**i**

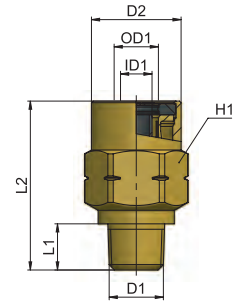
该数据也适用于RT和VT系列  
Values also valid for RT and VT series

## MT 11

外锥螺纹直接头

Taper straight, male

类型	OD1	ID1	D1	D2	L1	L2	H1	g $\Delta$
11 06 18 NPTF	6	4	1/8 NPTF	14,5	8,5	27	15	18,3
11 08 18 NPTF	8	6	1/8 NPTF	16,5	8,5	31,1	17	26,4

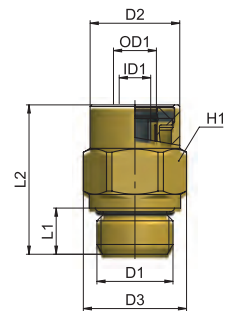


## MT 12

外直螺纹直接头

Parallel straight, male

类型	OD1	ID1	D1	D2	D3	L1	L2	H1	g $\Delta$
12 06 M10x1	6	4	M10x1	14,5	17	7	26	15	17,7
12 06 M12x1,5	6	4	M12x1,5	14,5	17	8,5	27,5	15	20,4
12 06 M14x1,5	6	4	M14x1,5	14,5	17	8,5	27	15	23,8
12 06 M16x1,5	6	4	M16x1,5	14,5	20	8,5	25	15	25,9
12 08 M10x1	8	6	M10x1	16,5	19	7	31	17	27,6
12 08 M12x1,5	8	6	M12x1,5	16,5	19	8,5	32,5	17	29,9
12 08 M14x1,5	8	6	M14x1,5	16,5	19	8,5	27,5	17	24,8
12 08 M16x1,5	8	6	M16x1,5	16,5	20	8,5	27	17	27,8
12 08 M22x1,5	8	6	M22x1,5	16,5	25,5	8,5	23	17	39,4
12 10 M12x1,5	10	8	M12x1,5	18,5	21	8,5	34,7	19	35,7
12 10 M14x1,5	10	8	M14x1,5	18,5	21	8,5	34,7	19	39,9
12 10 M16x1,5	10	8	M16x1,5	18,5	22	8,5	29,5	20	35,9
12 10 M22x1,5	10	8	M22x1,5	18,5	25,5	8,5	25,5	20	42,9
12 10/7 M12x1,5	10	7	M12x1,5	18,5	21	8,5	34,7	19	35,7
12 10/7 M14x1,5	10	7	M14x1,5	18,5	21	8,5	34,7	19	39,9
12 10/7 M16x1,5	10	7	M16x1,5	18,5	22	8,5	29,5	20	35,9
12 12 M12x1,5	12	9	M12x1,5	20,5	23	8,5	35,5	21	40,4
12 12 M14x1,5	12	9	M14x1,5	20,5	23	8,5	35,5	21	43,0
12 12 M16x1,5	12	9	M16x1,5	20,5	23	8,5	34,5	21	45,0
12 12 M22x1,5	12	9	M22x1,5	20,5	25,5	8,5	27,5	21	44,0
12 15 M16x1,5	15	12	M16x1,5	25	28	8,5	37,7	25	66,4
12 15 M22x1,5	15	12	M22x1,5	25	28,5	8,5	32,2	26	65,9
12 16 M16x1,5	16	12	M16x1,5	26	29	8,5	37,7	26	69,1
12 16 M22x1,5	16	12	M22x1,5	26	30	8,5	32,2	27	66,4
12 18 M22x1,5	18	14	M22x1,5	28	31,5	8,5	39,2	29	92,6

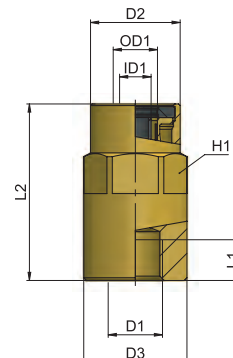


## MT 13

内螺纹直接头

Female straight

类型	OD1	ID1	D1	D2	D3	L1	L2	H1	g $\Delta$
13 06 M10x1	6	4	M10x1	14,5	17	7,5	32,5	15	36,3
13 06 M16x1,5	6	4	M16x1,5	14,5	20	10	37	15	45,3
13 08 M10x1	8	6	M10x1	16,5	19	7,5	32,5	17	45,2

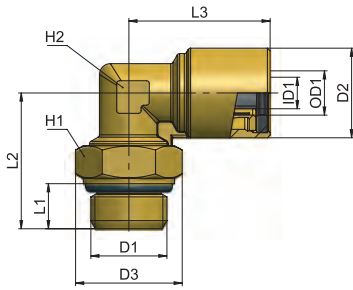


AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## MT 16

可变向外直螺纹弯管接头

Orientable elbow fitting, male parallel



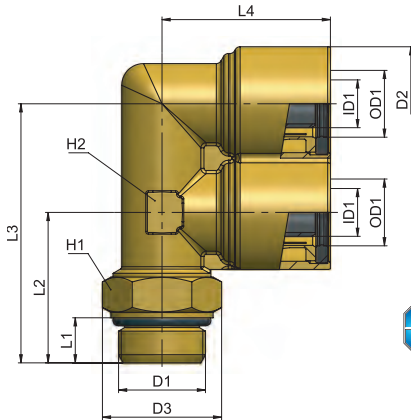
类型	OD1	ID1	D1	D2	D3	L1	L2	L3	H1	H2	g
16 06 M10x1	6	4	M10x1	14,5	16,2	6,3	19,5	25	14	9	24,5
16 06 M12x1,5	6	4	M12x1,5	14,5	17,3	8,3	23,75	25	15	9	30,2
16 06 M14x1,5	6	4	M14x1,5	14,5	19,6	8,3	23,5	25	17	9	33,4
16 06 M16x1,5	6	4	M16x1,5	14,5	22	8,3	24	26	19	11	42,9
16 08 M10x1	8	6	M10x1	16,5	16,2	6,3	20,5	26	14	11	30,1
16 08 M12x1,5	8	6	M12x1,5	16,5	17,3	8,3	24,5	26	15	11	35,1
16 08 M14x1,5	8	6	M14x1,5	16,5	19,6	8,3	25	26	17	11	38,0
16 08 M16x1,5	8	6	M16x1,5	16,5	22	8,3	24,5	26	19	11	42,7
16 08 M22x1,5	8	6	M22x1,5	18,5	31,2	8,1	26,5	26	27	15	81,0
16 10 M12x1,5	10	8	M12x1,5	18,5	17,3	8,3	25,5	29,3	15	13	44,9
16 10 M14x1,5	10	8	M14x1,5	18,5	19,6	8,3	26	29,3	17	13	45,8
16 10 M16x1,5	10	8	M16x1,5	18,5	22	8,3	26	29,3	19	13	27,8
16 10 M22x1,5	10	8	M22x1,5	18,5	31,2	8,1	26,5	30,3	27	15	77,8
16 10/7 M12x1,5	10	7	M12x1,5	18,5	17,3	8,3	25,5	29,3	15	13	44,9
16 10/7 M14x1,5	10	7	M14x1,5	18,5	19,6	8,3	26	29,3	17	13	45,8
16 10/7 M16x1,5	10	7	M16x1,5	18,5	22	8,3	26	29,3	19	13	27,8
16 12 M12x1,5	12	9	M12x1,5	21	17,3	8,3	26,7	31	15	15	58,4
16 12 M14x1,5	12	9	M14x1,5	21	19,6	8,3	26,8	31	17	15	58,3
16 12 M16x1,5	12	9	M16x1,5	21	22	8,3	27,7	31	19	15	60,9
16 12 M22x1,5	12	9	M22x1,5	21	31,2	8,1	27,3	31	27	15	82,9
16 15 M16x1,5	15	12	M16x1,5	27	22	8,3	30,2	37	19	19	113,8
16 15 M22x1,5	15	12	M22x1,5	27	31,2	8,1	30,5	37	27	19	133,8
16 16 M16x1,5	16	12	M16x1,5	27	22	8,3	30,2	37,5	19	19	108,4
16 16 M22x1,5	16	12	M22x1,5	27	31,2	8,1	30,5	37,5	27	19	125,8
16 18 M22x1,5	18	14	M22x1,5	29	31,2	8,1	32,5	39	27	21	139,1



## MT 16-D

可变向两通外直螺纹弯管接头

Double orientable elbow fitting, male parallel



类型	OD1	ID1	D1	D2	D3	L1	L2	L3	L4	CH1	CH2	g
16 12 M16x1,5 D 12	12	9	M16x1,5	21	22	8,3	27,7	47,7	31	19	15	101,1
16 12 M22x1,5 D 12	12	9	M22x1,5	21	31,2	8,1	27,3	47,3	31	27	15	120,9

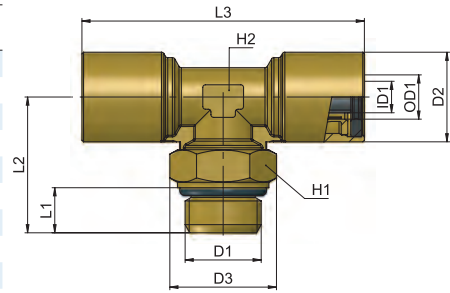


## MT 21

可变向外直螺纹正T型接头

Orientable T fitting, parallel

类型	OD1	ID1	D1	D2	D3	L1	L2	L3	CH1	CH2	g $\Delta$
21 06 M10x1	6	4	M10x1	14,5	16,2	6,3	19,5	50	14	9	36,7
21 06 M12x1,5	6	4	M12x1,5	14,5	17,3	8,3	23,8	50	15	9	43,1
21 06 M14x1,5	6	4	M14x1,5	14,5	19,6	8,3	23,5	50	17	9	45,8
21 06 M16x1,5	6	4	M16x1,5	14,5	22	8,3	24	52	19	11	56,4
21 08 M10x1	8	6	M10x1	16,5	16,2	6,3	20,5	52	14	11	45,3
21 08 M12x1,5	8	6	M12x1,5	16,5	17,3	8,3	24,5	52	15	11	50,3
21 08 M14x1,5	8	6	M14x1,5	16,5	19,6	8,3	25	52	17	11	53,8
21 08 M16x1,5	8	6	M16x1,5	16,5	22	8,3	24,5	52	19	11	57,2
21 08 M22x1,5	8	6	M22x1,5	18,5	31,2	8,1	26,5	52	27	15	102,5
21 10 M12x1,5	10	8	M12x1,5	18,5	17,3	8,3	25,5	58,6	15	13	64,9
21 10 M14x1,5	10	8	M14x1,5	18,5	19,6	8,3	26	58,6	17	13	66,6
21 10 M16x1,5	10	8	M16x1,5	18,5	22	8,3	26	58,6	19	13	72,6
21 10 M22x1,5	10	8	M22x1,5	18,5	31,2	8,1	26,5	60,6	27	15	99,6
21 10/7 M12x1,5	10	7	M12x1,5	18,5	17,3	8,3	25,5	58,6	15	13	64,9
21 10/7 M14x1,5	10	7	M14x1,5	18,5	19,6	8,3	26	58,6	17	13	66,6
21 10/7 M16x1,5	10	7	M16x1,5	18,5	22	8,3	26	58,6	19	13	72,6
21 12 M12x1,5	12	9	M12x1,5	21	17,3	8,3	26,7	62	15	15	82,3
21 12 M14x1,5	12	9	M14x1,5	21	19,6	8,3	26,8	62	17	15	83,5
21 12 M16x1,5	12	9	M16x1,5	21	22	8,3	27,3	62	19	15	87,0
21 12 M22x1,5	12	9	M22x1,5	21	31,2	8,1	27,6	62	27	15	107,8
21 15 M16x1,5	15	12	M16x1,5	27	22	8,3	30,2	74	19	19	171,6
21 15 M22x1,5	15	12	M22x1,5	27	31,2	8,1	30,5	74	27	19	191,3
21 16 M16x1,5	16	12	M16x1,5	27	22	8,3	30,2	75	19	19	161,6
21 16 M22x1,5	16	12	M22x1,5	27	31,2	8,1	30,5	75	27	19	180,1
21 18 M22x1,5	18	14	M22x1,5	29	31,2	8,1	32,5	78	27	21	202,2

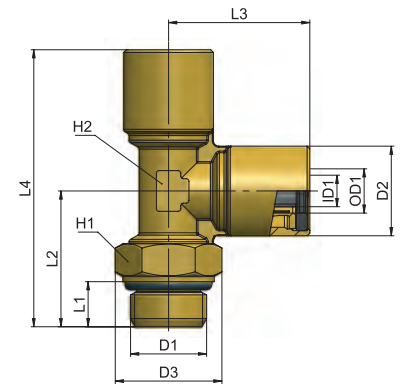


## MT 24

可变向外直螺纹直T型接头

Orientable run T fitting, parallel

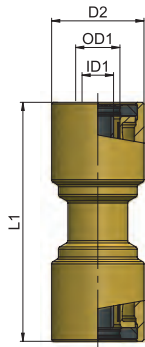
类型	OD1	ID1	D1	D2	D3	L1	L2	L3	L4	H1	H2	g $\Delta$
24 06 M10x1	6	4	M10x1	14,5	16,2	6,3	19,5	25	44,5	14	9	37,3
24 06 M12x1,5	6	4	M12x1,5	14,5	17,3	8,3	23,5	25	48,5	15	9	42,9
24 06 M14x1,5	6	4	M14x1,5	14,5	19,6	8,3	23,5	25	48,5	17	9	45,3
24 06 M16x1,5	6	4	M16x1,5	14,5	22	8,3	24	26	50	19	11	56,5
24 08 M10x1	8	6	M10x1	16,5	16,2	6,3	20,5	26	46,5	14	11	45,3
24 08 M12x1,5	8	6	M12x1,5	16,5	17,3	8,3	24,5	26	50,5	15	11	49,2
24 08 M14x1,5	8	6	M14x1,5	16,5	19,6	8,3	25	26	51	17	11	53,5
24 08 M16x1,5	8	6	M16x1,5	16,5	22	8,3	24,5	26	50,5	19	11	48,7
24 08 M22x1,5	8	6	M22x1,5	18,5	31,2	8,1	26,5	26	52,5	27	15	102,5
24 10 M12x1,5	10	8	M12x1,5	18,5	17,3	8,3	25,5	29,3	54,8	15	13	65,4
24 10 M14x1,5	10	8	M14x1,5	18,5	19,6	8,3	26	29,3	55,3	17	13	66,4
24 10 M16x1,5	10	8	M16x1,5	18,5	22	8,3	26	29,3	55,3	19	13	27,8
24 10 M22x1,5	10	8	M22x1,5	18,5	31,2	8,1	26,5	30,3	56,8	27	15	98,9
24 12 M12x1,5	12	9	M12x1,5	21	17,3	8,3	26,7	31	57,7	15	15	81,8
24 12 M14x1,5	12	9	M14x1,5	21	19,6	8,3	26,7	31	57,7	17	15	83,8
24 12 M16x1,5	12	9	M16x1,5	21	22	8,3	27,3	31	58,3	19	15	89,2
24 12 M22x1,5	12	9	M22x1,5	21	31,2	8,1	27,6	31	58,6	27	15	108,2
24 15 M16x1,5	15	12	M16x1,5	27	22	8,3	30,2	37	67,2	19	19	171,3
24 15 M22x1,5	15	12	M22x1,5	27	31,2	8,1	30,5	37	67,5	27	19	192,8
24 16 M16x1,5	16	12	M16x1,5	27	22	8,3	30,2	37,5	67,7	19	19	161,6
24 16 M22x1,5	16	12	M22x1,5	27	31,2	8,1	30,5	37,5	68	27	19	180,9
24 18 M22x1,5	18	14	M22x1,5	29	31,2	8,1	32,5	39	71,5	27	21	201,6



AP	55
AR	63
AV	221
CO	157
CX	255
EV	217
GU	119
GU Safety	135
GX	281
GX Safety	291
HP	317
MA	27
MB	41
MC	83
MF	235
MM	333
MO	93
MP	323
MT	339
MV	171
MX	241
MY	229
OX	261
PA	113
PE	79
PM	329
PN	67
PT	347
PU	131
PU Safety	149
PUX	287
PV	203
PVX	311
PX	249
QO	363
RA	101
RF	269
RT	355
RX	275
Tools	369
Tubings	375
VF	295
VT	359
VX	299

## MT 26

对接接头

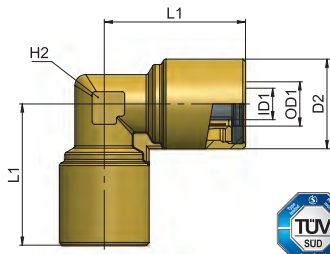


Union

类型	OD1	ID1	D2	L1	g $\Delta$
26 06 06	6	4	15	44,2	28,0
26 08 08	8	6	17	44	33,8
26 10 10	10	8	19	48,5	45,3
26 10/7 10/7	10	7	19	48,5	45,3
26 12 12	12	9	21	49,2	52,7
26 15 15	15	12	26	54,6	99,3
26 16 16	16	12	27	55	106,8
26 18 18	18	14	29	58	122,9

## MT 28

直角对接接头

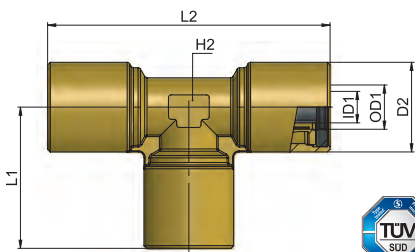


Union elbow

类型	OD1	ID1	D2	L1	H2	g $\Delta$
28 06 06	6	4	14,5	25	9	28,7
28 08 08	8	6	16,5	26	11	36,1
28 10 10	10	8	18,5	29,3	13	48,4
28 10/7 10/7	10	7	18,5	29,3	13	48,4
28 12 12	12	9	21	31	15	66,2
28 15 15	15	12	27	37	19	145,0
28 16 16	16	12	27	37,5	19	133,9
28 18 18	18	14	29	39	21	153,5

## MT 29

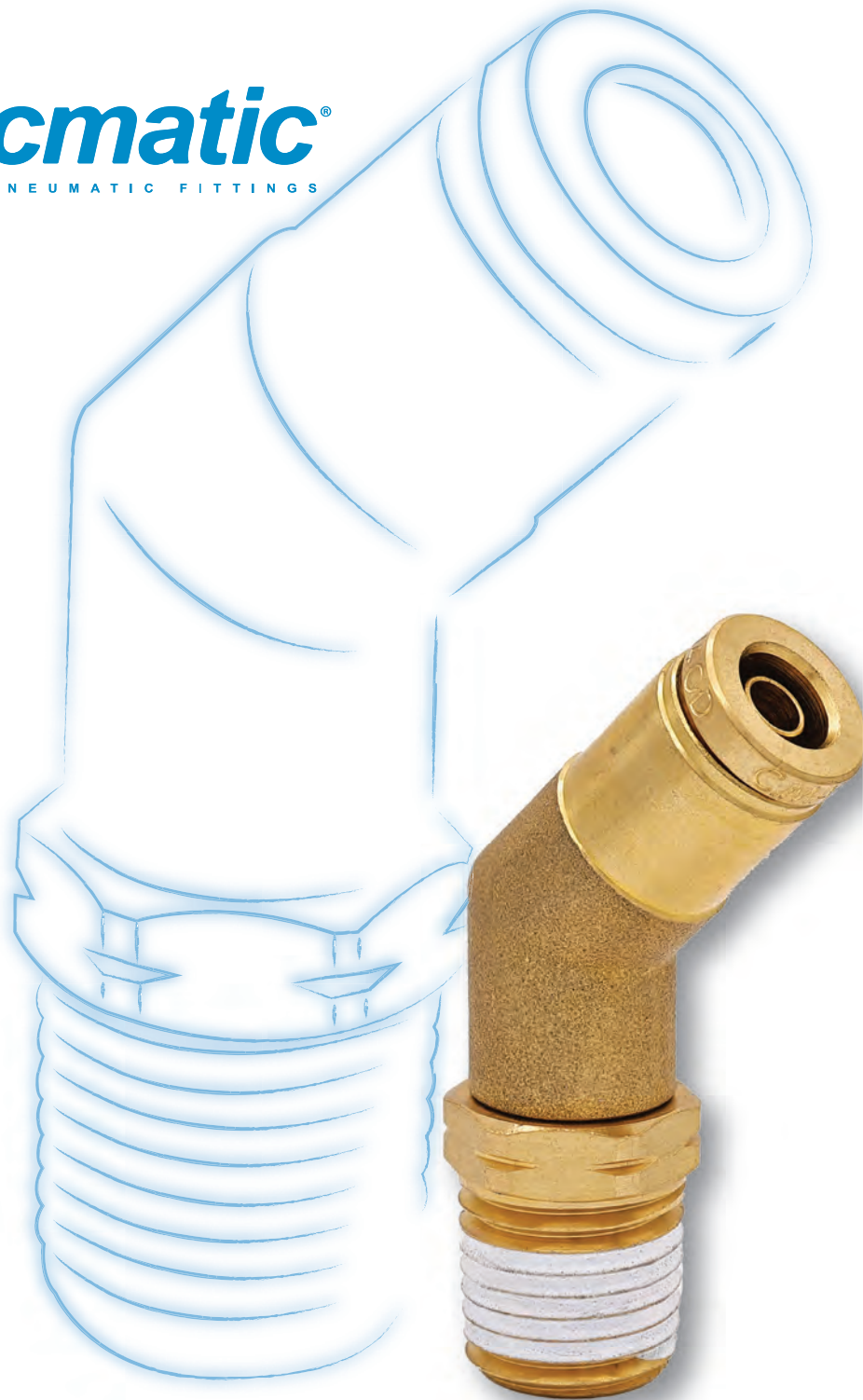
正T型三通对接接头



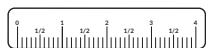
Union T

类型	OD1	ID1	D2	L1	L2	H2	g $\Delta$
29 06 06	6	4	14,5	25	50	9	41,9
29 08 08	8	6	16,5	26	52	11	50,4
29 10 10	10	8	18,5	29,3	58,6	13	69,5
29 10/7 10/7	10	7	18,5	29,3	58,6	13	69,5
29 12 12	12	9	21	31	62	15	89,9
29 15 15	15	12	27	37	74	19	202,4
29 16 16	16	12	27	37,5	75	19	188,7
29 18 18	18	14	29	39	78	21	216,7

**cmatic**<sup>®</sup>  
PNEUMATIC FITTINGS



INCH



**PT LINE**



CN

### 英制/NPT DOT快插接头

适用于车辆应用的快插式管接头，符合SAE J2494-4与SAE J1131规范。  
Cmatic PT系列专为车辆气动回路和组件设计，但不适用于车架与车轴之间或牵引车与被牵引车之间的连接。该系列同时符合美国交通部FMVSS \$517.106标准要求。

EN

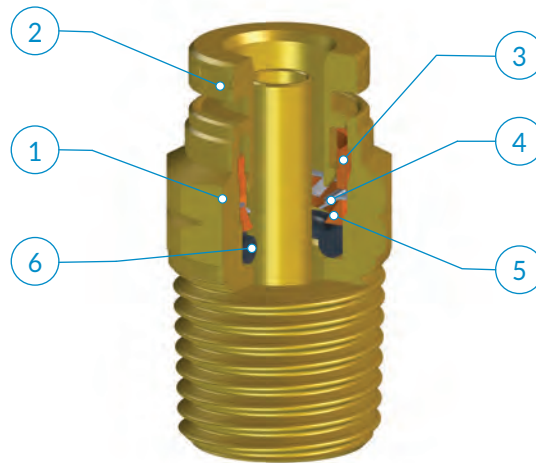
### DOT Push-in Fittings, Inch/NPT

Push in fittings for Vehicles applications complying with SAE J2494-4 and SAE J1131 specs.  
Cmatic PT Line is designed for use on all pneumatic circuits and assemblies except between the frame and axle, or between a towed and towing vehicle. PT also complies with DOT FMVSS \$517.106 standard.

# PT Line

<p>1 本体 Body</p> <p>黄铜镀镍 UNI EN 12164 CW614N - UNI EN 12165 CW617N Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N</p>	<p>2 释放环 Release ring</p>	<p>3 支撑环 Holding ring</p> <p>树脂 Resin</p>	<p>4 卡爪 Gripping ring</p> <p>(PEI) (PEI)</p> <p>AISI 301 不锈钢 Stainless steel AISI 301</p>	<p>5 保护环 Protection ring</p> <p>树脂 Resin</p>	<p>6 密封圈 Seals</p> <p>(PEI) (PEI)</p> <p>NBR (低温型) NBR (Low temperature)</p>
--	-------------------------------	---	---	--	--

 -50° ÷ 100°C	 20 bar	 -99 KPa			
---	---	--	---	---	---



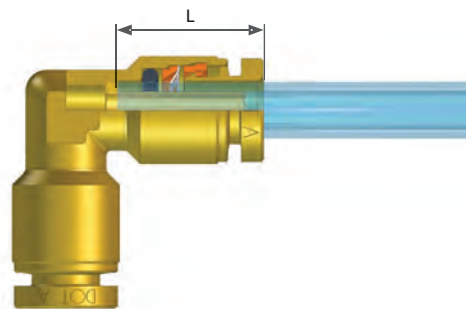
	1/8 NPTF	1/4 NPTF	3/8 NPTF	1/2 NPTF	3/4 NPTF
5/32	●	●			
1/4	●	●	●		
3/8	●	●	●	●	
1/2		●	●	●	
5/8			●	●	●
3/4			●	●	●

**建议的连接管路：**  
符合SAE (DOT) 规范的PA管路。

**应用领域：**  
用于车辆和拖车的气动回路：悬挂、制动系统、变速箱、门窗闭合、座椅调整、仪表、空调系统、喇叭、雨刮器电机、阀门、气缸及配件。  
专为所有气动回路和组件设计，但不适用于车架与车轴之间或牵引车与被牵引车之间的连接。

**Recommended tubings:**  
PA Tubings complying with SAE (DOT).

**Application fields:**  
Application Fields: Pneumatic circuits for truck and Trailers: Air Suspension, Braking Systems, Transmissions, locking doors and windows, Seat adjustment, Instrumentation, Air conditioning systems, horn, wiper motors, valves, cylinders and accessories.  
PT line is suitable for all air assisted applications except those designed for use between frame and axle or between towed and towing vehicles.



OD	L
5/32	13,9
1/4	16,3
3/8	18,3
1/2	19,7
5/8	23,3
3/4	25,1

安装说明

ASSEMBLY INSTRUCTIONS

1

沿管路垂直切割 (使用TCUT切管刀),确认内外管壁没有毛刺,同时注意避免管路截面呈椭圆形。

1

Cut the tube square (by means of a hose cutter i.e. our TCUT) making sure that no burrs are left and that the tube is not oval.

2

将管路插入接头,到底为止。

2

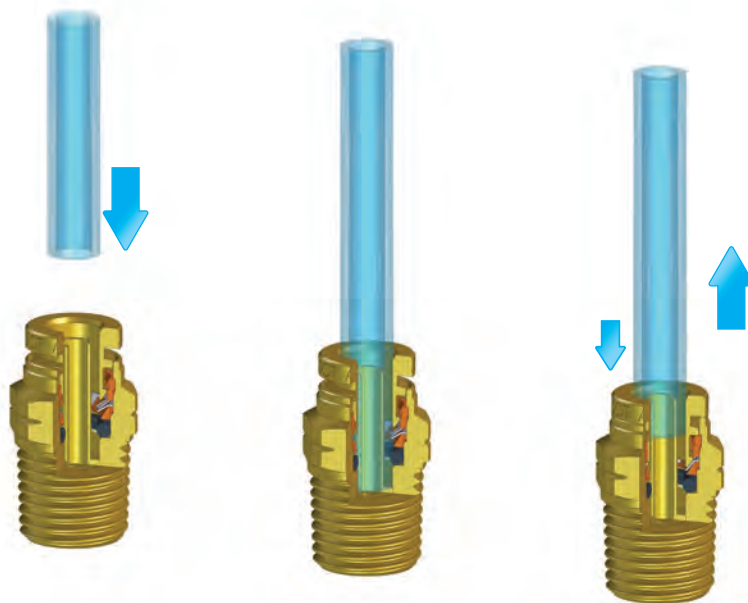
Insert the tube into the fitting until it bottoms.

拔出管路:

垂直按压释放环,同时拔出管路即可。

Tube release

While pressing on the release ring, pull out the tube from the fitting.



完成连接后,请确保管路上不承受外力;此外,请确保管路连接的最小弯曲半径符合本样册第376页之规定。

为了避免管路意外松脱,任何物体均不要接触释放环。作用在释放环上任何外力,包括侧向力,均可能导致管路意外松脱。螺纹拧紧时,请参考第10页列出的建议扭矩。



Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376).

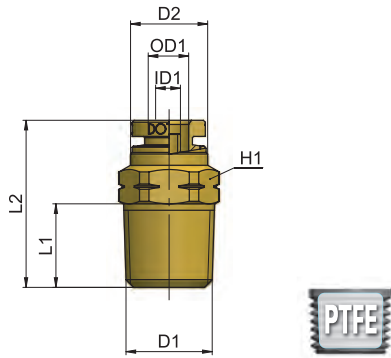
To prevent any accidental tube release, no components have to come in touch with the release ring and exercise any unwanted pressure on the same. Indeed however lateral, any load on the release ring may cause the tube disconnection.

To tighten threads, please check out our tightening torque chart illustrated at page 10.

## PT 11

外锥螺纹直接头

Taper straight, male

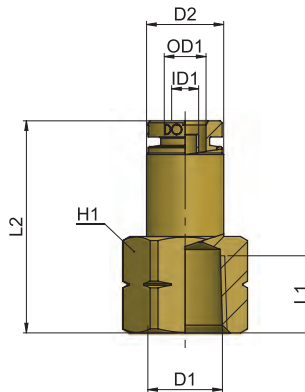


类型	OD1	ID1	D1	D2	L1	L2	H1	g $\Delta$
11 5/32 1/8	5/32	2,2	1/8 NPTF	9,5	8,5	21	7/16	9,8
11 5/32 1/4	5/32	2,2	1/4 NPTF	9,5	13	25,5	9/16	21,1
11 1/4 1/8	1/4	4,2	1/8 NPTF	12	8,5	23,5	1/2	11,8
11 1/4 1/4	1/4	4,2	1/4 NPTF	12	13	26	9/16	19,8
11 1/4 3/8	1/4	4,2	3/8 NPTF	12	13	27	11/16	33,4
11 3/8 1/8	3/8	6,2	1/8 NPTF	16	8,5	29,5	11/16	24,0
11 3/8 1/4	3/8	6,2	1/4 NPTF	16	13	33	11/16	30,5
11 3/8 3/8	3/8	6,2	3/8 NPTF	16	13	26,5	11/16	28,4
11 3/8 1/2	3/8	6,2	1/2 NPTF	16	17	31,5	7/8	60,3
11 1/2 1/4	1/2	9,2	1/4 NPTF	20	13	35,7	13/16	40,4
11 1/2 3/8	1/2	9,2	3/8 NPTF	20	13	30,7	13/16	34,8
11 1/2 1/2	1/2	9,2	1/2 NPTF	20	17	31,7	7/8	50,9
11 5/8 3/8	5/8	11	3/8 NPTF	23,5	13	39,5	1	68,5
11 5/8 1/2	5/8	11	1/2 NPTF	23,5	17	38	1	63,0
11 3/4 3/8	3/4	14,2	3/8 NPTF	26,5	13	43,5	1 1/16	73,0
11 3/4 1/2	3/4	14,2	1/2 NPTF	26,5	17	45,5	1 1/16	85,9
11 3/4 3/4	3/4	14,2	3/4 NPTF	26,5	17	39	1 1/16	88,2

## PT 13

内螺纹直接头

Female straight

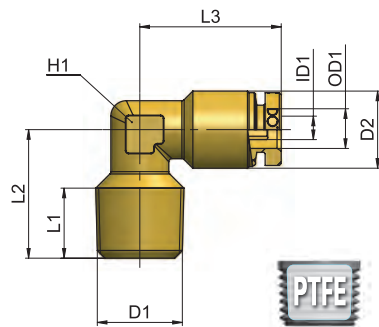


类型	OD1	ID1	D1	D2	L1	L2	H1	g $\Delta$
13 5/32 1/8	5/32	2,2	1/8 NPTF	9,5	8,5	26,5	1/2	12,0
13 1/4 1/8	1/4	4,2	1/8 NPTF	12	8,5	28,5	1/2	16,0
13 1/4 1/4	1/4	4,2	1/4 NPTF	12	12	33	11/16	28,5
13 3/8 1/4	3/8	4,2	1/4 NPTF	16	12	35	11/16	22,0
13 3/8 3/8	3/8	6,2	3/8 NPTF	16	12,5	35	13/16	40,3
13 3/8 1/2	3/8	6,2	1/2 NPTF	16	13,5	38,5	1	62,1
13 1/2 1/4	1/2	9,2	1/4 NPTF	20	12	35,2	13/16	56,6
13 1/2 3/8	1/2	9,2	3/8 NPTF	20	12,5	36,7	13/16	51,8
13 1/2 1/2	1/2	9,2	1/2 NPTF	20	13,5	39,2	1	69,0

## PT 14

外锥螺纹弯管接头

Taper elbow fitting, male



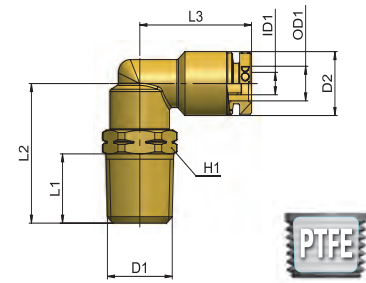
类型	OD1	ID1	D1	D2	L1	L2	L3	H1	g $\Delta$
14 5/32 1/8	5/32	2,2	1/8 NPTF	9,5	8,4	16	19	10	12,0
14 1/4 1/8	1/4	4,2	1/8 NPTF	12	8,4	16	22	10	14,7
14 1/4 1/4	1/4	4,2	1/4 NPTF	12	11	20	22	10	18,6
14 3/8 1/4	3/8	6,2	1/4 NPTF	16	12	22,5	26	14	32,5
14 3/8 3/8	3/8	6,2	3/8 NPTF	16	11	22,5	26	14	35,7

PT 15

可调向外锥螺纹弯管接头

Taper swivelling elbow fitting, male

类型	OD1	ID1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 5/32 1/8	5/32	2,2	1/8 NPTF	9	8,5	18,5	19	7/16	18,5
15 5/32 1/4	5/32	2,2	1/4 NPTF	9	13	26,2	21	9/16	24,2
15 1/4 1/8	1/4	4,2	1/8 NPTF	12	8,5	21,2	23,5	1/2	21,0
15 1/4 1/4	1/4	4,2	1/4 NPTF	12	13	26,2	23,5	9/16	26,0
15 1/4 3/8	1/4	4,2	3/8 NPTF	12	13	26,7	23,5	11/16	32,4
15 3/8 1/8	3/8	6,2	1/8 NPTF	16	8,5	24	27	11/16	41,4
15 3/8 1/4	3/8	6,2	1/4 NPTF	16	13	28,5	27	11/16	44,3
15 3/8 3/8	3/8	6,2	3/8 NPTF	16	13	28,5	27	11/16	45,7
15 3/8 1/2	3/8	6,2	1/2 NPTF	16	17	34	27	7/8	64,0
15 1/2 1/4	1/2	9,2	1/4 NPTF	20	13	32	29,7	13/16	73,5
15 1/2 3/8	1/2	9,2	3/8 NPTF	20	13	32	29,7	13/16	68,3
15 1/2 1/2	1/2	9,2	1/2 NPTF	20	17	36,5	29,7	7/8	81,6
15 5/8 3/8	5/8	11	3/8 NPTF	24	13	35,5	36	7/8	102,8
15 5/8 1/2	5/8	11	1/2 NPTF	24	17	39,5	36	7/8	108,4
15 5/8 3/4	5/8	11	3/4 NPTF	24	17	39,5	36	1 1/16	124,9
15 3/4 3/8	3/4	14,2	3/8 NPTF	27	13	35,5	38	7/8	124,3
15 3/4 1/2	3/4	14,2	1/2 NPTF	27	17	39,5	38	7/8	130,0
15 3/4 3/4	3/4	14,2	3/4 NPTF	27	17	39,5	38	1 1/16	146,9

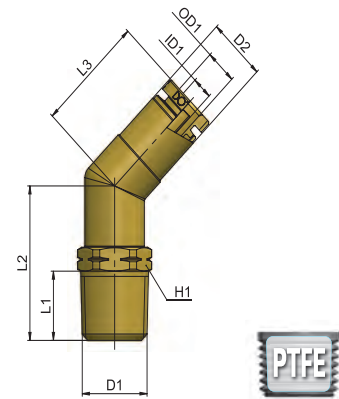


PT 15-45

可调向45°外螺纹接头

Swivelling elbow fitting, male 45°

类型	OD1	ID1	D1	D2	L1	L2	L3	H1	g $\Delta$
15 1/4 1/8 45°	1/4	4,2	1/8 NPTF	12	8,5	23	22,5	1/2	1/2
15 1/4 1/4 45°	1/4	4,2	1/4 NPTF	12	13	28	22,5	9/16	9/16
15 3/8 1/4 45°	3/8	6,2	1/4 NPTF	16	13	29	26	11/16	11/16
15 3/8 3/8 45°	3/8	6,2	3/8 NPTF	16	13	29,5	26	11/16	11/16
15 3/8 1/2 45°	3/8	6,2	1/2 NPTF	16	17	35	26	7/8	7/8
15 1/2 3/8 45°	1/2	9,2	3/8 NPTF	20	13	32	28,7	13/16	13/16
15 1/2 1/2 45°	1/2	9,2	1/2 NPTF	20	17	36,5	28,7	7/8	7/8

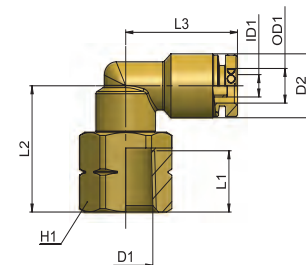


PT 17

可调向内螺纹直角接头

Swivelling elbow fitting, female

类型	OD1	ID1	D1	D2	L1	L2	L3	H1	g $\Delta$
17 5/32 1/8	5/32	2,2	1/8 NPTF	9	7,5	19,7	19	9/16	22,5
17 5/32 1/4	5/32	2,2	1/4 NPTF	9	11,5	23,7	21	11/16	31,5
17 1/4 1/8	1/4	4,2	1/8 NPTF	12	7,5	19,7	23,5	9/16	25,0
17 1/4 1/4	1/4	4,2	1/4 NPTF	12	11,5	23,7	23,5	11/16	34,1
17 3/8 1/4	3/8	6,2	1/4 NPTF	16	11,5	25,5	27	11/16	47,4
17 3/8 3/8	3/8	6,2	3/8 NPTF	16	11,5	25,5	27	13/16	51,1
17 1/2 3/8	1/2	9,2	3/8 NPTF	20	11,5	28	29,7	13/16	69,1
17 1/2 1/2	1/2	9,2	1/2 NPTF	20	13,5	31	29,7	1	88,2

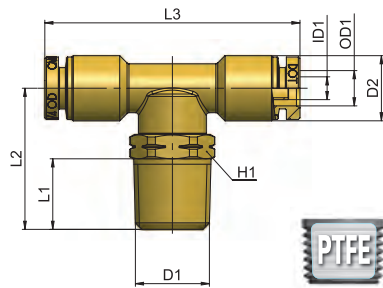


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## PT 20

可调向锥螺纹正T型三通接头

Swivelling T fitting, taper

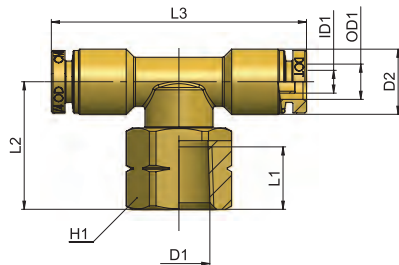


类型	OD1	ID1	D1	D2	L1	L2	L3	H1	g $\Delta\Delta$
20 5/32 1/8	5/32	2,2	1/8 NPTF	9	8,5	21,2	42	1/2	23,7
20 5/32 1/4	5/32	2,2	1/4 NPTF	9	13	26,2	42	9/16	29,0
20 1/4 1/8	1/4	4,2	1/8 NPTF	12	8,5	21,2	47	1/2	28,8
20 1/4 1/4	1/4	4,2	1/4 NPTF	12	13	26,2	47	9/16	33,6
20 1/4 3/8	1/4	4,2	3/8 NPTF	12	13	26,7	47	11/16	40,2
20 3/8 1/8	3/8	6,2	1/8 NPTF	16	8,5	24	54	11/16	57,4
20 3/8 1/4	3/8	6,2	1/4 NPTF	16	13	28,5	54	11/16	59,8
20 3/8 3/8	3/8	6,2	3/8 NPTF	16	13	28,5	54	11/16	61,2
20 3/8 1/2	3/8	6,2	1/2 NPTF	16	17	34	54	7/8	61,2
20 1/2 1/4	1/2	9,2	1/4 NPTF	20	13	32	59,4	13/16	95,6
20 1/2 3/8	1/2	9,2	3/8 NPTF	20	13	32	59,4	13/16	90,3
20 1/2 1/2	1/2	9,2	1/2 NPTF	20	17	36,5	59,4	7/8	103,0

## PT 20-F

可调向正T型内螺纹接头

Swivelling T fitting, female

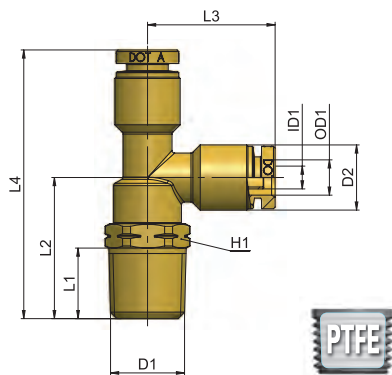


类型	OD1	ID1	D1	D2	L1	L2	L3	H1	g $\Delta\Delta$
20 1/4 1/4 F	1/4	4,2	1/4 NPTF	12	11,5	23,7	47	11/16	41,8
20 3/8 1/4 F	3/8	6,2	1/4 NPTF	16	11,5	25,5	54	11/16	62,9
20 3/8 3/8 F	3/8	6,2	3/8 NPTF	16	11,5	25,5	54	13/16	66,7
20 1/2 3/8 F	1/2	9,2	3/8 NPTF	20	11,5	28	59,4	13/16	91,8
20 1/2 1/2 F	1/2	9,2	1/2 NPTF	20	13,5	31	59,4	1	110,5

## PT 23

锥螺纹直T型三通接头

Lateral run T fitting, taper

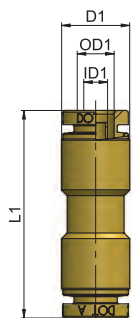


类型	OD1	ID1	D1	D2	L1	L2	L3	L4	H1	g $\Delta\Delta$
23 5/32 1/8	5/32	2,2	1/8 NPTF	9	8,5	21,2	21	42	1/2	24,1
23 5/32 1/4	5/32	2,2	1/4 NPTF	9	13	26,2	21	47	9/16	29,5
23 1/4 1/8	1/4	4,2	1/8 NPTF	12	8,5	21,2	23,5	44,5	1/2	29,1
23 1/4 1/4	1/4	4,2	1/4 NPTF	12	13	26,2	23,5	49,5	9/16	33,8
23 1/4 3/8	1/4	4,2	3/8 NPTF	12	13	26,7	23,5	50	11/16	40,6
23 3/8 1/4	3/8	6,2	1/4 NPTF	16	13	28,5	27	55,5	11/16	54,5
23 3/8 3/8	3/8	6,2	3/8 NPTF	16	13	28,5	27	55,5	11/16	61,0
23 3/8 1/2	3/8	6,2	1/2 NPTF	16	17	34	27	61	7/8	80,5
23 1/2 1/4	1/2	9,2	1/4 NPTF	20	13	32	29,7	61,7	13/16	95,4
23 1/2 3/8	1/2	9,2	3/8 NPTF	20	13	32	29,7	61,7	13/16	91,1
23 1/2 1/2	1/2	9,2	1/2 NPTF	20	17	36,5	29,7	66,2	7/8	103,5

## PT 26

对接接头

Union



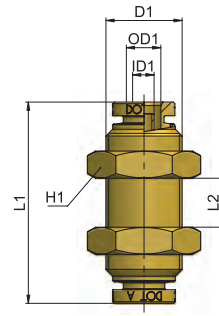
类型	OD1	ID1	D1	L1	g $\Delta\Delta$
26 5/32 5/32	5/32	2,2	9	31	8,5
26 1/4 1/4	1/4	4,2	12	33,6	15,9
26 3/8 3/8	3/8	6,2	16	38,6	31,5
26 1/2 1/2	1/2	9,2	20	43,4	91,1
26 5/8 5/8	5/8	11	24	52	77,4
26 3/4 3/4	3/4	14,2	28	57	101,0

PT 27

穿板对接接头

Bulkhead union

类型	OD1	ID1	D1	L1	L2	H1	g	△
27 5/32 5/32	5/32	2,2	M12x1	31	14,5	18		25,0
27 1/4 1/4	1/4	4,2	M14x1	37	14,5	18		34,5
27 3/8 3/8	3/8	6,2	M18x1	41	17,5	22		60,1
27 1/2 1/2	1/2	9,2	M22x1,5	43,4	18,5	26		84,2
27 5/8 5/8	5/8	11	M26x1,5	52	22	32		151,5

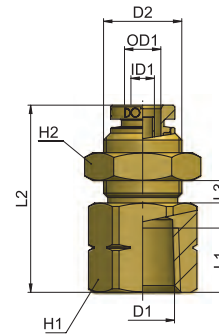


PT 27-F

内螺纹穿板接头

Bulkhead union female

类型	OD1	ID1	D1	D2	L1	L2	L3	H1	H2	g	△
27 5/32 1/4 F 5/32	2,2	1/4 NPTF	M12x1	11,5	31	7	11/16	16	32,2		
27 1/4 1/8 F 1/4	4,2	1/8 NPTF	M14x1	7,5	28,5	8	11/16	18	34,7		
27 1/4 1/4 F 1/4	4,2	1/4 NPTF	M14x1	11,5	33,5	8	11/16	18	37,7		
27 3/8 1/4 F 3/8	6,2	1/4 NPTF	M18x1	11,5	35	10	7/8	22	67,9		
27 3/8 3/8 F 3/8	6,2	3/8 NPTF	M18x1	11,5	36	10	7/8	22	61,8		
27 3/8 1/2 F 3/8	6,2	1/2 NPTF	M18x1	13,5	39	10	1	22	75,1		
27 1/2 3/8 F 1/2	9,2	3/8 NPTF	M22x1,5	11,5	37,2	12	1	24	89,0		
27 1/2 1/2 F 1/2	9,2	1/2 NPTF	M22x1,5	13,5	40,2	12	1	24	85,2		

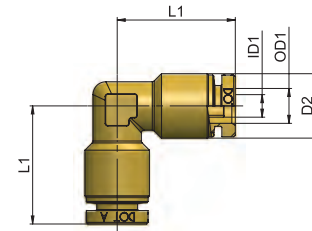


PT 28

直角对接接头

Union elbow

类型	OD1	ID1	D2	L1	g	△
28 5/32 5/32	5/32	2,2	9	19		10,4
28 1/4 1/4	1/4	4,2	12	22		18,1
28 3/8 3/8	3/8	6,2	16	26		38,2
28 1/2 1/2	1/2	9,2	20	28,2		61,3
28 5/8 5/8	5/8	11	24	35,5		103,2

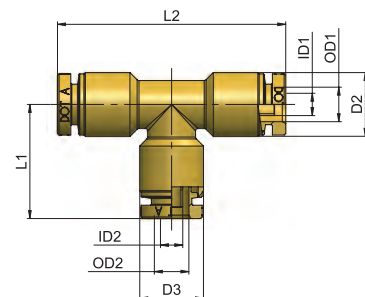


PT 29

正T型三通对接接头

Union T

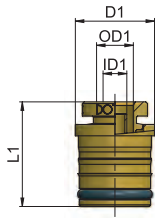
类型	OD1	ID1	OD2	ID2	D2	D3	L1	L2	g	△
29 5/32 5/32	5/32	2,2	5/32	2,2	9	9	19	38		14,9
29 1/4 1/4	1/4	4,2	1/4	4,2	12	12	21,5	43		25,0
29 3/8 3/8	3/8	6,2	3/8	6,2	16	16	25,5	51		52,5
29 3/8 1/4	3/8	6,2	1/4	4,2	16	12	24	51		47,1
29 1/2 1/2	1/2	9,2	1/2	9,2	20	20	27	56,4		83,6
29 1/2 1/4	1/2	9,2	1/4	4,2	20	12	26	56,4		74,4
29 1/2 3/8	1/2	9,2	3/8	6,2	20	16	28	56,4		80,0
29 5/8 5/8	5/8	11	5/8	11	24	24	35,5	71		144,9



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## 埋入式接头

PT 10埋入接头是Cmatic专为需要紧凑空间的应用而开发的产品方案，根据SAE J2494-4标准，可以安装在铝 T6061材质的基座上。其他材质基座，需要调整埋入孔尺寸，以使管路，埋入接头和基座的安装配合能够符合SAE J1131和SAE J2494-3的适用性测试。



## Press-in cartridge

PT10 is Cmatic push in cartridge solution developed for applications where compactness is required and designed to be installed into Aluminum T6061 cavities according to SAE J2494-4 Standard. Cavities made from materials other than T6061 T6 SHALL be adjusted dimensionally so that when installed the tube/cartridge/cavity assembly will pass the applicable tests in SAE J1131 and SAE J2494-3.

类型	OD1	ID1	D1	L1	g Δ
10 5/32 00	5/32	2,2	10	17,2	5,0
10 1/4 00	1/4	4,2	14	18,5	11,1
10 3/8 00	3/8	6,2	17,8	22,3	21,9

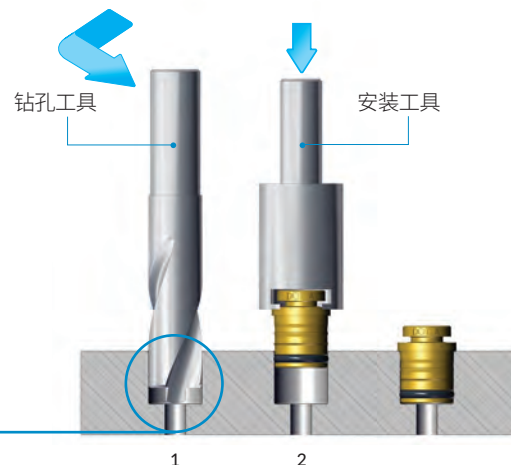
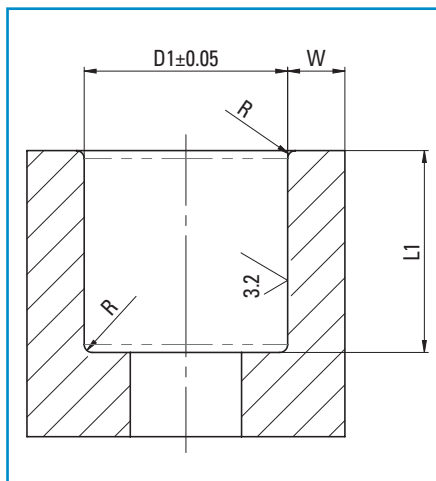
### 埋入孔尺寸依据SAE J2494-4标准要求

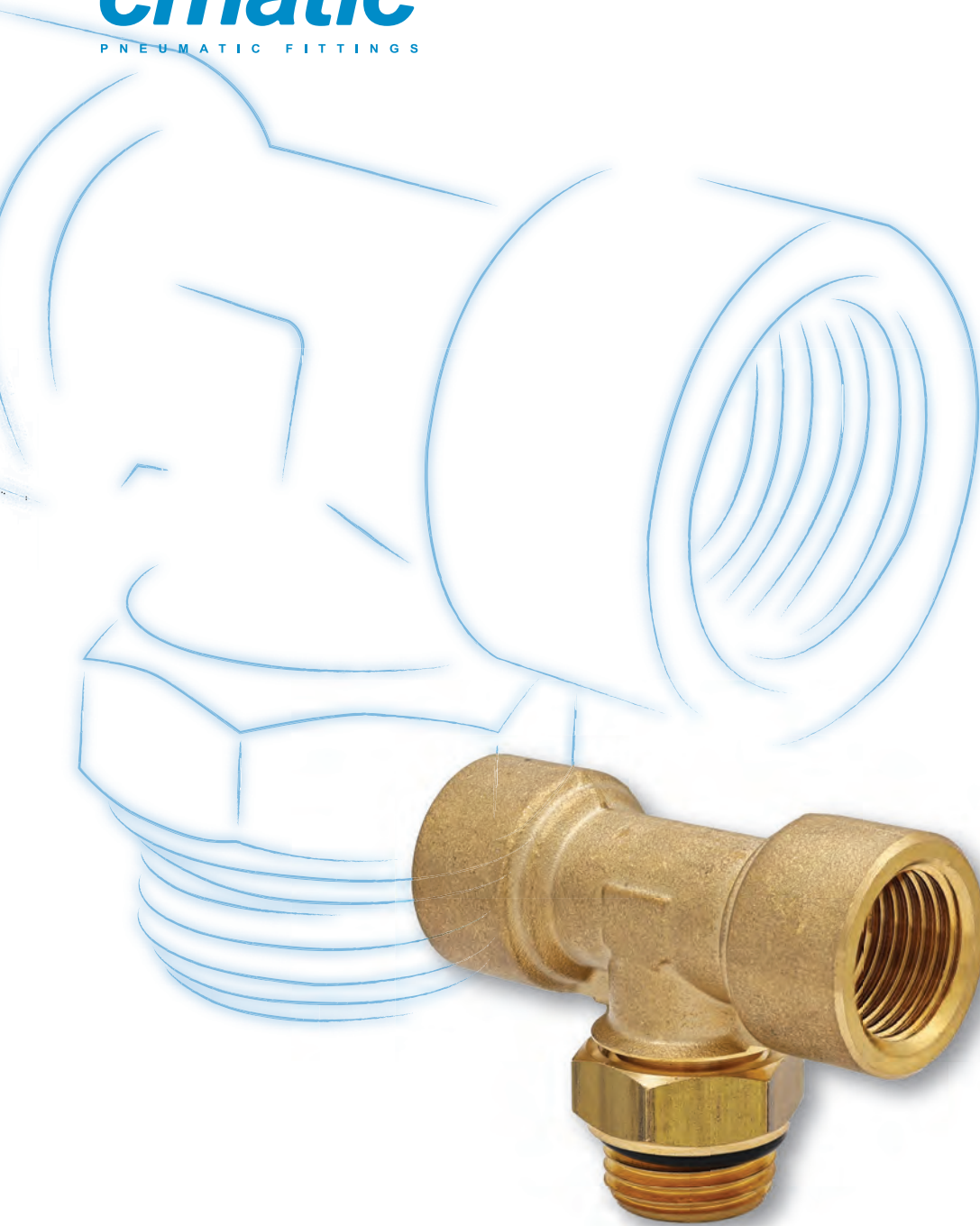
- 1 请依照给出的指导说明来进行埋入孔加工。
  - 2 在把埋入接头压入埋入孔前，需要在其外部O型圈上涂抹润滑油
  - 3 手动将接头按压入埋入孔，再使用埋入工具进行压装，直至底部，这样就确保了正确安装
- 可以根据需要提供钻孔和安装工具

### Cartridge cavity size according to SAE J2494-4

- 1 Drill the cartridge seat, following the instructions given.
  - 2 Before insert the cartridge into the cavity please apply some lubricant on the external cartridge O-ring.
  - 3 Manually press the cartridge into the seat and by means of the Assembly tool push it all the way down until it bottoms; this will guarantee the proper cartridge assembly.
- "Drilling and Assembly Tool "available upon request.

OD 管径	D1	L1	W	R
5/32"	8,8	11,4	2	0,5
1/4"	12,8	12,7	2	0,5
3/8"	16,5	16,5	2	0,5





## RT LINE



CN

EN

### 工业与商用车辆标准管接头

RT系列标准管接头(亦称“附件系列”)采用黄铜材质制造,包含直通接头、异径接头、三通接头、弯头等多种型号,专为补充MT系列产品而开发。

所有RT接头均通过TÜV认证,符合DIN 74324:1996、DIN EN ISO 9227:2017及60068-2-6:2008标准规范。

### Standard Fittings for industrial and commercial vehicles

The standard fittings of the RT line, also known as “Accessory line”, are made of brass. RT line consists of nipples, reductions, Tees, L fittings just to name a few and it is developed to complement the MT line.

All RT fittings are TÜV certified according to DIN 74324: 1996, DIN EN ISO 9227: 2017 and 60068-2-6: 2008.

# RT Line

1 本体  
Body

镀镍黄铜 UNI EN 12164 CW614N - UNI EN 12165 CW617N  
Brass UNI EN 12164 CW614N - UNI EN 12165 CW617N

2 密封圈  
Seals

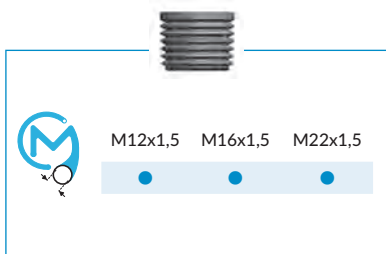
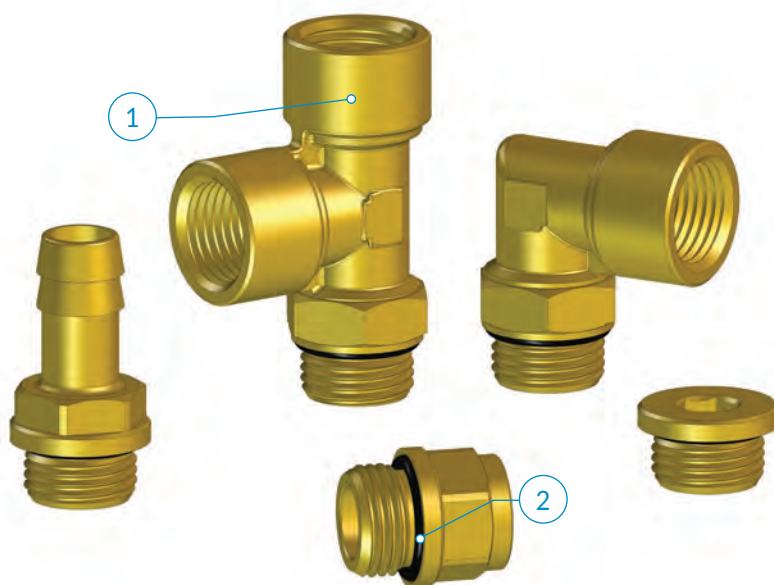
NBR  
NBR



-50° ÷ 100°C



16 bar



**应用领域:**  
商用和工业交通车辆的刹车系统。

**Application fields:**  
Air Brake Systems on Commercial and Industrial Vehicles.

**拧紧力矩**  
RT系列的拧紧力矩, 请参看No.342页相关数据

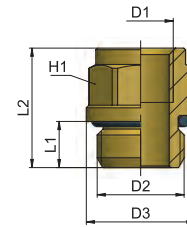
**Tightening Torque Forces**  
As for RT *Tightening Torque Forces* please refer to the data at page 342.

RT 15

内外直螺纹减径接头

Female-Male reducing connector, parallel

类型	D1	D2	D3	L1	L2	H1	g	$\Delta$
15 M12x1,5 M16x1,5	M12x1,5	M16x1,5	20	8,5	22	17	22,7	
15 M12x1,5 M22x1,5	M12x1,5	M22x1,5	25,5	8,5	17,5	17	34,4	
15 M16x1,5 M22x1,5	M16x1,5	M22x1,5	25,5	8,5	17,5	21	28,7	

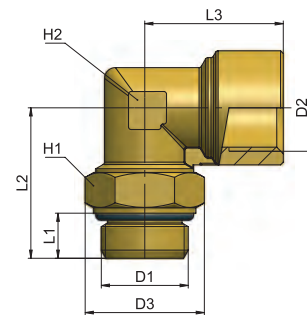


RT 22

内外螺纹直角转接头

Male-female elbow

类型	D1	D2	D3	L1	L2	L3	H1	H2	g	$\Delta$
22 M16x1,5 M16x1,5 M16x1,5	M16x1,5	22	8,3	27,7	25,5	19	15	58,5		
22 M16x1,5 M22x1,5 M22x1,5	M16x1,5	31,2	8,1	27,3	25,5	27	15	79,0		
22 M22x1,5 M22x1,5 M22x1,5	M22x1,5	31,2	8,1	30,5	30,5	27	19	111,2		

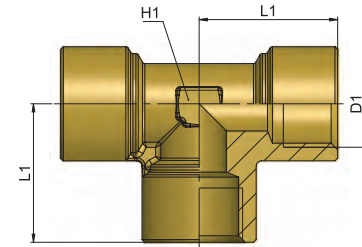


RT 23

内螺纹T型转接头

Female T

类型	D1	L1	H1	g	$\Delta$
23 M16x1,5 M16x1,5	M16x1,5	25,5	15	82,5	
23 M22x1,5 M22x1,5	M22x1,5	30,5	19	143,9	

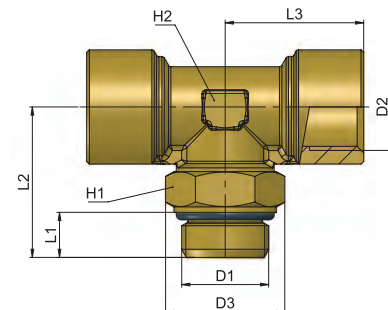


RT 24

内外螺纹正T型转接头

Male-female stud T

类型	D1	D2	D3	L1	L2	L3	H1	H2	g	$\Delta$
24 M12x1,5 M16x1,5	M12x1,5	M16x1,5	17,3	8,3	26,7	25,5	15	15	76,9	
24 M16x1,5 M16x1,5	M16x1,5	M16x1,5	22	8,3	27,7	25,5	19	15	81,9	
24 M16x1,5 M22x1,5	M22x1,5	M16x1,5	31,2	8,1	27,6	25,5	27	15	102,6	
24 M22x1,5 M22x1,5	M22x1,5	M22x1,5	31,2	8,1	30,5	30,5	27	19	150,1	

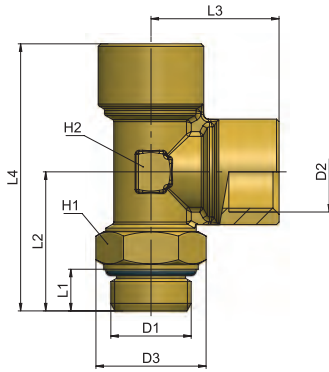


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

## RT 25

内外螺纹直T型转接头

Male-Female, lateral T

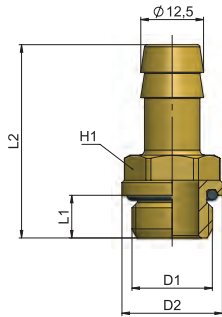


类型	D1	D2	D3	L1	L2	L3	L4	H1	H2	g $\Delta$
25 M12x1,5 M16x1,5	M12x1,5	M16x1,5	17,3	8,3	26,7	25,5	52,2	15	15	76,2
25 M16x1,5 M16x1,5	M16x1,5	M16x1,5	22	8,3	27,3	25,5	52,8	19	15	82,2
25 M16x1,5 M22x1,5	M22x1,5	M16x1,5	31,2	8,1	27,6	25,5	53,1	27	15	104,2
25 M22x1,5 M22x1,5	M22x1,5	M22x1,5	31,2	8,1	30,5	30,5	61	27	19	150,7

## RT 30

宝塔接头

Hose connector

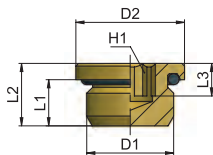


类型	D1	D2	L1	L2	H1	g $\Delta$
30 12,5 M16x1,5	M16x1,5	20	8,5	38,5	17	25,2
30 12,5 M22x1,5	M22x1,5	25,5	8,5	38,5	17	37,1

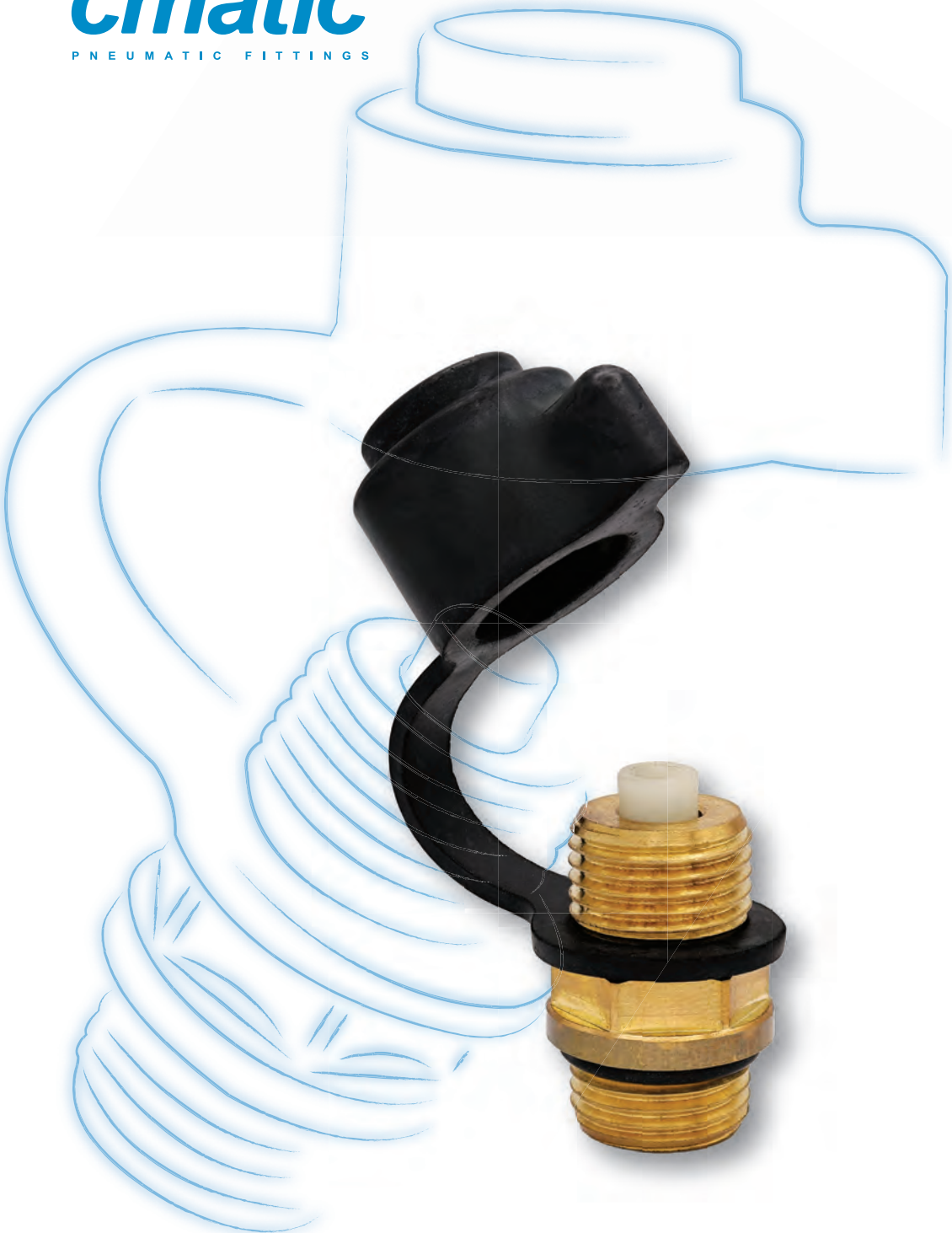
## RT 46

带o型圈外螺纹堵头

Male plug with oring



类型	D1	D2	L1	L2	L3	H1	g $\Delta$
46 00 M12x1,5	M12x1,5	15	8,5	11,5	6	6	8,4
46 00 M16x1,5	M16x1,5	20	8,5	11,5	6	8	15,4
46 00 M22x1,5	M22x1,5	25,5	8,5	11,5	7	12	26,5



## VT LINE



CN

工业与商用车辆功能接头  
该系列功能接头是应用于交通车辆行业的MT和RT产品的补充

EN

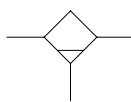
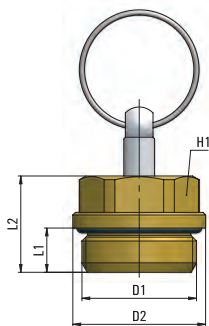
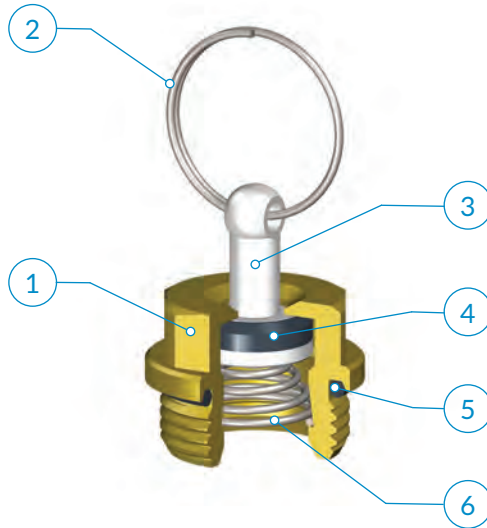
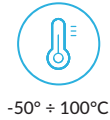
Function Fittings for industrial and commercial vehicles  
Function fittings to complement the MT and RT lines for the transportation industry.

# VT 90

排水阀

Drain valve

- |   |  |   |   |   |  |
|---|--|---|---|---|--|
| <p>1 本体<br/>Body</p> <p>黄铜UNI EN 12164 CW614N<br/>Brass UNI EN 12164 CW614N</p> | <p>2 拉环<br/>Flat ring</p> <p>AISI302<br/>AISI302</p> | <p>3 活塞<br/>Piston</p> <p>PA66<br/>PA66</p> | <p>4 扁平密封圈<br/>Flat seal</p> <p>NBR (低温型)<br/>NBR (low temperature)</p> | <p>5 密封圈<br/>Seals</p> <p>NBR (低温型)<br/>NBR (low temperature)</p> | <p>6 弹簧<br/>Spring</p> <p>AISI 302不锈钢<br/>Stainless steel AISI 302</p> |
|---|--|---|---|---|--|



类型	D1	D2	L1	L2	H1	g
90 00 M22x1,5	M22x1,5	25,5	8,5	18,5	21	36,8

**应用领域:**  
商用和工业车辆的刹车系统

**拧紧力矩**  
VT系列拧紧力矩, 请参考第342页数据

**规范**  
符合DIN 74324

**Application fields:**  
Air Brake Systems on Commercial and Industrial Vehicles.

**Tightening Torque Forces**  
As for VT Tightening Torque Forces please refer to the data at page 342.

**Certification**  
VT90 is certified according to DIN 74324.

# VT 91

测压接头

Pressure test point

- 1** 本体  
Body

黄铜UNI EN 12164 CW614N  
Brass UNI EN 12164 CW614N
- 2** 密封圈  
Seals

NBR (低温型)  
NBR (low temperature)
- 3** 弹簧  
Spring

AISI 302不锈钢  
Stainless steel AISI 302
- 4** 活塞  
Piston

PA66  
PA66
- 5** 保护罩  
Protection cap

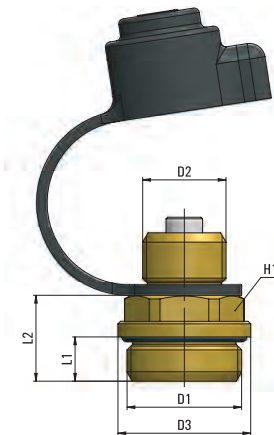
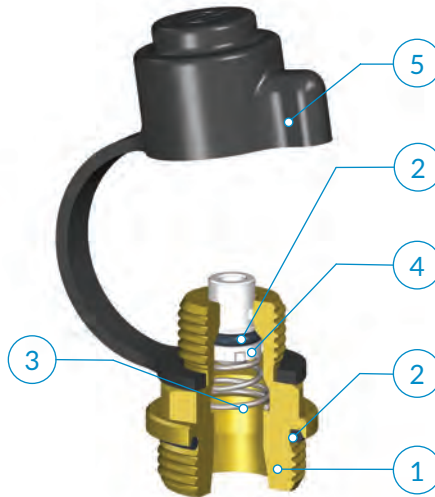
NBR (低温型)  
NBR (low temperature)



-50° ÷ 100°C



16 bar



类型	D1	D2	D3	L1	L2	H1	g $\Delta$
91 00 M16x1,5	M16x1,5	M16x1,5	20	8,5	16,5	17	32,9
91 00 M22x1,5	M22x1,5	M16x1,5	25,5	8,5	16,5	21	55,0



**应用领域:**  
商用和工业车辆的刹车系统

**Application fields:**  
Air Brake Systems on Commercial and Industrial Vehicles.

**拧紧力矩:**  
VT系列拧紧力矩, 请参考第342页数据

**Tightening Torque Forces**  
As for VT Tightening Torque Forces please refer to the data at page 342.

**规范**  
符合ISO 3583

**Certification**  
VT91 is certified according to ISO 3583.



*cmatic*



## QO LINE



CN

EN

### 350 bar 液压用快插接头

专为350bar工作压力设计与测试的插入式管接头。其紧凑创新型设计可在狭窄的阀块空间及复杂装配工况下实现安全快速的简便安装，且无需借助工具。接头与堵头之间的液压密封通过外置O型圈实现，该设计使接头在O型圈损坏或磨损时可直接更换，极大提升了可维护性。

### Push-in Fittings for Hydraulics, 350 bar

Push-in fittings designed and tested to guarantee a working pressure of 350 bar. The compact, innovative design allows for safe, quick and easy assemblies with no need for assembly tools on reduced manifold spaces as well as during difficult assembly operations. The hydraulic tightness between the fitting and the plug is guaranteed by an oring outside of the fitting itself. This feature enables the fitting serviceability in case of oring damage or wear out.

# QO Line

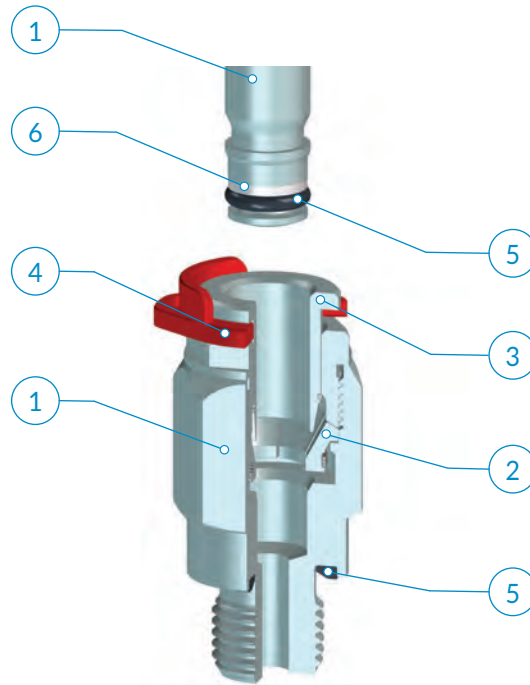
- 1 本体  
Body

镀锌钢 11SMnPb37  
Zinc plated steel 11SMnPb37
- 2 卡爪  
Gripping ring
- 3 释放环  
Release ring
- 4 安全环  
Safety ring

PA66
- 5 密封圈  
Seals

NBR 90 Sh
- 6 支撑环  
Backup ring

PTFE



		G1/4	G3/8	G1/2	G3/4	7/16-20	9/16-18	3/4-16	11/16-12	M14x1,5	M16x1,5	M18x1,5	M20x1,5
	D	●				●				●			
	A		●				●				●		
	S			●				●				●	
	H*				●				●				●

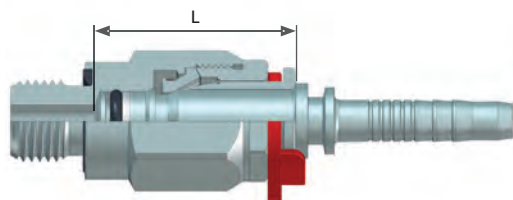
\*Dash = 1/16"

**建议的连接管路:**  
带强化编织层的耐油合成橡胶管路;用于固定端管的套箍取决于管路类型。

**Recommended tubings:**  
Synthetic oil-resistant rubber hose with braids reinforcement; the ferrule for the hose terminal will depend on the hose type.

**应用领域:**  
液压系统

**Application fields:**  
Hydraulics.



Plug-in DN Dash	L
4	31
6	33,5
8	37,5
12	42

安装说明

ASSEMBLY INSTRUCTIONS

- 1 确认端管上正确装有支撑环和密封圈，并已正确润滑。
- 2 将端管插入接头内，并推至底部，并确认安全环位于释放环下方。

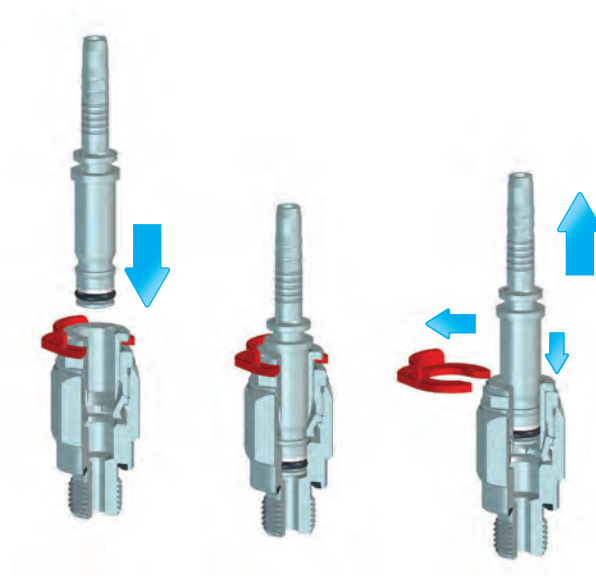
- 1 Make sure that the back up ring and the tightness ring are assembled and duly greased on the straight hose connection.
- 2 Push the straight hose connection all the way into the fitting until it bottoms; the hose connection can be assembled also if the safety ring is in place under the release ring.

抽取管路

Tube release

- 3 取下释放环下方的的安全环；
- 4 垂直按压释放环，同时将端管从接头中拔出。

- 3 Remove the safety ring under the release ring
- 4 Press the release ring and pull the hose connection out of the fitting.



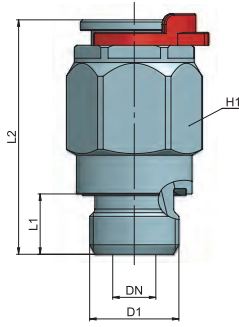
**!** 完成连接后，请确保管路上不承受外力；此外，请确保管路连接的最小弯曲半径符合本样册第376页之规定。为了避免管路接头因为释放环意外受力而断开，工作过程中必须确保安全环总是在正确的位置上。安全环连接有一条固定缆线。安全环套件可单独购买，其中包含固定缆线。螺纹拧紧时，请参考第10页列出的建议扭矩。

**!** Once the tubing is connected to the fitting, make sure that the tubing is not subject to any tensile strength and that the min. recommended bending radius stated in the tubing section of this catalogue is complied with (see page 376). In order to prevent an involuntary hose disconnection due to an accidental pressure on the fitting release ring, make sure that the safety ring is always in place when the fitting is pressurized. The safety ring shape allows for a fixing wire to be connected. A KIT is also available and it contains the safety ring pre-assembled with the fixing wire. To tighten threads, please check out our tightening torque chart illustrated at page 10.

## QO 12 - BSPP

BSPP螺纹直管快插接头

Straight push-in fitting, BSPP thread



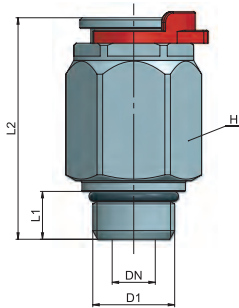
类型	DN Dash	D1	L1	L2	H1	g $\Delta$
12 04 G1/4	04	G1/4	12	46	20	60,9
12 06 G3/8	06	G3/8	12	48	24	85,5
12 08 G1/2	08	G1/2	14	54,4	28	128,7
12 12 G3/4	12	G3/4	16	62,1	38	231,5

BSPP (ISO 1179-2)

## QO 12 - UNF

UNF螺纹直管快插接头

Straight push-in fitting, UNF thread



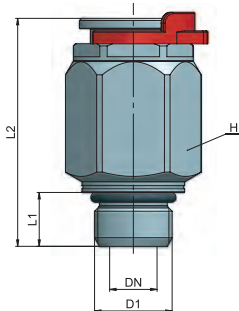
类型	DN Dash	D1	L1	L2	H1	g $\Delta$
12 04 7/16 UNF ORB	04	7/16-20 UNF	9,1	42,6	20	57,1
12 06 9/16 UNF ORB	06	9/16-18 UNF	10	45,3	24	81,4
12 08 3/4-16 UNF ORB	08	3/4-16 UNF	11,1	51,4	28	125,6
12 12 1-1/16 UN ORB	12	1 1/16-12 UN	15,1	60,6	38	252,7

SAE Oring Boss - UNF Stud (ISO 11926-3)

## QO 12

公制螺纹直管快插接头

Straight push-in fitting, metric



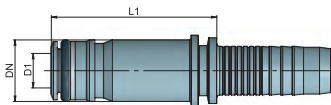
类型	DN Dash	D1	L1	L2	H1	g $\Delta$
12 04 M14x1,5	04	M14x1,5	11	44	20	36,8
12 06 M16x1,5	06	M16x1,5	11,5	46,7	24	84,7
12 08 M18x1,5	08	M18x1,5	12,5	52,9	28	79,3
12 12 M22x1,5	12	M22x1,5	13	60,1	38	237,0

Metric Stud (ISO 6149-3)

## QO 90

软管直接头

Hose connection, straight



类型	DN Dash	D1 (inch)	D1 (mm)	L1 (mm)	g $\Delta$
90 04 1/4	04	1/4	6,2	38,2	21,6
90 06 3/8	06	3/8	9,5	40,3	38,2
90 08 1/2	08	1/2	12,9	45,6	64,3
90 12 3/4	12	3/4	19	52,1	132,5

表面镀锌处理11SMnPb37 - Body in Hardened Zinc plated steel 11SMnPb37



初次安装时, 请确保插头上的O型圈被充分润滑。



During the first assembly, make sure that the oring on the plug is well lubricated/greased.

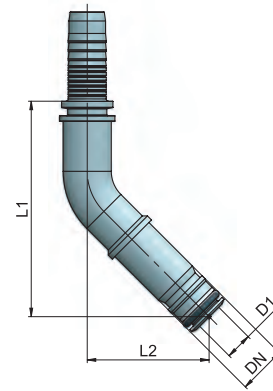
QO 91

45°软管接头

45° hose connection

类型	DN Dash	D1 (inch)	D1 (mm)	L1 (mm)	L2 (mm)	g $\Delta$
91 04 1/4	04	1/4	6,2	62,2	37,6	41,7
91 06 3/8	06	3/8	9,5	67,6	40,3	72,3
91 08 1/2	08	1/2	12,9	76	43	122,2
91 12 3/4	12	3/4	19	97,5	56,4	275,0

表面镀锌处理11SMnPb37 - Body in Hardened Zinc plated steel 11SMnPb37



初次安装时, 请确保插头上的o型圈被充分润滑。



During the first assembly, make sure that the oring on the plug is well lubricated/greased.

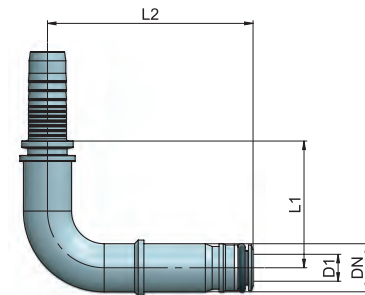
QO 92

90°软管接头

90° hose connection

类型	DN Dash	D1 (inch)	D1 (mm)	L1 (mm)	L2 (mm)	g $\Delta$
92 04 1/4	04	1/4	6,2	33,3	62	47,6
92 06 3/8	06	3/8	9,5	37,9	67,5	82,2
92 08 1/2	08	1/2	12,9	44,7	72,5	141,3
92 12 3/4	12	3/4	19	59,8	98,5	327,0

表面镀锌处理11SMnPb37 - Body in Hardened Zinc plated steel 11SMnPb37



初次安装时, 请确保插头上的o型圈被充分润滑。



During the first assembly, make sure that the oring on the plug is well lubricated/greased.

SAFETY KIT

类型

SAFETY KIT DASH 04

SAFETY KIT DASH 06

SAFETY KIT DASH 08

SAFETY KIT DASH 12

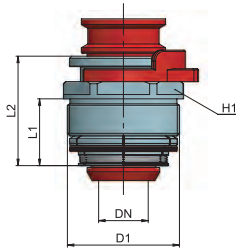


AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299

# QO 10

## 埋入式接头

QO10埋入接头是解决空间狭窄的优异方案，紧凑的产品设计，使得它安装在阀组模板上几乎不占空间。



## Push-in cartridge fitting

The QO10 cartridge is the right solution in case of lack of space; the compact design allows for the assembly of the cartridge in such a way that it almost completely disappears once assembled in its own body (manifolds, valves etc).

Type	DN Dash	D1	L1	L2	H1	g
10 04 00	04	M18x1	13,2	21,7	17	21,9
10 06 00	06	M22x1	14	23,2	21	32,3
10 08 00	08	M26x1	15,5	25,4	25	47,3
10 12 00	12	M34x1	18,4	27,8	32	81,0

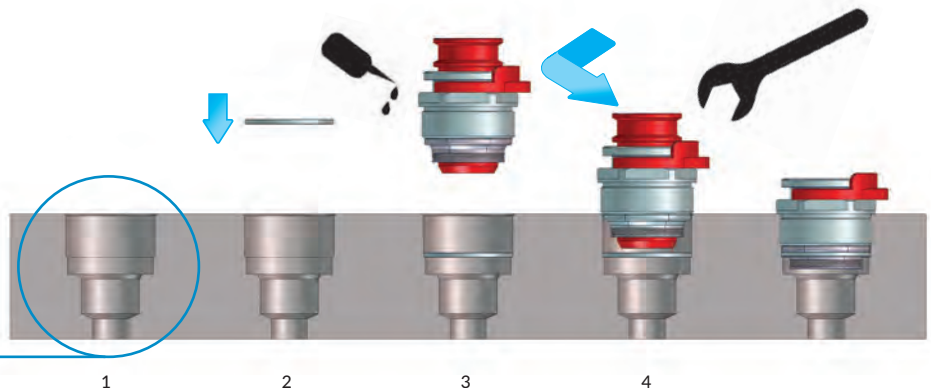
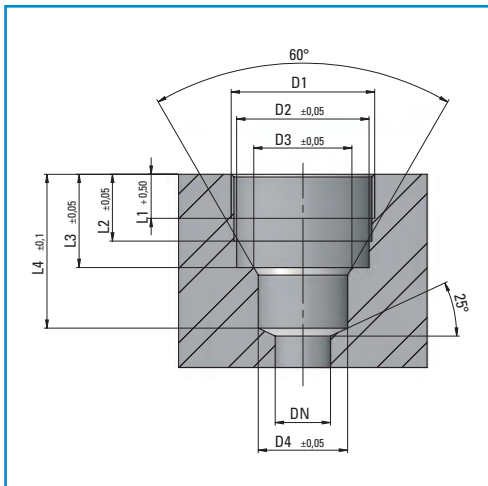
## 钻孔示意图

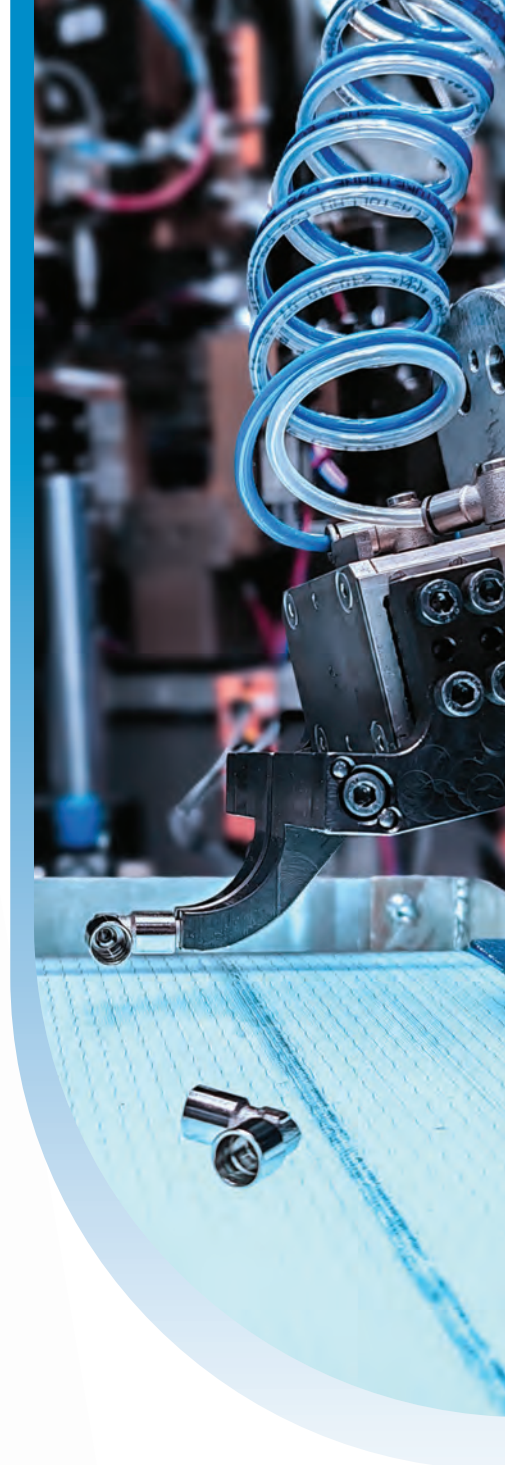
- 按照尺寸图加工埋入孔基座；
- 如图所示，将埋入接头垫片放置到基座底部；
- 在埋入接头螺纹上涂抹一薄层螺纹锁固剂；
- 将埋入接头拧入基座底部，确保到底。

## Cartridge seat drilling plan

- Machine the cartridge seating according to the drawing stated below;
- Place at the bottom of the seating the distance ring provided with the cartridge, as shown in the picture;
- Apply a light layer of threadlocking sealant on the cartridge thread;
- Screw the cartridge all the way into its seating until it bottoms.

DN (Dash)	D1	D2	D3	D4	L1	L2	L3	L4
04	M18x1	16,2	10,8	9,4	8	10,6	14,4	23,1
06	M22x1	20	14	12,25	8,5	11	15,3	24,3
08	M26x1	24	17,8	16,2	9	12,1	16,9	27,9
12	M34x1	32,2	25	23	12	15	20,6	32,6





# TOOLS

IT

工具

EN

Tools

# TCUT

切管刀

Hose cutter

1 本体  
Body

PA66 - 50% FV

2 刀片  
Blade

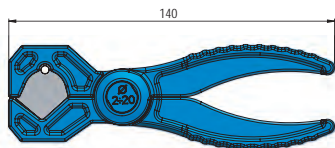
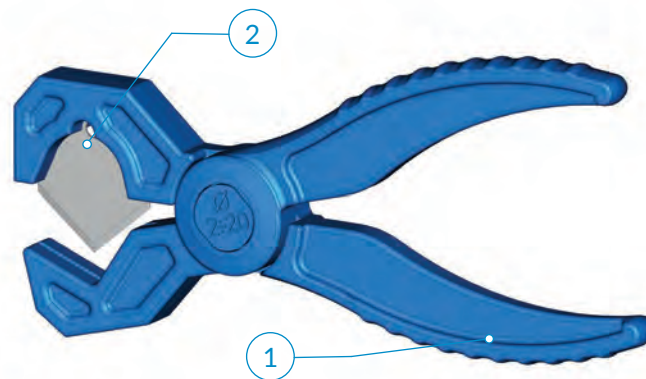
碳素钢C125



-20°C ÷ 50°C



Ø2 ÷ Ø20 mm



类型

管径 $\varnothing_e$

g  $\Delta$

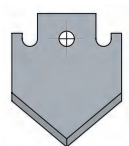
TCUT0001

$\varnothing$  2-20

43,8

备用刀片

Spare Blades



类型

管径 $\varnothing_e$

g  $\Delta$

TCUT0101

$\varnothing$  2-20

2,1

# TGUN

气枪

Air blow gun

1 本体  
Body

POM  
POM

2 弹簧  
Spring

AISI 302 不锈钢  
Stainless steel AISI 302

3 密封圈  
Seals

NBR  
NBR

4 枪管  
Tube

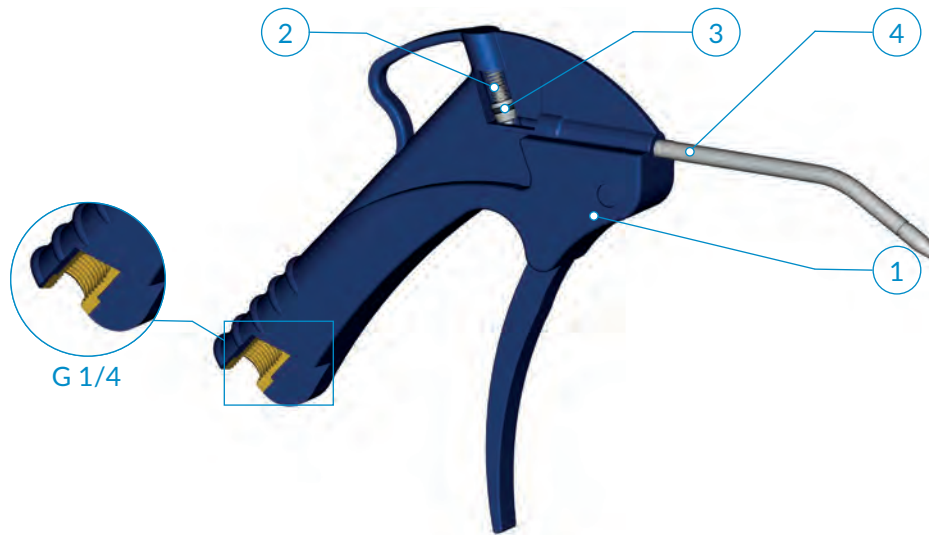
AISI 304 不锈钢  
Stainless steel AISI 304



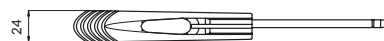
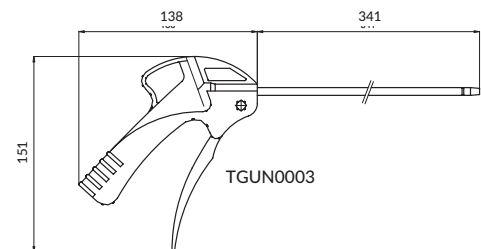
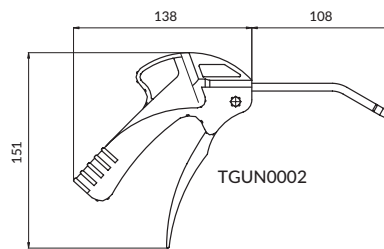
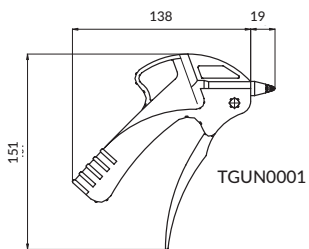
-10° ÷ 70°C

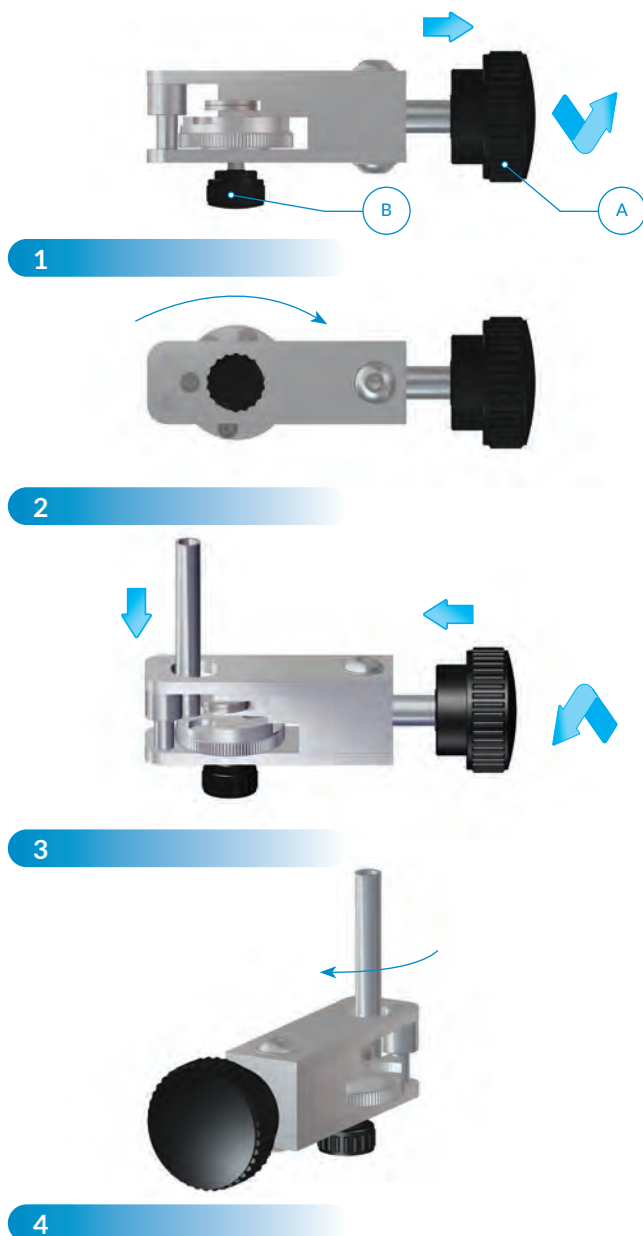


10 bar



类型	dB (6 bar)	g
TGUN0001	75,1	91,5
TGUN0002	79,5	114,5
TGUN0003	79,2	155,0





## **i** 使用说明

1

松开旋钮 (A)，将切刀刀片完全退回。

2

松开旋钮 (B)，旋转编号盘，选择需要切割的管路的尺寸。选择完毕后，将旋钮 (B) 拧紧，固定尺寸。

3

将需要切割的管路放入专门的孔中，架在两个内部辊轴上，推向底部；拧紧旋钮 (A)，将刀片推向管路，正确拧紧旋钮 (A)，从而在管路表面切割。

4

握住管路一侧，围绕管路旋转开槽工具，直到获得所需切口。

## INSTRUCTIONS FOR USE

1

Pull back the tool blade by loosening the knob (A).

2

Untighten the knob (B) and turn the numbered wheel to select the desired tube size. Once the tube size is selected, firmly tighten the knob (B) until the desired tubing size is blocked.

3

Insert the tubing into the hole, all the way down through the internal wheels, until it bottoms; tighten the knob (A) until the blade is against the tubing and keep turning the knob firmly in order to groove the surface of the tubing.

4

Hold the tubing tight and make the tool turn all around the tubing as many times as the desired groove on the tubing is achieved.

# TOOLS

Tool

## DRILLING TOOL

转孔工具

Drilling tool

类型	Line	Ø Tube	g $\Delta$
TOOL0001	MA-MB	4 - 5/32	91,8
TOOL0002	MA-MB	6	110,0
TOOL0003	MA-MB	8 - 5/16	114,7
TOOL0004	MA-MB	10	133,7
TOOL0005	PN	1/4	104,5
TOOL0006	PN	3/8	121,0
TOOL0011	PT	5/32	-
TOOL0012	PT	1/4	-
TOOL0013	PT	3/8	-



## ASSEMBLY TOOL

安装工具

Assembly tool

类型	Line	Ø Tube	g $\Delta$
TOOL007	MA-PN	4 - 5/32	52,3
TOOL008	MA-PN	6 - 1/4	68,7
TOOL009	MA-PN	8 - 5/16	81,2
TOOL010	MA-PN	10 - 3/8	93,5



## TREL

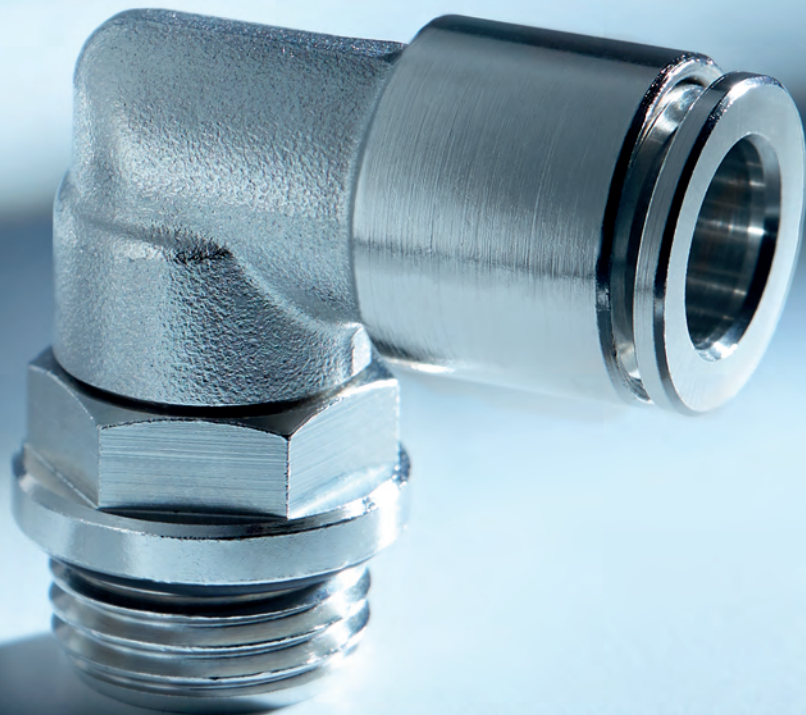
拔管工具

Tube release tool

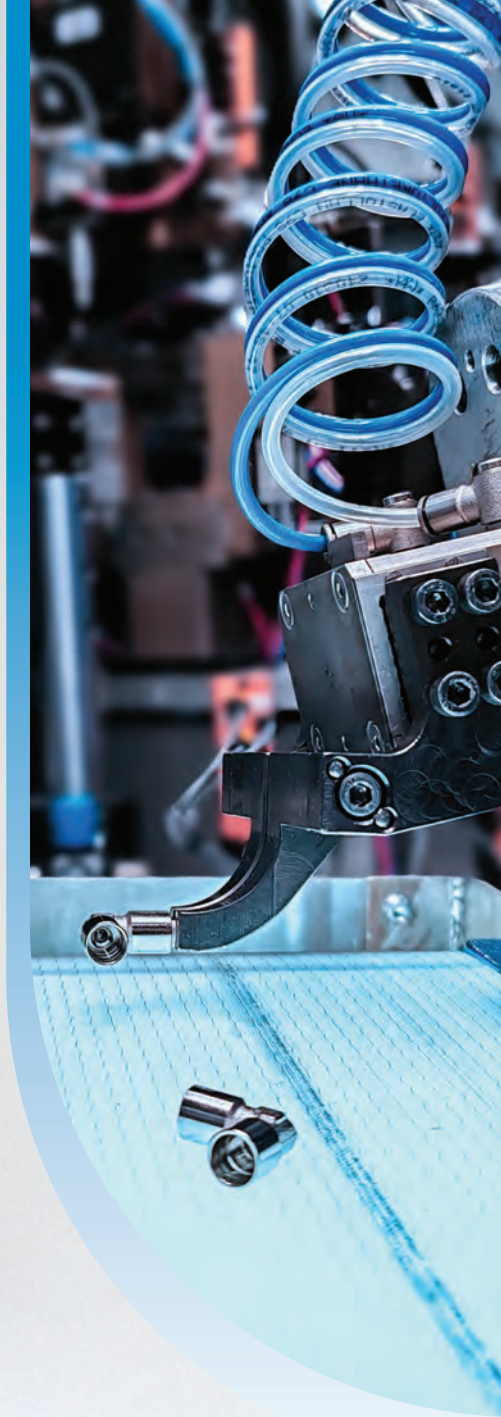
类型	Ø Tube	g $\Delta$
TREL0001	6 ÷ 12	2,4
TREL0002	15 ÷ 18	4,7



AP 55  
AR 63  
AV 221  
CO 157  
CX 255  
EV 217  
GU 119  
GU Safety 135  
GX Safety 281  
GX Safety 291  
HP 317  
MA 27  
MB 41  
MC 83  
MF 235  
MM 333  
MO 93  
MP 323  
MT 339  
MV 171  
MX 241  
MY 229  
OX 261  
PA 113  
PE 79  
PM 329  
PN 67  
PT 347  
PU 131  
PU Safety 149  
PUX 287  
PV 203  
PVX 311  
PX 249  
QO 363  
RA 101  
RF 269  
RT 355  
RX 275  
Tools 369  
Tubings 375  
VF 295  
VT 359  
VX 299



*cmatic*



# TUBINGS

IT

管路

EN

Tubings

## 聚酰胺 12 (PA12)

软管  
使用温度: da -40°C 至 +100°C  
硬度: 64 Shore D  
管路每卷100米  
可用颜色:  
自然色, 蓝色, 黄色, 红色, 绿色, 黑色

## POLYAMIDE 12 (PA12)

FLEXIBLE TUBINGS  
Working temperature: -40°C to +100°C.  
Hose Hardness: 64 Shore D  
Rolls: 100 mt.  
Colours available:  
Neutral, Blue, Yellow, Red, Green, Black

压力随温度变化的百分比%  
Pressure variation (%) in relation with temperature change

		尺寸-Sizes		重量 (gr/mt) Weight (gr/mt)	弯曲半径 (mm) Bend radius (mm)	20°C时的压力 -Pressure at 20°C	
Ø e (mm)	Ø i (mm)	工作压力-Working (bar)	爆破压力-Bursting point (bar)				
20°C	100%	* 4	2	9,9	15	49	147
40°C	85%	* 4	2,5	8	15	34	102
60°C	60%	* 5	3	13,2	20	37	111
80°C	40%	* 6	4	13,2	30	29	87
100°C	35%	* 8	6	23,1	50	21	63
		* 10	8	29,7	80	16	48
		* 10	7	42	50	23	69
		12	10	36,3	115	12	36
		* 12	9	51,9	75	21	63
		* 14	10	79,2	75	24	72
		* 15	12	66,8	115	16	48
		* 16	12	92,4	95	21	63
		* 18	14	105,6	125	18	54

(\*) 黑色管路符合DIN74324和73378规范 - Tube complies with DIN 74324 (only black colour) and 73378 regulations.

## 聚氨酯ELASTOLLAN® C98(PU)

软管  
聚氨酯管路的主要特征是极高的柔韧性, 即能够形成非常小的曲率半径。对水解和紫外线敏感, 酯基PU管路主要用于压缩空气的传输。  
使用温度: -40°C至+60°C。  
硬度: 49-55 SHORE D  
管路每卷100米。  
可用颜色: 自然色, 黄色, 绿色, 红色, 黑色, 蓝色

## POLYURETHANE ELASTOLLAN® C98(PU)

FLEXIBLE TUBINGS  
Polyurethane Elastollan C98 major feature is the high flexibility that allows for very narrow hose radius if needed by the application. All ester base PU hoses are sensitive to hydrolysis and UV rays hence primarily recommended for air compressed applications.  
Working temperature: -40°C to +60°C.  
Hose Hardness: 49-55 Shore D  
Rolls: 100 mt.  
Colours available: Neutral, Yellow, Red, Green, Black, Blue.

压力随温度变化的百分比%  
Pressure variation (%) in relation with temperature change

		尺寸-Sizes		重量 (gr/mt) Weight (gr/mt)	弯曲半径 (mm) Bend radius (mm)	20°C时的压力 -Pressure at 20°C	
Ø e (mm)	Ø i (mm)	工作压力-Working (bar)	爆破压力-Bursting point (bar)				
20°C	100%	4	2	11,7	20	22	67
30°C	83%	4	2,5	9,5	20	15	46
40°C	72%	5	3	15,6	25	17	50
50°C	64%	6	4	19,5	30	13	40
60°C	47%	8	6	30	40	10	29
		10	8	40	50	7	22
		12	9	61,3	50	10	29

## 聚酰胺6 (PA6)

软管  
使用温度: -10°C至+80°C。  
硬度: 85 SHORE D  
管路每卷100米。  
可用颜色: 自然色, 黄色, 绿色, 红色, 黑色, 蓝色

## POLYAMIDE 6 (PA 6)

FLEXIBLE TUBINGS  
Working temperature: -10°C to +80°C.  
Hose Hardness: 85 Shore D  
Rolls: 100 mt.  
Colours available: Neutral, Yellow, Green, Red, Black, Blue

压力随温度变化的百分比%  
Pressure variation (%) in relation with temperature change

		尺寸-Sizes		重量 (gr/mt) Weight (gr/mt)	弯曲半径 (mm) Bend radius (mm)	20°C时的压力 -Pressure at 20°C	
Ø e (mm)	Ø i (mm)	工作压力-Working (bar)	爆破压力-Bursting point (bar)				
20°C	100%	4	2	10,6	25	56	167
30°C	83%	4	2,5	8,7	30	38	115
40°C	72%	5	3	14,2	30	42	125
50°C	64%	6	4	17,7	45	33	100
60°C	57%	8	6	24,8	65	24	71
70°C	52%	10	8	31,9	80	19	56
80°C	47%	12	10	39	100	15	45
		14	12	46,1	100	13	38
		15	12,5	61	140	15	45

## 聚酰胺 66 (PA66)

软管  
特别适用于运输油、脂  
使用温度：0°C至+100°C。  
硬度：96 SHORE D  
管路每卷100米。  
可用颜色：自然色

## POLYAMIDE 66 (PA66)

FLEXIBLE TUBINGS  
This tube is suitable for oil and grease applications.  
Working temperature: 0°C to +100°C.  
Hose Hardness: 96 Shore D  
Rolls: 100 mt.  
Colour Available: Neutral

压力随温度变化的百分比  
Pressure variation (%) in relation with temperature change

		尺寸-Sizes		重量 (gr/mt) Weight (gr/mt)	弯曲半径 (mm) Bend radius (mm)	20°C时的压力 -Pressure at 20°C	
		Ø e (mm)	Ø i (mm)			工作压力-Working (bar)	爆破压力-Bursting point (bar)
20°C	100%	4	1,5	12,5	35	136	409
40°C	85%	6	3	24	45	100	300
60°C	60%	8	5	34,6	45	69	207
80°C	40%						
100°C	30%						

## 聚乙烯 (LDPE)

软管  
使用温度：-10°C至+60°C。  
硬度：46 SHORE D  
管路每卷100米。  
可用颜色：自然色，红色，黄色，蓝色，绿色，黑色和蓝色

## LD POLYETHYLENE (LDPE)

FLEXIBLE TUBINGS  
Working temperature -10°C a +60°C.  
Hose Hardness: 46 Shore D  
Rolls: 100 mt.  
Colours available: Neutral, red, yellow, blue, green, black, light blue

压力随温度变化的百分比  
Pressure variation (%) in relation with temperature change

		尺寸-Sizes		重量 (gr/mt) Weight (gr/mt)	弯曲半径 (mm) Bend radius (mm)	20°C时的压力 -Pressure at 20°C	
		Ø e (mm)	Ø i (mm)			工作压力-Working (bar)	爆破压力-Bursting point (bar)
20°C	100%	4	2	8,69	18	21	63
30°C	83%	4	2,5	7,06	20	15	44
40°C	72%	5	3	11,58	25	16	48
50°C	64%	6	4	14,48	30	13	38
60°C	57%	8	6	20,27	40	9	27
		10	7	36,91	60	11	34
		12	9	45,60	65	9	27
		12	10	31,85	80	6	17
		14	11	54,28	80	8	23
		15	12,5	49,76	100	6	17

## P.T.F.E.

软管  
当高温与腐蚀性和苛刻工作环境同时出现时使用，具有出色的耐化学性，出色的绝缘性能，并且在与氧气、臭氧和紫外线接触时保持稳定。  
使用温度：-60°C至+260°C。  
硬度：60 SHORE D  
阻燃性：UL 94 V0  
管路每卷50米。  
可用颜色：中性

## P.T.F.E.

FLEXIBLE TUBINGS  
P.T.F.E tube is recommended with high temperatures and critical, aggressive environments. It offers great resistance to chemicals and it has high dielectric properties. P.T.F.E is subject to no variations in contact with oxygen, ozone, and Ultraviolet rays  
Working temperature: -60°C to +260°C.  
Hose Hardness: 60 Shore D  
Flame resistance: UL 94 V0  
Rolls: 100 mt.  
Colour available: Neutral

尺寸 Sizes	内径Ø i (mm) Tolerance	公差	壁厚 Wall (mm)	公差	外径Ø e (mm) Tolerance	弯曲半径 (mm) Bend radius (mm)	20°C时压强 -Pressure at 20°C		重量 (gr/mt) Weight (gr/mt)
							工作压力-Working (bar)	爆破压力-Bursting point (bar)	
4x2	2	±0,10	1	±0,20	4	20	27	81	22
6x4	4	±0,15	1	±0,20	6	35	18	54	37
8x6	6	±0,20	1	±0,20	8	40	14	42	51
10x8	8	±0,30	1	±0,20	10	60	12	36	66
12x10	10	±0,30	1	±0,20	12	85	10	30	80

## 聚酰胺12 HR ( PA12 HR )

软管  
使用温度：-40°C至+80°C  
管路每卷100米。  
可用颜色：黑色

## POLYAMIDE 12 HR (PA12 HR)

FLEXIBLE TUBINGS  
Working temperature: -40°C to +80°C.  
Rolls: 100mt.  
Colours available: Black

压力随温度变化的百分比%  
Pressure variation (%) in relation with temperature change

		尺寸-Sizes			重量 Weight	(gr/mt) (gr/mt)	弯曲半径 radius	20°C时的压力-Pressure at 20°C	
		OD (in)	Ø ext (mm)	Ø int (mm)				工作压力-Working (bar)	爆破压力-Bursting point (bar)
-10°C	120%	1/4	6,35	3,6	18	50	90	275	
0°C	110%	3/8	9,52	5	53	80	87	261	
20°C	100%								
30°C	83%								
40°C	72%								
50°C	64%								
60°C	52%								
80°C	47%								

## 热塑管路

内层：PA12。  
加强层：高韧性聚酯编织物  
外层：聚氨酯。  
使用温度：-40°C至+70°C。  
安全系数：4:1

## THERMOPLASTIC HOSE

First Tube layer: Polyamide 12.  
Reinforcement: high tensile polyester braid.  
Cover: Polyurethane  
Working Temperature: -40°C to +70°C.  
Safety factor: 4:1

Dash	尺寸-Sizes				重量 Weight	(gr/mt) (gr/mt)	弯曲半径 radius	20°C时的压力-Pressure at 20°C	
	Ø ext mm	in	Ø int mm	in				工作压力-Working (bar)	爆破压力-Bursting point (bar)
8,1	5/16"	4	5/32"	52	45	195*/260**	780		

\*脉冲压力 - Pulse pressure  
\*\*持续压力 - Constant pressure

## 带编制加强层的液压管路

ISO 11237 - SAE 100 R16 - EN 857 2SC  
内层：合成耐油橡胶。  
加强层：高韧性金属编织层。  
外层：耐磨损、耐臭氧和碳氢化合物的合成橡胶。  
应用：高压液压系统，燃油，防冻液，空气和水。  
工作温度：  
-40°C到+100°C  
(最高空气温度= +70°C)  
安全系数：4:1

## HYDRAULIC HOSE, WIRE BRAID

ISO 11237 - SAE 100 R16 - EN 857 2SC  
First Tube layer: Oil resistant synthetic rubber.  
Reinforcement: Two high tensile steel braids.  
Cover: Abrasion, ozone and hydrocarbon resistant synthetic rubber  
Application: High pressure hydraulic lines, fuel oil, antifreeze solutions, air and water.  
Working Temperature:  
-40°C to +100°C. (Max Air temperature T = +70°C)  
Safety factor: 4:1

Dash	尺寸-Sizes				重量 Weight	(gr/mt) (gr/mt)	弯曲半径 radius	20°C时的压力-Pressure at 20°C	
	Ø ext mm	in	Ø int mm	in				工作压力-Working (bar)	爆破压力-Bursting point (bar)
04	13	.51	6	1/4"	255	75	400	1600	
06	16,5	.65	10	3/8"	370	90	330	1320	
08	19,9	.78	13	1/2"	470	130	275	1100	
12	27,6	1.09	19	3/4"	789	200	215	860	



## 般供应条款

## 1 般说明

以下一般供应条款在C.MATIC的所有商业惯例中均被视为有效并适用，可作为C.MATIC制造或销售的所有产品的参考。这些一般条款构成由C.MATIC签订的每份合同的法律依据，除非在特定订单或协议中明确以书面形式对其放弃。

这些条款优先于客户的任何购买条款并构成C.MATIC服务于客户的供应合同的重要组成部分。

因此，即使客户未明确确认，以下列出的一般供应条款也与所有合同和已执行的所有订单相关。

这些一般供应条款，在任何情况下均被视为由客户自动接受，因此，在C.MATIC的产品首次提供给客户时，订单组成部分将于任何情况下在C.MATIC的指令下执行。

## 2 合同适用范围

以下是由C.MATIC签订的合同的组成部分：

A) 这些一般供应条款在任何情况下均被视为适用的，无论客户是否明确书面接受。

B) C.MATIC以任何身份发送给客户的所有技术文件、研究、报告。

C) 订单确认

D) 交货单

E) 发票

由C.MATIC在供应执行之前或期间使用或发送的广告文件、销售手册、样本、目录、价目表以及任何其它内容不予考虑，除非以书面形式明确同意合同的基本内容。

## 3 订单与合同的正式化

C.MATIC的任何报价均由C.MATIC制订并对其不具有约束力，直至 (I) C.MATIC根据此处所述之所有条款与条件实际收到客户的书面订单，以及 (II) C.MATIC在其总部书面接受该订单。

订单是指任何包含要进行的供应的标识详情的文件，例如数量、产品类型和价格。在C.MATIC通过任何书面方式（传真、电邮，等等）明确接受的情况下，或在执行向客户的第一次供货时，订单均应被视为最终合同。供货的执行是指以下第7.2点中提供给客户的材料。

即使在报价、从客户方收到的订单和从C.MATIC发送的订单确认之间存在差异，合同在任何情况下都被视为已为购买方建立并最终确认。

C.MATIC可随时自行决定不接受客户的订单，或在事先充分通知的情况下中断或暂停已计划订单的供货。

## 3.1 已关闭订单

已关闭订单是指订单中的产品数量、价格、交货方式与时间表均已明确标识。

## 3.2 总括或计划订单

“总括”订单是指已确定产品类型和单价的订单，一般来讲，标明在C.MATIC和客户之间明确表示并同意的时间周期内由客户估算的可消耗的产品数量。C.MATIC与客户将确定客户在商定的时间范围内不可撤销地采购的数量，以获得固定价格。如供应商在固定期限未达成商定的销售量，则C.MATIC应修改产品价格。

任何情况下，C.MATIC的责任仅限于所商定的数量，或者假如包括一个最小和最大数量，C.MATIC的责任则限于最小数量。

相较于C.MATIC已明确接受的，C.MATIC无需保证提供更多数量的产品或遵守更为艰难的交货时间。

如客户要求修改任何订单的内容，C.MATIC无义务满足该要求，但会竭尽全力满足客户的要求。如被接受，C.MATIC应被允许修改产品价格。

为此，C.MATIC应向客户通告产品的价格差异；该变更应被视为在客户明确接受情况下的申请或从C.MATIC在通告后首次交付产品起就被视为“有效”。

## 3.3 订单变更

由客户提出的任何更改合同的要求均应由C.MATIC明确接受。在未经C.MATIC明确表示接受的情况下，先前同意的合同条件将被视为不变，在任何情况下均应遵守这些一般供应条款的适用性。

3.4 已关闭订单的取消或总括订单最小数量之下的减少

任何情况下，除非不可抗力，客户均不可取

消已关闭订单或减少任何类型订单的最小数量。

如客户意向向这个方向进行，则必须以书面形式将其请求通知于C.MATIC，后者在随后的30天之内可接受或拒绝客户所提出的请求，或向其指明接纳所需的费用。

否则，客户将被要求按照商定内容和总括订单中注明或商定的最大数量收货并付款。

根据合同，在取消或减少至未结或总括订单最小数量之下的费用指示中，C.MATIC可能会考虑原材料和备件采购、设备以及特定其它工具、研究和设计成本所产生的所有费用，以及在任何情况下由于任何原因对C.MATIC具有经济意义的所有成本和/或直接与间接后果。

C.MATIC可最终保留由于任何其它原因而应收取的以及从客户那里已收的任何款项。

## 4 与订单相关的准备工作和/或辅助工作

## 4.1 设计与要求

客户与C.MATIC在订单执行之前或执行过程中以任何身份交换的所有文件、设计、估算、技术报告、评估、报价、分析以及任何情况下的任何信息与文件，均被视为仅针对其意向的特定用途而发送，不涉及所有权或使用权转让的传输。

接收者在任何情况下都不得将接收到的内容用于其它目的。客户与C.MATIC将相互维护所交换文档的所有产权，包括知识产权。客户与C.MATIC遵照以下第6点中的协商，均被视为对所交换文件的存在与内容持有最严格的机密性和保密性。

假如使用的用途为未经许可的用途或为交换材料而计划的用途，受害方有权要求对损失进行赔偿。任何情况下，客户均承认以任何身份从C.MATIC接收到的内容的专有所有权，并且该内容构成C.MATIC的专有技术。

## 4.2 样品退还

C.MATIC发送给客户的所有样品、样件、预系列产品或半成品或任何情况下的人工制品均属于且依然为C.MATIC所有，客户只可将其用于与C.MATIC订立的合同中规定的目的。客户将对其所接收信息的负责保管并承诺将在合同终止后或在C.MATIC明确提出要求后的15天内退还所有收到的材料。

未经事先书面同意之前，客户应在最严格的机密性与保密性中使用所接收的内容并不得以任何方式对其进行利用，甚至直接或间接地测试任何从C.MATIC获得的内容。

如有任何样品或模型展示或交付于客户，客户承认此类样品或模型仅用于说明商品的一般类型和质量，且并不代表商品必须与样品或模型相符合。

如违反本条款，C.MATIC可能会中断供应并要求赔偿损失。

## 4.3 设备保养

除非另有书面协议，否则为客户生产产品所必需的设备，即使磨损也被视为C.MATIC的专有所有权。用于生产的工具将由C.MATIC或由其指示的公司设计，并将考虑到C.MATIC通常使用的工作方法、系统和设备。C.MATIC可能会要求客户分担上述费用。该费用即使可能没有明确注明，但包括在所交付产品的价格中。即使在这种情况下，生产所需的工具将保留在C.MATIC的专有所有权下，不含任何关于保障客户的使用权或所有权方面的分担，即使只是知识或专有技术产权。

除非另有书面协议，C.MATIC可自由使用设备以及一般情况下的任何工作工具，即使为客户意向之外的产品以及专门为客户创建的产品。

## 5 订购产品的特性与条件

## 5.1 产品使用

C.MATIC承诺根据与客户商定的（特殊产品）或目录中所指定（标准产品）的技术规格生产产品。在这方面，产品还将符合欧盟现行的安全规则。客户将对产品的使用承担全部责任。

产品必须完全按照目录中规定的用途或与C.MATIC进行书面协商而使用。C.MATIC对于任何未经授权的、不正确的或以其它不同于C.MATIC目录中的参考规定以及不同于C.MATIC书面授权的方式对产品的使用而造成的后果不承担任何责任。假如客户必须以协商之外的方式使用产品，则必须向C.MATIC提供其特定信息。

C.MATIC，在收到申请后，将有30天的时间来确认是否愿意满足客户的请求，并提供一份关于时间表和新价格的指示；客户应书面确认对C.MATIC的通告的接收。

除非事先同意或在任何情况下都知道C.MATIC，否则所提供的产品可能无法存放于存储材料的地方，包括可能会引起爆炸、污染或是易燃的材料，或是被放置于湿度或温度水平与所交付产品类型不符的房间中。

客户接受，以此放弃提出任何索赔或投诉的权利，由C.MATIC注明的数量始终被视为 +/- 5%的容差。

客户承诺在任何情况下均接受产品的部分供应。

## 5.2 产品包装

C.MATIC应依照其标准并遵循有关安全的现行法规提供产品包装。

客户通过发送订单明确声明知晓并已接受C.MATIC使用的包装类型并认可上述“标准”适宜于其运输、搬运、存放和存储的要求；所有活动将由客户负责维护并承担全部费用。

客户将对产品的正确存放和存储承担全部责任，所进行的活动必须以对所提供产品的技术与功能特性的正确保存所允许的方式执行。如使用与C.MATIC所使用的包装有所不同的包装，或以不符合产品特性的方式对产品进行存放、储存或处理，则C.MATIC不承担任何责任。

## 5.3 产品相关信息的传输

客户承诺使其购买者了解产品的技术-功能特性。

## 6 知识产权与保密条款

## 6.1 知识产权与技术知识

C.MATIC是与产品相关的任何信息、数据、设计、特性、流程、化学成分、功能特性以及任何元素的权利的单一所有者。这些权利的所有权即是在产品交付后仍将保留。任何情况下，供应合同的执行均不构成工业产权的转让或与C.MATIC的产品和/或生产流程相关的专业知识的许可使用，C.MATIC作为上述权利的所有者，即使在交货后，也保留出于任何目的以任何方式对产品执行验证、测试或实验的结果的使用权。

## 6.2 保密条款

客户在供应关系期间以及在其结束后的5年内，将被严格要求遵守所有内容的机密性与保密性，在执行和准备合同的同时，将被知会（文件、数据、特性、元素、技术信息、价格、设计、图形、报告、轮廓、注释，等等）。

客户承诺对从C.MATIC收到的材料进行妥善保管并遵守最严格的保密性，就如收到的或交换的为其专属财产一般。

C.MATIC与客户必须允许参与供应执行的人员访问数据、文件及所收到的材料。

客户明确声明遵守现行法规所规定的尊重隐私的程序。

如有所需，C.MATIC和客户将任命一名负责管理可能传输的任何敏感数据的人员，并将其姓名通知对方。

保密性和机密性的义务不适宜以下情况：

- 合同订立时已知的公共领域的信息以及任何情况下均已知的信息。

- 合同订立之前已拥有的信息。

- 司法机构或公共机构一般要求具有公开义务的信息。

对此条款的任何违反行为将使C.MATIC有权要求赔偿损失和/或合同终止。

## 6.3 防伪保障

假如产品是定制或是按照客户提供的指示与信息生产的，则客户应独自承担与工业产权及其第三方权利、甚至是与生产流程相关的任何侵权行为的责任，并承诺使C.MATIC不受任何直接或间接后果的影响，这些后果可能会直接或间接地影响C.MATIC或第三方的信息或对产品本身在任何形式上的可用性。

客户最终将直接承担或在任何情况下向C.MATIC保障所有费用的直接与间接赔偿，包括法律援助以及其它任何职业原因，甚至是技术上的，包括任何因违反本条款规定的义务而针对C.MATIC或由C.MATIC提起法律或法外处分或调解时由其指派的专业人士的费用。

## 7 产品的交付、运输、验证和验收

## 7.1 交货期限

C.MATIC将竭尽全力遵守与客户商定的交货期限。

然而，在任何情况下，交货日期均不得视为强制性要求并对订单的正确执行不具有约束力。在产品的交货期限未能遵守的情况下，客户明确放弃以任何身份提出索赔或以任何方式要求赔偿的权利。

如上所述，所有交货期限都是大致的，并且C.MATIC对于任何延迟引起的任何类型的损失不承担责任。

当变更更为重要时，C.MATIC保留以任何意义向客户通告任何交货期限的变更的权利。客户可要求C.MATIC尽最大努力改善交货状态，但在任何情况下都不可拒绝为产品付款。

C.MATIC保留在未付款的情况下无限期中断产品交付的权利。同样，在任何未曾履行的情况下，C.MATIC可能将保留给客户的如有存在的产品专有权视为终止且不复存在。

## 7.2 交货期限（工厂交货）

除非另有协议，否则产品的交付将以“工厂交货”方式进行并被视为在承运人或货运代理使用的车辆上进行货物装载的日期和时间中执行，或在任何情况下，来自由C.MATIC所提供的货物可用性的信息。

从上述日期开始，与客户有关的所有权利和责任将被转移至客户，即产品主体实际上仍存放于C.MATIC的厂房中。

在收到货物可用性通知的5天内，客户将被要求直接或间接地收取产品。假如收货期限较上述期限而延迟，C.MATIC将向客户收取存储、存放和处理货物所需的所有费用及支出。

因此，C.MATIC将开具在产品收取之前就应支付的相应发票，并在任何情况下均按第10.1点中列出的条款进行。

一旦收到货物可交付通知的10天后，C.MATIC可全权酌情，决定客户有义务支付上述费用，将产品出售给第三方，由客户支付费用销毁产品或对其进行重复使用，并向客户收取所有后续费用。由于该原因所开具的发票被视为需要立即付款的发票。同样，如未按照上述期限进行收货，C.MATIC可认为如有授予客户的任何专有权已终止，即使与客户续签的合同中有所参考。

C.MATIC应及时将“准备交付货物”通知发送给客户或运送者。客户，或由客户负责的运送者，应在从C.MATIC方收到的“准备交付货物”通知中指定的日期和时间内收取产品。如未按照“准备交付货物”通知中规定的协议收货，客户应承担由C.MATIC出于上述原因（存储、保险、处理、存放、空间使用，等等）而产生的任何支出或费用。

## 7.3 运输、海关费用、保险

除非订单中另有明确规定，否则运输将始终由客户自行承担并应由客户承担费用，如有必要，则应由其承担全部责任，并在运输过程中为产品投保。

如由C.MATIC负责将产品运送到目的地，风险转移则会发生于将产品运送至第一个货运代理或第一个运输商时。

除非另有协议，否则客户应始终承担海关费用、运费以及在目的地存储的费用，并在适当情况下继续履行运输、装载、卸载和清关程序，无论客户选择以何种运输方式。

客户应向C.MATIC提供产品海关清关及其收据的证明。

然而，无论所商定的交货方式如何，C.MATIC都将无需为产品投保。

## 7.4 交付产品的数量与类型的检查

客户应通过自己的人员检查产品的数量及重量、产品与订单条款的一致性；该检查将在交货后立即由客户承担费用并由其承担全部责任。

与产品明显缺陷有关的任何争议或保留，应立即在托运单、公路货物运单、路单或运输单据上注明。托运单、路单或运输单的副本以及相应的保留或争议应发送给C.MATIC参考，无论如何，C.MATIC对于任何短缺都将不承担责任，也不对客户保留承担时已证明属于保留状态的缺陷已存在。如在托运单、公路货物运单、路单或运输单据上未有注明

的保留，从类型和数量角度来看，产品将被视为被最终接受，出于此原因，客户明确表达不可撤销地放弃在任何地点以任何性质所要求的权利。

## 7.5 与存在缺陷相关的争议

C.MATIC必须交付无缺陷且与订单相符的产品。产品质量应被视为客户所熟知的C.MATIC

的“标准”。

如产品中存在缺陷，客户应在自交货之日起10个日历日之内处以没收之处罚，对所提供的产品提出异议，同时向C.MATIC发送一份相宜的书面通告，其中包含缺陷或故障列表、所识别物品的数量、执行检查的方法、批号以及任何有用的证据，以使C.MATIC能够准确识别有争议的产品。

如C.MATIC要求，客户应退还还有争议的产品，并由客户承担并支付费用。

C.MATIC在不构成任何责任确认的情况下，可自行决定对产品进行修理，然后将其发回给客户。在这种情况下，C.MATIC将承担运输费用。

如C.MATIC无法识别存在争议的缺陷或故障，可邀请客户到自己的工厂中共同评估其调查结果，然后将产品自费退给客户。

然而，C.MATIC可在不构成任何责任确认的情况下，自行决定继续更换有争议的产品，并向客户发送新产品。

客户在任何情况下均不得中断对产品的付款，即使出现完全或部分地争议，同样，即使在所供应货物的全部或部分地争议情况下，客户也不得因C.MATIC的任何原因而中断付款。

客户不可因任何原因自主执行或由第三方执行对产品的处理或干预。在那种情况下，产品将不再得到保障，此外，这意味着客户不可撤销地放弃在任何地点要求C.MATIC承担任何责任的权力。

如客户在存在明显缺陷或故障的情况下决定不将其告知C.MATIC并使用、组装或销售产品，则将失去任何更换或维修产品的权利。同样，C.MATIC根据以下第7.6点所提供的保修也将被视为终止。

在任何情况下，除非有C.MATIC发出的相反指示，否则客户应对争议产品的拆卸、储存、处置活动和成本以及新组件的组装活动和成本承担全部责任，将由C.MATIC对产品进行返工或重新发送给客户。任何投诉或争议均不对客户所应承担的对于C.MATIC任何义务的履行形成免除，无论该义务订立的原因是什么。

#### 7.6 保修期限

除非另有协议，否则C.MATIC对所供应产品的保修期限不超过十二个月。保修期被视为从“准备交付货物”做出通知或工厂交货之日开始。

保修应在对产品正确使用并且产品中所识别的缺陷故障也不能间接或部分归因于客户或最终用户的情况下有效，或在对产品不一致或未经授权使用的情况下。

#### 7.7 验收

从产品交付起10天期限内并在无争议的情况下，所提供的产品将被视为最终接受，并且客户将失去提出任何索赔、抗议或要求的可能性。

任何情况下，验收之后C.MATIC均不被要求更换或修理所提供的产品，也不承担任何费用或支出，即使是通过损害赔偿的方式。

#### 8 逆境条款及不可抗力原因

##### 8.1 产品价格更改条件

即使接受订单并签订合同，C.MATIC仍可能更改产品的价格。C.MATIC应以书面形式通知客户新价格并注明需要进行更改的原因。新价格将从通告后的首次交货起对客户具有约束力，或者无论如何，从发送给客户通告起经过10个日历日之后。

如发生使订单执行尤其艰难的特殊情况，C.MATIC可在客户无法索赔的情况下随时终止或撤销合同、取消订单或交付程序，并且该权利应被视为对任何报销或赔偿的不可撤销的放弃。

##### 8.2 不可抗力原因

C.MATIC可在任何不可抗力的情况下中断其供应义务，并且无论如何都将终止与客户的合同承诺。如C.MATIC意欲调用该权利，必须立即以书面形式通知客户，注明对不可抗力的原因的调用，并在如有可能的情况下注明所应承担的合同义务的预期中断时间。如中断原因持续了90个工作日以上，则客户可在遵守承诺的前提下暂时从其它供应商处购买所需产品，不可抗力原因一旦消除后，应

从C.MATIC处重购产品。

C.MATIC承诺以书面形式向客户通告不可抗力原因的终止，并注明在不可抗力事件后首次交货的日期。

客户必须接受这些交货。如不可抗力事件延长至超过90天，C.MATIC将与客户会面评估终止供应合同的可能性。

任何情况下，客户均应在C.MATIC处收取所有存储于C.MATIC的产品，并支付半成品、原材料、纸张以及C.MATIC为实施供应而专门购买或生产的任何物品的成本。如执行变得尤其艰难且无可能性，C.MATIC也可在所有情况下调用不可抗力。以下情况均构成不可抗力，以指示性而非全面的清单形式表示：

- 自然灾害（地震、火灾、洪水、风暴，等）。

- 武装冲突、战争、争端、攻击、起义、恐怖行为。

- 工会或劳工冲突或纠纷、停工、一般罢工或行业罢工或是C.MATIC或C.MATIC下属工厂的罢工。

- 工会冲突或纠纷、一般性的或行业性的，或是与C.MATIC的C.MATIC下属工厂有关的工厂罢工或停工，运输、服务公司、货运代理、一般邮局或任何情况下与生产过程参与相关的人员的罢工。

- 一般而言下的司法、政府或公共机构的命令。

- 一般而言下由卫生或公共当局施加的禁止进口、禁运、禁止生产的规定。

- 工作中的事故、癫痫发作、机器故障、爆炸、电源不足以及任何可能限制或排除生产可能性的事件。

- 原材料的短缺或成本过高。

如客户意欲调用不可抗力事件，则必须立即知会C.MATIC。

在这种情况下，客户还应向C.MATIC指明产品收取的方法，以及可能与客户商定的其它收货地点，在这种情况下，需承担C.MATIC注明的更高费用。

客户不可在任何情况下调用不可抗力原因来中断对供应的付款。

#### 9 价格的定义

由C.MATIC注明的价格应被视为扣除产品的税金、税率和关税后的价格。除非另有协议，否则价格在任何情况下均应被视为“出厂价”。除非另有约定，否则价格始终以欧元表示。

#### 10 付款方式

##### 10.1 付款期限

除非另有协议，否则供应付款应在C.MATIC所在地进行，无论任何争议，均应预先收到备用单据或发票。C.MATIC可自行决定分配所收到的付款，并将其信息提供给客户。如提早付款，C.MATIC无需同意任何折扣。

##### 10.2 付款延迟

在不违反本合同规定的情况下，如在第10.1点规定的期限内未付款，则应向C.MATIC支付利息，金额为意大利第231/2002号法令中确定的利率。

C.MATIC被授权按照在此点中罗列的方法开具利息发票并将其发送至客户。

发票还将包括C.MATIC为该活动而产生的费用。客户必须遵照程序立即进行付款。如开具了利息和/或付款延迟费用的发票，C.MATIC可全权酌情决定将客户随后支付的所有款项用于清算发票中的利息和费用并且仅针对任何剩余金额进行清算，支付所供应的产品。

在未付款的情况下，C.MATIC也可暂停产品的交付，拒绝进一步交货的请求和/或认为合同已终止，并拒绝任何产品订单后续进展的承诺。

同样，如在付款日期之前即使仅有一笔供应仍未付款，C.MATIC均可认为该产品如有存在的任何“专属性”不再适用。任何情况下，根据本条开具的发票应由客户在收取产品之前支付。

##### 10.3 客户财务或公司状况的变化

任何可能导致对客户偿付能力、支付或收

取所提供产品的愿望或可能性发生怀疑的事件或行为均可能被视为C.MATIC暂停产品供应的原因。在这种情况下，C.MATIC必须向客户发送特定的通告。自收到上述通告起，客户对C.MATIC的所有债务均应立即应付款以及所有可收回款项，并且这是与客户达成任何相反协议的克减。C.MATIC也将有权从客户的仓库或工厂收回已提供但未付款的产品。客户特此授权C.MATIC向司法机关提出请求，并在紧急情况下获取所需的任何措施。

自本段所述之通告发送之日起，客户将被要求不可撤销地预先支付为产品的后续供应所要求的任何款项，即使已被C.MATIC接受，也是对现有两个订单的克减，并且C.MATIC和客户之间达成的任何供货条件，即使已达成协议并存在，在任何情况下均应尊重C.MATIC暂停交货和终止现有合同的权利。

如客户处于破产程序中（与债权人的安排、接管、破产、强制清算、特别行政、债务重组协议，等等），C.MATIC可遵守有关追回欠款的特定规定，中断进一步的供应，将合同视为已终止并撤销该产品如有存在的任何专有权。客户必须将C.MATIC通告任何有关其公司结构或管理-行政组织的重大变更，或通过初步协议的方式将其公司或分支机构的销售或租赁契据的签署做出通告。C.MATIC在评估了信息或自动获取信息后，可能会向客户通告其不欲继续保持关系的意图，同时中断对已接受订单的执行。在这种情况下，C.MATIC的所有账款应被理解为立即到期，并应撤销该产品如有存在的专有权。

C.MATIC可在任何情况下均可通过更大的损失赔偿，保留直至那时的预付款或任何已收取的款项。

#### 10.4 客户欠款

未经C.MATIC同意，即使在C.MATIC承认有争议的情况下，客户也不得出于任何原因开具借方票据或贷方发票，即使已确定是由于该原因或在任何情况下均由C.MATIC收取的款项，后者未明确书面承认为其债务人。

任何情况下，除非获得书面授权，否则客户不得以任何理由以抵销或保留应付给C.MATIC的款项，以抵销其声称或确定的欠款；在这种情况下，C.MATIC可能会要求支付未付款项或延迟付款的利息，并中断随后的供应。

#### 10.5 所有权保留

产品随附C.MATIC的“所有权保留”程式与保障而提供，因此直至客户以任何原因对C.MATIC履行一切义务之前，该产品仍将为C.MATIC的财产。

客户应采取一切必要措施保护和维持“所有权保留”的权力并对产品本身可能产生的任何后果负责。“所有权保留”并不意味着对第7.2和7.3点所提出的有关产品本身运输和保管的风险与责任转移的克减。

客户必须采取一切有用的措施，以免将C.MATIC的产品与C.MATIC的其它一种可能相似的产品混淆，并且必须将产品存放在分隔适当且易于识别的空间中。

客户必须告知其自身客户，特别是在代表第三方进行处理的情况下，有利于C.MATIC的“所有权保留”保障的存在且明确授权后者，如未付款或该客户要求接受破产程序的要求，与债权人或类似人士进行安排，即使通过紧急司法措施也可追回，并由客户承担产品已提供但尚未全额付款的费用。同样，客户必须同意并平收取C.MATIC产品的要求，除非客户已履行与C.MATIC的所有义务并出于对C.MATIC的任何原因已支付所有债务。

11 责任

#### 11.1 C.MATIC的责任定义

C.MATIC将对产品的正确生产和对订单中提供的特性的遵守而负责。产品将按照欧盟现行法规生产。客户有责任及时通告意大利国家领土以外的或与产品生产或包装有关的任何特定法规或行政规定。C.MATIC对由于以下原因引起的产品缺陷概不负责：

- 由客户或客户指定的第三方提供的材料。

- 由客户或客户指定的第三方执行这些活动时出现的设计或企划错误。

- 使用由客户或由客户指派的第三方指定或提供的设备。

- 未经C.MATIC书面同意对产品进行的处理、操作、改造、表面处理或加工。

- 不合规、不允许、异常、非典型或特定的用途。

- 存储、运输、保存或处理不善。

- 产品的正常磨损或由于与客户或第三方有关的事件而引起的产品退化。

- 在产品本身的维护、保存或使用方面，未遵守C.MATIC的叮嘱、指示或建议。

#### 11.2 责任范围

除下文所述之外，C.MATIC的责任在任何情况下均仅限于由C.MATIC认可的产品故障或缺陷而对客户的物品或人身造成的直接损害或由其本身使用而造成的损害。不包含任何关于间接损害、形象损失、收入损失、利润损失、成本、业务或盈利的损失、停产费用，即使是第三方的或是在任何情况下均由产品缺陷而间接造成的后果的责任，即使是被C.MATIC认可的缺陷。同样，一旦产品被自行组装、出售或与客户的产品一同组装、出售，C.MATIC对产品可能对第三方造成的损害概不负责。

在任何情况下，C.MATIC均不对产品目录中所列性能的不足承担责任。客户在产品被交付后，将不可撤销地放弃对C.MATIC采取行动的权力，而对C.MATIC的责任范围以外的任何其它索赔，其延伸范围仅限于本段中所述之情况。同样，在对第三方任何财产权的侵犯情况下，C.MATIC也不承担任何责任，除非客户可通过C.MATIC证明其专利或产权的知识存在。

任何情况下，C.MATIC的责任范围应被理解为依据所提供产品的价值而固定，并被C.MATIC认为有缺陷。通过向客户提供相同类型和相同技术特性的替代产品，C.MATIC可免除任何责任。任何情况下，在交货或收到产品可用性的确认后，客户放弃提出除本文所述之外的任何其它或额为索赔的权利，同时应被视为客户不可撤销地放弃要求任何性质下的损害赔偿或索赔的权利。

#### 12 司法权

产品供应以及因执行合同而产生的任何后果，或在任何情况下与合同和/或订单的订立相关的任何事实，无论何人都都将强制性安排与意大利司法机构以及意大利现行法律，排除外国司法机构或法规的有效性并适用性。

即使是外国司法机构，C.MATIC可单方面酌情决定其适用性，以保护其信用权或供应后的信用权。

#### 13 针对纠纷的司法法庭

C.MATIC及其客户承诺尽最大努力，友好解决双方之间与产品供应相关或由产品供应引起的任何纠纷。

任何情况下，任何与当事人之间关系有关的纠纷，或与产品供应或合同中甚至是部分的解说与执行有关的，或由其引起的任何其它原因及后果在客户与C.MATIC之间产生的纠纷，除非C.MATIC根据上一段所述的权利要求做出不同的决定，均应被视为蒙扎法院的专属与强制性司法权及责任。

如由此引起任何诉讼，C.MATIC有权追回C.MATIC因强制执行C.MATIC的任何权利所产生的所有合理的律师费、成本及费用。

**1. GENERAL NOTES**

The following general terms of supply are understood to be valid and applicable in all commercial practices of C.Matic with reference to all products manufactured or sold by C.Matic. These general terms constitute the legal basis for every contract entered into by C.Matic except where, in specific orders or agreements, they are expressly waived in writing.

These terms prevail over any purchase terms of the Customer and constitute an essential part of the supply contract implemented by C.Matic in favour of the Customer.

The general terms of supply set out below, therefore, relate to all contracts and all orders implemented even if not expressly confirmed by the Customer.

These general terms of supply, in any case, are understood to be automatically accepted by the Customer and, therefore, an integral part of the order, upon C.Matic's Product first being made available to the Customer and, in any case, upon the implementation of the order by C.Matic.

**2. SCOPE OF APPLICATION OF THE CONTRACT**

The following will be an integral part of the contract entered into by C.Matic:

- a) these general terms of supply, which are understood, in any case, to be applicable irrespective of express written acceptance by the Customer.
- b) every technical document, study, report, in any capacity sent by C.Matic to the Customer.
- c) the order confirmation
- d) the delivery note
- e) the invoice

Advertising documents, sales brochures, samples, catalogues, price lists and anything else used or sent by C.Matic prior to or during implementation of the supply will not be considered, unless it is expressly agreed in written, essential elements of the contract.

**3. ORDERS AND CONTRACT FORMALIZATION**

Any quotation of C.Matic is subject to, and shall not become binding upon C.Matic until (i) actual receipt by C.Matic of customer's written order based on all the terms and conditions stated herein, and (ii) C.Matic's written acceptance of such order at its main office.

Order means any document containing the identification details of the supply to be made, such as quantity, product type and price. The order is understood to be transformed into a finalized contract both in the case of express acceptance by C.Matic by any written means (fax, e-mail, etc.) or upon implementation of the first supply to the Customer. Implementation of the supply means the material made available to the Customer as provided at point 7.2 below.

Even in the presence of discrepancies between the offer, the order received from the Customer and the order acknowledgment sent by C.Matic, the contract will in any case be understood to be established and finalized for the purchasing party. C.Matic may, at its sole discretion and at any time, not accept orders from the Customer or interrupt or suspend, with sufficient prior notice, the execution of planned orders.

**3.1 Closed order**

Closed order means that order in which the quantity of the product, price, delivery methods and timescales are expressly identified.

**3.2 Blanked or planned order**

"Blanked" order means that order which, having established the type of Product and unit price of the same, in general, indicates the quantities of product estimated as consumable by the Customer in the period of time expressly indicated and agreed between C.Matic and the Customer (week/month/year). C.Matic and the Customer will determine the quantities that the Customer irrevocably buys within the agreed timeframe to get the fixed price. C.Matic shall modify the price of the Products in case the Supplier doesn't reach, within the fixed period, the agreed volume of sales.

The liability of C.Matic in any case is limited to the quantity agreed or, in case the order includes a minimum and a maximum quantity, to the minimum.

C.Matic is not required to guarantee the supply of additional quantities of Product or to comply with more burdensome delivery time than those expressly accepted by C.Matic itself.

If the customer ask to modify the content of any order C.Matic shall not be obligated to satisfy that request, but will make every effort to satisfy the request made by the Customer. In case of acceptance, C.Matic shall be allowed to modify the price of the Products.

For this purpose C.Matic shall communicate to the Customer the difference in price of the Product: that variation is understood to apply in the case of express acceptance by the Customer or will be considered to be "in force" commencing from the first delivery of the product after C.Matic's communication.

**3.3 Changes to orders**

Any request to change the contract made by the Customer shall be subject to express acceptance by C.Matic. In the absence of express acceptance by C.Matic, the contractual conditions previously agreed will be understood to be unchanged, subject, in any case, to the applicability of these general terms of supply.

**3.4 Cancellation of closed order or reduction below the minimum quantities of blanked orders**

In no case, except in circumstances of force majeure, the Customer may cancel the closed order or reduce the minimum quantities of any type of orders.

If the Customer intends to proceed in that sense, it must notify its request in writing to C.Matic which, in the following 30 days, may accept or refuse the request made or indicate to the Customer the cost for acceptance.

Failing that, the Customer will be required to collect and pay

for the product in accordance with what was agreed or in accordance with the maximum quantities indicated or agreed in the blanked orders. In the indication of the cost for the cancellation or reduction, depending on the contract, of the open or blanked order below the minimums, C.Matic may take account of all costs incurred and being incurred for procurements also of raw materials and provisions, equipment and specific or other tools, research and design costs and, in any case, all costs and/or direct and indirect consequences that have for any reason economic significance for C.Matic. C.Matic may retain, on a final basis, and on account of anything due in addition, any sums received from the Customer paid for any reason.

**4. PREPARATORY AND/OR ACCESSORY WORKS RELATING TO THE ORDER**

**4.1 Designs and requirements**

All documents, designs, estimates, technical reports, evaluations, offers, analyses and, in any case, any information or document that, in any capacity, the Customer and C.Matic have exchanged prior to or during the implementation of the order, are understood to be sent only for the specific use for which they are intended without that transmission involving a transfer of ownership or usage rights.

The recipient may not in any case use what is received for other purposes.

The Customer and C.Matic will reciprocally maintain all property rights, including intellectual, on the documentation being exchanged. The Customer and C.Matic are understood to be bound to the strictest confidentiality and secrecy, as agreed at point 6 below, in relation to the existence and content of the documents being exchanged.

In cases of use other than what is permitted or what has been planned for the material being exchanged, the injured party will be entitled to compensation for damages. The Customer acknowledges, in any case, the exclusive ownership of what is received in any capacity from C.Matic and that it constitutes C.Matic's know-how.

**4.2 Return of samples**

All samples, prototypes, pre-series or semi-finished products or in any case artefacts sent by C.Matic to the Customer are and shall remain the property of C.Matic and the Customer may use them only for the purposes set out in the contract entered into with C.Matic. The Customer will be liable for the custody of what is received and undertakes to return all the material received upon termination of the contract or within 15 days from C.Matic making an express request for the same.

The Customer shall use what is received in the strictest secrecy and confidentiality and may not in any way utilize, even to perform tests, directly or indirectly, anything received from C.Matic without the prior written consent of the latter. If any sample or model is shown or delivered to the Customer, the Customer acknowledges that such sample or model was used merely to illustrate the general type and quality of goods and not to represent that the goods would necessarily comply with the sample or model.

In cases of breach of this clause, C.Matic may suspend the supplies and claim compensation for damages.

**4.3 Conservation of equipment**

The equipment even subject to wear, necessary to create the Product for the Customer, is understood, unless otherwise agreed in a written deed, to be under the exclusive ownership of C.Matic. The tools for production will be designed by C.Matic or by a company instructed by the same, and will take account of the working methods, systems and equipment normally used by C.Matic.

C.Matic may ask the Customer to contribute to the costs for what is indicated above. That cost may even not be expressly specified, but included in the price of the product being delivered. Even in that case, the tools necessary for production will remain under the exclusive ownership of C.Matic without any contribution guaranteeing for the Customer rights of use or ownership, even only intellectual or by way of know-how. C.Matic, unless otherwise agreed by written deed, may freely use the equipment and, in general, any work tool, even for productions other than that intended for the Customer and also in the case of production created exclusively for the Customer.

**5. CHARACTERISTICS AND CONDITION OF ORDERED PRODUCTS**

**5.1 Use of Products**

C.Matic undertakes to produce the Product in the respect of the technical specifications agreed with the Customer (special products) or as specified in the catalog (standard product). The Product will also be compliant with the safety rules in force in EU in that regard. The Customer will be solely liable for the use of the Product.

The Product must be used exclusively in accordance with what is indicated in the catalog or agreed in writing with C.Matic.

C.Matic shall not be liable for the consequences of any unauthorized, incorrect or different use of the Products with reference to what it's stated in C.Matic's catalog or that is different from what is authorized in writing by C.Matic.

Where the Customer must use the Product in a manner other than that agreed, it must provide specific information thereof to C.Matic.

C.Matic, upon receiving the request, will have 30 days to confirm its willingness to satisfy the request of the Customer also providing an indication of the timescales and the new price; the Customer shall confirm in writing the acceptance of the communication received from C.Matic.

Except where previously agreed or in any case known to C.Matic, the Product supplied may not be stored in locations in which materials are stored, including potentially explosive,

polluting or flammable materials, or in rooms where the moisture or temperature levels are not compliant with the type of Product being delivered.

The Customer accepts, hereby waiving the right to make any claim or complaint, that the quantities indicated by C.Matic are always understood to be with an allowance of +/- 5%. The Customer undertakes, in any case, to accept even partial supplies of Product.

**5.2 Product Packaging**

C.Matic shall supply the product packaged in accordance with its standards and compliant with existing regulations in relation to safety.

The Customer, by sending the order, expressly declares to be aware and to have accepted the type of packaging used by C.Matic and to deem the aforementioned "standard" to be suited to its requirements, to transportation, handling, deposit and storage; all activities that will occur at the care and expense of the Customer.

The Customer will be solely liable for the correct deposit and storage of the Product, activities that must be implemented in such a way as to allow for the correct conservation of the technical and functional characteristics of the Product supplied. No liability may be attributed to C.Matic in the event of use of different packaging to that used by C.Matic or for deposit, storage or handling of the product performed in a manner not compliant with the product characteristics.

**5.3 Transmission of information relating to the Product**

The Customer undertakes to make its purchasers aware of the technical-functional characteristics of the Product.

**6. INTELLECTUAL PROPERTY RIGHTS AND CONFIDENTIALITY CLAUSE**

**6.1 Intellectual property rights and on technical know-how**  
C.Matic is the only owner of rights relating to any information, data, design, characteristic, process, chemical composition, functional feature and for all and any element relating to the Product.

The ownership of those rights will remain even after the delivery of the Product. The implementation of the supply contract will not constitute, in any case, transfer of industrial property rights or licence to use the know-how relating to the Product and/or to the production process, C.Matic, as owner of the rights set out above, reserves the right to use for its own purposes, the results of verifications, tests or experiments performed in any way on the Product, even after delivery.

**6.2 Confidentiality clause**

The Customer, during the supply relationship and for 5 years after its conclusion, will be required scrupulously to respect the confidentiality and secrecy of everything of which, on the occasion of implementing or preparing the contract, it becomes aware (documents, data, characteristics, elements, technical information, prices, designs, graphics, reports, outlines, notes, etc.).

The Customer undertakes to store all the material received from C.Matic with the same care and in respect of the most scrupulous secrecy as though what was received or exchanged were its own exclusive property.

C.Matic and the Customer must only allow persons involved in the implementation of the supply to have access to the data, documents and all material received.

The Customer expressly declares to be compliant with the procedures for the respect of privacy as provided by existing regulations.

If necessary, C.Matic and the Customer will appoint, notifying the other of his/her name, a person responsible for managing any sensitive data that may be transmitted.

The confidentiality and secrecy obligation shall not apply in the case of:

- information that is in the public domain or in any case was already known at the time of entering into the contract.
- information already in possession prior to entering into the contract.
- disclosure obligation of information when required by a Judicial Authority or a Public Authority in general.

Any breach of this clause will entitle C.Matic to claim compensation for damages and/or the termination of the contract.

**6.3 Guarantee against counterfeiting**

Where the Product is custom-made, or produced in accordance with indications or information provided by the Customer, the latter will be solely liable for any infringement, even relating to the production process, of rights of third parties in relation to industrial property and it undertakes to hold harmless C.Matic from each and any direct or indirect consequence that the availability or use, in any capacity, of that information or the Product itself may cause, directly or indirectly, to C.Matic or to third parties. The Customer will, finally, bear directly or in any case will keep C.Matic indemnified for all direct and indirect damages and for all costs, including of legal support or any other professional reason, even technical, including the fees of Professionals instructed by C.Matic in the event of legal or extrajudicial action or for mediation, brought against C.Matic or by it due to any infringement of the obligations set out in this clause.

**7. DELIVERY, TRANSPORTATION, VERIFICATION AND ACCEPTANCE OF PRODUCT**

**7.1 Delivery term**

C.Matic will make any effort to respect the delivery term agreed with the Customer.

In no case, however, may the delivery date be deemed as mandatory and binding for the correct implementation of the order. The Customer expressly waives the right to make any claim for damages or reimbursement in any capacity or to request the termination of the contract in cases of failure to respect the delivery term of the Product.

As stated above all delivery dates are approximate and C.Matic shall not be responsible for any damages of any kind resulting from any delay.

C.Matic reserves the right to communicate, by any means,

to the Customer any changes to the delivery term when the change is of particular significance. The Customer may request that C.Matic makes its best efforts to improve the delivery but in no case it may refuse to pay for the Product. C.Matic reserves the right to suspend, indefinitely, the delivery of the Product in the event of non-payment of the supplies. Similarly, in any case of non-fulfilment, C.Matic may, if existing, deem the exclusivity of the product reserved to the Customer to be terminated and no longer in existence.

**7.2 Delivery terms (Ex-works)**

Unless otherwise agreed, the delivery of the Product will be made "Ex-works" and is understood to be executed on the day and time on which the loading of the goods on the vehicle used by the carrier or shipping agent is completed or, in any case, from the communication made by C.Matic of the availability of the goods.

From the above date, the Customer will be transferred all rights and responsibilities relating to the Product even if physically still stored at C.Matic's plant.

The Customer is required to collect the Product directly or indirectly within 5 days from the notification of availability of the goods. In the event of a delay in collecting the goods beyond the aforementioned term, C.Matic will charge to the Customer all costs and disbursements that are necessary for storage, deposit and handling of the goods.

C.Matic will issue for that reason the corresponding invoice which must be paid before collecting the Product and in any case by the terms set out in point 10.1.

Once 10 days have elapsed from the notification that the goods are ready for delivery, C.Matic may, at its sole discretion, subject to the obligation for the Customer to pay the costs as indicated above, sell the Product to third parties, destroy it at the expense of the Customer, or reuse it, charging to the Customer all consequent costs. The invoice issued for that reason is understood to be payable immediately. Similarly, in the event of non-collection of the Product, by the term indicated above, C.Matic may deem any exclusivity, if existing, granted to the Customer terminated, even with reference to the continuation of the contract with the Customer.

C.Matic shall in good time send to the Customer or to the conveyor the "goods ready for delivery" notification. The Customer, or the conveyor under Customer's responsibility, shall collect the Product at the date and time indicated in the "goods ready for delivery" notification as received from C.Matic. Where the goods are not collected in accordance with what is stated in the "goods ready for delivery" notification, the Customer shall bear any cost, disbursement or expenditure for any reason (deposit, insurance, handling, storage, use of space, etc.) incurred by C.Matic as already specified above.

**7.3 Transportation, customs charges, insurance**

Unless otherwise expressly provided in the order, the transportation will always be performed at the care and expense of the Customer which shall, if deemed necessary, and under its exclusive liability, insure the Product during transportation. Where C.Matic takes responsibility for shipping the Product to the destination, the transfer of risk will occur when the Product is delivered to the first shipping agent or the first hauler.

The Customer shall always bear, unless otherwise agreed, the customs charges, freight and costs of storage at destination, proceeding, if due, to fulfill the shipping, loading, unloading and customs clearance procedures, irrespective of the means of transport chosen by the Customer.

The Customer shall offer to C.Matic proof of the customs clearance of the product and its receipt. C.Matic, however, will never be required to insure the Product irrespective of the agreed delivery methods.

**7.4 Check of quantities and type of Product delivered**

The Customer shall check quantities and weight of the Product by way of its own personnel, the conformity of the Product with the order terms; that check will be conducted at the cost of the Customer and under its exclusive responsibility as soon as the delivery is made.

Any dispute or reservation relating to clear defects of the Product shall be noted immediately on the consignment docket, CMR, way bill or transportation document. A copy of the consignment docket, way bill or transportation docket with the respective reserves or disputes shall be sent for information to C.Matic which, in any case, will not be liable for any shortages and will not be liable for reserves made by the Customer except where it is proven that the defect subject to the reserve was already existing at the time of delivery of the product at the plant of C.Matic. In the absence of reserves noted on the consignment docket, CMR, way bill or transportation document, the Product, from the perspective of type and quantities, will be understood to be accepted on a final basis, with express irrevocable waiver for the Customer of the right to claim in any venue, for that reason, rights of any nature.

**7.5 Dispute in relation to existence of defects**

C.Matic is required to deliver the Product free from defects and compliant with the order.

The quality of the Product is understood to refer to the "standard" of C.Matic, as well-known to the Customer.

The Customer, in the case of defects existing in the Product, shall, under penalty of forfeiture within 10 calendar days from the delivery, dispute the Product supplied, sending to C.Matic an appropriate written communication containing the list of defects or faults, the number of items on which the same have been identified, the methods by which the checks were performed, the batch number and any useful evidence to allow C.Matic exactly to identify the Product subject to dispute. The Customer, if requested by C.Matic, shall return, at the care and expense of the Customer, the Product subject to dispute.

C.Matic, at its sole discretion, and without this constituting any acknowledgement of any liability, may repair the product, sending it back to the Customer. In that case, C.Matic will

bear the transportation costs.

Where C.Matic does not identify the presence of the disputed defects or faults, it can invite the Customer to its own plant to jointly assess the results of its investigations, after which the Product will be sent back to the Customer at its expense. C.Matic, however, may, at its sole discretion, and without this constituting any acknowledgement of liability, proceed to replace the disputed Product, sending a new one to the Customer.

In no case may the Customer suspend payment of the Product even if it is subject to total or partial dispute. Similarly, even in the case of total or partial dispute of the supply made, the Customer may not suspend the payment of any sum for any reason due to C.Matic.

The Customer may not, for any reason, autonomously perform or have performed by third parties processes or interventions on the Product. In that case the Product will no longer be guaranteed, meaning, in addition, that the Customer irrevocably waives the right to claim in any venue any liability by C.Matic.

Where the Customer, in the presence of clear defects or faults, decides not to inform C.Matic of them and uses, assembles or sells the Product, it will lose any right to the replacement or repair of the Product.

Similarly, the guarantee provided by C.Matic, in accordance with point 7.6 below, is also understood to be terminated.

In any case, subject to an indication to the contrary sent by C.Matic, the Customer shall take exclusive responsibility for the activity and cost of disassembly, storage, disposal of the Product subject to dispute and the activity and cost of assembling the new, reworked or re-sent Product by C.Matic to the Customer.

Any complaints or disputes do not exonerate the Customer from the obligation of honouring any obligation accepted towards C.Matic, irrespective of the reason for which the obligation was contracted.

#### 7.6 Guarantee - duration

C.Matic, unless otherwise agreed, guarantees the Product supplied for a period not exceeding twelve months. The guarantee is understood to commence from the "goods ready for delivery" notification or from the day of the ex-works delivery.

The guarantee shall be effective in the case of correct use of the Product and when the malfunctioning of the same or the defect identified in the Product is not also indirectly or partially attributable to the Customer or to the end user or in the case of inconsistent or unauthorized use of the Product.

#### 7.7 Acceptance

Once the term of 10 days has elapsed from delivery of the product and in the absence of disputes, the Product supplied will be understood to be definitively accepted and the Customer will have forfeited the possibility of making any claim, protest or request whatsoever.

In no case after the acceptance has been made will C.Matic be required to replace or repair the Product supplied or bear any cost or disbursement even by way of damages.

## 8. ADVERSITY CLAUSE AND CAUSES OF FORCE MAJEURE

### 8.1 Conditions for changing the prices of the Product

C.Matic may change the prices of the Product even after acceptance of the order and conclusion of the contract. C.Matic shall notify the Customer in writing the new price, indicating the reasons for which that change is necessary. The new price will be binding for the Customer commencing from the first delivery after the communication or in any case once 10 calendar days have elapsed from the communication sent to the Customer.

C.Matic, where exceptional events occur that make the implementation of the order particularly burdensome, may terminate or withdraw at any time from the contract, cancel the order or delivery program, without the Customer being able to claim, with that right being understood to be irrevocably waived, any reimbursement or compensation.

### 8.2 Causes of force majeure

C.Matic may suspend its supply obligations and, in any case, the contractual commitments with the Customer in any case of Force Majeure. Where C.Matic intends to invoke that right it must promptly inform the Customer in writing, indicating the invoked cause of Force Majeure and, if possible, the expected duration of the suspension of the contractual obligations assumed. If the cause of suspension protracts for more than 90 working days, the Customer may, temporarily, source the Product it requires from another supplier, subject to the commitment, for the Customer, once the cause of Force Majeure has ended, to repurchase the Product from C.Matic.

C.Matic undertakes to communicate in writing to the Customer the termination of the cause of Force Majeure, also indicating the date of first delivery of the Product after the Force Majeure event.

The Customer is required to accept those deliveries. If the case of Force Majeure protracts for more than 90 days, C.Matic and the Customer will meet in order to assess the possibility of deeming the supply contract to be terminated.

In any case, the Customer shall collect and pay for all the Products in storage at C.Matic, the cost of the semi-finished products, raw materials, paper and anything that was specifically purchased or produced by C.Matic to imple-

ment the supply. C.Matic may also invoke Force Majeure in all cases where its performance becomes particularly onerous or impossible. The following circumstances constitute Force Majeure, by way of an indicative but not comprehensive list:

-natural disasters (earthquakes, fires, floods, storms, etc.),  
-armed conflicts, wars, disputes, attacks, uprisings, terrorist acts.

-trade union or labor conflicts or disputes, lock-outs, general and industry strikes or strikes at the plant of C.Matic or C.Matic's of the same.

-trade union conflicts or disputes, general or industry or plant strikes or lock-outs, even if relating to C.Matic's of C.Matic, hauliers, service companies, shipping agents, post offices in general or, in any case, all those involved in the production process.

-orders of judicial, government or public authorities in general.

-prohibitions on import, embargoes, blocks on production imposed by the health or public authority in general.

-accidents at work, seizures, machine faults, explosions, power shortages and any and every event that might limit or exclude the possibility of production.

-shortages or excessive cost of raw materials.

Where the Customer intends to invoke cases of Force Majeure, it must promptly inform C.Matic.

In that case, the Customer shall also indicate to C.Matic the methods by which the Product may be collected, possibly even in a different location to that agreed, with the Customer, in that case, bearing the greater cost that C.Matic will indicate.

In no case may the Customer invoke Force Majeure to suspend the payments of supplies.

## 9. DEFINITION OF PRICES

The prices indicated by C.Matic are all understood to be net of taxes, rates, duties on the Product. Unless otherwise agreed, the prices are in any case understood to be "ex works". Unless otherwise agreed, the prices will always be expressed in Euros.

## 10. PAYMENTS

### 10.1 Payment Terms

The payment of supplies, unless otherwise agreed, shall occur, at the domicile of C.Matic, irrespective of any disputes, upon receipt of the pro-forma or of the invoice in advance. C.Matic may allocate the payments received at its sole discretion, providing information thereof to the Customer.

C.Matic shall not be required to agree any discount in cases of early payment of the Product.

### 10.2 Payment Delays

Subject to what is indicated in this contract, in cases of non-payment of the Product within the term identified in point 10.1, interest will accrue in favour of C.Matic amounting to the rate established by Italian Legislative Decree 231/2002.

C.Matic is authorized to issue an invoice for interest in accordance with the methods set out in this point and to send it to the Customer.

The invoice will also include the costs that C.Matic has incurred for that activity. The Customer must immediately proceed with the payment of what is due. Where an invoice is issued for interest and/or costs for delayed payment, C.Matic may, at its sole discretion, allocate all payments subsequently made by the Customer to settle the invoice for interest and costs and, only for any residual amount, to payment of the Product supplied.

C.Matic may also, in the case of non-payment, suspend the delivery of the Product, refuse the request for further deliveries and/or deem the contract terminated or also the commitment made to process any subsequent orders of the Product.

Similarly, C.Matic, in the case of non-payment by the payment date of even just one supply, may deem any "exclusivity", if existing, of the product no longer to apply. The invoice issued in accordance with this article shall, in any case, be paid by the Customer prior to collecting the Product.

### 10.3 Changes in the financial or corporate situation of customers

Any event or conduct that might lead to doubts about the solvency of the Customer or its desire or possibility to pay or collect the Product supplied may be considered a reason for the suspension of the supply of the Product by C.Matic. C.Matic, in that case, must send to the Customer a specific communication. From receipt of the aforementioned communication, all debts of the Customer towards C.Matic shall be understood to be immediately due and the sums all collectable, and this is in derogation of any agreement to the contrary that may have been made with the Customer. C.Matic will also be entitled to take the Product supplied but not paid from the warehouses or plants of the Customer. The Customer hereby authorizes C.Matic to request and obtain from the judicial authority and also as a matter of urgency any measure required.

From the date of sending the communication referred to in this paragraph, the Customer will be required, irrevocably, to pay, in advance, any sum requested for subsequent supplies

of the Product, and this is in derogation of both existing orders, even if accepted by C.Matic, and any supply condition even if agreed and in existence between C.Matic and the Customer, subject in any case to C.Matic's right to suspend the deliveries and terminate the existing contract.

Where the Customer is subject to insolvency proceedings (arranged with creditors, receivership, bankruptcy, forced liquidation, special administration, debt restructuring agreement, etc.) C.Matic may, in compliance with the specific regulations in relation to recovery of credits, suspend the further supplies, deem the contract terminated and revoke any exclusivity, if existing, of the product. The Customer is required to communicate to C.Matic any significant change to its corporate structure or its managerial-administrative organization or the signature of deeds of sale or rental of the business or branches of the same even by way of preliminary agreement. C.Matic, having assessed that information or where the same has been acquired autonomously, may communicate to the Customer its intention not to continue the relationship, also suspending the implementation of orders already accepted. In that case, all credits of C.Matic shall be understood to be immediately due and the exclusivity, if existing, of the product revoked.

C.Matic may in any case retain, by way of greater damages, the advances or anything collected up until that time.

### 10.4 Credits of the Customer

The Customer may not, for any reason, even in cases of dispute recognized by C.Matic, issue, without the consent of C.Matic, debit notes or invoices for credits even ascertained to be due to it or in any case charge C.Matic sums of which the latter has not, expressly and in writing, acknowledged to be the debtor of. The Customer may not, in any case, except with written authorization, offset or retain sums due for any reason to C.Matic against its own alleged or ascertained credits; in that case, C.Matic may claim interest for non-payment or delayed payment and suspend the subsequent supplies.

### 10.5 Retention of Title

The Product is supplied with the formula and guarantee for C.Matic of "Retention of Title", such that the product will remain the property of C.Matic until the Customer has fulfilled every obligation for any reason existing towards C.Matic.

The Customer shall implement every measure necessary for the protection and safeguarding of the right of "Retention of Title" and will be liable for any consequence that might derive to the product itself. The "Retention of Title" does not imply a derogation of what is provided at points 7.2 and 7.3 in relation to transfer of risk and liability for transportation and custody of the product itself.

The Customer is required to implement every useful measure so as not to confuse C.Matic's product with another possibly similar product of other C.Matic's, and it must store the product in spaces appropriately separated and easily identifiable.

The Customer is required to inform its customers, particularly in the case of processing performed on behalf of third parties, of the existence of the "Retention of Title" guarantee in favour of C.Matic, expressly authorizing the latter, in the case of non-payment by the Customer or a request by the same for admission to insolvency proceedings, arrangement with creditors or similar, to recover, even by urgent judicial measure, and at the expense of the Customer, the Product supplied and not yet paid for in full. Similarly, the Customer must consent to the amicable collection of the Product by C.Matic, where requested by it, except where the Customer has fulfilled every obligation in place with C.Matic and paid every debt for any reason existing towards C.Matic.

## 11. LIABILITY

### 11.1 Definition of liability of C.Matic

C.Matic will be liable for the correct production of the product and for complying with the characteristics provided in the order. The Product will be produced in compliance with existing EU legislation. It will be the responsibility of the Customer to communicate in good time any specific regulatory or administrative provision outside the Italian national territory or that may relate to the production or packaging of the Product.

C.Matic will never be liable for defects of the Product when these are attributable to:

- materials supplied by the Customer or by third parties indicated by the customer.
- design or planning errors when those activities are implemented by the Customer or by third parties indicated by the Customer.
- use of equipment indicated or provided by the Customer or by third parties indicated by the Customer.
- treatments, manipulations, transformations, surface treatment, or processing performed on the Product without the written consent of C.Matic.
- non-compliant, non-permitted, anomalous, atypical or particular use.
- poor storage, transportation, conservation or handling.
- normal wear of the Product or deterioration of the same attributable to events referable to the Customer or to third parties.
- lack of compliance with recommendations, indications or suggestions of C.Matic in relation to maintenance, conservation or use of the product itself.

## 11.2 Limits of Liability

The liability of C.Matic, except as stated hereinafter, will in any case be limited only to direct damages caused to things or persons of the Customer or used by the same due to faults or defects of the Product recognized by C.Matic as attributable to the same. Any liability for indirect damages, loss of image, loss of income, loss of earnings, costs, loss of business, of profit, costs for production shutdowns even of third parties or in any case as an indirect consequence of the defect of the product, even where the defect is recognized by C.Matic, is excluded. Similarly, C.Matic may never be liable for damages that the product may have caused to third parties once the Product is assembled, sold autonomously or together with the product of the Customer.

In no case C.Matic will be liable for lack of performance in addition to those indicated in the catalog. The Customer, upon delivery of the product, irrevocably waives the right to take action against C.Matic for any other claim that is outside the liability of C.Matic, the extension of which is that limited to what is stated in this paragraph. Similarly, any liability of C.Matic is excluded in the case of infringement of any property rights of third parties except where the Customer can prove the knowledge by C.Matic of the existence of patents or property rights.

In any case, the limit of liability for C.Matic is understood to be fixed at the value of the product supplied, and accepted as defective by C.Matic. C.Matic may be exempted from any liability by offering to the Customer a replacement product of the same type and with the same technical characteristics. The Customer waives, in any case, with the delivery or receipt of confirmation of the availability of the product, the right to make any other or additional claims than those indicated herein, being understood that the Customer irrevocably waives the right to claim damages or compensation of any nature.

## 12. JURISDICTION

The supply of the product and any consequence deriving from implementation of the contract or, in any case, any fact connected to or aimed at the conclusion of the contract and/or the order, will always and in any case, mandatorily be submitted to Italian jurisdiction and to the laws in force in Italy, with the validity and applicability of foreign jurisdictions or regulations being excluded.

C.Matic may, at its sole discretion, deem applicable, even foreign jurisdictions, to protect its rights of credit or those consequent to the supply.

## 13. COURT WITH JURISDICTION FOR DISPUTES

C.Matic and the Customer undertake to make all their best efforts to settle amicably any disputes that might arise between them for any reason that is connected to or results from the supply of the product. In any case, any dispute that might arise in relation to the relationship between the parties or for any other reason or consequence that is connected to or results from the supply of the Product, or the interpretation or execution, even partial, of the contract in place between the Customer and C.Matic, shall be understood to be devolved, unless decided differently by C.Matic as a result of the right set out in the previous paragraph, to the exclusive and mandatory jurisdiction and responsibility of the Court of Monza.

In the event of any litigation arising herefrom, C.Matic shall be entitled to recover all reasonable attorney's fees, cost and expense incurred by C.Matic in enforcing any C.Matic's right hereunder.

发布日期  
February 2026





希曼蒂克(上海)流体科技有限公司  
上海静安区延安中路841号东方海外大厦2605室

Cmatic (Shanghai) Fluid Technology Co., Ltd  
Yan'an middle road N.841, Jing'an District 200040, Shanghai OOCLPlaza, Suite 2605

[cmatic.cn](http://cmatic.cn)