

AutomotiveLine

用于冲床工具、模具和模具的氮气弹簧

NITROGEN GAS SPRINGS FOR PRESS TOOLS, DIES AND MOULDS



BORDIGNON

Where innovation happens

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WHERE INNOVATION HAPPENS

68
YEARS of
INNOVATION

索引

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汽车系列:为全球制造商带来的灵活性与性能

Automotive line: flexibility and performance for the manufacturers worldwide

通过与汽车市场制造商长期且紧密的合作,我们熟悉他们的需求。因此,我们打造了一系列兼具性能、灵活性和优化功能的气弹簧及配件。

Through our long-term and close collaboration with the manufacturers of the automotive market, we are familiar with their needs. That's why we have created a line of gas springs and accessories that combines performance, flexibility and optimization.

在正常工作条件下,若使用得当,Bordignon 氮气弹簧的总行程寿命可超过 200,000,000 毫米。

The Bordignon nitrogen gas springs, if properly used, will last more than 200,000,000 mm of total stroke in normal working conditions.



* ISO 9001证书可于 www.bordignon.com 下载

ISO 9001 certificate available for download on www.bordignon.com



这是一项开创性的边界扩展方法

A pioneering approach extending the boundaries

自60年前起, 博迪尼翁成功成为参考市场的领导者, 开发了应用于弹簧、氮气弹簧以及冲床工具、模具和模具解决方案的新技术解决方案。

我们对商业投资的愿景主要聚焦于研发, 同时凭借高度专业化的人力资源和创新技术, 确保产品质量和性能的最高标准。

Starting 60 years ago, Bordignon succeeded in becoming the leading company in the reference market, developing new technological solutions applied to springs, nitrogen gas springs and solutions for press tools, dies and moulds.

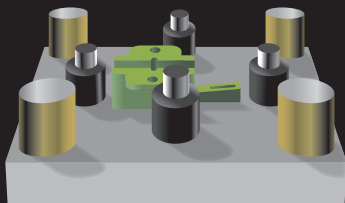
Our vision about business investments aims to mainly focus on research and development, and at the same time it guarantees the highest standards of products quality and performance, thanks to highly specialised manpower and to the innovative technologies that characterise our production plants.

功率与紧凑性

Power & compactness



线弹簧 (低功率)
Wire springs (low power)



高功率气弹簧
Gas springs (high power)

氮气弹簧相比传统钢丝弹簧有许多优势:更高的力、更紧凑的尺寸(高度和直径)、无需预压缩(预装载)、不因断裂而损坏工具、更长的使用寿命。

缩小模具尺寸意味着成本降低和提高生产力,这对模具制造者和模具使用者都有利。

Nitrogen gas springs offer many advantages over traditional wire springs: higher force, more compact dimensions (height and diameter), no pre-compression (pre-load) needed, no damage to the tool because of breakage, longer potential service life.

Reduction of die size translates into cost reduction and higher productivity, with advantages for both the die-maker and the die-user.



耐用性、可靠性、降低成本

Durability, reliability, cost reduction

博迪尼翁“汽车系列”氮气弹簧被开发为汽车行业的可靠标准解决方案。其部分设计和技术源自著名的博迪尼翁“高性能系列”氮气弹簧，因此在价格优于市场上其他氮气弹簧方面提供了更优越的性能和耐用性。模具制造商会欣赏博迪尼翁“汽车系列”氮气弹簧作为汽车行业（以及其他领域/应用）的标准解决方案，并对其卓越的产品可靠性充满信心。模具用户会欣赏博迪尼翁“汽车系列”氮气弹簧的优越耐用性，这有助于减少生产停工和成本。

下图展示了两款博迪尼翁“汽车系列”氮气弹簧系列（AGS和TGS，作为其他系列样品）与市场上其他四款最耐用氮气弹簧的使用寿命（根据Bordignon*的测试）的相对比较。这些数据来自于多种不同使用条件下进行的测试。在所有这些比较测试中，波迪尼翁气弹簧及其对应的“非波尔迪尼翁”型号始终在相同的使用条件下进行测试：结果是，在相同使用条件下，波迪尼翁氮气弹簧的使用寿命是其他气弹簧的1.2倍至5倍*。

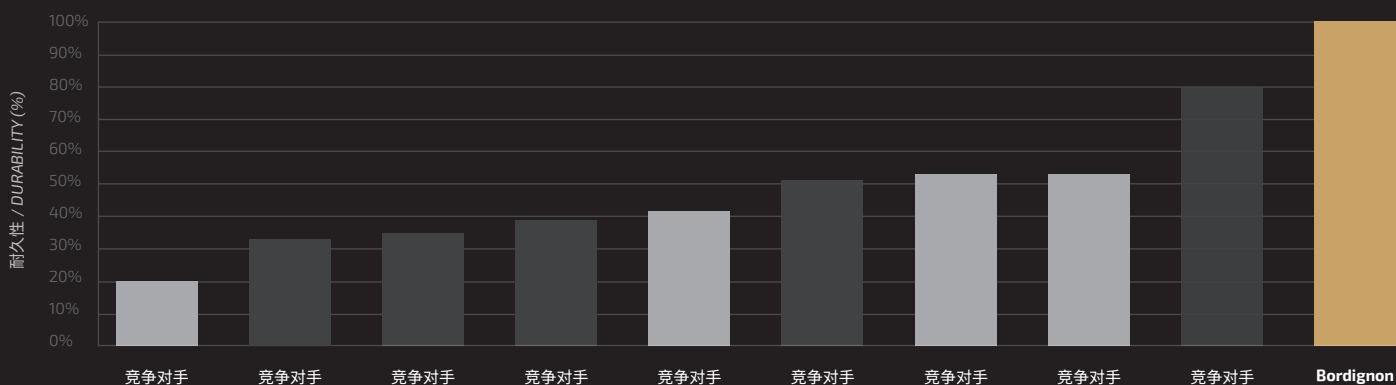
The Bordignon "Automotive Line" nitrogen gas springs have been developed as a reliable, standard solution for the automotive industry. Part of their design and technology comes from the well-known Bordignon "High Performance Line" nitrogen gas springs and therefore they offer – at an advantageous price – superior performance and durability when compared to the other nitrogen gas springs on the market.

Die makers will appreciate the Bordignon "Automotive Line" nitrogen gas springs as a standard solution for the automotive industry (as well as for other fields/applications) and will be confident in a superior product reliability. Die users will appreciate the Bordignon "Automotive Line" nitrogen gas springs for their superior durability, which translates into the reduction of production stops and costs.

The following graph shows a relative comparison between the service life of two Bordignon "Automotive Line" nitrogen gas springs series (AGS and TGS, taken as samples for all the other series) and the service life of the other four most durable nitrogen gas springs on the market (according to the tests performed by Bordignon*). The data have been collected from tests that were performed in several, different use conditions. In all these comparison tests, the Bordignon gas spring and the corresponding "non-Bordignon" model have always been tested in the same identical use conditions: the result is that, under the same use conditions, the service life of Bordignon nitrogen gas springs is from 1.2 up to 5 times longer than the service life of the other gas springs*.

在相同作条件下的耐久性 * / DURABILITY UNDER THE SAME OPERATING CONDITIONS *

(图表显示了参考值 / The graph shows reference values)



* 博迪尼翁所进行的测试结果可免费获取

* The results of the tests performed by Bordignon are freely available on request

测试赛对阵博迪尼翁AGS
Tests vs. Bordignon AGS

测试赛对阵博迪尼翁TGS
Tests vs. Bordignon TGS

安全性与可靠性

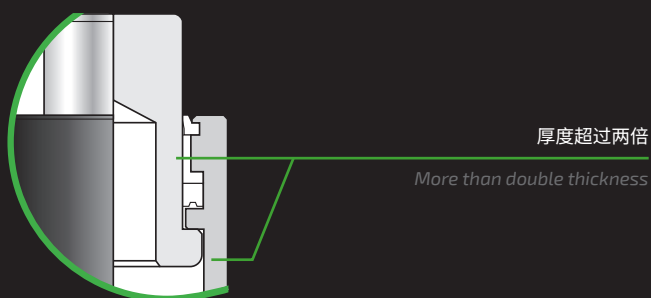
Safety & reliability

安全

博迪尼翁氮气弹簧始终采用单一（“单片”）厚机械部件制造，以确保产品完整性和最大用户安全，即使在极端错误使用条件下（碰撞等）也能保障。

波迪尼翁结构 - 单一“单片”组件

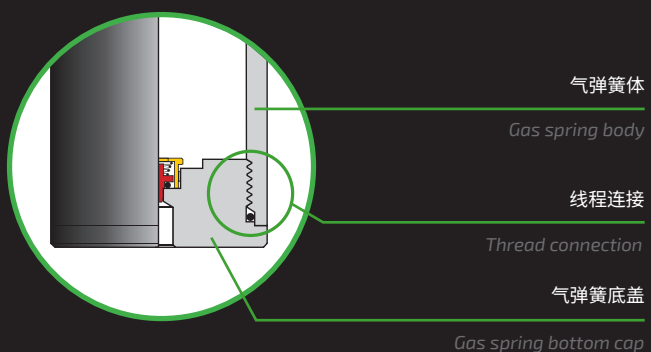
Bordignon construction - Single "monolithic" components



博迪尼翁气弹簧部件通过螺纹连接连接，以实现最高安全。螺纹连接在全球高压设备中是标准配置，如水射流切割喷嘴和超高压容器（~10000巴）。

波迪尼翁结构 - 车身/底盖螺纹接头

Bordignon construction - Body/bottom cap threaded junction

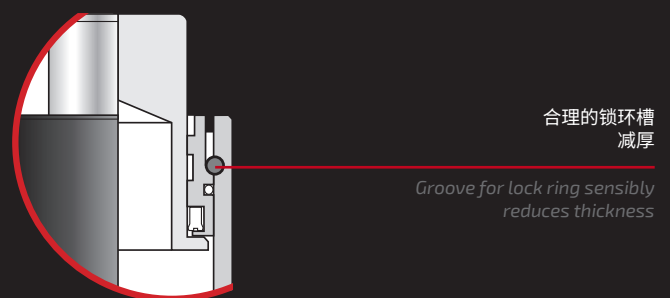


Safety

Bordignon nitrogen gas springs have always been built with single ("monolithic") thick mechanical components, in order to ensure product integrity and maximum user's safety even under the most extreme wrong use conditions (collisions, etc.).

其他构造 - 多个组装组件

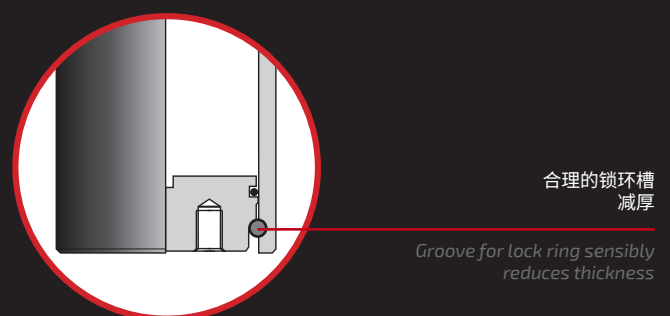
Other constructions - Several assembled components



Bordignon gas spring components are coupled through thread connections, for the highest possible safety. Thread connections are standard in high pressure equipment around the world, such as waterjet cutting nozzles and ultra high pressure vessels (~10000 bar).

其他构造 - 车身/底盖连接处带锁环

Other constructions - Body/bottom cap junction with lock ring

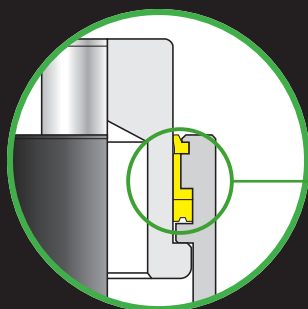


可靠性

所有波迪尼翁氮气弹簧均具备自润滑功能,可运行数百万次循环,这得益于固体润滑剂。

Reliability

All Bordignon nitrogen gas springs are self-lubricated, for millions of cycles, thanks to a solid lubricant.



自润滑密封系统

Self-lubricating sealing system



FMEA与安全保护

FMEA & Safety protections



ISO 11901-5



VDI 3003 Part 1

FMEA - 失效模式与效应分析

除了设计和制造可靠的外，博迪尼翁氮气弹簧始终配备了经过测试的安全系统，能够最大限度地降低因不当使用而产生的潜在风险，即使在极端情况下也能确保最终用户的最高安全水平。博迪尼翁氮气弹簧的安全防护符合ISO 11901-5和VDI 3003 Part 1参考标准。

FMEA - Failure Mode and Effect Analysis

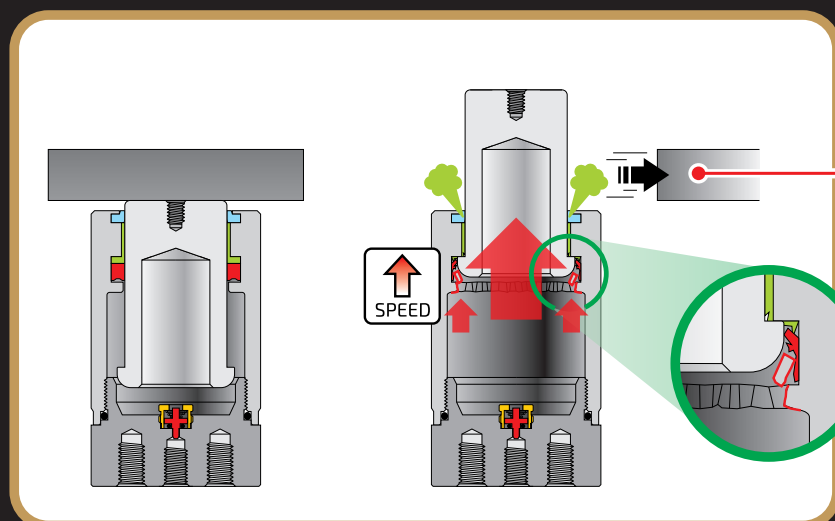
In addition to the reliable design and construction, Bordignon nitrogen gas springs have always been built with safety systems (tested) which minimize the possible risks arising from non-proper use, even in extreme situations, thus ensuring the highest safety level for the end user. The safety protections of the Bordignon nitrogen gas springs are in accordance with the ISO 11901-5 and VDI 3003 Part 1 reference standards.

无控制回位安全保护 (活塞杆免释放)

有可能氮气弹簧的活塞杆没有紧跟冲压机的回行程，这可能是由于刀具部件或凸轮卡住所致。因此，当卡住部件被释放时，氮气弹簧的活塞杆在回击行程中超过允许转速，活塞杆会无控制地撞击在最终止点（杆的回程行程中推出卡壳部件而不产生压迫反力）。在这种情况下，博迪尼翁氮气弹簧设计用于在活塞杆速度超过最大允许速度时将气体排放到大气中，从而使气弹簧减压。这降低了气弹簧部件可能被弹出的风险。

Uncontrolled return stroke safety protection (piston rod free release)

It is possible that the piston rod of the nitrogen gas spring does not immediately follow the return stroke of the press; this can be caused by a jammed tool part or cam. As a result, when the jammed part is released, the piston rod of the nitrogen gas spring exceeds the permitted speed during the return stroke and the piston rod slams unchecked onto the final stop (return stroke of the rod pushing out the jammed parts without stamping counterforce). In this case, Bordignon nitrogen gas springs are designed to vent the gas to the atmosphere – thereby depressurizing the gas spring – in the event that the maximum permitted piston rod speed is exceeded. This reduces the risks caused by the possible ejection of gas spring parts.



活塞杆自由/失控释放
(无反制力量)

PISTON ROD FREE/UNCONTROLLED RELEASE
(no press counterforce)

活塞杆机械止动器（属于气簧体的一部分）设计用于在活塞杆转速过快时断裂。活塞杆通过次级机械止动装置安全固定在气簧内部。该过程会损坏杆密封，导致氮气泄漏，气弹簧得以安全释放。

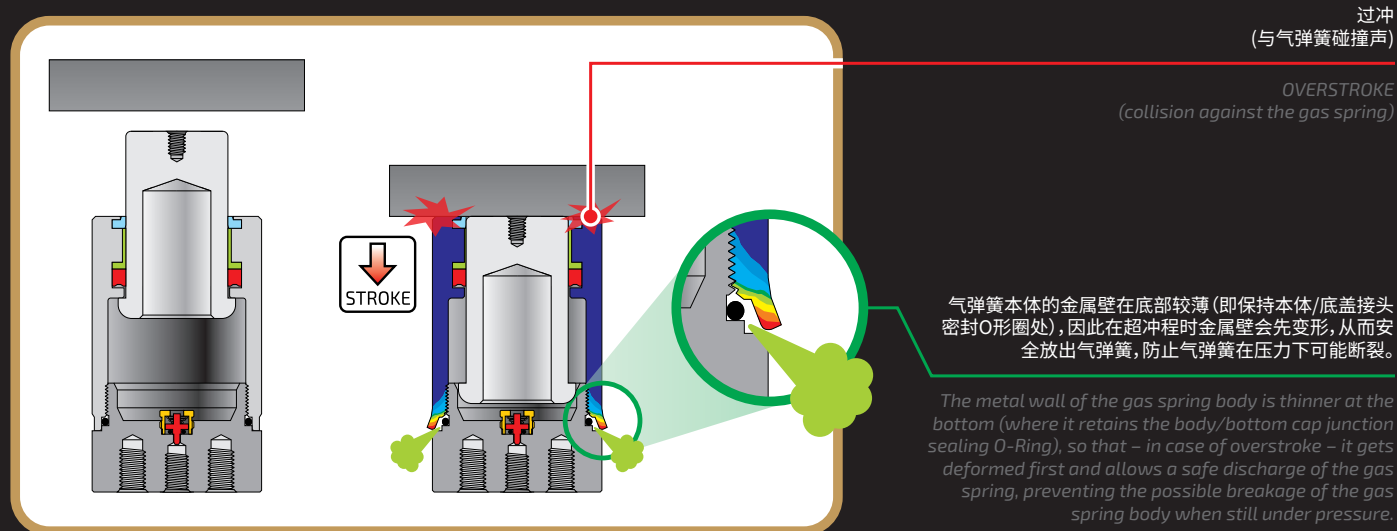
The piston rod mechanical stop (which is part of the gas spring body) is designed to break in case of excessive piston rod speed. The piston rod is safely retained inside the gas spring thanks to a secondary mechanical stop. This process damages the rod seal, so that the nitrogen gas leaks and the gas spring is discharged in complete safety.

超行程安全保护

当活塞杆被推入气弹簧体内超过标称行程时,会发生过冲程。这可能会损坏气弹簧。波迪尼翁氮气弹簧设计用于在超冲程时,以可控方式将氮气排放到大气中。

Overstroke safety protection

Overstroke occurs when the piston rod is pushed deeper into the gas spring body than nominal stroke. This could damage the gas spring. Bordignon nitrogen gas springs are designed to vent the nitrogen gas to the atmosphere in a controlled manner in the event of overstroke.

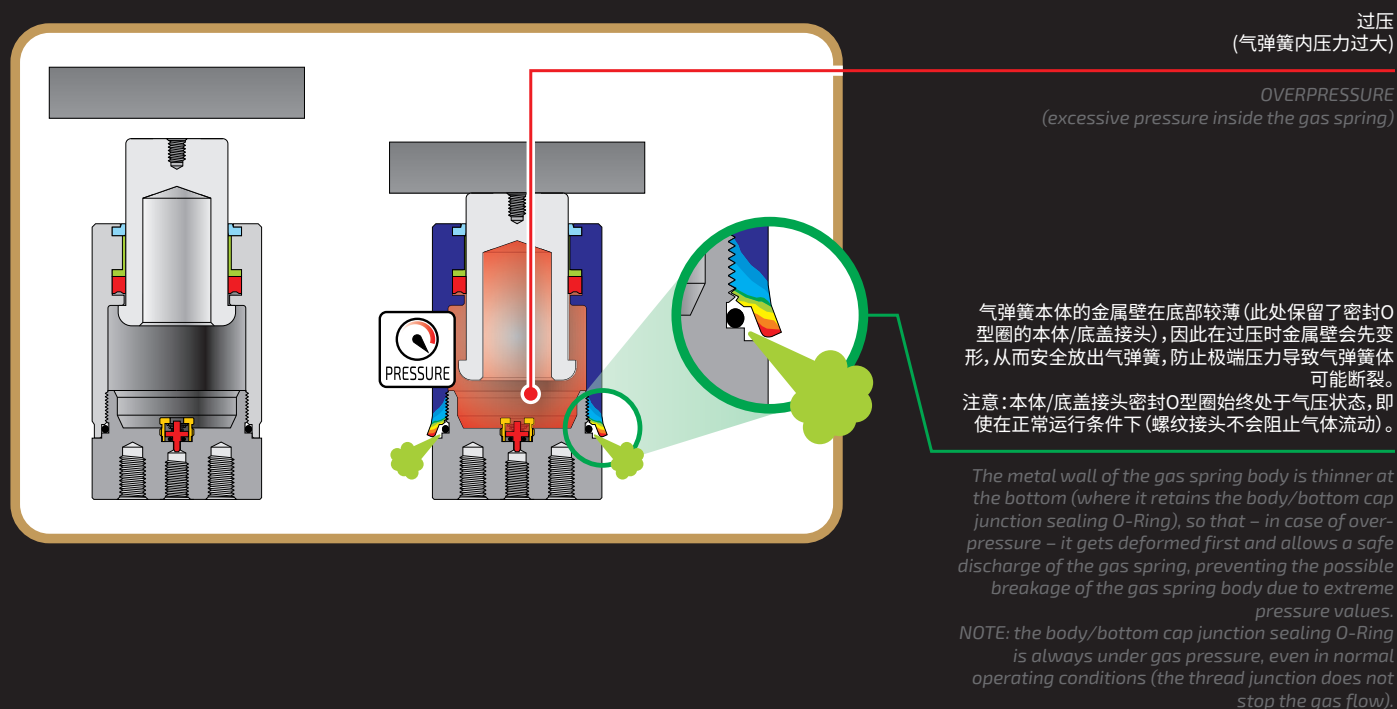


过压安全保护

如果气弹簧内部压力因流体渗透或充气不当而超过允许的限值,就有气弹簧断裂的风险。博迪尼翁氮气弹簧设计有过压保护:当超压保护系统被触发时,气体会排放到大气中。

Overpressure safety protection

If the pressure inside the gas spring rises above the permitted limit, due to fluid penetration or incorrect charging, there is the risk of gas spring breakage. Bordignon nitrogen gas springs are designed with an overpressure protection: when the overpressure protection system is triggered, the gas is vented to the atmosphere.



使用说明

Use instructions

不



活塞杆上的螺纹孔仅用于运输和维护。
不要用它来固定氮气弹簧。

The threaded hole on the piston rod is for transport and maintenance purposes only.
Do not use it for fastening the nitrogen gas spring.



没有支线力量。工作行程始终垂直于氮气弹簧底部。

No side forces. Work stroke always perpendicular to the base of the nitrogen gas spring.



避免活塞杆被划伤和划伤。

Avoid scratching and scoring on the piston rod.



不要对氮气弹簧做机械作。

Do not make mechanical work on the nitrogen gas spring.



不要拆解氮气弹簧。维护仅限授权人员。该授权仅在博尔迪尼翁举办的课程后授予。

Do not disassemble the nitrogen gas spring. Maintenance only by authorized people. The authorization is given only after a class held by Bordignon.



最大撞击和最大释放速度: 1.6 m/s (TGS系列为1 m/s)。每分钟最大工作周期数: 详见产品表及技术规格。

Max impact and max release speed: 1.6 m/s (1 m/s for TGS series). Maximum number of working cycles per minute: see product tables with the technical specifications.



不要自由松开活塞杆。
活塞杆与冲压机一起向上。
如果底座安装用的螺丝断裂或变形(拉长), 找出可能原因并排除:
活塞杆可能存在自由或失控释放的情况。

Do not freely release the piston rod.
The piston rod goes up together with the press.
If the screws used for the base-mounting are broken or deformed (stretched), find out the possible causes and eliminate them: there might have been free/uncontrolled releases of the piston rod.



防止液体或固体污染物。
氮气弹簧通过雨刷环进行防护, 防止污染。
不要使用低闪点的化学产品(汽油、溶剂、酒精等)。
只需用干布清洁。

Protect against liquid or solid contaminants.
The nitrogen gas springs are protected against contaminants by wiper ring.
Do not use chemical products with low flash point (petrol, solvents, alcohol, etc.).
Clean only with a dry cloth.

本目录中的产品设计用于冲压工具、模具和模具。我们不承担任何不当或不当使用方式的责任。

The products in this catalogue are designed for the use in press tools, dies and moulds. We can not take any responsibility for any not proper or different use.

是的



始终使用高强度螺钉将氮气弹簧底部固定在平整、清洁的支撑表面上。对于底部带有多个螺纹孔的气弹簧: 中心孔仅用于充气/放气。底部其余所有孔均用于固定。法兰固定: 使用高强度螺钉将法兰固定在平整、清洁的支撑表面上。气弹簧下方必须安装安全板。



Always fasten the nitrogen gas spring at the base to a flat and clean support surface with high resistance screws. Gas springs with more than one threaded hole at the base: the center hole is for charging/discharging only. Use all the other holes at the base for fixing. Fixing with flange: fasten the flange to a flat and clean support surface with high resistance screws. A safety plate must be present under the gas spring.



只用氮(N₂)充电。

Charge only with NITROGEN (N₂).



气缸孔孔径 Ø +1 mm。液体排水孔。

Hole for cylinder body Ø +1 mm. Draining hole for liquids.



用含二硫化钼(MoS₂)的润滑脂润滑活塞杆。

Lubricate the piston rod with grease with molybdenum disulfide (MoS₂).



工作温度: 最低 0°C (32°F) - 最高 80°C (176°F)。请勿加热。

Operating temperature: MIN 0°C (32°F) - MAX 80°C (176°F). Do not heat.



用金属波纹管防护固体污染物, 用聚合物波纹管防护液体污染物。
将保护层固定在模板板上。

Protect against solid contaminants with a metal bellow, liquid contaminants with a polymeric bellow. Fasten the protection bellow to the die plate.



在 LINKED System 中使用氮气弹簧时, 务必要求/订购“释放、无阀门”(“L型”)。否则, 要为连接系统适配自带式气弹簧, 安装任何接头和软管前: 先用平头内六角扳手(六角键)取下侧盖; 使用合适的ADS放电装置完全放出气弹簧; 用平头3毫米内六角键取出阀芯。



When using nitrogen gas springs in a LINKED SYSTEM, make sure to request/order the gas springs "discharged, without valve" ("L-version"). Otherwise, to adapt a self-contained gas spring for a linked system, BEFORE installing any fittings and hoses: remove the side cap using a flat-end allen key (hexagonal key); discharge the gas spring completely using the proper ADS discharging device; remove the valve cartridge using a flat-end 3 mm allen key (hexagonal key).



重要提示: 请定期查看我们网站上的使用说明更新。如需了解此处未明确说明的可能额外使用说明, 请参阅ISO 11901-5标准。将氮气弹簧使用说明传递给产品最终用户。

IMPORTANT: periodically check for use instructions updates on our website. For possible additional use instructions not explicitly specified here, refer to the ISO 11901-5 standard. Pass the nitrogen gas springs use instructions to the end-user of the product.

信息

Information

- 100%可用行程
- 你可以用充放电装置 (型号COMPL) 调整初始力

- 充气压力: 最小 20 bar - 最大值见产品目录表
- 初始力每从20°C (室温、不加热) 增加1°C, 增加约0.34%

- 如何在目录中计算初始力 (daN) 低于最大初始力时的充压压力(bar):

$$P_u = \frac{F_u \times P_{in}}{F_{in}}$$

P_u = 压力待计算 (bar)
 P_{in} = 目录 (bar) 最大压力
 F_u = 你希望确定压力的初始力 (daN)
 F_{in} = 目录上的MAX初始力 (daN)

- 如何计算中间行程的力 (daN):

$$F_{inter} = F_{in} + \frac{S_u}{S} \times (F_{fin} - F_{in})$$

F_{inter} = 需计算的中间力 (daN)
 F_{in} = 目录上的MAX初始力 (daN)
 F_{fin} = 目录标注的最大终压力 (daN)
 S_u = 你想计算力的行程 (mm)
 S = 目录上的MAX行程 (mm)

- 请注意: 目录中标注的最终力 (全行程时的力) 是静态条件下测量的参考值。实际在使用条件下产生的最终力可能有所不同, 因为它们取决于具体应用参数, 如工作速度 (每分钟循环数)。

- 100% usable stroke
- You might adjust the initial force with the charging and discharging set (model COMPL)
- Charging pressure: MIN 20 bar - MAX see table on catalogue
- Initial force increases by ~0.34% per each 1°C increase from the reference temperature of 20°C (room temperature, do not heat)

- How to calculate the charging pressure (bar) for initial forces (daN) lower than MAX initial force on catalogue:

$$P_u = \frac{F_u \times P_{in}}{F_{in}}$$

P_u = pressure to be calculated (bar)
 P_{in} = MAX pressure on catalogue (bar)
 F_u = initial force (daN) for which you wish to determine the pressure
 F_{in} = MAX initial force on catalogue (daN)

- How to calculate the force (daN) at intermediate strokes:

$$F_{inter} = F_{in} + \frac{S_u}{S} \times (F_{fin} - F_{in})$$

F_{inter} = intermediate force to be calculated (daN)
 F_{in} = MAX initial force on catalogue (daN)
 F_{fin} = MAX final force on catalogue (daN)
 S_u = stroke (mm) for which you wish to calculate the force
 S = MAX stroke on catalogue (mm)

- Please note: the final forces (forces at full stroke) indicated in the catalogue are reference values measured in static conditions. The actual final forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

目录帮助

Catalogue Help

如何订购 (Gas Springs)

你点的 (示例): **8号AGS1000-25-A**

你将获得: 8件AGS系列氮气弹簧, 准备使用, 直径Ø 50 mm, 行程25 mm, 初始力920 daN (其他规格见AGS系列页面)。

新代码/修订版会在旧代码缺货后提供。

对于汽车制造商标准化的物品, 必须直接使用OEM零件编号下单。

How to order (Gas Springs)

You order (example): **No. 8 AGS1000-25-A**

You receive: 8 pieces AGS series nitrogen gas springs, ready for use, diameter Ø 50 mm, stroke 25 mm, initial force 920 daN (other specifications on the AGS series pages).

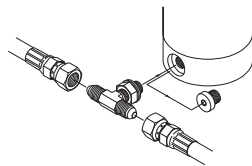
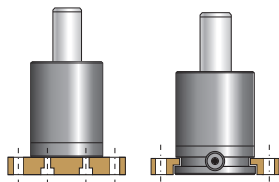
The new codes/revisions will be supplied once the old ones are out of stock.

For items standardized by automotive manufacturers, orders must be placed directly using the OEM part numbers.

气弹簧配件

用于固定、充放电、连接开系统等配件可在本目录中进一步找到。

注意: 仅使用Bordignon氮气弹簧, 配件为Bordignon。



如何订购 (配件)

你点的 (示例): **No. 1 AP01**

您将获得: 一块AP01控制面板 (详见后文专页的技术规格)。



AP01

How to order (Accessories)

You order (example): **No. 1 AP01**

You receive: 1 piece AP01 control panel (see technical specifications on the dedicated page further on).

二维与三维技术图纸

下载各种2D和3D文件格式, 来自以下

www.bordignon.com

2D & 3D Technical drawings

Download various 2D & 3D file formats from

www.bordignon.com

氮气弹簧

用于冲压工具、模具和模具

Nitrogen gas springs for press tools, dies and moulds

- 一系列符合VDI 3004标准的氮气喷射器: EGS系列
- 根据ISO 11901和VDI 3003标准, 采用四系列氮气弹簧: VGS (小直径, 标准力)、AGS (紧凑高度, 高力)、IGS (标准尺寸, 标准力)、PGS (标准尺寸, 高力)
- 一系列超高功率、紧凑直径氮气弹簧: TGS系列
- 还有几种其他气动弹簧系列, 提升了使用多样性
- 固定配件 (底板、半法兰、领圈法兰、脚架、前支撑)
- 联网系统配件 (软管、接头、控制面板、压力开关、安全阀、配电块)
- 充电和放电配件 (充电和放电套装、充电适配器、放电设备、增强器)
- 适用于“OV系统” (替代歧管系统) 的一系列 OV 氮气弹簧: AGS-OV (及相关附件)
- 其他附件 (软管压接装置、支撑板、铭牌、润滑脂、初始力测量仪)

- One series of nitrogen gas ejectors in accordance to the VDI 3004 standard: EGS series
- Four series of nitrogen gas springs in accordance to the ISO 11901 and VDI 3003 standards: VGS (small diameters, standard forces), AGS (compact-height, high force), IGS (standard dimensions, standard force), PGS (standard dimensions, high force)
- One series of ultra-high power, compact-diameter nitrogen gas springs: TGS series
- Several other gas spring series for an enhanced use versatility
- Accessories for fixing (base plates, half-flanges, collar flanges, foot brackets, front supports)
- Accessories for linked system (hoses, fittings, control panels, pressure switches, safety valves, distribution blocks)
- Accessories for charging and discharging (charging and discharging set, charging adapters, discharging devices, Booster)
- One series of OV nitrogen gas springs for "OV system" (alternative manifold system): AGS -OV (and related accessories)
- Other accessories (hose crimping device, counter plates, identifying plates, lubrication grease, initial force gauge)

EGS

氮气喷射器 / nitrogen gas ejectors



该气动弹簧系列包括符合汽车标准的型号 /
This gas spring series includes the models compliant with automotive standards

Ford W-DX35-60M
VW 39D 549



技术说明 / Technical notes

重要使用说明

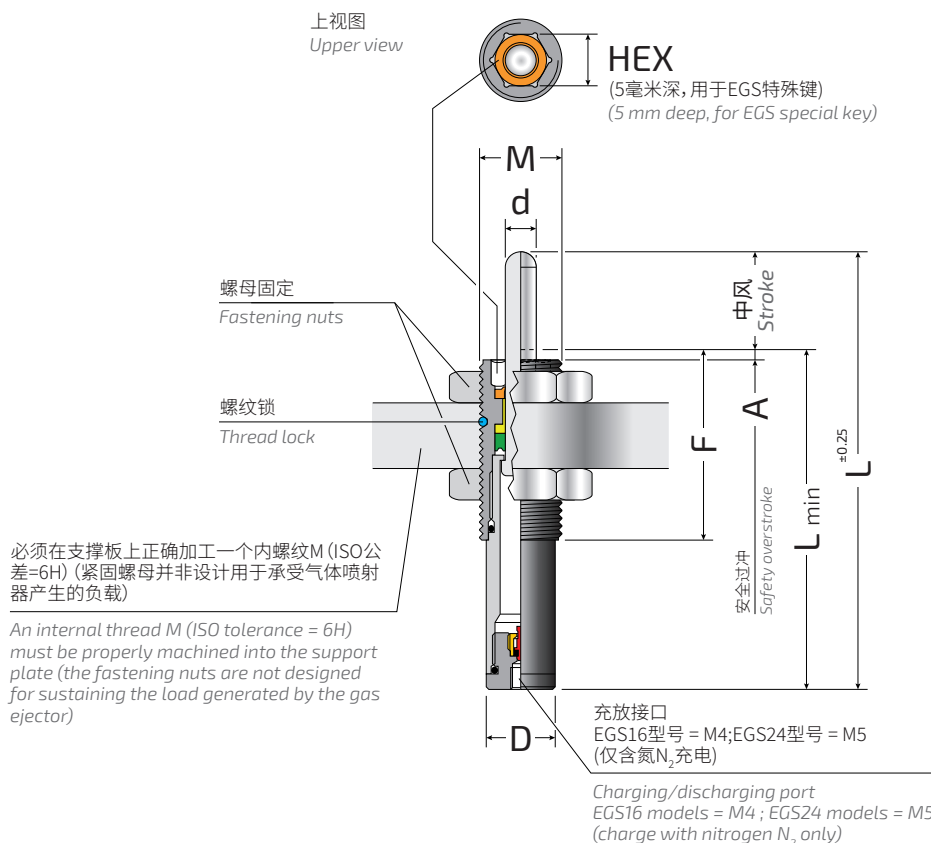
在专门的目录部分。

Important use instructions

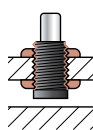
in the dedicated catalogue section.

EGS系列氮气喷射器具有紧凑长度和多种标准力可选。EGS系列氮气喷射器为自润滑。

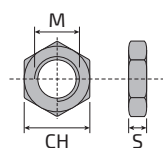
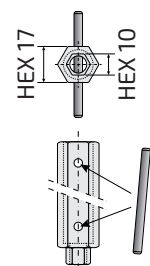
EGS series nitrogen gas ejectors feature compact length and several standard forces to choose from. EGS series nitrogen gas ejectors are self-lubricated.



修复可能性 / Fixing possibilities



模具板上的螺纹孔
threaded hole on the die plate



安装配件 / ACCESSORIES FOR INSTALLATION

模型 Model
EGS-CH

安装专用钥匙
Special key for installation

模型 Model	描述 Description	M	S mm	CH mm
EG-D-16	紧固螺母 Fastening nut	M16 x 1.5	8	24
EG-D-16-2		M16 x 2	8	24
EG-D-24		M24 x 1.5	10	36

安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

模型 Model	最大冲程 100% 可用 MAX Stroke 100% usable mm	L min mm	L mm	M mm	F mm	A mm	d mm	D mm	HEX mm	 bar (MPa)	 daN	 daN	最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm³	重量 Weight kg
EGS16x1.5-10-...	10	55	65	M16 x 1.5	35	1	6	13.5	10	见下表 See table below	 x	1.51	300	0.001	0.05
20-...	20	65	85									1.60	150	0.002	0.06
30-...	30	75	105									1.63	100	0.003	0.07
40-...	40	85	125									1.65	75	0.003	0.07
50-...	50	95	145									1.66	60	0.004	0.08
60-...	60	105	165									1.67	50	0.005	0.08
70-...	70	115	185									1.68	45	0.006	0.09
80-...	80	125	205									1.68	40	0.007	0.10
100-...	100	145	245									1.69	30	0.008	0.11
125-...	125	170	295									1.70	25	0.010	0.12
EGS16x2-10-...	10	55	65	M16 x 2	35	1	6	13.5	10	见下表 See table below	 x	1.51	300	0.001	0.05
20-...	20	65	85									1.60	150	0.002	0.06
30-...	30	75	105									1.63	100	0.003	0.07
40-...	40	85	125									1.65	75	0.003	0.07
50-...	50	95	145									1.66	60	0.004	0.08
60-...	60	105	165									1.67	50	0.005	0.08
70-...	70	115	185									1.68	45	0.006	0.09
80-...	80	125	205									1.68	40	0.007	0.10
100-...	100	145	245									1.69	30	0.008	0.11
125-...	125	170	295									1.70	25	0.010	0.12
EGS24x1.5-10-...	10	55	65	M24 x 1.5	35	1	12	21.5	17	见下表 See table below	 x	1.74	300	0.003	0.16
20-...	20	65	85									1.85	150	0.006	0.18
30-...	30	75	105									1.89	100	0.008	0.20
40-...	40	85	125									1.92	75	0.011	0.23
50-...	50	95	145									1.93	60	0.013	0.25
60-...	60	105	165									1.94	50	0.016	0.27
70-...	70	115	185									1.95	45	0.018	0.29
80-...	80	125	205									1.96	40	0.021	0.30
100-...	100	145	245									1.97	30	0.026	0.33
125-...	125	170	295									1.97	25	0.032	0.35

本表中的所有气体喷射器型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条
All the gas ejector models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

基本代码 Basic code	部队代码 Force code	 bar (MPa)	 daN	 daN	标签颜色 Label color	如何点餐 How to order
EGS16x1.5-...-	4	12 (1.2)	4	见上表 See table above	 紫色 / Purple	EGS16x1.5-50-42 EGS氮气喷射器, 采用M16x1.5螺纹体, 最大可用行程50 mm, 初始压力42 daN (150 bar / 15.0 MPa), 黄色标签。 EGS nitrogen gas ejector with M16x1.5 threaded body, 50 mm maximum available stroke length, 42 daN initial force (150 bar / 15.0 MPa charging pressure), yellow label.
	6	20 (2.0)	6		 绿色 / Green	
	11	40 (4.0)	11		 蓝色 / Blue	
	21	75 (7.5)	21		 红色 / Red	
	42	150 (15.0)	42		 黄色 / Yellow	
	0	0	0		 布莱克 / Black	
	(其他 / other)	10 (1.0)-150 (15.0)	3-42		 布莱克 / Black	
EGS16x2-...-	4	12 (1.2)	4	见上表 See table above	 紫色 / Purple	EGS24x1.5-80-120 EGS氮气喷射器, M24x1.5螺纹机身, 最大可用行程80 mm, 初始力120 daN (定制), 黑色标签。 EGS nitrogen gas ejector with M24x1.5 threaded body, 80 mm maximum available stroke length, 120 daN initial force (custom), black label.
	6	20 (2.0)	6		 绿色 / Green	
	11	40 (4.0)	11		 蓝色 / Blue	
	21	75 (7.5)	21		 红色 / Red	
	42	150 (15.0)	42		 黄色 / Yellow	
	0	0	0		 布莱克 / Black	
	(其他 / other)	10 (1.0)-150 (15.0)	3-42		 布莱克 / Black	
EGS24x1.5-...-	23	20 (2.0)	23	见上表 See table above	 绿色 / Green	
	45	40 (4.0)	45		 蓝色 / Blue	
	85	75 (7.5)	85		 红色 / Red	
	170	150 (15.0)	170		 黄色 / Yellow	
	0	0	0		 布莱克 / Black	
	(其他 / other)	10 (1.0)-150 (15.0)	11-170		 布莱克 / Black	

所有EGS型号都是一次性的 (维修套件不可用) /
ALL EGS MODELS ARE DISPOSABLE (REPAIR KIT NOT AVAILABLE)

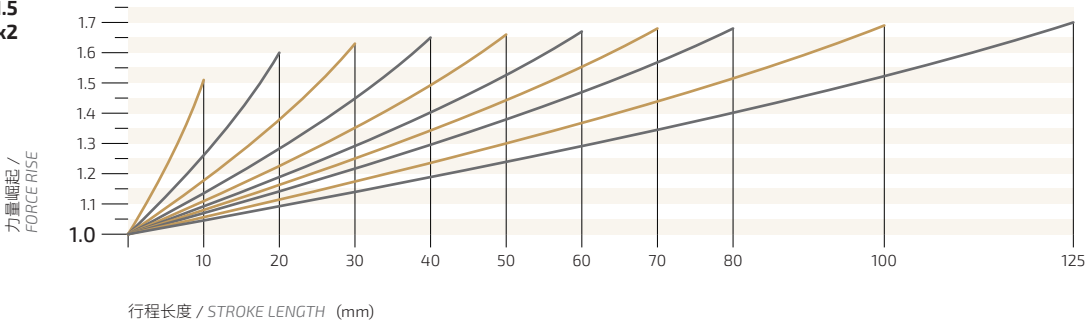
力量崛起 VS.已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

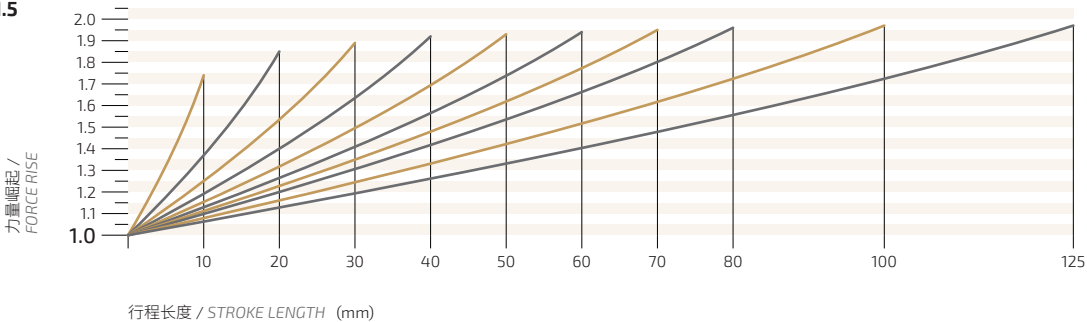
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

EGS16x1.5
EGS16x2



EGS24x1.5



VGS

50~200



ISO 11901-1 VDI 3003 Part 2



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW	B2 4007	PSA	E24.54.815.G
FCA	075.90.50	Renault	EM24.54.700
MB	B8 3180 220 000 002	VW	39D 878
Nissan	K32H2		

COMPACT POWER 

COMPACT HEIGHT 

**技术说明 / Technical notes**

重要使用说明

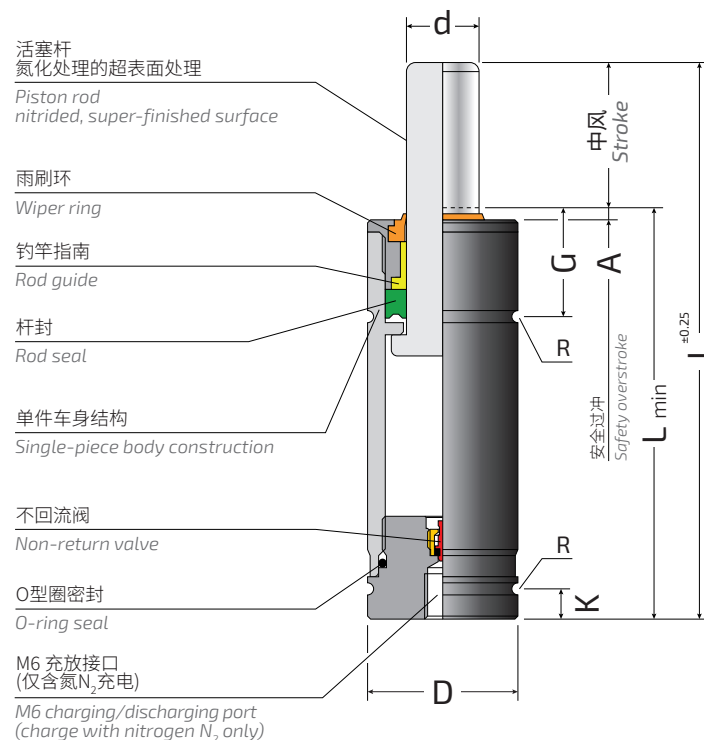
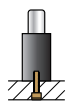
在专门的目录部分。

Important use instructions

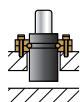
in the dedicated catalogue section.

VGS系列氮气弹簧采用小直径标准尺寸设计。通过VGS系列氮气弹簧，Bordignon可提供更高的互换性和更优异的可靠性。VGS系列氮气弹簧具有自润滑功能。

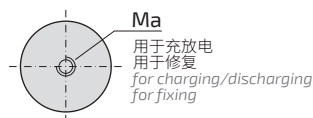
VGS series nitrogen gas springs feature standard dimensions for small diameters. With the VGS series nitrogen gas springs, Bordignon now ensures a great interchangeability and a superior reliability. VGS series nitrogen gas springs are self-lubricated.

**修复可能性 / Fixing possibilities****气弹簧底座 / GAS SPRING BASE**

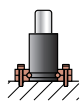
底部用螺丝固定
at the base with
screw



带领缘
with collar flange
FL



**VGS50, VGS70,
VGS90, VGS200**



带领口法兰 (底座)
with collar flange (base)
FV, FL

安全防护 / SAFETY PROTECTIONS

失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

模型 Model	最大冲程 100% 可用 MAX Stroke 100% usable mm	Lmin mm	L mm	D mm	d mm	G mm	A mm	R mm	K mm	Ma	 bar (MPa)	 daN	 daN	最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm³	重量 Weight kg
VGS50-07-...	7	49	56	12 +0.1	6	17	1	0.8	-	M6 x 6	见下表 See table below	 x	1.50	300	0.001	0.03
10-...	10	52	62										1.50	300	0.001	0.03
13-...	12.7	54.7	67.4										1.60	235	0.001	0.03
15-...	15	57	72										1.60	200	0.001	0.03
19-...	19	61	80										1.70	160	0.002	0.03
25-...	25	67	92										1.70	120	0.002	0.03
38-...	38	80	118										1.80	80	0.003	0.04
50-...	50	92	142										1.80	60	0.004	0.05
63-...	63.5	108.5	172										1.80	50	0.005	0.06
75-...	75	120	195										1.80	40	0.005	0.06
80-...	80	125	205										1.80	40	0.006	0.07
100-...	100	145	245										1.90	30	0.007	0.08
125-...	125	170	295										1.90	25	0.008	0.09
VGS70-07-...	7	49	56	15 +0.1	7	17	1	0.8	-	M6 x 6	见下表 See table below	 x	1.43	300	0.001	0.04
10-...	10	52	62										1.50	300	0.001	0.05
13-...	12.7	54.7	67.4										1.50	235	0.002	0.05
15-...	15	57	72										1.57	200	0.002	0.05
19-...	19	61	80										1.57	160	0.002	0.05
25-...	25	67	92										1.64	120	0.003	0.06
38-...	38.1	80.1	118.2										1.71	80	0.004	0.07
50-...	50	92	142										1.71	60	0.005	0.08
63-...	63.5	108.5	172										1.71	50	0.007	0.09
75-...	75	120	195										1.71	40	0.008	0.10
80-...	80	125	205										1.71	40	0.008	0.10
100-...	100	145	245										1.79	30	0.010	0.12
125-...	125	170	295										1.79	25	0.013	0.14
VGS90-07-...	7	49	56	19 +0/-0.3	8	17	1	1	6	M6 x 8	见下表 See table below	 x	1.39	300	0.002	0.07
10-...	10	52	62										1.39	300	0.002	0.07
13-...	12.7	54.7	67.4										1.44	235	0.003	0.08
15-...	15	57	72										1.44	200	0.003	0.08
25-...	25	67	92										1.50	120	0.005	0.09
38-...	38.1	80.1	118.2										1.50	80	0.007	0.11
50-...	50	92	142										1.50	60	0.009	0.12
63-...	63.5	108.5	172										1.50	50	0.012	0.14
80-...	80	125	205										1.50	40	0.015	0.15
100-...	100	145	245										1.50	30	0.019	0.17
125-...	125	170	295										1.50	25	0.023	0.20
VGS200-07-...	7	49	56	25 +0/-0.3	12	17	1	1	5	M6 x 9	见下表 See table below	 x	1.43	300	0.004	0.12
10-...	10	52	62										1.48	300	0.005	0.13
13-...	12.7	54.7	67.4										1.50	235	0.006	0.13
15-...	15	57	72										1.53	200	0.006	0.14
16-...	16	58	74										1.53	190	0.007	0.14
25-...	25	67	92										1.55	120	0.010	0.16
38-...	38.1	80.1	118.2										1.60	80	0.014	0.19
50-...	50	92	142										1.60	60	0.018	0.20
63-...	63.5	108.5	172										1.60	50	0.024	0.23
80-...	80	125	205										1.60	40	0.029	0.26
100-...	100	145	245										1.60	30	0.036	0.30
125-...	125	170	295										1.63	25	0.044	0.34

本表中的所有气弹簧型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条

All the gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

基本代码 Basic code	部队代码 Force code	 bar (MPa)	 daN	 daN	标签颜色 Label color	如何点餐 How to order
VGS50-...-	13	45 (4.5)	13	见上表 See table above	 绿色 / Green	VGS90-50-90 VGS氮气弹簧, 体径19 mm, 最大可用行程50毫米, 初始压力90 daN (180巴 / 18.0 MPa), 黄色标签。 VGS nitrogen gas spring with 19 mm body diameter, 50 mm maximum available stroke length, 90 daN initial force (180 bar / 18.0 MPa charging pressure), yellow label.
	25	90 (9.0)	25		 蓝色 / Blue	
	38	135 (13.5)	38		 红色 / Red	
	50	180 (18.0)	50		 黄色 / Yellow	
	0	0	0		 布莱克 / Black	
	(其他 / other)	20 (2.0)-180 (18.0)	6-50		 布莱克 / Black	
VGS70-...-	18	45 (4.5)	18	见上表 See table above	 绿色 / Green	VGS200-80-175 VGS氮气弹簧, 机体直径25毫米, 最大可用行程80毫米, 初始力175 daN (定制), 黑标。 VGS nitrogen gas spring with 25 mm body diameter, 80 mm maximum available stroke length, 175 daN initial force (custom), black label.
	35	90 (9.0)	35		 蓝色 / Blue	
	50	135 (13.5)	50		 红色 / Red	
	70	180 (18.0)	70		 黄色 / Yellow	
	0	0	0		 布莱克 / Black	
	(其他 / other)	20 (2.0)-180 (18.0)	8-70		 布莱克 / Black	
VGS90-...-	5	10 (1.0)	5	见上表 See table above	 橙色 / Orange	
	10	20 (2.0)	10		 紫色 / Purple	
	30	60 (6.0)	30		 绿色 / Green	
	50	100 (10.0)	50		 蓝色 / Blue	
	70	140 (14.0)	70		 红色 / Red	
	90	180 (18.0)	90		 黄色 / Yellow	
VGS200-...-	0	0	0	见上表 See table above	 布莱克 / Black	
	(其他 / other)	10 (1.0)-180 (18.0)	5-90		 布莱克 / Black	
	17	15 (1.5)	17		 橙色 / Orange	
	28	25 (2.5)	28		 紫色 / Purple	
	50	45 (4.5)	50		 绿色 / Green	
	100	90 (9.0)	100		 蓝色 / Blue	
VGS50-...-	150	135 (13.5)	150	见上表 See table above	 红色 / Red	
	200	180 (18.0)	200		 黄色 / Yellow	
	0	0	0		 布莱克 / Black	
	(其他 / other)	10 (1.0)-180 (18.0)	11-200		 布莱克 / Black	

修理套 / REPAIR KIT

气弹簧代码 Gas spring code	维修包代码 Repair kit code
VGS90-...	KR/VGS90
VGS200-...	KR/VGS200

VGS50-...以及VGS70-...模型为一次性(无维修套件) /

VGS50-... AND VGS70-... MODELS ARE DISPOSABLE (REPAIR KIT NOT AVAILABLE)

从 www.bordignon.com 下载维修说明 /

Download repair instructions from www.bordignon.com

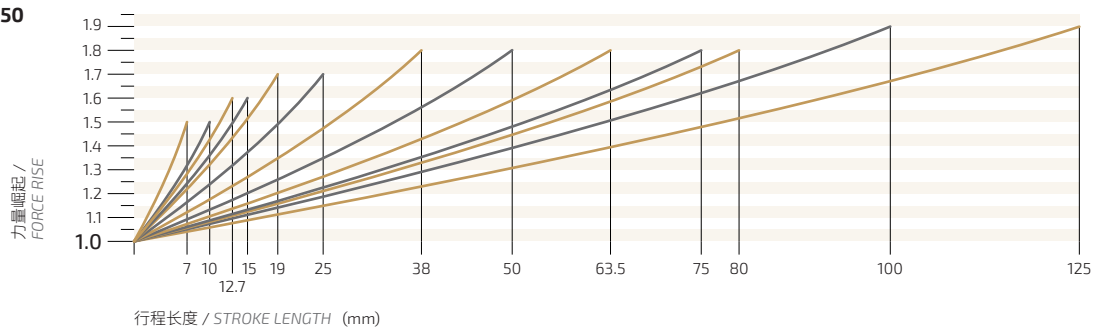
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

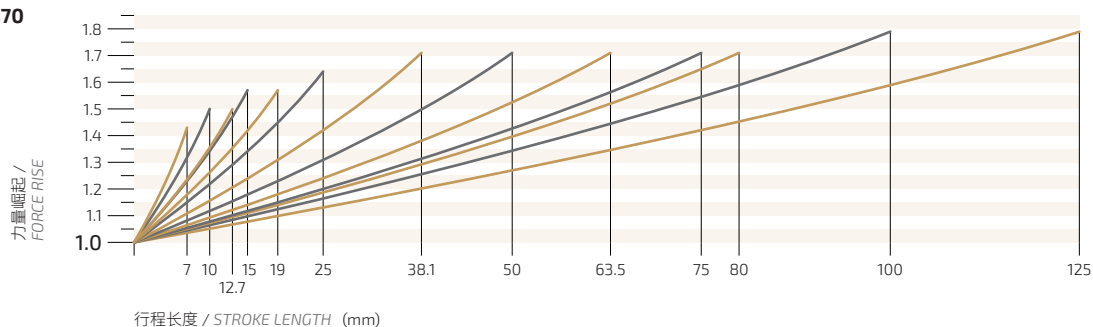
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

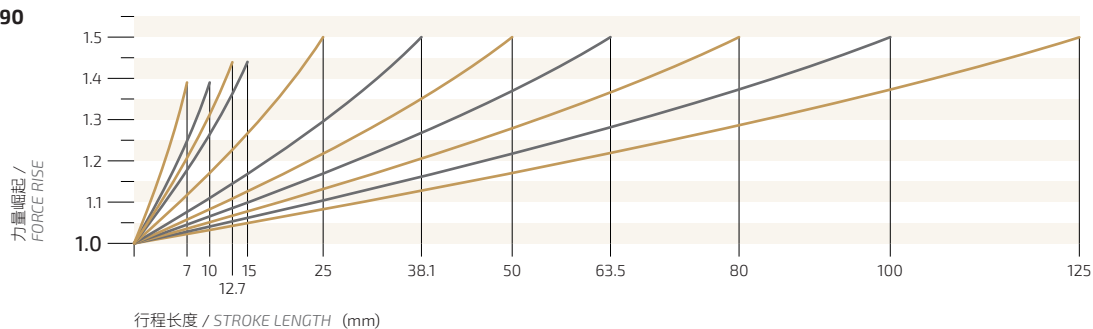
VGS50



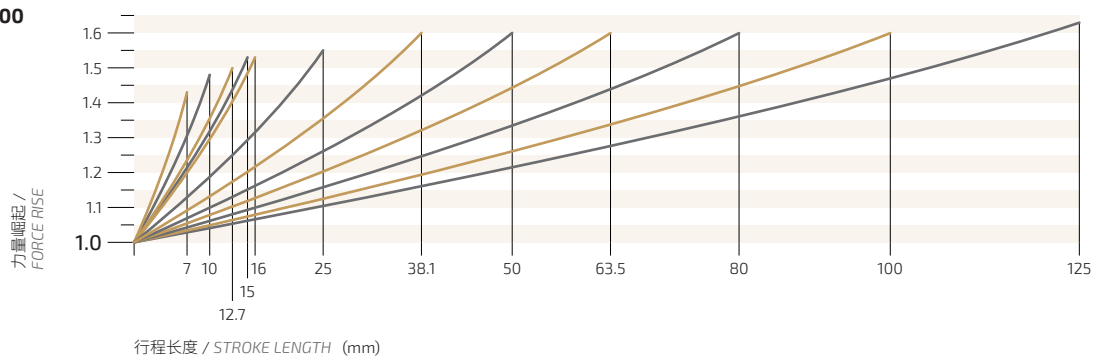
VGS70



VGS90



VGS200



AGS



ISO 11901-3 VDI 3003 Part 3



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW	B2 4005	MB	B8 3180 220 000 004
FCA	075.90.60	VW	39D 997

170-320

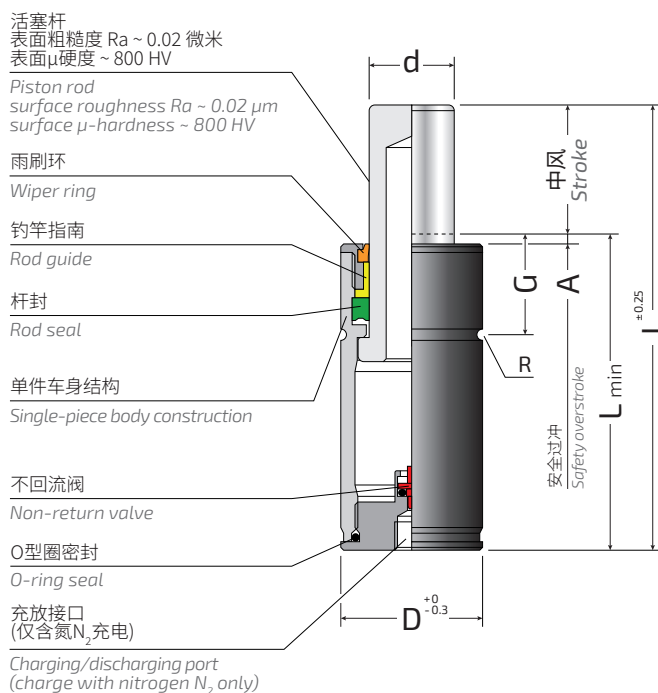
COMPACT POWER

COMPACT HEIGHT



AGS系列氮气弹簧因其紧凑的尺寸以及多样化的安装和连接方式, 在汽车行业广受认可。通过AGS系列氮气弹簧, Bordignon可提供更高的互换性和更优异的可靠性。AGS系列氮气弹簧具有自润滑功能。

AGS series nitrogen gas springs are highly appreciated in the automotive industry thanks to the compact dimensions, the fixing and linking possibilities. With the AGS series nitrogen gas springs, Bordignon now ensures a great interchangeability and a superior reliability. AGS series nitrogen gas springs are self-lubricated.

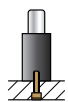


技术说明 / Technical notes

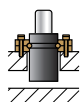
重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.

修复可能性 / Fixing possibilities

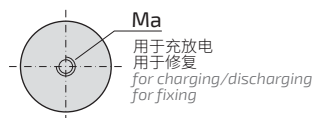
气弹簧底座 / GAS SPRING BASE



底部用螺丝固定
at the base with
screw



带领缘
with collar flange
FL



AGS170, AGS320

安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

AGS 170-320

AUTOMOTIVE LINE

模型 Model	最大冲程 100%可用 MAX Stroke 100% usable mm	L min mm	L mm	D mm	d mm	G mm	A mm	R mm	Ma	bar (MPa)	daN	daN	最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm³	重量 Weight kg
AGS170-07-A	7	37	44	19	11	17	1	1	M6 x 5	180 (18.0)	170	290	300	0.002	0.06
10-A	10	40	50									295	300	0.003	0.06
13-A	13	43	56									300	230	0.003	0.07
15-A	15	45	60									310	200	0.004	0.07
19-A	19	49	68									320	160	0.005	0.08
25-A	25	55	80									330	120	0.006	0.08
32-A	32	62	94									340	90	0.007	0.09
38-A	38	68	106									340	80	0.009	0.10
50-A	50	80	130									350	60	0.011	0.12
63-A	63	93	156									355	50	0.014	0.14
75-A	75	110	185									360	40	0.017	0.16
80-A	80	115	195									360	40	0.018	0.16
100-A	100	135	235									360	30	0.023	0.19
125-A	125	160	285									360	25	0.028	0.23
AGS320-07-A	7	37	44	25	15	17	1	1	M6 x 5	180 (18.0)	320	490	300	0.004	0.10
10-A	10	40	50									490	300	0.005	0.11
13-A	13	43	56									550	230	0.006	0.12
15-A	15	45	60									550	200	0.007	0.12
19-A	19	49	68									580	160	0.008	0.13
25-A	25	55	80									600	120	0.011	0.14
32-A	32	62	94									630	90	0.013	0.16
38-A	38	68	106									640	80	0.015	0.17
50-A	50	80	130									640	60	0.020	0.20
63-A	63	93	156									640	50	0.025	0.23
75-A	75	110	185									640	40	0.031	0.26
80-A	80	115	195									640	40	0.033	0.27
100-A	100	135	235									650	30	0.040	0.32
125-A	125	160	285									660	25	0.050	0.38

本表中的所有气弹簧型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条
All the gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

修理套 / REPAIR KIT

气弹簧代码 Gas spring code	维修包代码 Repair kit code
AGS170-...-A	KR/AGS170-A
AGS320-...-A	KR/AGS320-A

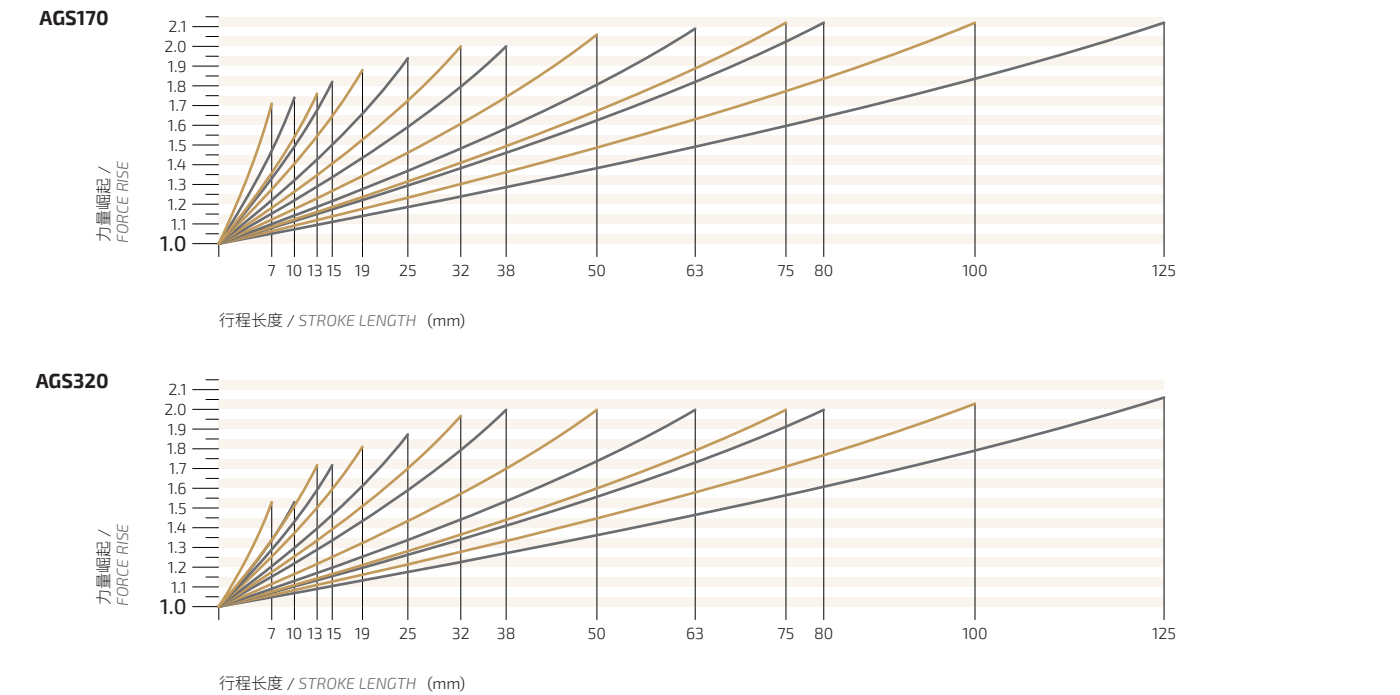
从 www.bordignon.com 下载维修说明 /
Download repair instructions from www.bordignon.com

力量崛起 VS. 已用的行程长度图表

下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

FORCE RISE VS. USED STROKE LENGTH CHARTS

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).



AGS

350~2400



ISO 11901-3 VDI 3003 Part 3



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW	B2 4005	Nissan	K32H2
FCA	075.90.60	PSA	E24.54.815.G
Ford	W-DX35-6204	VW	39D 997
MB	B8 3180 220 000 004		

COMPACT POWER

COMPACT HEIGHT



AGS系列氮气弹簧因其紧凑的尺寸以及多样化的安装和连接方式, 在汽车行业广受认可。通过AGS系列氮气弹簧, Bordignon可提供更高的互换性和更优异的可靠性。AGS系列氮气弹簧具有自润滑功能。

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活塞杆
表面粗糙度 Ra ~ 0.02 微米
表面μ硬度 ~ 800 HV

Piston rod
surface roughness Ra ~ 0.02 μm
surface μ-hardness ~ 800 HV

雨刷环

Wiper ring

钓竿指南

Rod guide

杆封

Rod seal

单件车身结构

Single-piece body construction

O型圈密封

O-ring seal

不回流阀

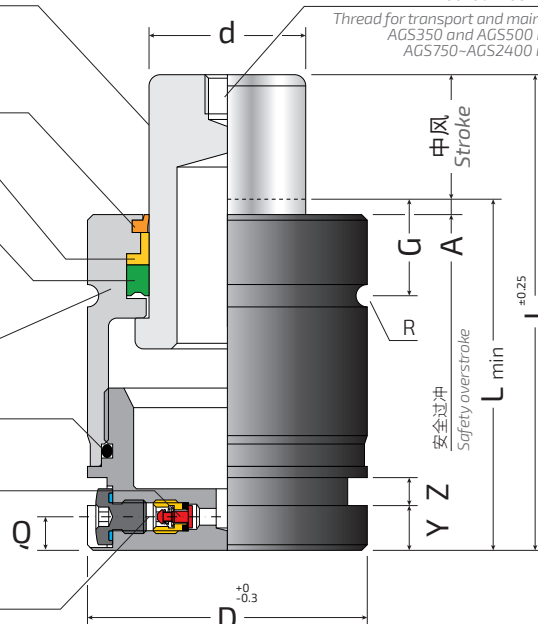
Non-return valve

M6侧接口 (充电口)
(仅含氮N₂充电)

M6 side port (charging port)
(charge with nitrogen N₂ only)

仅用于运输和维护的线程
AGS350和AGS500型号 = M6
AGS750~AGS2400型号 = M8

Thread for transport and maintenance only
AGS350 and AGS500 models = M6
AGS750~AGS2400 models = M8



技术说明 / Technical notes

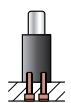
重要使用说明

在专门的目录部分。

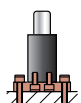
Important use instructions

in the dedicated catalogue section.

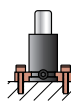
修复可能性 / Fixing possibilities



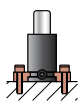
底部用螺丝固定
at the base with
screws



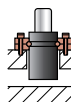
带底板
with base-plate
BF, BFA, BFB, BFR



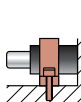
半法兰
with half-flanges
SF, SFA



带脚托
with foot brackets
ST, STA

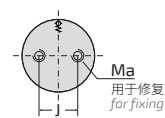


带领缘
with collar flange
FL, FLQ

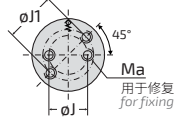


前方支援
with front support
FT, FTA

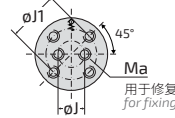
气弹簧底座 / GAS SPRING BASE



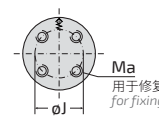
**AGS350, AGS750,
AGS1000, AGS1200**



AGS500



AGS1500



AGS2400

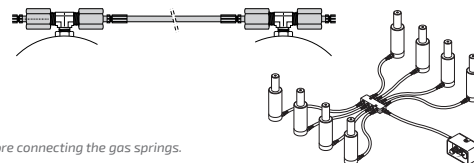
链接到开放系统 / LINKING TO OPEN SYSTEM

软管 Hoses	AGS350-AGS2400 (M6侧口 / M6 side port)	
	ATM	ATNM
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARNM



注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。

ATTENTION! Follow the instructions in the "LINKED SYSTEM" section before connecting the gas springs.



链接到“OV系统” / LINKING TO “OV SYSTEM”

也有“OV版本”(无阀门, 可直接连接其他歧管系统)。
详见专门的目录部分。

"OV-version" (without valve, for direct connection to alternative manifold system) are also available.
See dedicated catalogue section.



安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

本表中的所有气弹簧型号均符合2014/68/欧盟压力设备指令(PED) 第4.3条
All the gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

修理套 / REPAIR KIT

从 www.bordignon.com 下载维修说明 /
Download repair instructions from www.bordignon.com

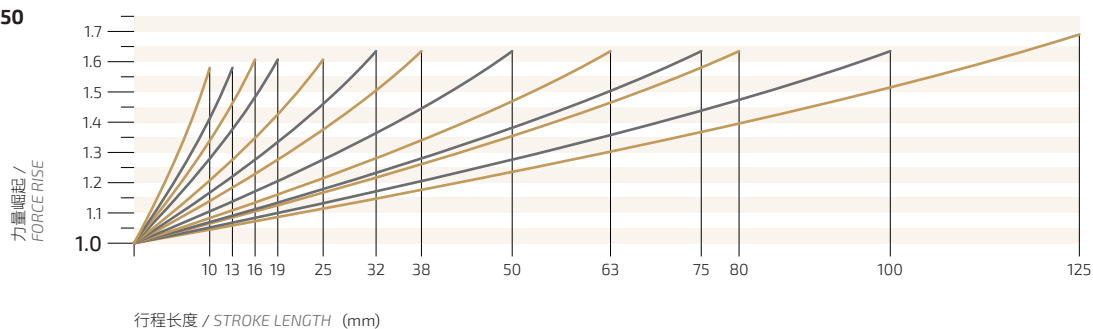
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

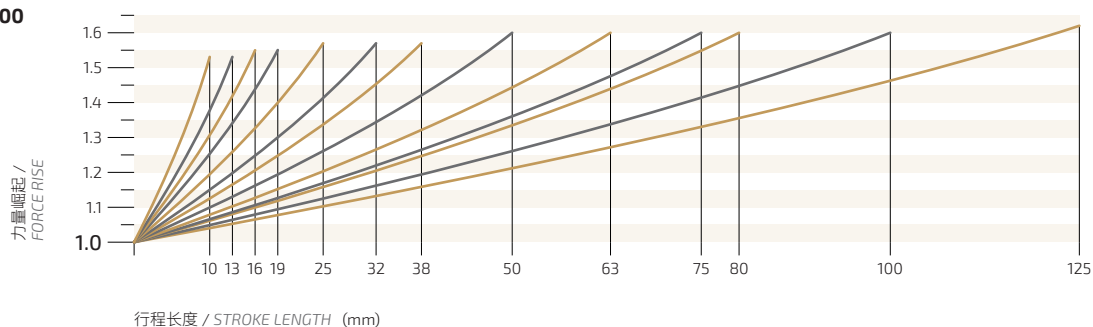
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

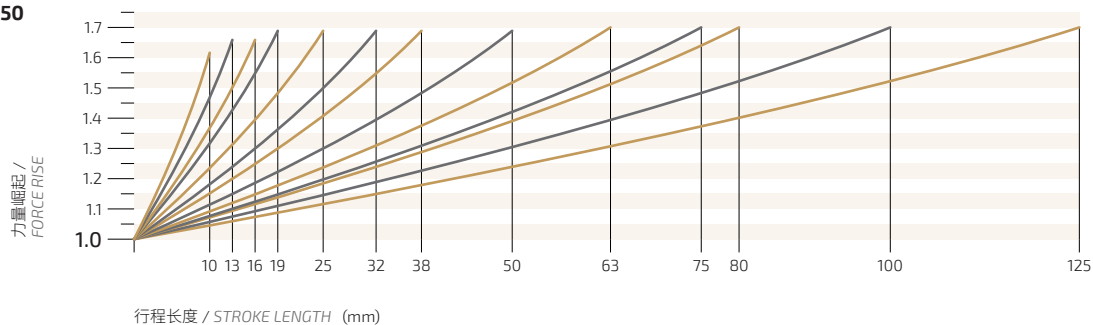
AGS350



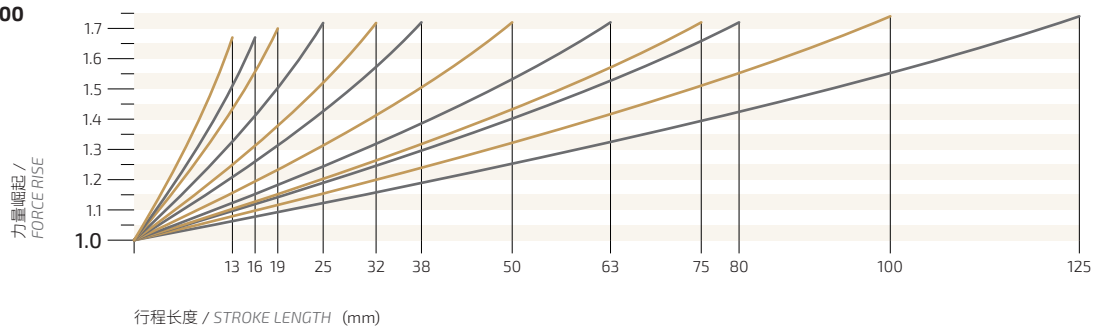
AGS500



AGS750



AGS1000



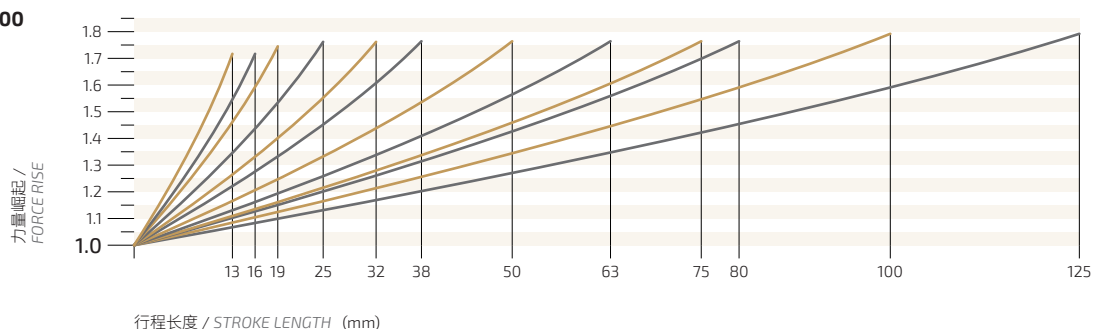
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

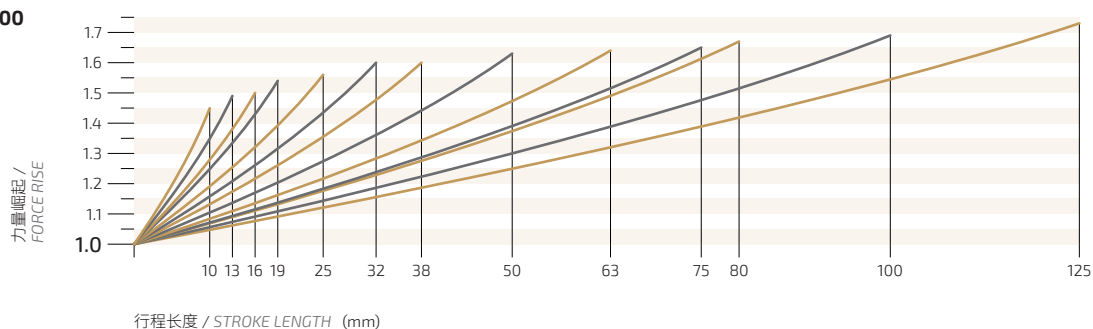
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

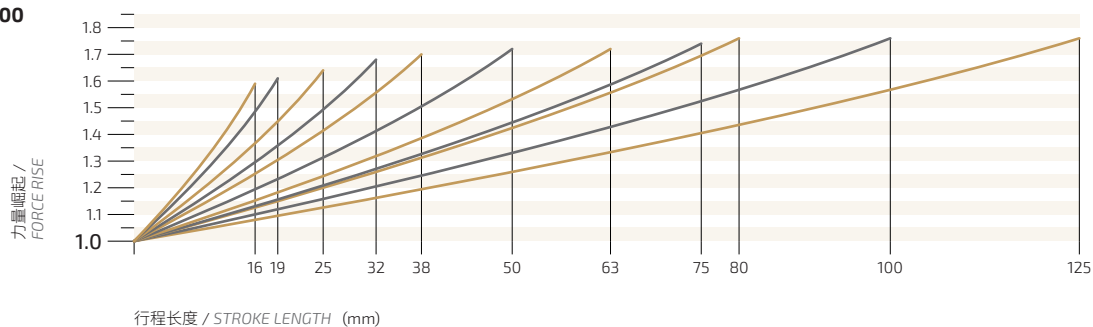
AGS1200



AGS1500



AGS2400



AGS

4200~20000



ISO 11901-3 VDI 3003 Part 3



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW	B2 4005	MB	B8 3180 220 000 004
FCA	075.90.60	PSA	E24.54.815.G
Ford	W-DX35-6204	VW	39D 997
Mazda	PG24D		

COMPACT POWER

COMPACT HEIGHT



活塞杆
表面粗糙度 Ra ~ 0.02 微米
表面μ硬度 ~ 800 HV

Piston rod
surface roughness Ra ~ 0.02 μm
surface μ-hardness ~ 800 HV

雨刷环
Wiper ring

钓竿指南
Rod guide

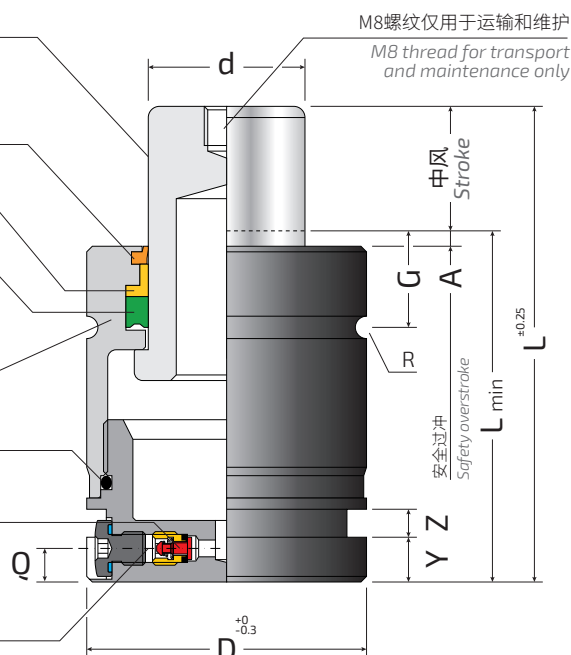
杆封
Rod seal

单件车身结构
Single-piece body construction

O型圈密封
O-ring seal

不回流阀
Non-return valve

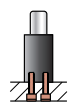
G1/8侧接口 (充电口)
(仅含氮N₂充电)
G1/8 side port (charging port)
(charge with nitrogen N₂ only)



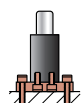
技术说明 / Technical notes

重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.

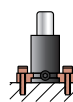
修复可能性 / Fixing possibilities



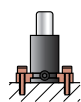
底部用螺丝固定
at the base with
screws



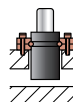
带底板
with base-plate
BF, BFA, BFB, BFR



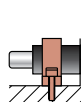
半法兰
with half-flanges
SF, SFA



带脚托
with foot brackets
ST, STA

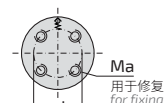


带领缘
with collar flange
FL, FLQ



前方支援
with front support
FT, FTA

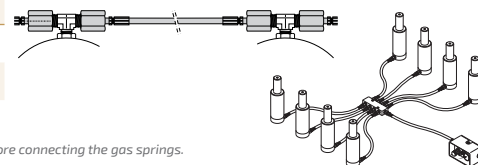
气弹簧底座 / GAS SPRING BASE



AGS4200-AGS20000

链接到开放系统 / LINKING TO OPEN SYSTEM

	AGS4200-AGS20000 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARN	AR



注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。
ATTENTION! Follow the instructions in the “LINKED SYSTEM” section before connecting the gas springs.

链接到“OV系统” / LINKING TO “OV SYSTEM”

也有“OV版本”(无阀门, 可直接连接其他歧管系统)。
详见专门的目录部分。
“OV-version” (without valve, for direct connection to alternative manifold system) are also available.
See dedicated catalogue section.



安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

AGS 4200~20000

AUTOMOTIVE LINE

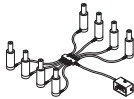
模型 Model	最大冲程 100%可用 MAX Stroke 100% usable mm	L min mm	L mm	D mm	d mm	G mm	A mm	R mm	Y mm	Z mm	Q mm	Ma	J mm	 bar (MPa)	 daN	 daN	最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm³	重量 Weight kg
AGS4200-16-A	16	74	90	95	60	24	3	2.5	8	5	10.5	M8 x 12 (4x)	60	150 (15.0)	4240	6800	190	0.13	3.13
19-A	19	77	96													6800	160	0.15	3.21
25-A	25	83	108													7000	120	0.19	3.37
32-A	32	90	122													7300	90	0.24	3.55
38-A	38	96	134													7300	80	0.28	3.69
50-A	50	108	158													7500	60	0.36	3.98
63-A	63	121	184													7500	50	0.45	4.30
75-A	75	133	208													7600	40	0.54	4.59
80-A	80	138	218													7700	40	0.57	4.72
100-A	100	158	258													7800	30	0.71	5.22
125-A	125	183	308													7900	25	0.88	5.85
AGS6600-16-A	16	84	100	120	75	25.5	3	2.5	8	5	10.5	M10 x 12 (4x)	80	150 (15.0)	6630	9400	190	0.22	5.67
19-A	19	87	106													9600	160	0.25	5.81
25-A	25	93	118													10100	120	0.31	6.08
32-A	32	100	132													10400	90	0.38	6.39
38-A	38	106	144													10500	80	0.44	6.66
50-A	50	118	168													10700	60	0.56	7.21
63-A	63	131	194													11200	50	0.69	7.79
75-A	75	143	218													11300	40	0.81	8.32
80-A	80	148	228													11300	40	0.86	8.53
100-A	CE 100	168	268													11400	30	1.07	9.45
125-A	CE 125	193	318													11500	25	1.32	10.57
AGS9500-19-A	19	97	116	150	90	27.5	3	2.5	8	5	10.5	M10 x 16 (4x)	100	150 (15.0)	9540	16000	160	0.35	10.85
25-A	25	103	128													16300	120	0.45	11.23
32-A	32	110	142													16500	90	0.56	11.69
38-A	38	116	154													16600	80	0.65	12.06
50-A	50	128	178													16800	60	0.85	12.84
63-A	CE 63	141	204													17000	50	1.05	13.67
75-A	CE 75	153	228													17000	40	1.24	14.45
80-A	CE 80	158	238													17100	40	1.32	14.77
100-A	CE 100	178	278													17100	30	1.64	16.05
125-A	CE 125	203	328													17200	25	2.04	17.67
AGS20000-19-A	19	129	148	195	130	33.5	3	2.5	8	8	15	M12 x 18 (4x)	120	150 (15.0)	19910	30400	160	0.90	23.29
25-A	CE 25	135	160													31600	120	1.08	23.92
32-A	CE 32	142	174													32600	90	1.29	24.66
38-A	CE 38	148	186													33300	80	1.47	25.30
50-A	CE 50	160	210													34400	60	1.83	26.55
63-A	CE 63	173	236													35100	50	2.22	27.91
75-A	CE 75	185	260													35600	40	2.58	29.17
80-A	CE 80	190	270													35800	40	2.73	29.69
100-A	CE 100	210	310													36400	30	3.33	31.80
125-A	CE 125	235	360													36900	25	4.08	34.42

CE 标注CE符号的气弹簧型号内部气体容积>1升 (1立方米)。它们属于2014/68/欧盟压力设备指令 (PED) 的第二类。
表中其他所有气弹簧型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条。
The gas spring models for which the CE symbol is indicated have an internal gas volume > 1 litre (1 dm³). They fall into Category II of the 2014/68/EU Pressure Equipment Directive (PED).
All the other gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED).

“L型版本” (用于联动系统) / “L-VERSION” (FOR LINKED SYSTEM)

当气弹簧要用于联动系统时, 务必在气弹簧代码后加上“-L”来订购“L型”。“L型”气弹簧已放出且无阀门, 准备连接连接系统。
示例: “AGS6600-50-A-L”

When the gas springs are to be used in a linked system, make sure to order the “L-version” by adding “-L” after the gas spring code. The “L-version” gas springs are supplied already discharged and without valve, ready for the connection to linked system.
Example: “AGS6600-50-A-L”



修理套 / REPAIR KIT

气弹簧代码 Gas spring code	维修包代码 Repair kit code
AGS4200-...-A	KR/AGS4200-A
AGS6600-...-A	KR/AGS6600-A
AGS9500-...-A	KR/AGS9500-A
AGS20000-...-A	KR/AGS20000-A

从 www.bordignon.com 下载维修说明 /
Download repair instructions from www.bordignon.com

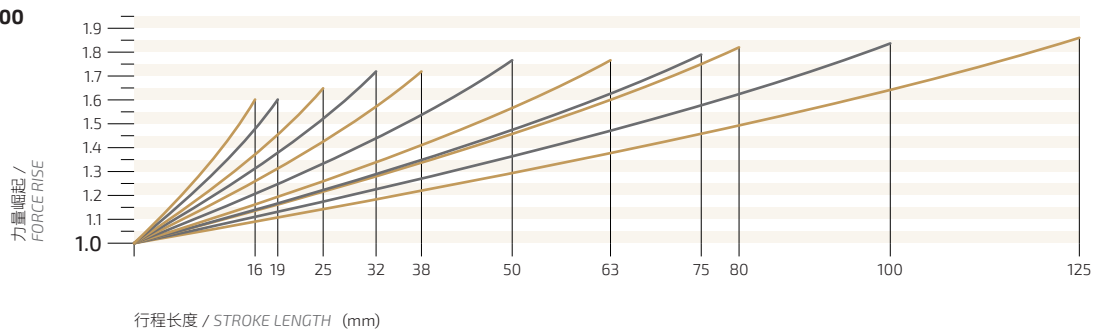
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

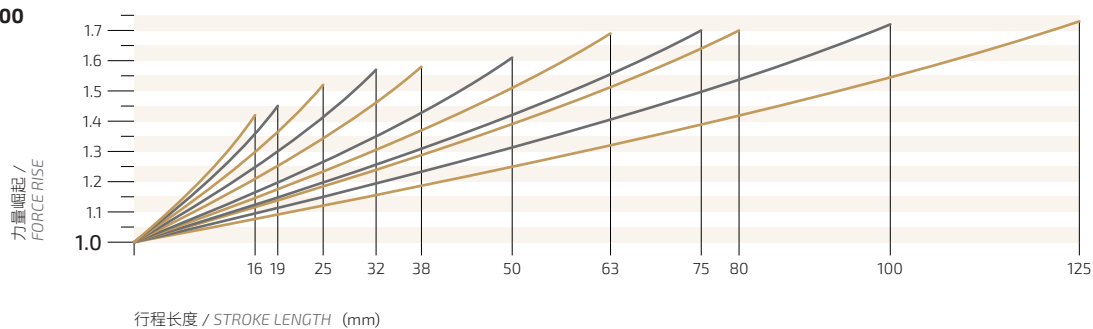
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

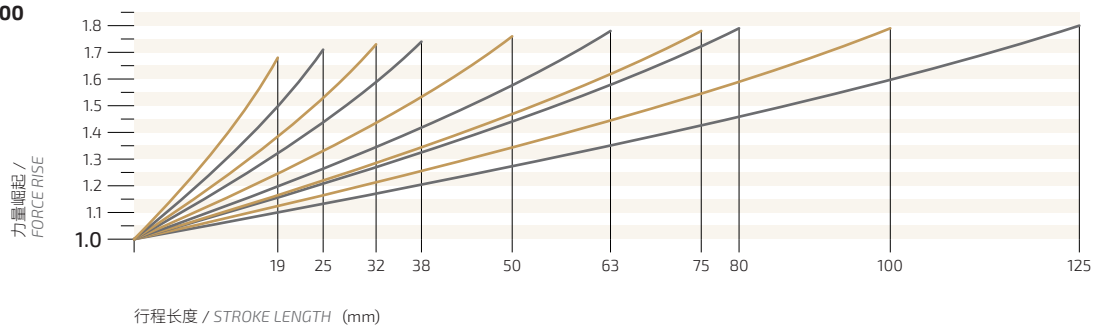
AGS4200



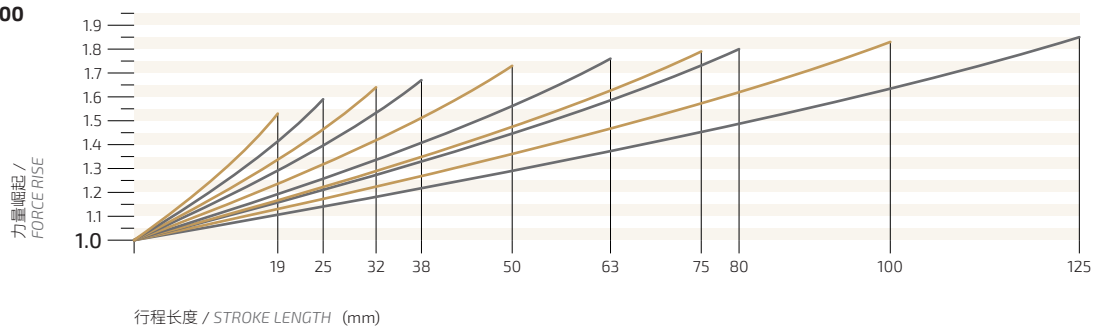
AGS6600



AGS9500



AGS20000



400~20000

COMPACT POWER

COMPACT HEIGHT

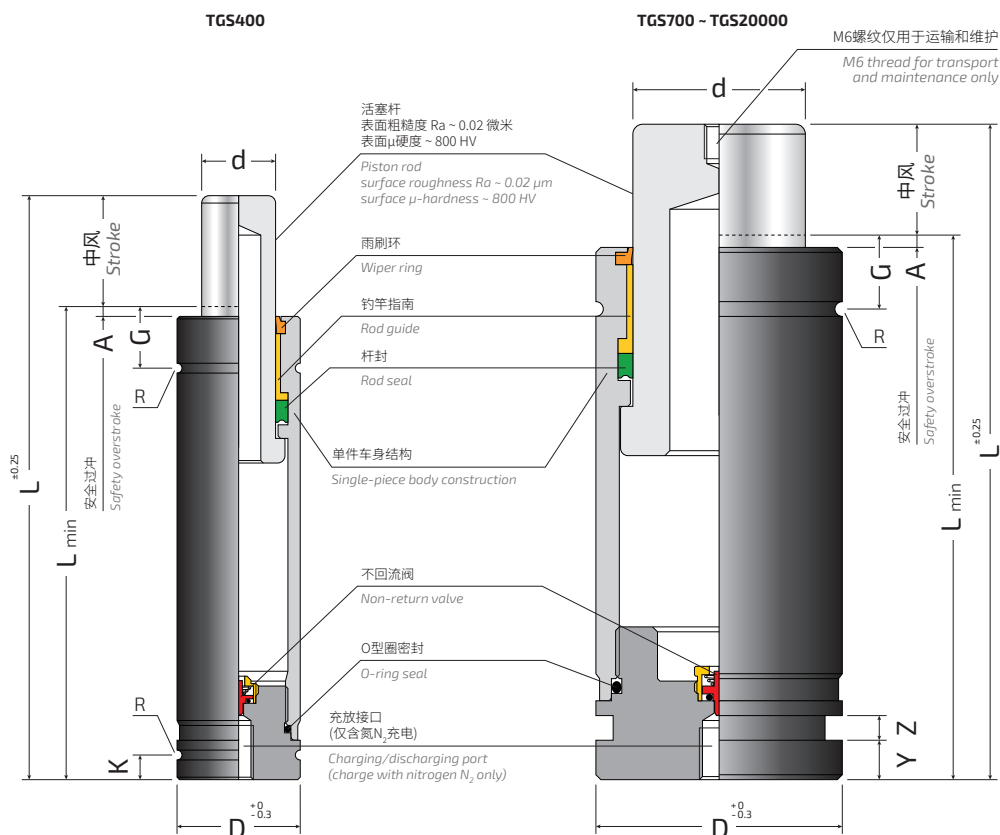


TGS系列氮气弹簧采用杆密封结构设计,在紧凑直径下可提供较高的作用力。其在作用力、尺寸及安装方式方面,与市场上常见的孔密封结构氮气弹簧具有高度互换性,同时凭借杆密封设计,可提供更高性能(更高的每分钟循环次数、自润滑以及更好的液体污染防护能力)和更高的可靠性。TGS系列氮气弹簧具有自润滑功能。

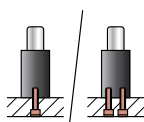
TGS series nitrogen gas springs feature high forces and compact diameters in a rod seal design. They ensure a great interchangeability (forces, dimensions and fixing possibilities) with the bore seal design nitrogen gas springs commonly available on the market, offering a higher performance (high number of cycles per minute, self-lubrication, better protection against liquid contaminants) and reliability thanks to the rod seal design. TGS series nitrogen gas springs are self-lubricated.

技术说明 / Technical notes

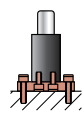
重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.



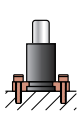
修复可能性 / Fixing possibilities



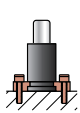
在基地
带螺丝
at the base
with screw(s)



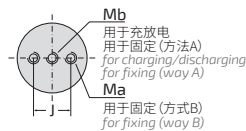
带底板
with base-plate
BF, BFA, BFB, BFR



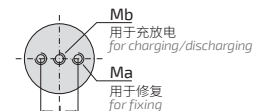
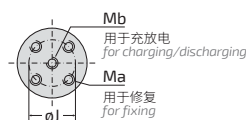
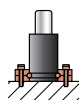
半法兰
with half-flanges
SF, SFA



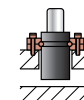
带脚托
with foot brackets
ST, STA



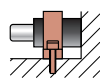
TGS400

TGS700, TGS1000,
TGS2000, TGS3000TGS5000, TGS8000,
TGS12000, TGS20000

带领口法兰(底座)
with collar flange (base)
FL



带领缘
with collar flange
FL, FLA, FLQ, FLQA



前方支援
with front support
FT, FTA

气弹簧底座 / GAS SPRING BASE

安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

模型 Model	最大冲程 100% 可用 MAX Stroke 100% usable	Lmin mm	L mm	D mm	d mm	G mm	A mm	R mm	K mm	Y mm	Z mm	Ma	J mm	Mb	 bar (MPa)	 daN	 daN	最大 CPM Cycles per minute MAX	气体	重量	
																			体积 Gas volume dm³	Weight kg	
TGS400 -10-A	10	60	70	25	15	11.5	1	1	5	-	-	M5 x 6 (2x)	14	M6 x 11	204 (20.4)	360		510	300	0.006	0.18
16-A	16	75	91			11.5		1		-	-							510	190	0.011	0.20
25-A	25	95	120			11.5		1		-	-							520	120	0.018	0.24
32-A	32	108	140			11.5		1		-	-							520	90	0.022	0.26
40-A	40	125	165			11.5		1		-	-							530	75	0.028	0.30
50-A	50	145	195			11.5		1		-	-							530	60	0.035	0.33
TGS700 -06-A 	6	57	63	32	20	11.5	2	1		-	-	M6 x 8 (2x)	15	M4	210 (21.0)	660		840	300	0.008	0.27
10-A 	10	65	75			11.5		1		-	-							870	300	0.014	0.29
16-A	16	77	93			11.5		1		4	3.5							940	190	0.018	0.33
25-A	25	95	120			11.5		1		4	3.5							950	120	0.030	0.38
32-A	32	108	140			11.5		1		4	3.5							950	90	0.038	0.42
40-A	40	125	165			11.5		1		4	3.5							960	75	0.049	0.46
50-A	50	145	195			11.5		1		4	3.5							960	60	0.062	0.51
TGS1000 -06-A 	6	55	61	38	25	10.5	2	1		-	-	M6 x 8 (2x)	17	M8	205 (20.5)	1000		1350	300	0.010	0.38
10-A	10	68	78			10.5		1		4	3.5							1400	300	0.016	0.46
16-A	16	84	100			10.5		1		4	3.5							1400	190	0.028	0.52
25-A	25	110	135			10.5		1		4	3.5							1400	120	0.049	0.63
32-A	32	135	167			10.5		1		4	3.5							1450	90	0.068	0.73
40-A	40	155	195			10.5		1		4	3.5							1450	75	0.084	0.81
50-A	50	180	230			10.5		1		4	3.5							1450	60	0.104	0.92
TGS2000 -06-A  	6	60	66	50	35	-	2	-		-	-	M6 x 8 (2x)	26	M8	209 (20.9)	2000		3000	300	0.02	0.74
10-A  	10	70	80			-		-		-	-							3100	300	0.03	0.82
16-A 	16	90	106			14.5		1.5		-	-							3200	190	0.05	1.02
25-A	25	110	135			14.5		1.5		8	5							3300	120	0.07	1.25
32-A	32	130	162			14.5		1.5		8	5							3400	90	0.10	1.39
40-A	40	150	190			14.5		1.5		8	5							3400	75	0.12	1.54
50-A	50	170	220			14.5		1.5		8	5							3400	60	0.15	1.70
65-A	65	206	271			14.5		1.5		8	5							3200	45	0.20	1.99
TGS3000 -10-A  	10	75	85	63	45	-	2	-		-	-	M8 x 12 (2x)	34	M8	189 (18.9)	3000		4600	300	0.05	1.45
16-A 	16	87	103			19		2		-	-							5000	190	0.07	1.62
25-A	25	105	130			19		2		8	5							5200	120	0.10	1.91
32-A	32	118	150			19		2		8	5							5200	90	0.14	2.07
40-A	40	135	175			19		2		8	5							5300	75	0.18	2.27
50-A	50	155	205			19		2		8	5							5300	60	0.23	2.52
65-A	65	191	256			19		2		8	5							5000	45	0.31	2.97
TGS5000 -10-A  	10	70	80	75	58	-	2	-		-	-	M8 x 12 (4x)	40	M8	190 (19.0)	5000		7400	300	0.08	1.87
16-A 	16	90	106			18		1.5		-	-							7400	190	0.12	2.33
25-A	25	110	135			18		1.5		8	5							7600	120	0.18	2.74
32-A	32	135	167			18		1.5		8	5							7600	90	0.27	3.05
40-A	40	160	200			18		1.5		8	5							7600	75	0.36	3.38
50-A	50	190	240			18		1.5		8	5							7200	60	0.47	3.78
65-A	65	208	273			18		1.5		8	5							8000	45	0.55	4.12
TGS8000 -10-A  	10	80	90	95	75	-	2	-		-	-	M8 x 12 (4x)	52	M8	182 (18.2)	8000		10500	300	0.17	3.29
16-A 	16	100	116			21		1.5		-	-							10800	190	0.25	3.94
25-A	25	120	145			21		1.5		8	5							11500	120	0.36	4.50
32-A	32	150	182			21		1.5		8	5							11500	90	0.54	5.05
40-A	40	170	210			21		1.5		8	5							11600	75	0.66	5.46
50-A	50	205	255			21		1.5		8	5							11600	60	0.88	6.14
65-A	65	214	279			21		1.5		8	5							12500	45	0.96	6.46
TGS12000 -10-A  	10	90	100	120	90	-	2	-		-	-	M10 x 15 (4x)	68	M8	189 (18.9)	12000		15500	300	0.25	6.22
16-A 	16	110	126			22.5		2.5		-	-							16500	190	0.35	7.45
25-A	25	130	155			22.5		2.5		8	5							17000	120	0.49	8.59
32-A	32	155	187			22.5		2.5		8	5							17000	90	0.70	9.48
40-A	40	180	220			22.5		2.5		8	5							17000	75	0.92	10.41
50-A 	50	210	260			22.5		2.5		8	5							16500	60	1.19	11.52
65-A 	65	255	320			22.5		2.5		8	5							18000	45	1.59	13.27
TGS20000 -10-A  	10	100	110	150	115	-	2	-		-	-	M10 x 15 (4x)	90	M8	193 (19.3)	20000		29500	300	0.41	10.54
16-A 	16	120	136			24.5		2.5		-	-							31000	190	0.57	12.54
25-A	25	140	165			24.5		2.5		8	5							32500	120	0.79	14.36
32-A 	32	165	197			24.5		2.5		8	5							31000	90	1.15	15.73
40-A 	40	195	235			24.5		2.5		8	5							30500	75	1.51	17.45
50-A 	50	220	270			24.5		2.5		8	5							30000	60	1.94	18.91
65-A 	65	258	323			24.5		2.5		8	5							30000	45	2.50	21.29

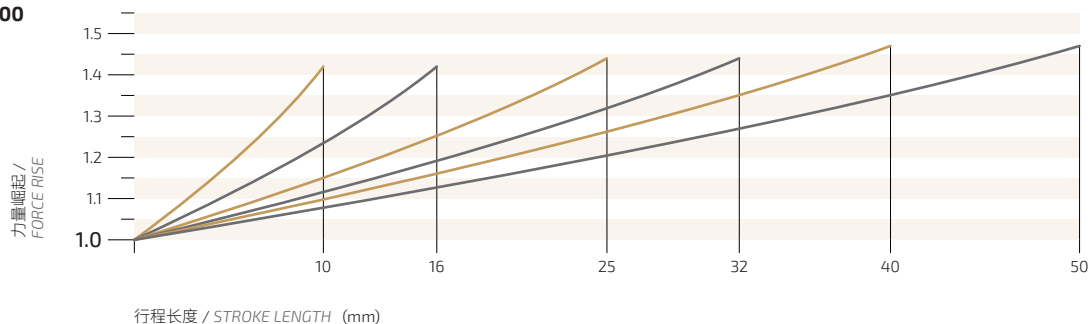
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

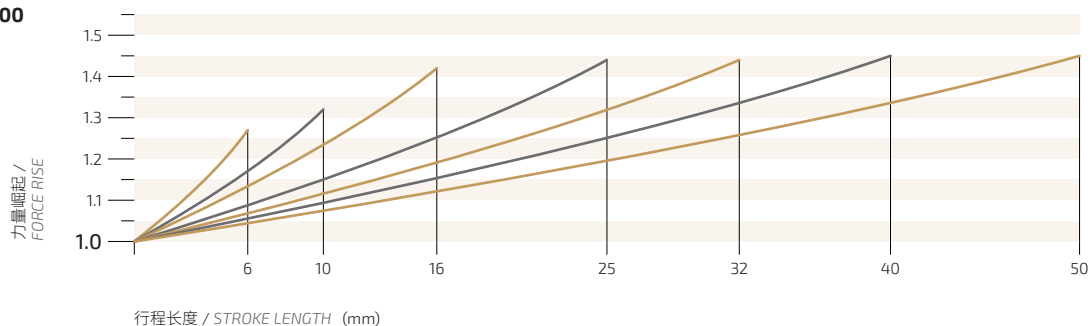
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

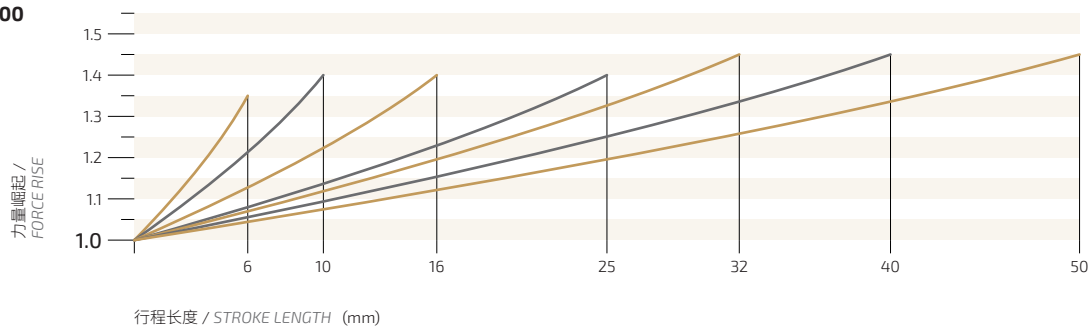
TGS400



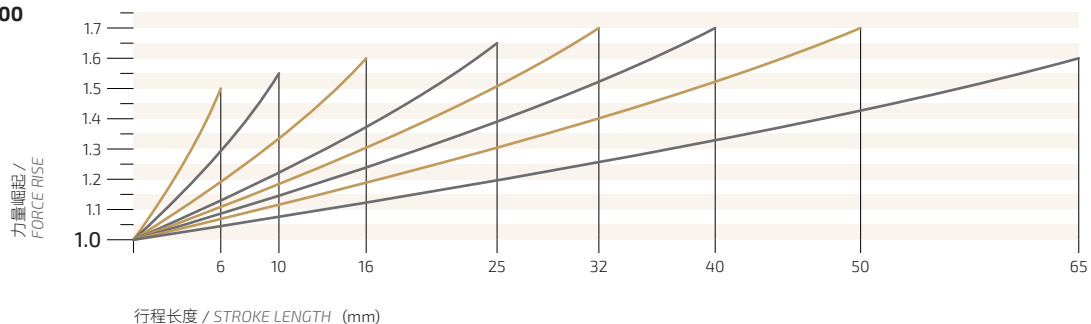
TGS700



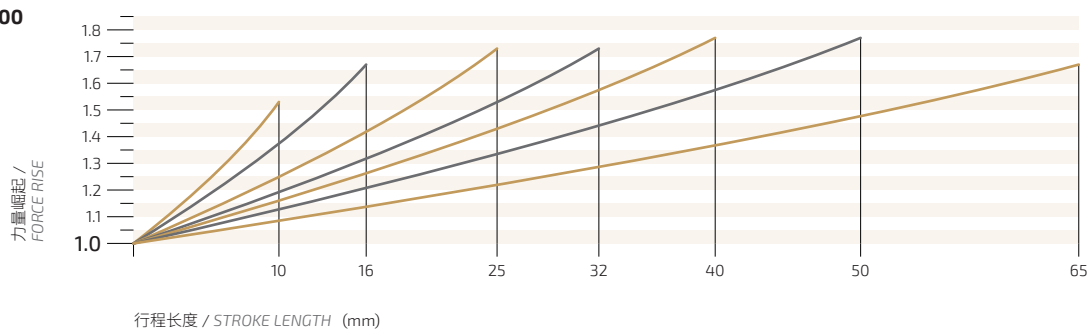
TGS1000



TGS2000



TGS3000



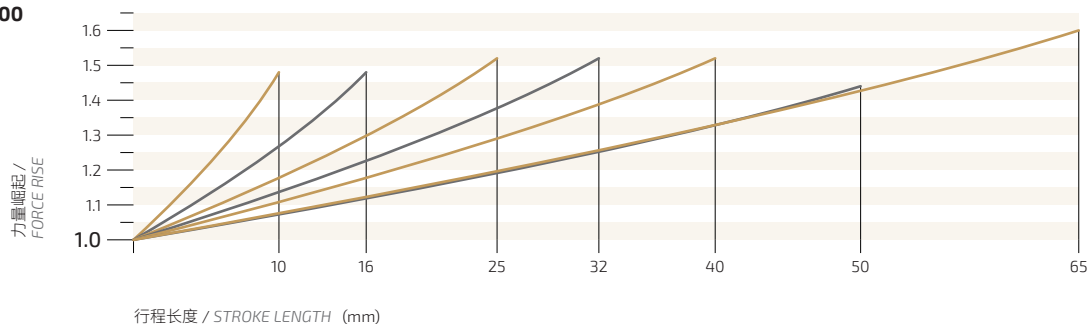
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

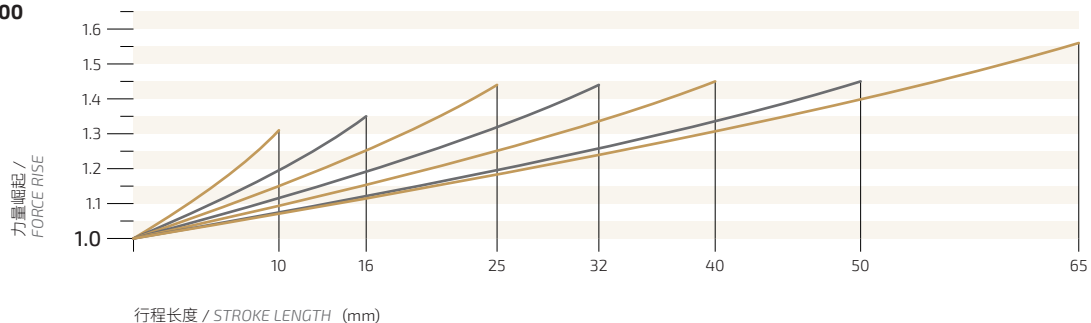
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

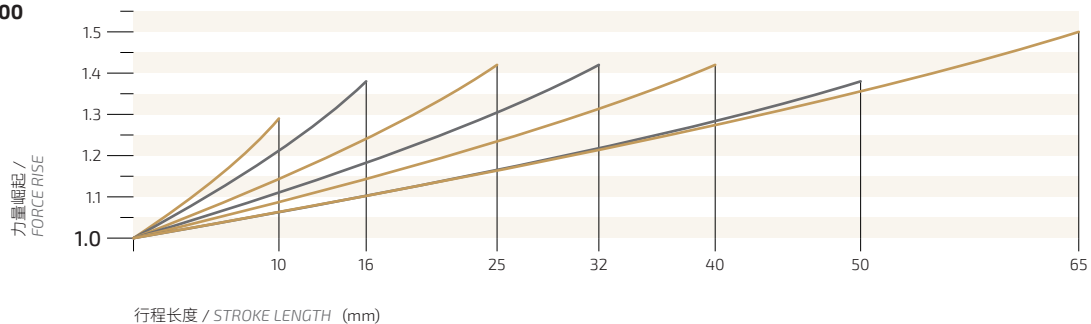
TGS5000



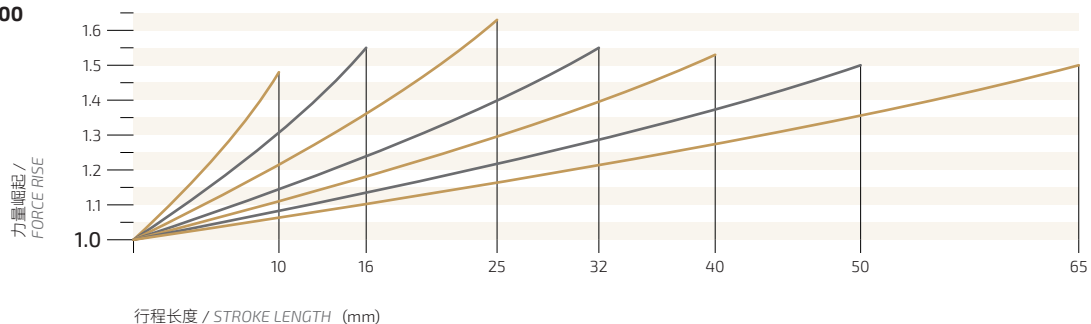
TGS8000



TGS12000



TGS20000



IGS

150~1500



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW	B2 4006	Nissan	K32S, K32C
FCA	075.90.55	PSA	E24.54.815.G
Ford	W-DX35-6203	Renault	EM24.54.700
Mazda	PG23D	Suzuki	SES-K 5404e
MB	B8 3180 220 000 001	VW	39D 878

COMPACT POWER

COMPACT HEIGHT



技术说明 / Technical notes

重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.

IGS系列氮气弹簧具有标准尺寸和作用力,并提供多种安装和连接方式。通过IGS系列氮气弹簧, Bordignon可实现更高的互换性和更优异的可靠性。IGS系列氮气弹簧具有自润滑功能。

IGS series nitrogen gas springs feature standard dimensions and forces, as well as several fixing and linking possibilities. With the IGS series nitrogen gas springs, Bordignon now ensures a great interchangeability and a superior reliability. IGS series nitrogen gas springs are self-lubricated.

活塞杆
表面粗糙度 $R_a \sim 0.02$ 微米
表面 μ -硬度 ~ 800 HV
Piston rod
surface roughness $R_a \sim 0.02 \mu m$
surface μ -hardness ~ 800 HV

雨刷环
Wiper ring

钓竿指南
Rod guide

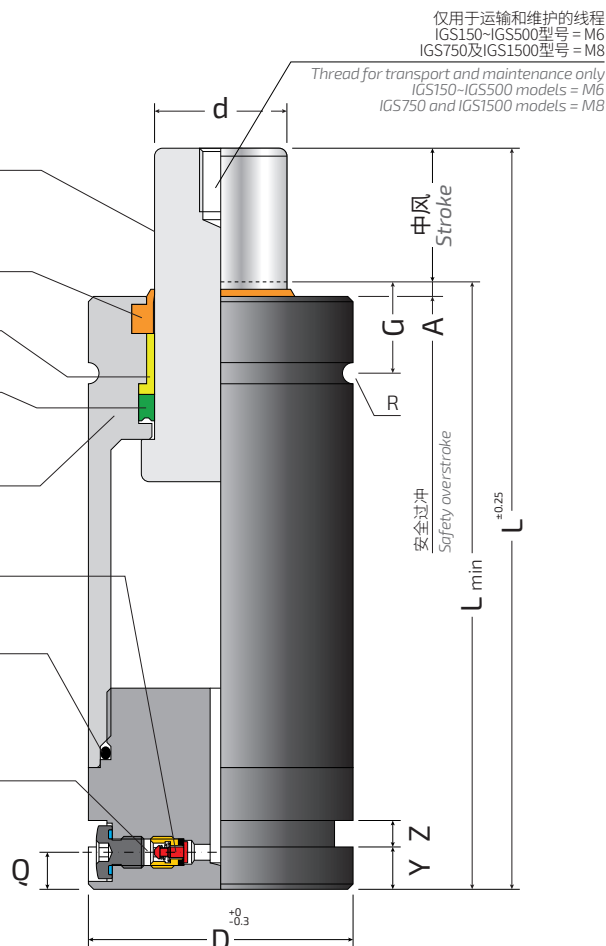
杆封
Rod seal

单件车身结构
Single-piece body construction

不回流阀
Non-return valve

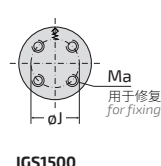
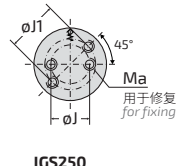
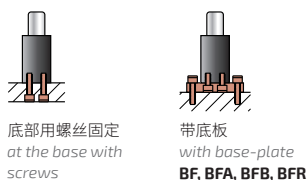
O型圈密封
O-ring seal

侧面接口 (充电口)
IGS150和IGS250型号 = M6
IGS500~IGS1500 = G1/8
(仅含氮 N_2 充电)
Side port (charging port)
IGS150 and IGS250 models = M6
IGS500~IGS1500 = G1/8
(charge with nitrogen N_2 only)



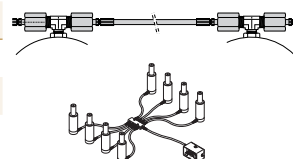
修复可能性 / Fixing possibilities

气弹簧底座 / GAS SPRING BASE



链接到开放系统 / LINKING TO OPEN SYSTEM

	IGS150-IGS250 (M6侧口 / M6 side port)		IGS500-IGS1500 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATNM	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARNM	ARM	ARN	AR



⚠ 注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。
ATTENTION! Follow the instructions in the "LINKED SYSTEM" section before connecting the gas springs.

安全防护 / SAFETY PROTECTIONS



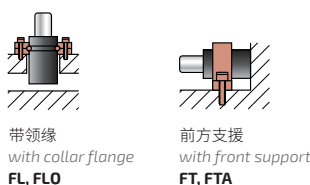
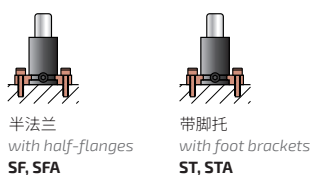
失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE



模型 Model	最大冲程 100% 可用 MAX Stroke 100% usable		Lmin mm	L mm	D mm	d mm	G mm	A mm	R mm	Y mm	Z mm	Q mm	Ma	J mm	J1 mm	 bar (MPa)	 daN	 daN	最大 CPM Cycles per minute MAX		气体 体积 Gas volume dm³	重量 Weight kg
																			MAX			
IGS150-10	10	60	70																215	300	0.009	0.30
	13	12.7	62.7	75.4															220	235	0.010	0.32
	16	16	66	82															220	190	0.012	0.33
	25	25	75	100															225	120	0.017	0.36
	38	38.1	88.1	126.2	32	12	12.5	2	1	4	4	6	M6 x 11 (2x)	18	-	150 (15.0)	170		230	80	0.024	0.39
	50	50	100	150															230	60	0.030	0.44
	63	63.5	113.5	177															230	50	0.037	0.48
	80	80	130	210															235	40	0.046	0.54
	100	100	150	250															235	30	0.057	0.60
	125	125	175	300															235	25	0.070	0.70
IGS250-10	10	60	70																305	300	0.029	0.30
	13	12.7	62.7	75.4															310	235	0.031	0.31
	16	16	66	82															310	190	0.034	0.33
	19	19	69	88															315	160	0.037	0.34
	25	25	75	100															320	120	0.042	0.37
	38	38.1	88.1	126.2	38	15	12.5	2	1	4	4	6	M6 x 9 (J: 2x) (J1: 2x)	18	25	150 (15.0)	260		330	80	0.052	0.43
	50	50	100	150															335	60	0.062	0.48
	63	63.5	113.5	177															335	50	0.074	0.54
	80	80	130	210															340	40	0.087	0.61
	100	100	150	250															345	30	0.104	0.66
125	125	175	300															350	25	0.125	0.83	
IGS500-10	10	95	105																570	300	0.033	0.78
	13	12.7	97.7	110.4															580	235	0.036	0.87
	25	25	110	135															610	120	0.051	0.95
	38	38.1	123.1	161.2															630	80	0.066	1.04
	50	50	135	185															640	60	0.080	1.12
	63	63.5	148.5	212	45	20	16.5	2	1	4	4	10.5	M8 x 13 (2x)	20	-	150 (15.0)	470		660	50	0.095	1.20
	80	80	165	245															660	40	0.115	1.30
	100	100	185	285															670	30	0.138	1.41
	125	125	210	335															680	25	0.167	1.60
	160	160	245	405															700	19	0.192	1.93
200	200	285	485															700	15	0.239	2.10	
IGS750-13	13	12.7	107.7	120.4															930	235	0.05	1.16
	25	25	120	145															990	120	0.07	1.26
	38	38.1	133.1	171.2															1040	80	0.09	1.37
	50	50	145	195															1070	60	0.10	1.47
	63	63.5	158.5	222															1090	50	0.12	1.59
	75	75	170	245															1110	40	0.14	1.70
	80	80	175	255															1110	40	0.15	1.74
	88	87.5	182.5	270															1120	35	0.16	1.80
	100	100	195	295															1130	30	0.17	1.92
	113	112.5	207.5	320															1140	27	0.19	2.03
	125	125	220	345															1150	25	0.21	2.13
	138	137.5	232.5	370															1210	22	0.21	2.36
	150	150	245	395															1210	20	0.22	2.51
	160	160	255	415															1220	19	0.24	2.60
	175	175	270	445															1220	17	0.26	2.73
	200	200	295	495															1220	15	0.30	2.94
225	225	320	545															1220	13	0.33	3.16	
250	250	345	595															1220	12	0.37	3.31	
275	275	370	645															1230	11	0.40	3.59	
300	300	395	695															1230	10	0.44	3.81	
IGS1500-13	13	12.7	122.3	135															1870	235	0.13	3.01
	25	25	135	160															1980	120	0.17	3.27
	38	38.1	148.1	186.2															2060	80	0.21	3.51
	50	50	160	210															2110	60	0.25	3.73
	63	63.5	173.5	237															2160	50	0.29	3.97
	75	75	185	260															2190	40	0.33	4.18
	80	80	190	270															2200	40	0.35	4.27
	88	87.5	197.5	285															2220	35	0.37	4.39
	100	100	210	310															2240	30	0.41	4.63
	113	112.5	222.5	335															2260	27	0.45	4.84
	125	125	235	360															2270	25	0.49	5.08
	138	137.5	247.5	385															2390	22	0.47	5.77
	150	150	260	410															2400	20	0.51	5.99
	160	160	270	430															2400	19	0.55	6.17
	175	175	285	460															2410	17	0.59	6.45
	200	200	310	510															2410	15	0.67	6.90
	225	225	335	560															2420	13	0.75	7.35
	250	250	360	610															2420	12	0.83	7.81
275	275	385	660															2430	11	0.92	8.26	
300	300	410	710															2430	10	0.99	8.72	

本表中的所有气弹簧型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条
All the gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

“L”型版本” (用于联动系统) / “L-VERSION” (FOR LINKED SYSTEM)

当气弹簧要用于联动系统时, 务必在气动弹簧代码后加上“L”来订购“L型”。“L型”气弹簧已放出且无阀门, 准备连接连接系统。
示例: "IGS750-50-L"

When the gas springs are to be used in a linked system, make sure to order the "L-version" by adding "-L" after the gas spring code. The "L-version" gas springs are supplied already discharged and without valve, ready for the connection to linked system.
Example: "IGS750-50-L"



修理套 / REPAIR KIT

气弹簧代码 Gas spring code	维修包代码 Repair kit code
IGS150-...	KR/IGS150
IGS250-...	KR/IGS250
IGS500-10 ~ IGS500-63	KR/IGS500-1
IGS500-80 ~ IGS500-200	KR/IGS500-2
IGS750-13 ~ IGS750-50	KR/IGS750-1
IGS750-63 ~ IGS750-300	KR/IGS750-2
IGS1500-13 ~ IGS1500-50	KR/IGS1500-1
IGS1500-63 ~ IGS1500-300	KR/IGS1500-2

从 www.bordignon.com 下载维修说明 /
Download repair instructions from www.bordignon.com

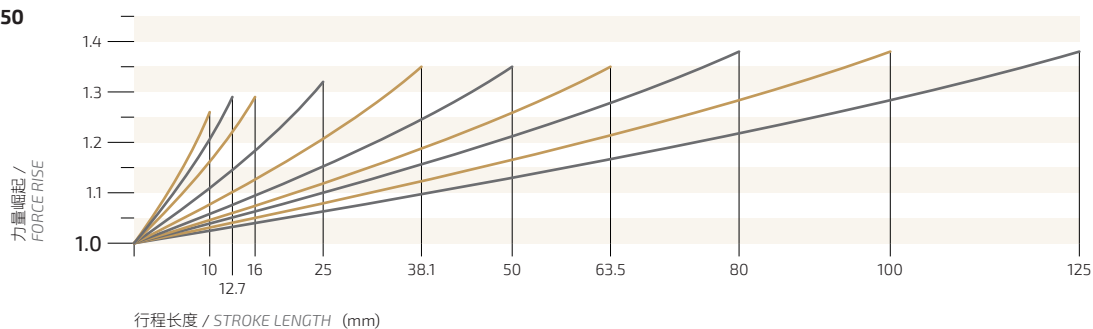
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

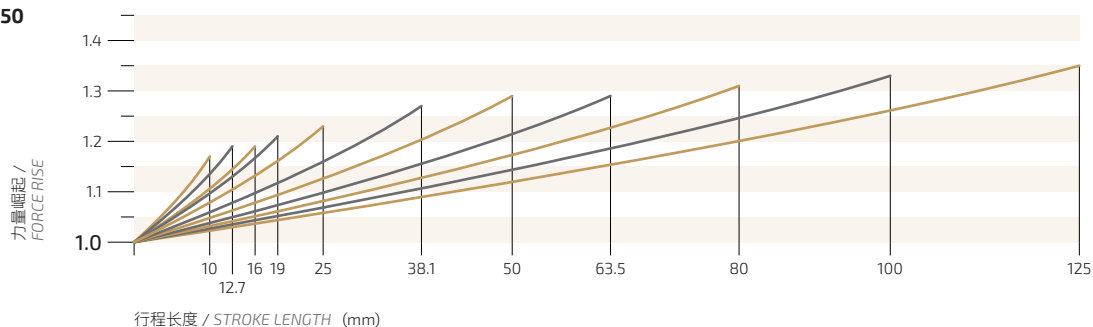
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

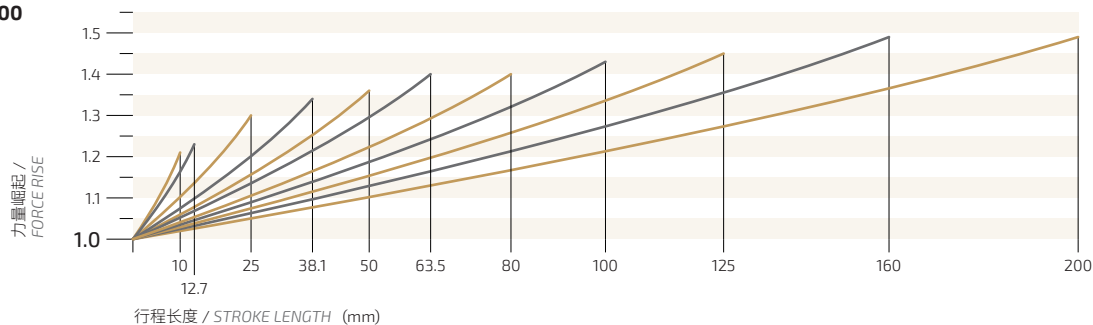
IGS150



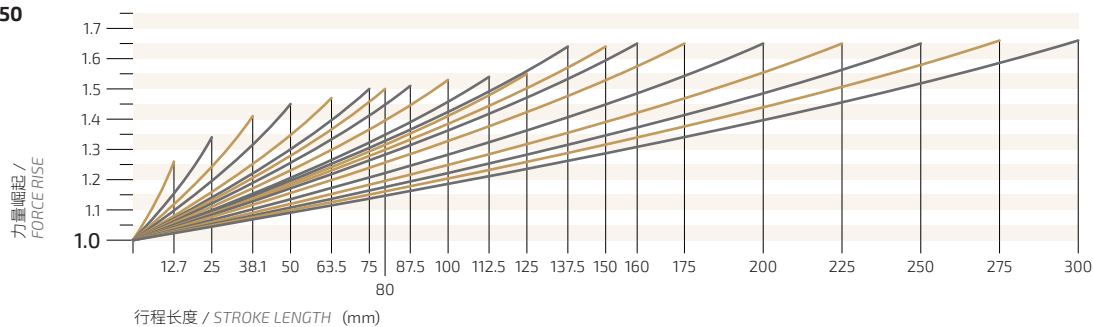
IGS250



IGS500



IGS750

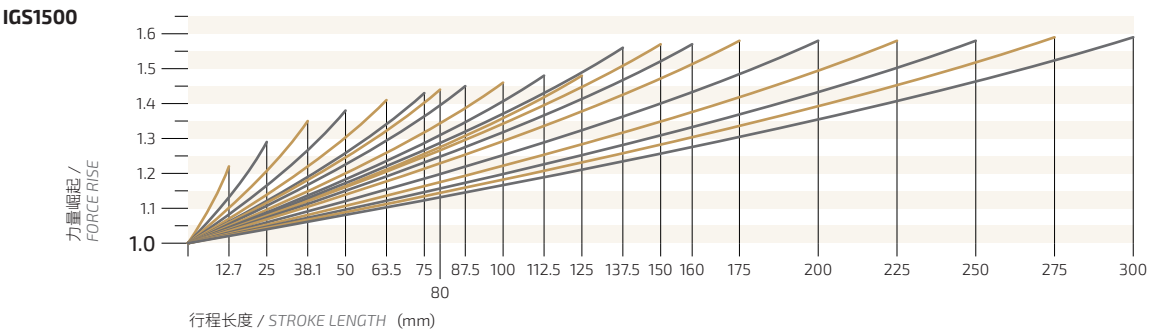


力量崛起 VS.已用的行程长度图表

下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

FORCE RISE VS. USED STROKE LENGTH CHARTS

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).



IGS

3000~10000



ISO 11901-1

VDI 3003

该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW	B2 4006	Nissan	K32S, K32C
FCA	075.90.55	PSA	E24.54.815.G
Ford	W-DX35-6203	Renault	EM24.54.700
Mazda	PG23D	Suzuki	SES-K 5404e
MB	B8 3180 220 000 001	VW	39D 878

COMPACT POWER

COMPACT HEIGHT



技术说明 / Technical notes
重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.

IGS系列氮气弹簧具有标准尺寸和作用力,并提供多种安装和连接方式。通过IGS系列氮气弹簧, Bordignon可实现更高的互换性和更优异的可靠性。IGS系列氮气弹簧具有自润滑功能。

IGS series nitrogen gas springs feature standard dimensions and forces, as well as several fixing and linking possibilities. With the IGS series nitrogen gas springs, Bordignon now ensures a great interchangeability and a superior reliability. IGS series nitrogen gas springs are self-lubricated.

活塞杆
表面粗糙度 $Ra \sim 0.02$ 微米
表面 μ 硬度 ~ 800 HV

Piston rod
surface roughness $Ra \sim 0.02 \mu m$
surface μ -hardness ~ 800 HV

雨刷环

Wiper ring

钓竿指南

Rod guide

杆封

Rod seal

单件车身结构

Single-piece body construction

不回流阀

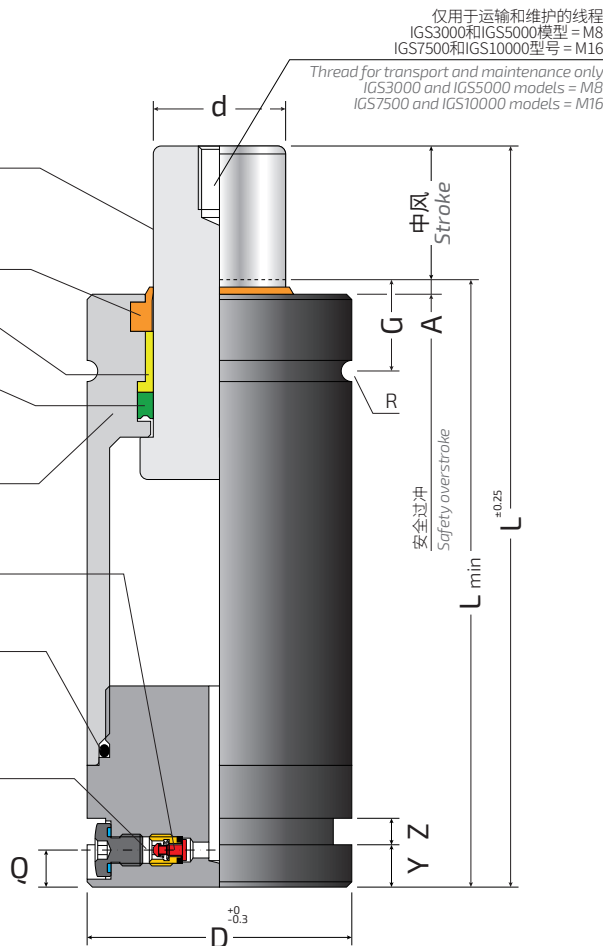
Non-return valve

O型圈密封

O-ring seal

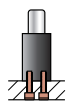
G1/8侧接口 (充电口)
(仅含氮 N_2 充电)

G1/8 side port (charging port)
(charge with nitrogen N_2 only)

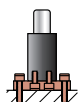


修复可能性 / Fixing possibilities

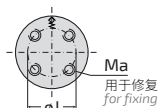
气弹簧底座 / GAS SPRING BASE



底部用螺丝固定
at the base with
screws



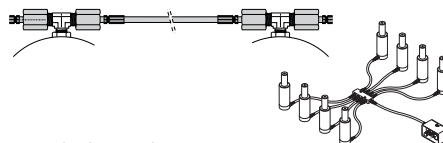
带底板
with base-plate
BF, BFA, BFB, BFR



**IGS3000, IGS5000,
IGS7500, IGS10000**

链接到开放系统 / LINKING TO OPEN SYSTEM

	IGS3000-IGS10000 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARN	AR



注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。
ATTENTION! Follow the instructions in the “LINKED SYSTEM” section before connecting the gas springs.

安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

模型 Model	最大冲程 100%可用 MAX Stroke 100% usable		Lmin mm	L mm	D mm	d mm	G mm	A mm	R mm	Y mm	Z mm	Q mm	Ma	J mm	 bar (MPa)	 daN	 daN	最大 CPM	气体	重量	
																		Cycles per	Gas		
																		minute	volume		
																		MAX	dm³	Weight	
IGS3000	-13	12.7	132.3	145	95	50	24	3	2.5	8	5	10.5	M8 x 13 (4x)	60	150 (15.0)	2945	3650	235	0.24	5.15	
	25	25	145	170													3850	120	0.30	5.58	
	38	38.1	158.1	196.2													4050	80	0.37	5.97	
	50	50	170	220													4200	60	0.43	6.33	
	63	63.5	183.5	247													4300	50	0.51	6.76	
	75	75	195	270													4400	40	0.57	7.10	
	80	80	200	280													4400	40	0.59	7.25	
	88	87.5	207.5	295													4450	35	0.63	7.49	
	100	100	220	320													4500	30	0.70	7.83	
	113	112.5	232.5	345													4550	27	0.76	8.21	
	125	125	245	370													4600	25	0.83	8.59	
	138	137.5	257.5	395													4900	22	0.80	9.72	
	150	150	270	420													4900	20	0.87	10.10	
	160	160	280	440													4900	19	0.92	10.42	
	175	175	295	470													4950	17	0.99	10.87	
	200	CE	200	320													5000	15	1.13	11.64	
	225	CE	225	345													5000	13	1.26	12.40	
	250	CE	250	370													5000	12	1.39	13.16	
	275	CE	275	395													5000	11	1.53	13.92	
	300	CE	300	420													5000	10	1.66	14.70	
IGS5000	-25	25	165	190	120	65	25.5	3	2.5	8	5	10.5	M10 x 16 (4x)	80	150 (15.0)	4980	6600	120	0.48	10.78	
	38	38.1	178.1	216.2													7000	80	0.58	11.52	
	50	50	190	240													7300	60	0.67	12.20	
	63	63.5	203.5	267													7600	50	0.77	13.00	
	75	75	215	290													7700	40	0.85	13.62	
	80	80	220	300													7800	40	0.89	13.91	
	88	87.5	227.5	315													7900	35	0.95	14.27	
	100	CE	100	240													8000	30	1.04	14.98	
	113	CE	112.5	252.5													8200	27	1.14	15.70	
	125	CE	125	265													8300	25	1.23	16.41	
	138	CE	137.5	277.5													8900	22	1.19	18.18	
	150	CE	150	290													8900	20	1.29	18.88	
	160	CE	160	300													9000	19	1.36	19.45	
	175	CE	175	315													9000	17	1.47	20.30	
	200	CE	200	340													9100	15	1.66	21.72	
	225	CE	225	365													9200	13	1.85	23.14	
	250	CE	250	390													9200	12	2.04	24.56	
	275	CE	275	415													9300	11	2.23	25.98	
	300	CE	300	440													9300	10	2.42	27.40	
	IGS7500	-25	CE	25													180	205	150	80	27.5
38		CE	38.1	193.1	231.2	9700	80	1.32	16.73												
50		CE	50	205	255	10000	60	1.47	17.69												
63		CE	63.5	218.5	282	10300	50	1.64	18.74												
75		CE	75	230	305	10500	40	1.79	19.65												
80		CE	80	235	315	10600	40	1.86	20.04												
88		CE	87.5	242.5	330	10700	35	1.95	20.52												
100		CE	100	255	355	10900	30	2.11	21.55												
113		CE	112.5	267.5	380	11000	27	2.27	22.48												
125		CE	125	280	405	11200	25	2.43	23.52												
138		CE	137.5	292.5	430	11800	22	2.33	26.50												
150		CE	150	305	455	11900	20	2.49	27.53												
160		CE	160	315	475	12000	19	2.62	28.33												
175		CE	175	330	505	12000	17	2.82	29.49												
200		CE	200	355	555	12200	15	3.14	31.47												
225		CE	225	380	605	12300	13	3.46	33.43												
250		CE	250	405	655	12400	12	3.78	35.39												
275		CE	275	430	705	12500	11	4.10	37.36												
300		CE	300	455	755	12600	10	4.43	39.33												
IGS10000		-25	CE	25	185	210	195	95	33.5	3	2.5	8	8	15	M12 x 18 (4x)	120	150 (15.0)	10600			
	38	CE	38.1	198.1	236.2	13300													80	2.16	29.90
	50	CE	50	210	260	13700													60	2.42	31.33
	63	CE	63.5	223.5	287	14000													50	2.72	32.92
	80	CE	80	240	320	14300													40	3.09	34.87
	100	CE	100	260	360	14600													30	3.53	37.22
	125	CE	125	285	410	14900													25	4.08	40.17
	160	CE	160	320	480	15900													19	4.23	49.23
	200	CE	200	360	560	16100													15	5.12	53.95
	250	CE	250	410	660	16300													12	6.22	59.84
	300	CE	300	460	760	17200													10	6.62	71.32

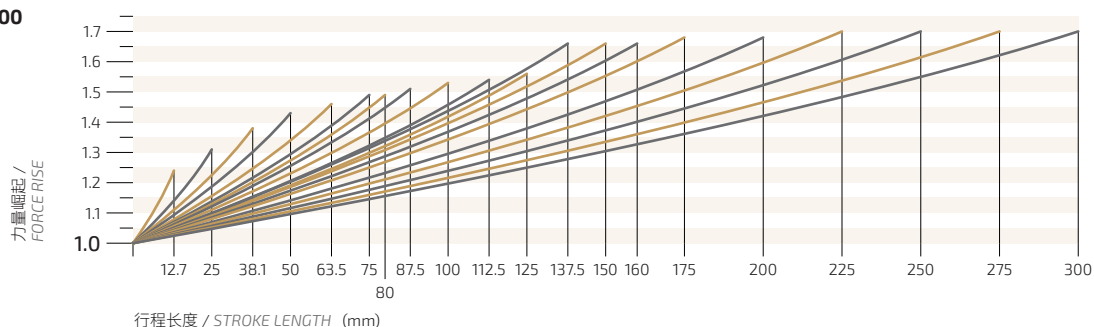
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

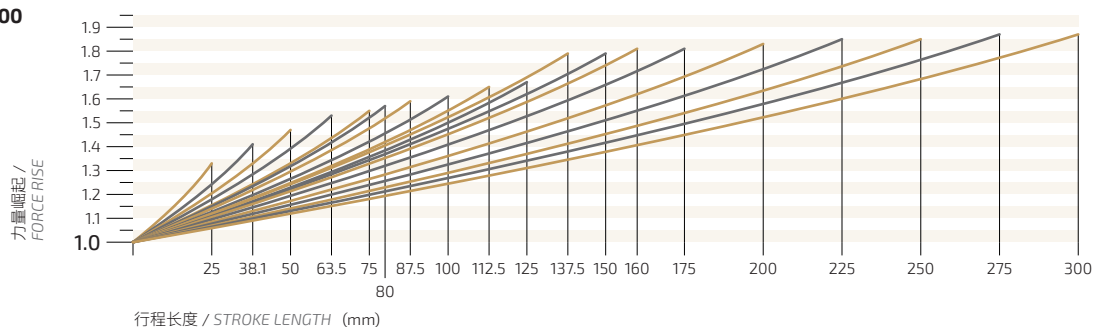
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

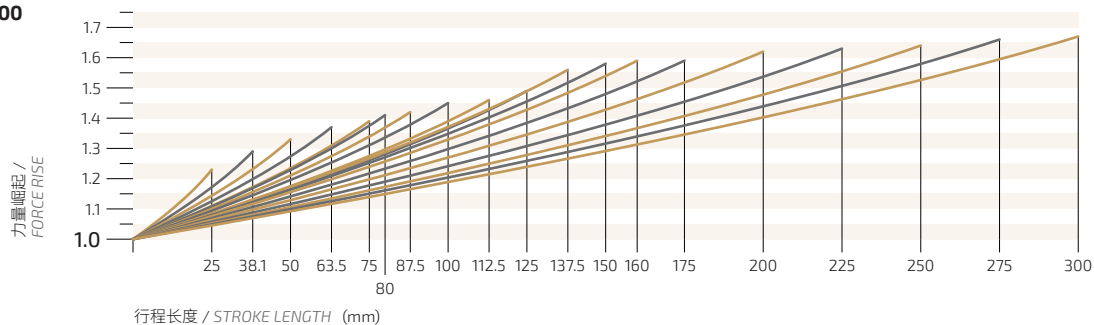
IGS3000



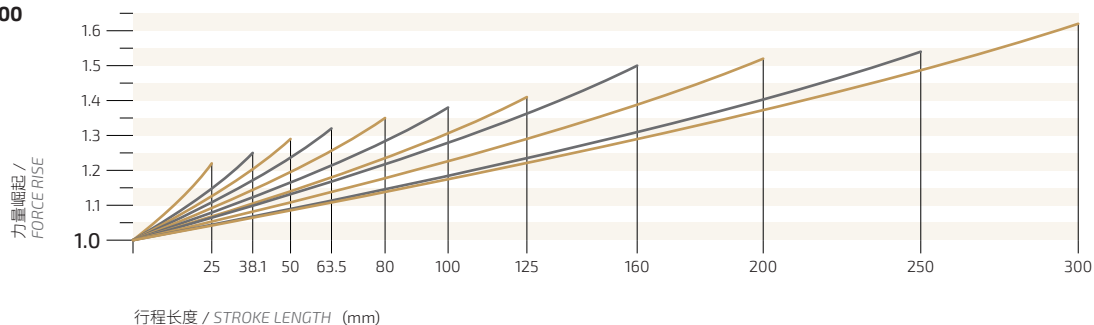
IGS5000



IGS7500



IGS10000



LGS



500

COMPACT POWER 

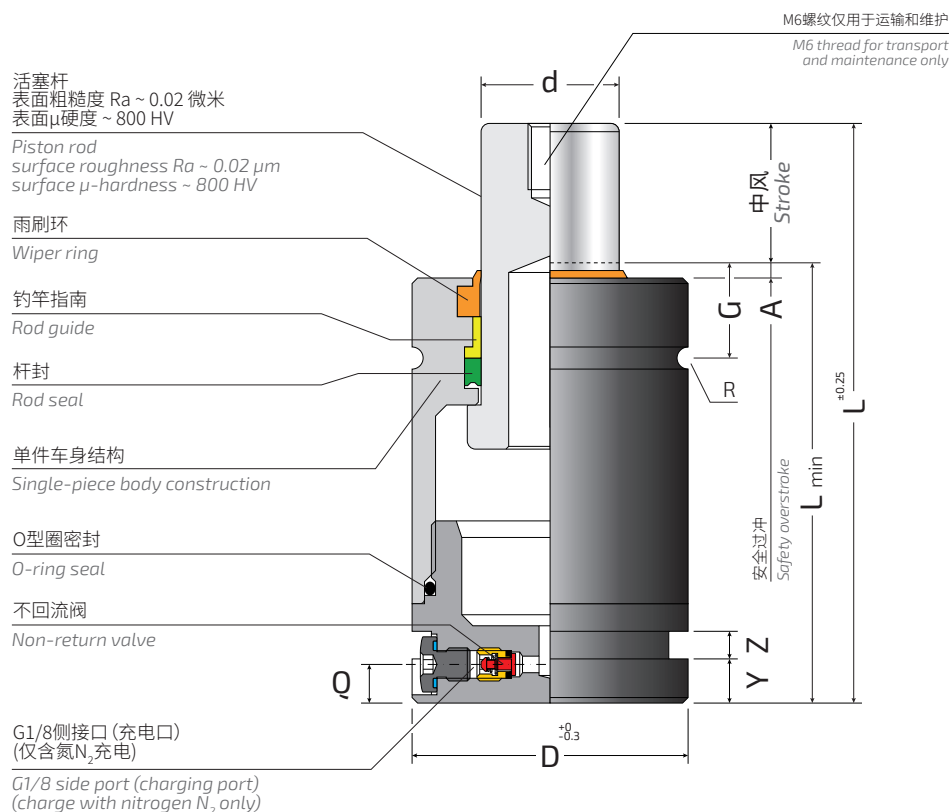
COMPACT HEIGHT 



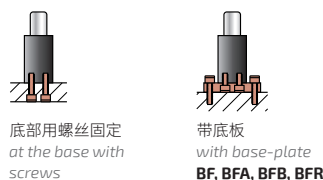
技术说明 / Technical notes
重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.

LGS系列氮气弹簧具有标准作用力和紧凑长度，并提供多种安装和连接方式。通过LGS系列氮气弹簧，Bordignon可实现更高的互换性和更优异的可靠性。LGS系列氮气弹簧具有自润滑功能。

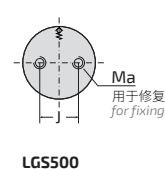
LGS series nitrogen gas springs feature standard forces and compact length, as well as several fixing and linking possibilities. With the LGS series nitrogen gas springs, Bordignon now ensures a great interchangeability and a superior reliability. LGS series nitrogen gas springs are self-lubricated.



修复可能性 / Fixing possibilities

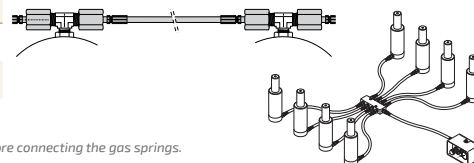


气弹簧底座 / GAS SPRING BASE



链接到开放系统 / LINKING TO OPEN SYSTEM

	LGS500 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARN	AR



注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。
ATTENTION! Follow the instructions in the "LINKED SYSTEM" section before connecting the gas springs.

安全防护 / SAFETY PROTECTIONS



模型 Model	最大冲程 100% 可用 MAX Stroke 100% usable mm	L min mm	L mm	D mm	d mm	G mm	A mm	R mm	Y mm	Z mm	Q mm	Ma	J mm	 bar (MPa)	 daN	 daN	最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm³	重量 Weight kg
LG5500-80	80	130	210	45	20	15.5	2	1	4	4	10.5	M8 x 13 (2x)	20	150 (15.0)	470	700	40	0.097	0.89

本表中的所有气弹簧型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条
All the gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

“L型版本” (用于联动系统) / “L-VERSION” (FOR LINKED SYSTEM)

当气弹簧要用于联动系统时, 务必在气动弹簧代码后加上“-L”来订购“L型”。“L型”气弹簧已放出且无阀门, 准备连接连接系统。
示例: “LG5500-80-L”

When the gas springs are to be used in a linked system, make sure to order the “L-version” by adding “-L” after the gas spring code. The “L-version” gas springs are supplied already discharged and without valve, ready for the connection to linked system.
Example: “LG5500-80-L”



修理套 / REPAIR KIT

气弹簧代码 Gas spring code	维修包代码 Repair kit code
LG5500-...	KR/LG5500

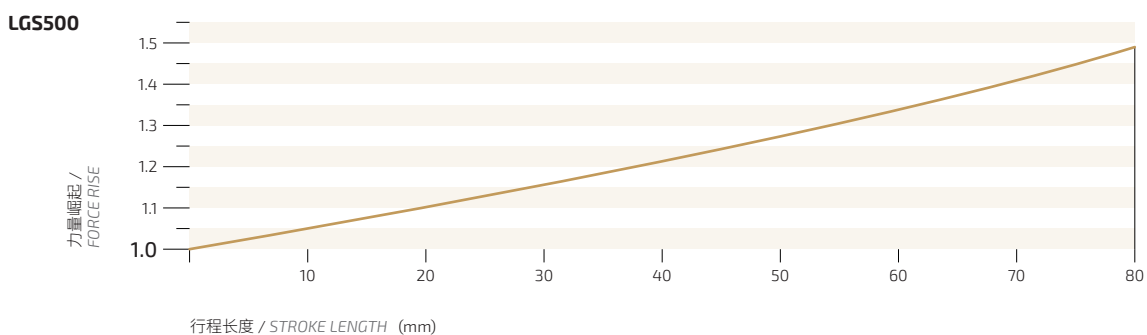
从 www.bordignon.com 下载维修说明 /
Download repair instructions from www.bordignon.com

力量崛起 VS.已用的行程长度图表

下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同,因为它们取决于具体的应用参数,例如工作速度(每分钟循环数)。

FORCE RISE VS. USED STROKE LENGTH CHARTS

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).



PGS

300~1500



ISO 11901-4 VDI 3003 Part 4



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW B2 4008

FCA 075.90.65

VW 39D 838

COMPACT POWER

COMPACT HEIGHT



技术说明 / Technical notes

重要使用说明

在专门的目录部分。

Important use instructions

in the dedicated catalogue section.

PGS系列氮气弹簧具有标准尺寸和增强作用力,并提供多种安装和连接方式。PGS系列氮气弹簧具有自润滑功能。

PGS series nitrogen gas springs feature standard dimensions and enhanced forces, as well as several fixing and linking possibilities. PGS series nitrogen gas springs are self-lubricated.

活塞杆
表面粗糙度 $Ra \sim 0.02$ 微米
表面 μ -硬度 ~ 800 HV
Piston rod
surface roughness $Ra \sim 0.02 \mu m$
surface μ -hardness ~ 800 HV

雨刷环

Wiper ring

钓竿指南

Rod guide

杆封

Rod seal

单件车身结构

Single-piece body construction

不回流阀

Non-return valve

O型圈密封

O-ring seal

侧面接口 (充电口)

PGS300和PGS500型号 = M6

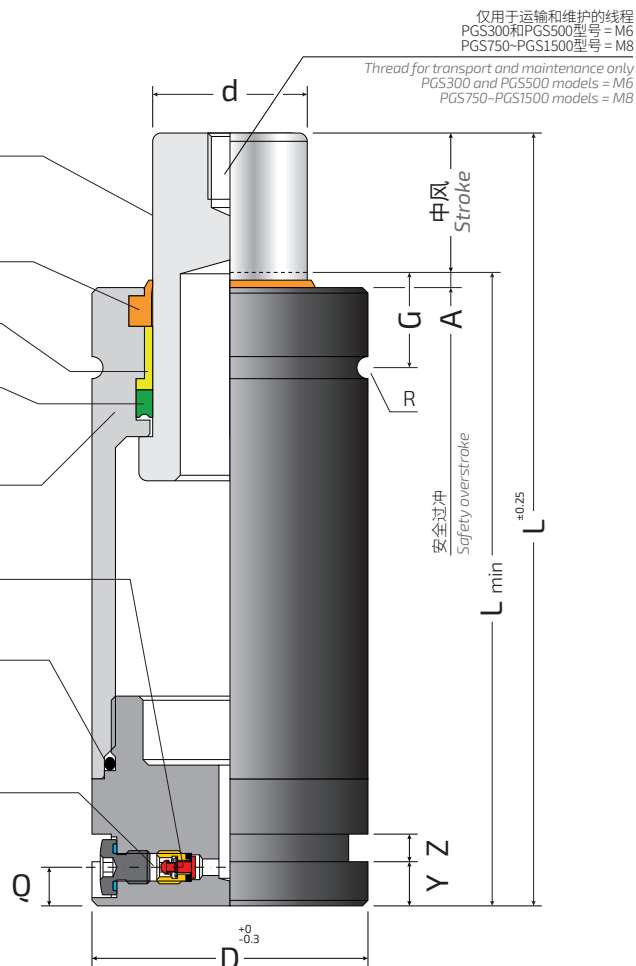
PGS750~PGS1500型号 = G1/8

(仅含氮 N_2 充电)

Side port (charging port)

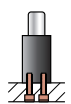
PGS300 and PGS500 models = M6

PGS750~PGS1500 models = G1/8

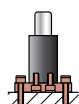
(charge with nitrogen N_2 only)

修复可能性 / Fixing possibilities

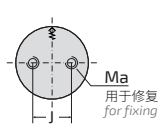
气弹簧底座 / GAS SPRING BASE



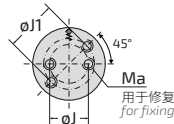
底部用螺丝固定
at the base with
screws



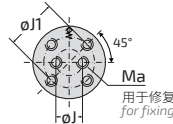
带底板
with base-plate
BF, BFA, BFB, BFR



PGS300, PGS750,
PGS1000



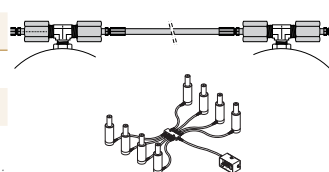
PGS500



PGS1500

链接到开放系统 / LINKING TO OPEN SYSTEM

	PGS300~PGS500 (M6侧口 / M6 side port)		PGS750~PGS1500 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATNM	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARNM	ARM	ARN	AR



注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。

ATTENTION! Follow the instructions in the "LINKED SYSTEM" section before connecting the gas springs.

安全防护 / SAFETY PROTECTIONS



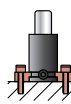
失控
返回速度 /
UNCONTROLLED
RETURN SPEED



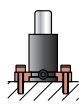
过冲 /
OVERSTROKE



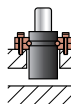
过压 /
OVERPRESSURE



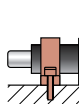
半法兰
with half-flanges
SF, SFA



带脚托
with foot brackets
ST, STA



带领缘
with collar flange
FL, FLQ



前方支援
with front support
FT, FTA

最大冲程 100% 可用 MAX Stroke 100% usable																		最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm³	重量 Weight kg	
模型 Model	mm	Lmin mm	L mm	D mm	d mm	G mm	A mm	R mm	Y mm	Z mm	Q mm	Ma	J mm	J1 mm	bar (MPa)	daN	daN				
PGS300-10	10	60	70	32	16	12.5	2	1	4	4	6	M6 x 11 (2x)	18	-	150 (15.0)	300	390	300	0.013	0.25	
	13	62.7	75.7														400	230	0.015	0.26	
	16	66	82														410	190	0.016	0.28	
	25	75	100														430	120	0.022	0.29	
	38	88	126														450	80	0.029	0.35	
	50	100	150														460	60	0.036	0.39	
	63	113.5	176.5														470	50	0.043	0.44	
	80	130	210														480	40	0.051	0.50	
	100	150	250														490	30	0.062	0.58	
	125	175	300														500	25	0.074	0.69	
PGS500-10	10	60	70	38	20	12.5	2	1	4	4	6	M6 x 9 (J: 2x) (J1: 2x)	18	25	150 (15.0)	470	610	300	0.021	0.35	
	13	62.7	75.7														640	230	0.021	0.37	
	16	66	82														650	190	0.025	0.38	
	19	69	88														670	160	0.026	0.40	
	25	75	100														690	120	0.031	0.43	
	38	88	126														730	80	0.041	0.51	
	50	100	150														760	60	0.049	0.57	
	63	113.5	176.5														770	50	0.060	0.65	
	80	130	210														790	40	0.073	0.73	
	100	150	250														810	30	0.087	0.85	
	125	175	300														820	25	0.106	0.99	
	PGS750-10	10	95														105	45	25	16.5	2
13		98	111	1000	230	0.034	0.83														
25		110	135	1080	120	0.050	0.91														
38		123	161	1120	80	0.069	0.99														
50		135	185	1160	60	0.082	1.07														
63		148	211	1180	50	0.100	1.14														
75		160	235	1200	40	0.115	1.21														
80		165	245	1200	40	0.122	1.24														
100		185	285	1210	30	0.149	1.35														
125		210	335	1260	25	0.174	1.52														
150		235	385	1270	20	0.206	1.76														
160		245	405	1270	19	0.220	1.84														
175		260	435	1270	17	0.241	1.90														
200		285	485	1280	15	0.270	2.00														
PGS1000-13		13	108	121	50	28	17.5	3	2	8	5	10.5	M8 x 13 (2x)	20	-	150 (15.0)	920				
	25	120	145	1320														120	0.07	1.20	
	38	133	171	1390														80	0.09	1.31	
	50	145	195	1440														60	0.10	1.40	
	63	158	221	1460														50	0.13	1.51	
	75	170	245	1490														40	0.14	1.61	
	80	175	255	1490														40	0.15	1.66	
	100	195	295	1540														30	0.18	1.83	
	125	220	345	1560														25	0.22	2.03	
	150	245	395	1570														20	0.26	2.39	
	160	255	415	1570														19	0.28	2.47	
	175	270	445	1610														17	0.29	2.60	
	200	295	495	1610														15	0.33	2.80	
250	345	595	1610	12	0.41	3.15															
300	395	695	1640	10	0.48	3.63															
PGS1500-13	13	108	121	63	36	19	3	2	8	5	10.5	M8 x 13 (J: 2x) (J1: 4x)	20	40	150 (15.0)	1530	1990	230	0.09	1.98	
	25	120	145														2110	120	0.13	2.16	
	38	133	171														2260	80	0.15	2.32	
	50	145	195														2280	60	0.19	2.48	
	63	158	221														2360	50	0.22	2.65	
	75	170	245														2400	40	0.26	2.80	
	80	175	255														2400	40	0.27	2.86	
	100	195	295														2450	30	0.33	3.12	
	125	220	345														2480	25	0.40	3.43	
	150	245	395														2520	20	0.46	4.05	
	160	255	415														2520	19	0.49	4.18	
	175	270	445														2560	17	0.52	4.37	
	200	295	495														2570	15	0.59	4.69	
	250	345	595														2620	12	0.71	5.30	
	300	395	695														2620	10	0.86	5.96	

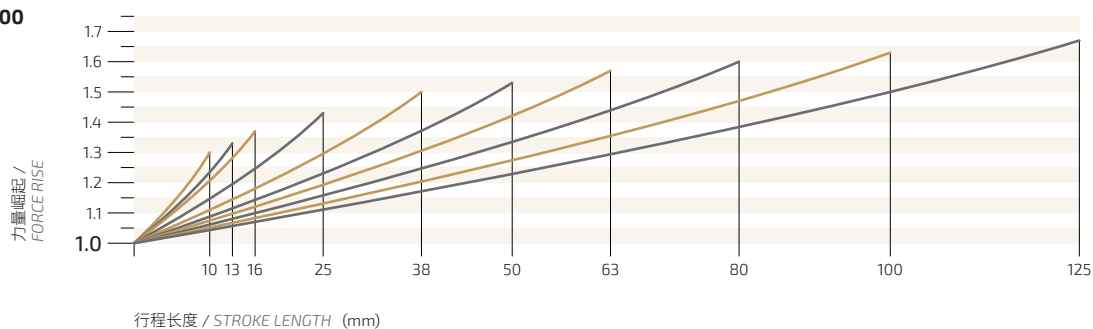
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

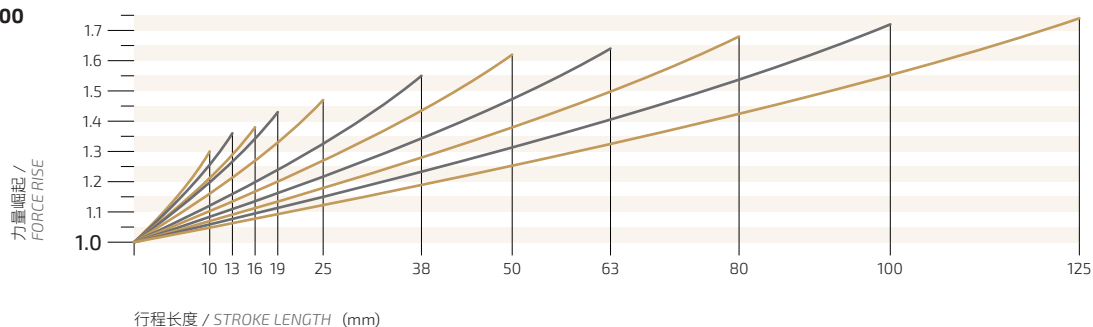
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

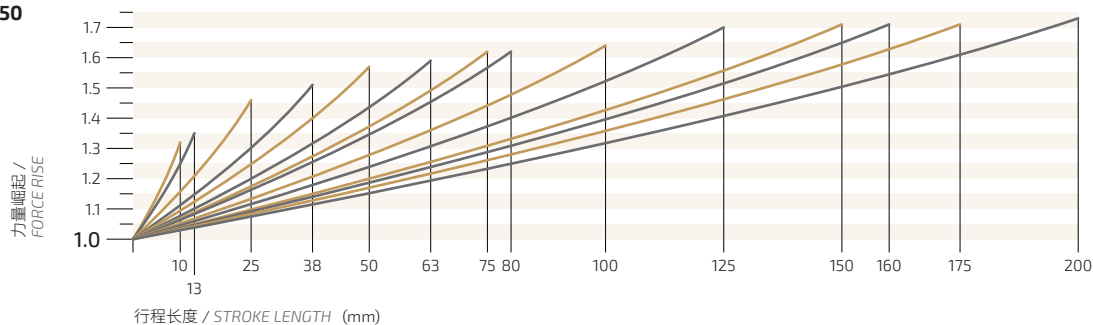
PGS300



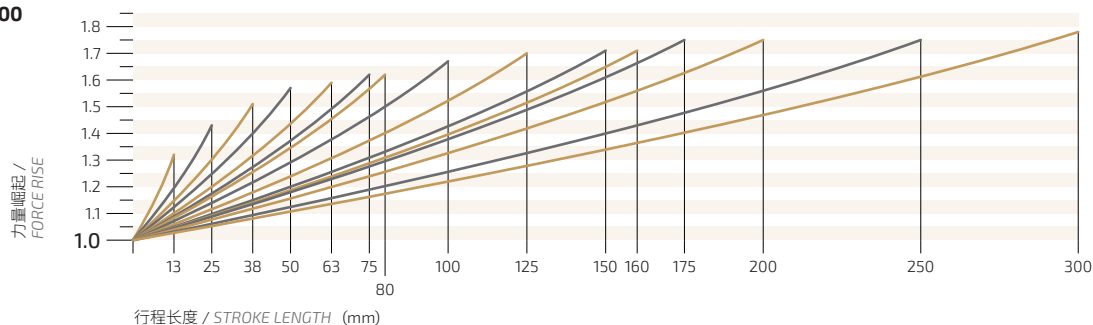
PGS500



PGS750



PGS1000

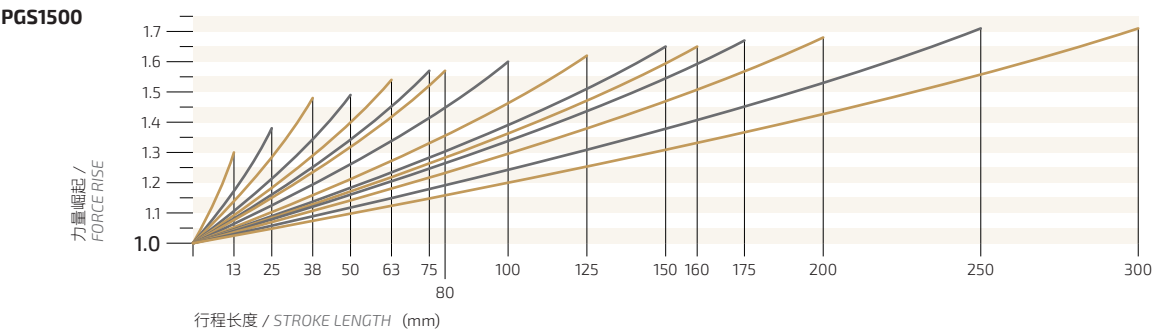


力量崛起 VS.已用的行程长度图表

下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同,因为它们取决于具体的应用参数,例如工作速度 (每分钟循环数)。

FORCE RISE VS. USED STROKE LENGTH CHARTS

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).



PGS

2400~20000



ISO 11901-4 VDI 3003 Part 4



该气动弹簧系列包括符合汽车标准的型号 /

This gas spring series includes the models compliant with automotive standards

BMW B2 4008

FCA 075.90.65

VW 39D 838

COMPACT POWER

COMPACT HEIGHT



技术说明 / Technical notes

重要使用说明

在专门的目录部分。

Important use instructions

in the dedicated catalogue section.

PGS系列氮气弹簧具有标准尺寸和增强作用力,并提供多种安装和连接方式。PGS系列氮气弹簧具有自润滑功能。

PGS series nitrogen gas springs feature standard dimensions and enhanced forces, as well as several fixing and linking possibilities. PGS series nitrogen gas springs are self-lubricated.

活塞杆
表面粗糙度 $Ra \sim 0.02$ 微米
表面 μ -硬度 ~ 800 HV

Piston rod roughness $Ra \sim 0.02 \mu m$
surface μ -hardness ~ 800 HV

雨刷环

Wiper ring

钓竿指南

Rod guide

杆封

Rod seal

单件车身结构

Single-piece body construction

不回流阀

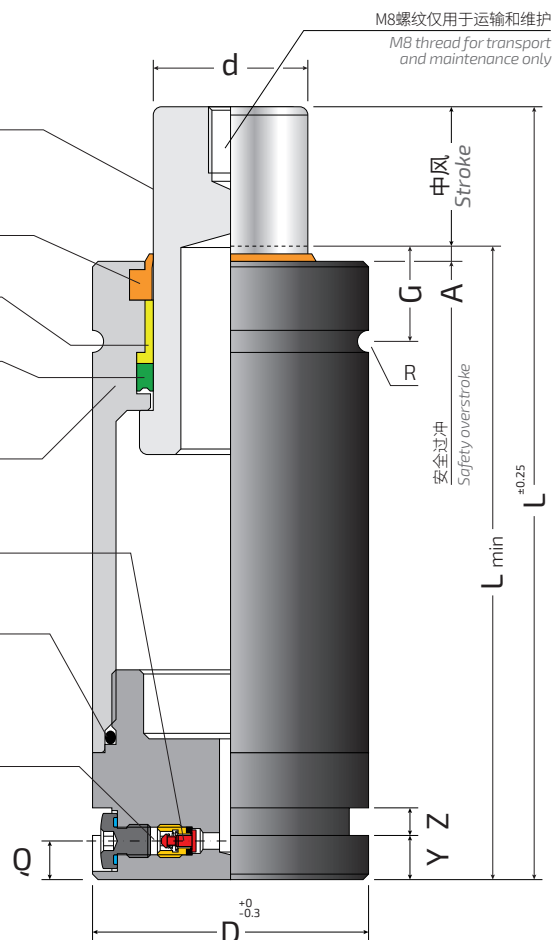
Non-return valve

O型圈密封

O-ring seal

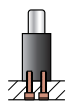
G1/8侧接口 (充电口)
(仅含氮 N_2 充电)

G1/8 side port (charging port)
(charge with nitrogen N_2 only)

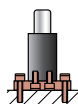


修复可能性 / Fixing possibilities

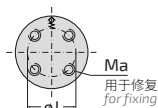
气弹簧底座 / GAS SPRING BASE



底部用螺丝固定
at the base with
screws



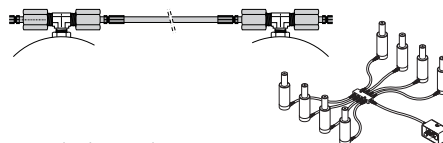
带底板
with base-plate
BF, BFA, BFB, BFR



PGS2400, PGS4200, PGS6600,
PGS9500, PGS20000

链接到开放系统 / LINKING TO OPEN SYSTEM

	PGS2400~PGS20000 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARN	AR



注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。

ATTENTION! Follow the instructions in the "LINKED SYSTEM" section before connecting the gas springs.

安全防护 / SAFETY PROTECTIONS



失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE

CE 标注CE符号的气弹簧型号内部气体容积>1升(1立方米)。它们属于2014/68/欧盟压力设备指令(PED)中的第二类或第三类(CE III)。

表中其他所有气弹簧型号均符合2014/68/欧盟压力设备指令(PED)第4.3条。

The gas spring models for which the CE symbol is indicated have an internal gas volume > 1 litre (1 dm³). They fall into Category II or Category III (CE III) of the 2014/68/EU Pressure Equipment Directive (PED).

All the other gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED).

修理套 / REPAIR KIT

从 www.bordignon.com 下载维修说明 /
Download repair instructions from www.bordignon.com

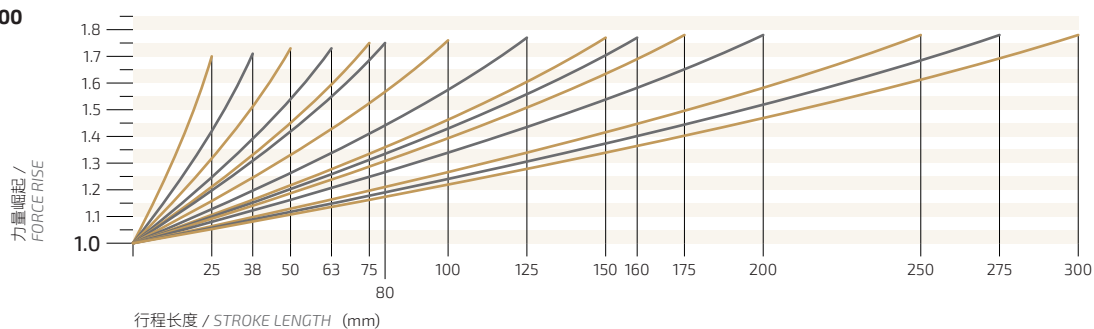
力量崛起 VS.已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

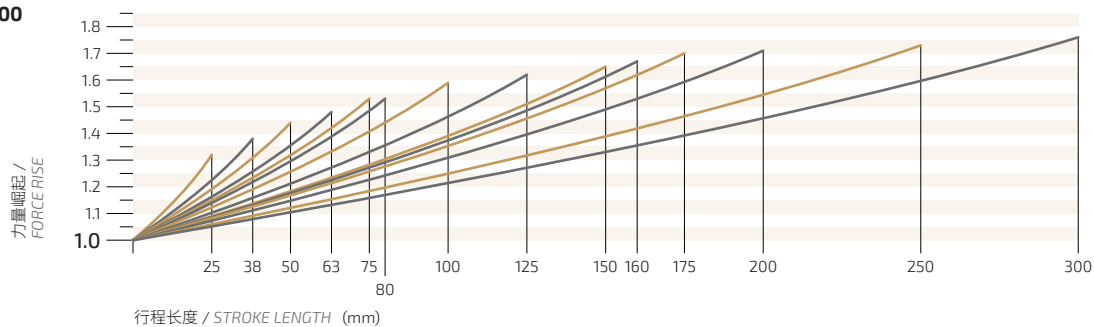
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

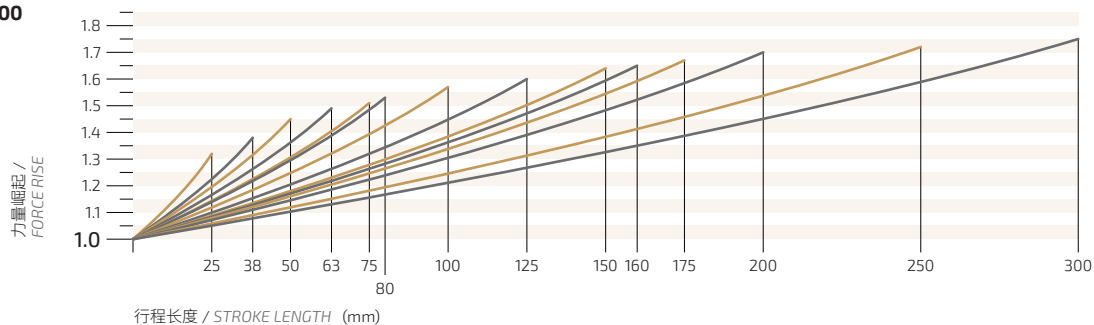
PGS2400



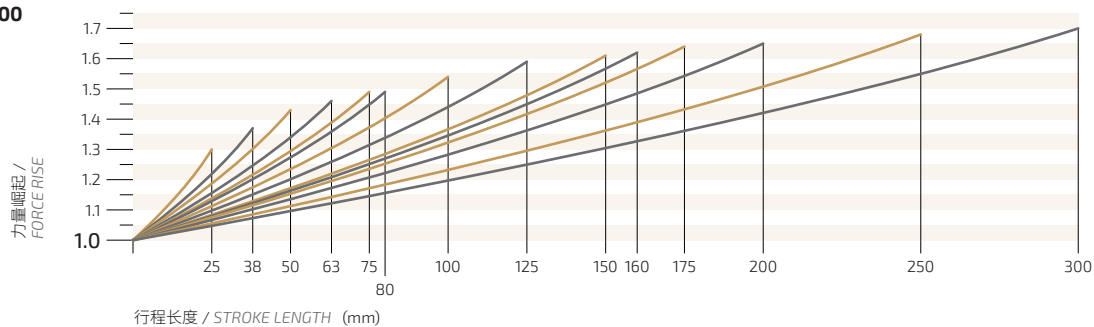
PGS4200



PGS6600



PGS9500

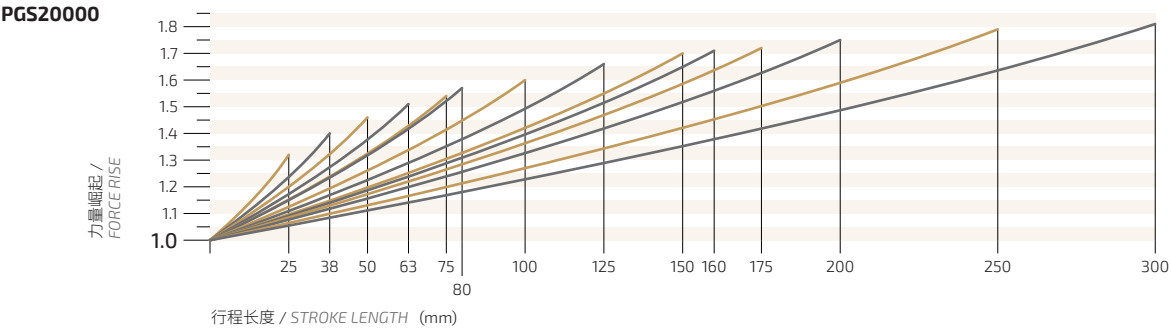


力量崛起 VS.已用的行程长度图表

下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同,因为它们取决于具体的应用参数,例如工作速度 (每分钟循环数)。

FORCE RISE VS. USED STROKE LENGTH CHARTS

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).



170~2945

VV系列氮气弹簧具有不同的尺寸和力。VV系列氮气弹簧为自润滑。

VV series nitrogen gas springs feature different dimensions and forces. VV series nitrogen gas springs are self-lubricated.



活塞杆
表面粗糙度 $R_a \sim 0.02$ 微米
表面 μ -硬度 ~ 800 HV
Piston rod
surface roughness $R_a \sim 0.02 \mu m$
surface μ -hardness ~ 800 HV

雨刷环
Wiper ring

钓竿指南
Rod guide

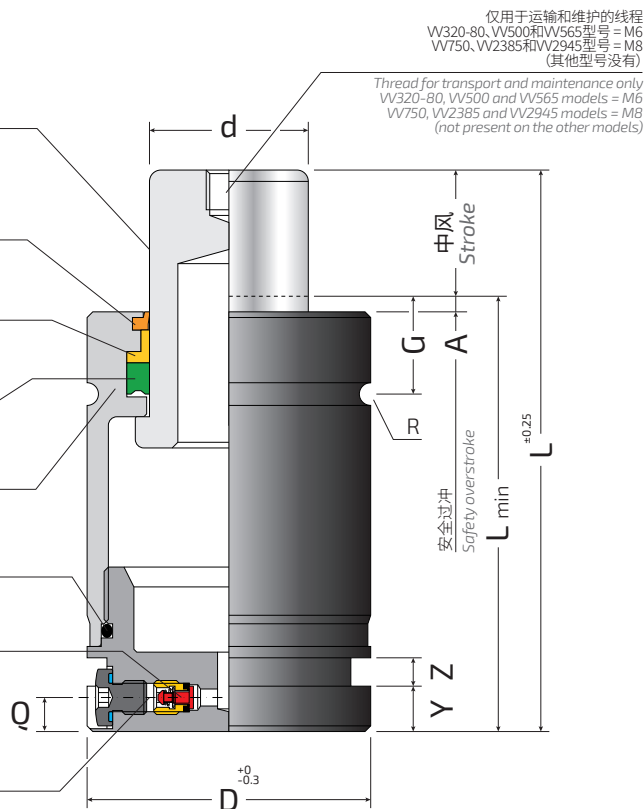
杆封
Rod seal

单件车身结构
Single-piece body construction

O型圈密封
O-ring seal

不回流阀
Non-return valve

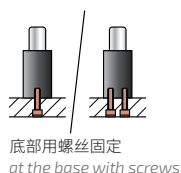
侧面接口 (充电口)
VV2385型号 = M6
VV750和VV2945型号 = G1/8
(其他型号: 充电口位于底部)
(仅含 N_2 充电)
Side port (charging port)
VV2385 models = M6
VV750 and VV2945 models = G1/8
(other models: charging port at the bottom)
(charge with nitrogen N_2 only)



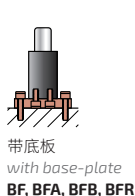
技术说明 / Technical notes

重要使用说明
在专门的目录部分。
Important use instructions
in the dedicated catalogue section.

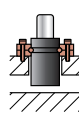
修复可能性 / Fixing possibilities



底部用螺丝固定
at the base with screws



带底板
with base-plate
BF, BFA, BFB, BFR



带领缘
with collar flange
FL, FLQ

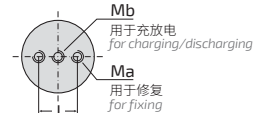


前方支援
with front support
FT, FTA

气弹簧底座 / GAS SPRING BASE



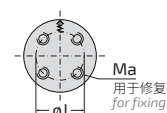
VV170, VV320-63/63H



VV320-80, VV500-63,
VV565-63



VV750



VV2385, VV2495

链接到开放系统 / LINKING TO OPEN SYSTEM

	VV2385 (M6侧口 / M6 side port)		VV750, VV2945 (G1/8侧口 / G1/8 side port)		
软管 Hoses	ATM	ATNM	ATM	ATN	AT
燃气弹簧软管接头 Gas spring-hose fittings	ARM	ARNM	ARM	ARN	AR

⚠ 注意! 在连接气弹簧前, 请按照“链接系统”部分的说明作。
ATTENTION! Follow the instructions in the "LINKED SYSTEM" section before connecting the gas springs.

安全防护 / SAFETY PROTECTIONS



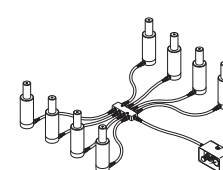
失控
返回速度 /
UNCONTROLLED
RETURN SPEED



过冲 /
OVERSTROKE



过压 /
OVERPRESSURE



模型 Model	最大冲程 100% 可用 MAX Stroke 100% usable mm	Lmin mm	L mm	D mm	d mm	G mm	A mm	R mm	Y mm	Z mm	Q mm	Ma	J mm	Mb	bar (MPa)	daN	daN	最大 CPM Cycles per minute MAX	气体 体积 Gas volume dm ³	重量 Weight kg
VV170-38	38	97	135														275	80	0.011	0.14
50	50	110	160	19	11	17	1	1	-	-	-	M6 x 10	-	-	180 (18.0)	170	285	60	0.014	0.17
63	63	127	190														285	50	0.017	0.18
VV320-63	63	127	190	25	15	17	1	1	-	-	-	M6 x 9	-	-	180 (18.0)	320	540	50	0.032	0.31
63H	63	145	208														500	50	0.038	0.33
VV320-80	80	125	205	32	15	-	2	-	-	-	-	M6 x 8 (2x)	18	M6	180 (18.0)	320	520	40	0.044	0.44
VV500-63	63	132	195	32	20	-	2	-	-	-	-	M5 x 8 (2x)	15	M6	160 (16.0)	500	830	50	0.058	0.48
VV565-63	63	142	205	32	20	-	2	-	-	-	-	M5 x 8 (2x)	15	M6	180 (18.0)	565	900	50	0.064	0.50
VV750-63	63	113	176	50	25	-	2	-	-	-	10.5	M8 x 13 (2x)	20	-	150 (15.0)	740	1280	50	0.085	1.40
80	80	130	210														1270	40	0.109	2.00
VV2385-80	80	128	208	75	45	21	3	2.5	-	-	6	M8 x 9 (4x)	40	-	150 (15.0)	2385	4250	40	0.33	2.48
100	100	148	248														4300	30	0.41	2.79
VV2945-63	62.5	182.5	245	95	50	-	3	-	-	-	10.5	M8 x 13 (4x)	60	-	150 (15.0)	2945	3950	50	0.70	5.16
80	80	138	218														4850	40	0.47	5.21
100	100	158	258														4850	30	0.60	5.09
125	125	183	308														4800	25	0.75	7.24

本表中的所有气弹簧型号均符合2014/68/欧盟压力设备指令 (PED) 第4.3条

All the gas spring models in this table are in accordance with Article 4.3 of the 2014/68/EU Pressure Equipment Directive (PED)

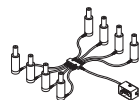
“L型版本” (用于联动系统) / “L-VERSION” (FOR LINKED SYSTEM)

当气弹簧要用于联动系统时, 务必在气动弹簧代码后加上“-L”来订购“L型”。“L型”气弹簧已放出且无阀门, 准备连接连接系统。

示例: “VV750-80-L”

When the gas springs are to be used in a linked system, make sure to order the “L-version” by adding “-L” after the gas spring code. The “L-version” gas springs are supplied already discharged and without valve, ready for the connection to linked system.

Example: “VV750-80-L”



修理套 / REPAIR KIT

气弹簧代码 Gas spring code	维修包代码 Repair kit code
VV170-...	KR/VV170
VV320-63, VV320-63H	KR/VV320-63-63H
VV320-80	KR/VV320-80
VV500-63	KR/VV500
VV565-63	KR/VV565
VV750-...	KR/VV750
VV2385-...	KR/VV2385
VV2945-...	KR/VV2945

从 www.bordignon.com 下载维修说明 /

Download repair instructions from www.bordignon.com

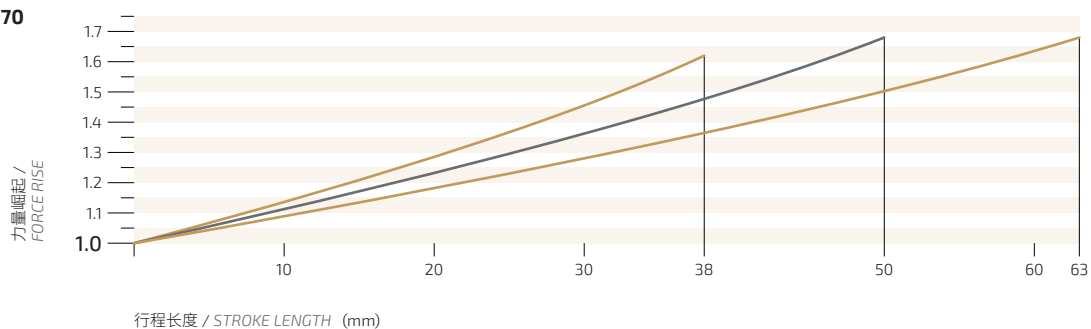
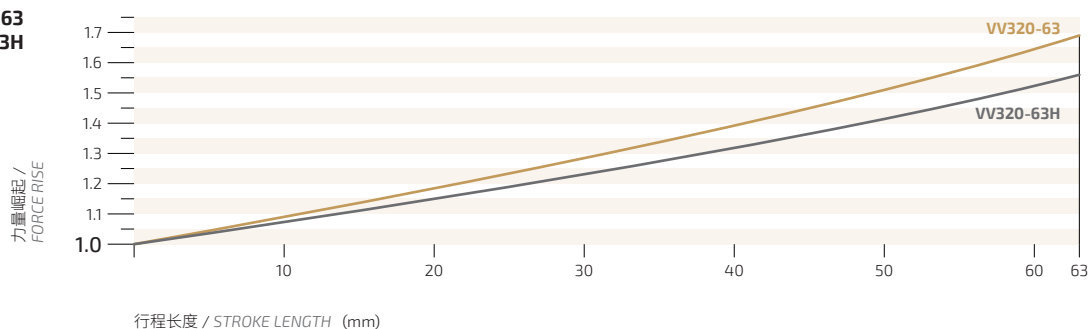
力量崛起 VS. 已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

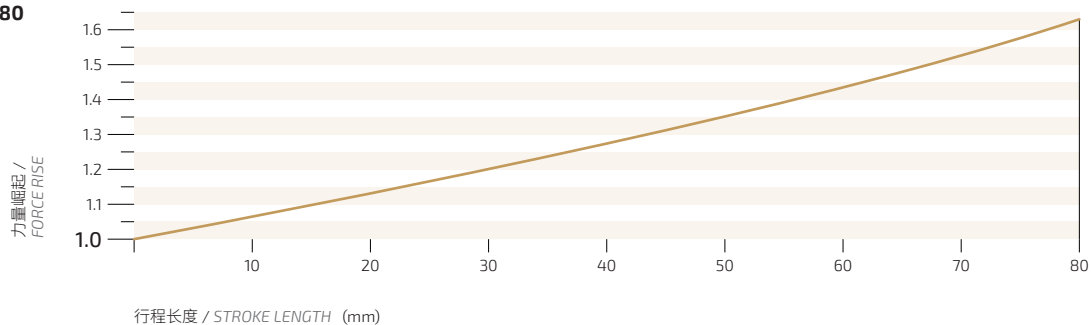
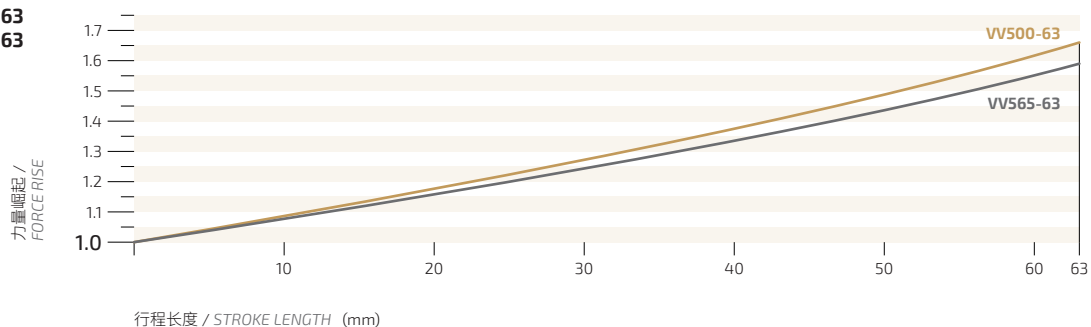
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同，因为它们取决于具体的应用参数，例如工作速度（每分钟循环数）。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

VV170


 VV320-63
VV320-63H


VV320-80


 VV500-63
VV565-63


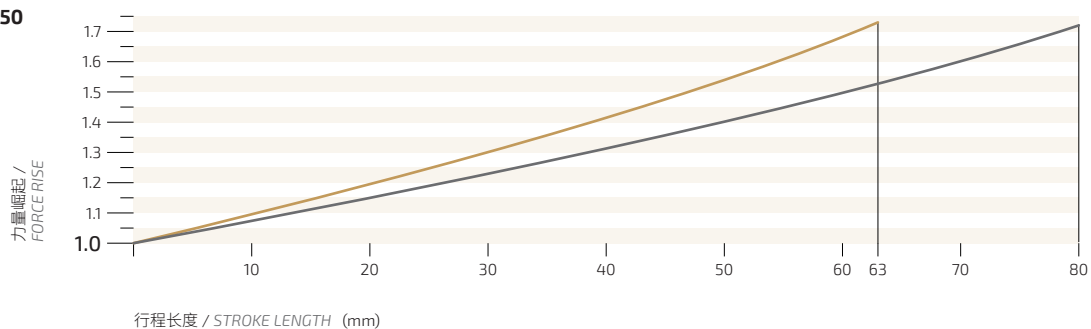
力量崛起 VS.已用的行程长度图表

FORCE RISE VS. USED STROKE LENGTH CHARTS

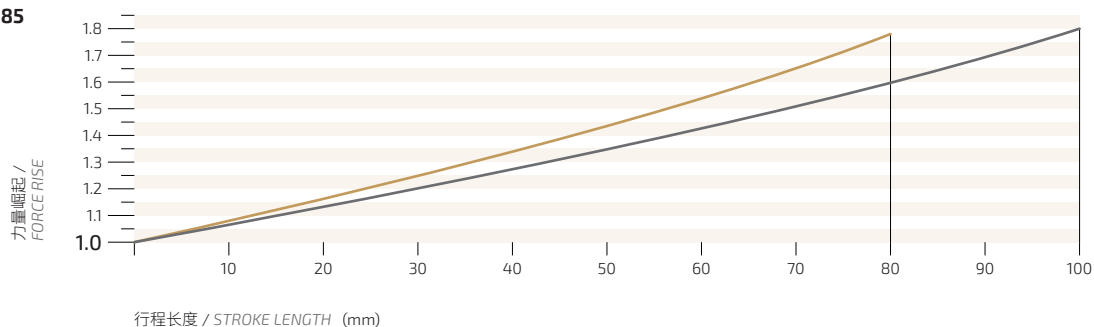
下图中的力曲线是根据静态条件下测量的参考值得到的。实际使用条件下产生的力可能有所不同,因为它们取决于具体的应用参数,例如工作速度(每分钟循环数)。

The force curves in the charts below are obtained from reference values measured in static conditions. The actual forces generated under use conditions may vary, since they depend on the specific parameters of the application, such as the working speed (cycles per minute).

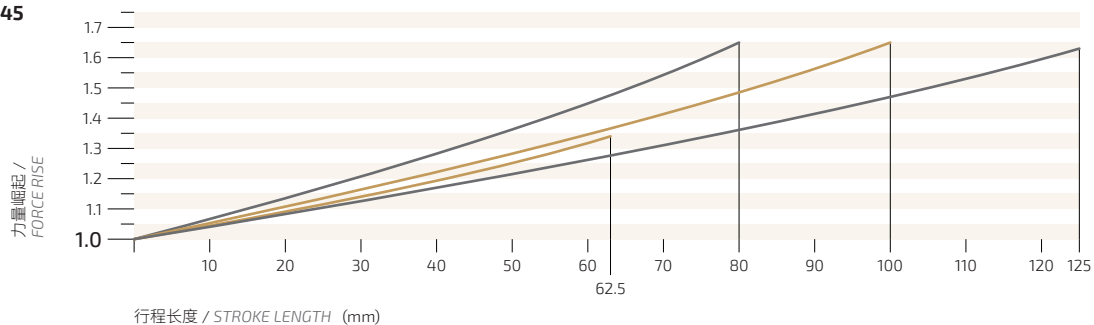
VV750



VV2385



VV2945



BF



固定底板 / Fixing base plate

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

General Motors 90.25.04

PSA E24.54.815.G

Renault EM24.54.700

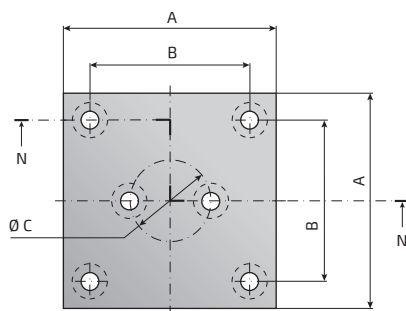
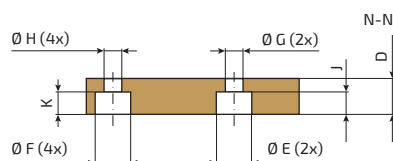


FIG. 1

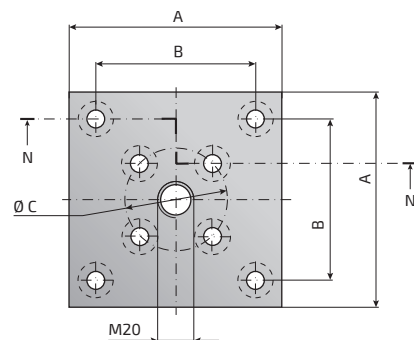
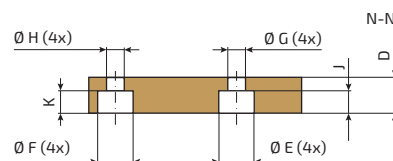
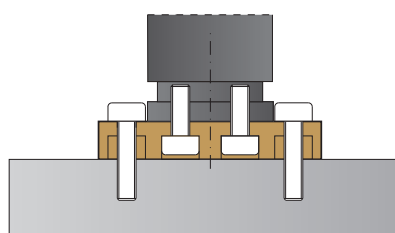
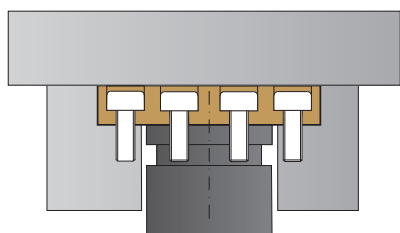


FIG. 2

模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	Ø C mm	D mm	Ø E mm	Ø F mm	Ø G mm	Ø H mm	J mm	K mm	FIG.
BF 45	ISO 11901-2, VDI 3003	AGS750, IGS500, LGS500, PGS750	70	50	20	20	15	15	9	9	14	12	1
50	ISO 11901-2, VDI 3003	AGS1000, AGS1200, AGS1500, IGS750, PGS1000, PGS1500, VV750	75	56.5	20	20	15	15	9	9	14	12	1
63	ISO 11901-2	AGS1500, PGS1500	100	73.5	20	20	15	18	9	11	14	12	1
75	ISO 11901-2, VDI 3003	AGS2400, TGS5000, IGS1500, PGS2400, VV2385	100	73.5	40	20	15	18	9	11	14	12	2
95	ISO 11901-2, VDI 3003	AGS4200, IGS3000, PGS4200, VV2945	120	92	60	20	15	20	9	13.5	14	13	2
120	ISO 11901-2, VDI 3003	AGS6600, IGS5000, PGS6600	140	109.5	80	20	18	20	11	13.5	15	13	2
150	ISO 11901-2, VDI 3003	AGS9500, IGS7500, PGS9500	190	138	100	25	18	26	11	17.5	15	17	2
195	ISO 11901-2, VDI 3003	AGS20000, IGS10000, PGS20000	210	170	120	25	20	26	13.5	17.5	13	17	2

修复可能性 / Fixing possibilities



BFA

固定底板 / Fixing base plate

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

Renault EM24.54.700

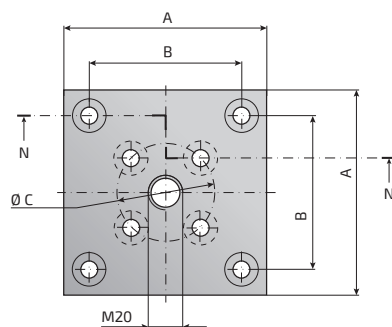
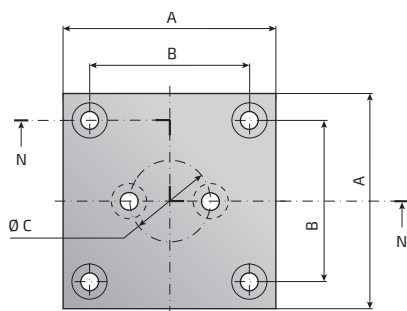
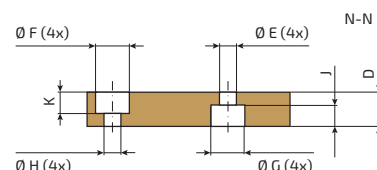
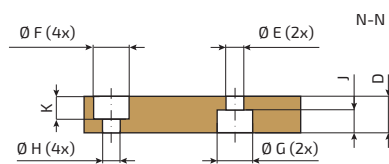
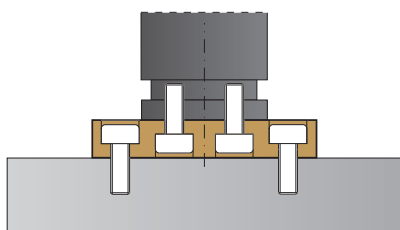


FIG. 1

FIG. 2

模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	Ø C mm	D mm	Ø E mm	Ø F mm	Ø G mm	Ø H mm	J mm	K mm	FIG.
BFA 45	-	AGS750, IGS500, LGS500, PGS750	70	50	20	20	9	18	15	11	14	12	1
50	-	AGS1000, AGS1200, AGS1500, IGS750, PGS1000, PGS1500, VV750	75	56.5	20	20	9	18	15	11	14	12	1
75	-	AGS2400, TGS5000, IGS1500, PGS2400, VV2385	100	73.5	40	20	9	18	15	11	14	12	2
95	-	AGS4200, IGS3000, PGS4200, VV2945	120	92	60	20	9	20	15	13.5	14	13	2
120	-	AGS6600, IGS5000, PGS6600	140	109.5	80	20	11	20	18	13.5	15	13	2
150	-	AGS9500, IGS7500, PGS9500	190	138	100	25	11	26	18	17.5	15	17	2
195	-	AGS20000, IGS10000, PGS20000	210	170	120	25	13.5	26	20	17.5	15	17	2

修复可能性 / Fixing possibilities



BFB

固定底板 / Fixing base plate

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

BMW BZ 4009

MB B8 0132 110 008 801

Renault EM24.54.700

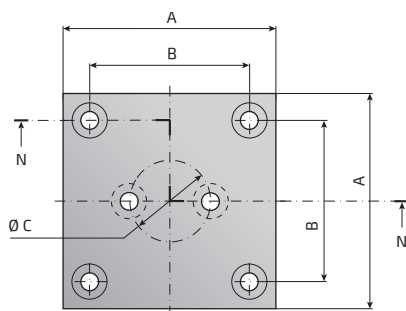
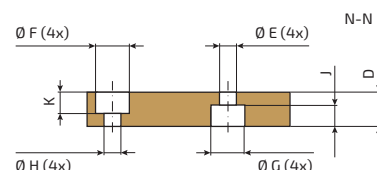
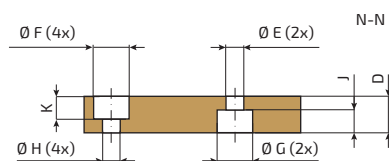


FIG. 1

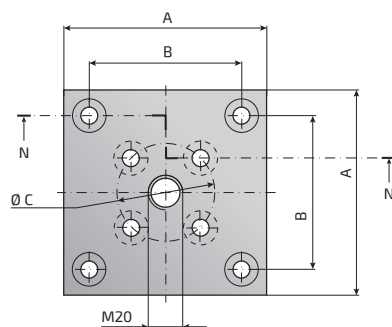
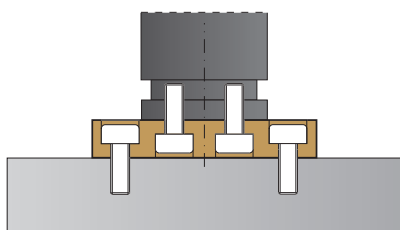


FIG. 2

模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	Ø C mm	D mm	Ø E mm	Ø F mm	Ø G mm	Ø H mm	J mm	K mm	FIG.
BFB 45	-	AGS750, IGS500, LGS500, PGS750	70	50	20	20	9	15	15	9	12	12	1
50	-	AGS1000, AGS1200, AGS1500, IGS750, PGS1000, PGS1500, VV750	75	56.5	20	20	9	15	15	9	12	12	1
63	-	AGS1500, PGS1500	100	73.5	20	20	9	18	15	11	12	12	1
75	-	AGS2400, TGS5000, IGS1500, PGS2400, VV2385	100	73.5	40	20	9	18	15	11	12	14	2
95	-	AGS4200, IGS3000, PGS4200, VV2945	120	92	60	20	9	20	15	13.5	14	13	2
120	-	AGS6600, IGS5000, PGS6600	140	109.5	80	20	11	20	18	13.5	15	13	2
150	-	AGS9500, IGS7500, PGS9500	190	138	100	20	11	20	18	13.5	15	13	2
195	-	AGS20000, IGS10000, PGS20000	210	170	120	25	13.5	26	20	17.5	15	17	2

修复可能性 / Fixing possibilities



BFR

固定底板 / Fixing base plate

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

Renault	EM24.54.700
Nissan	K32P0, K32D2

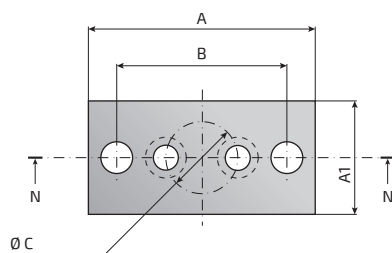
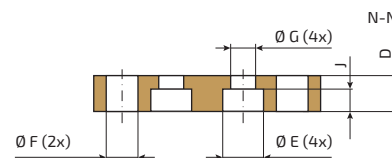
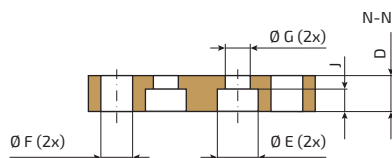


FIG. 1

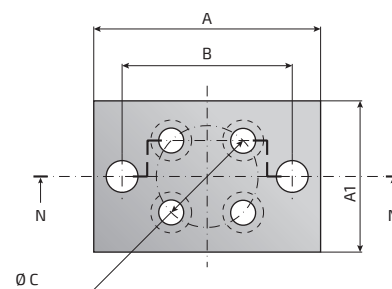
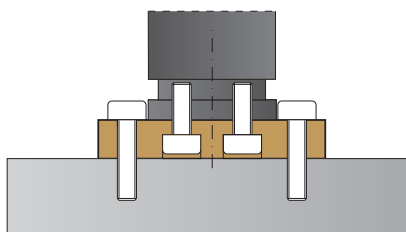


FIG. 2

模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	A1 mm	B mm	Ø C mm	D mm	Ø E mm	Ø F mm	Ø G mm	J mm	FIG.
BFR 45 A	-	AGS750, IGS500, LGS500, PGS750	90	45	70	20	16	14	9	9	10	1
50 B	-	AGS1000, AGS1200, IGS750, PGS1000, VV750	100	50	75	20	19	14	14	9	13	1
75 B	-	AGS1500, AGS2400, TGS5000, IGS1500, PGS1500, PGS2400, VV2385	130	80	105	40	19	14	14	9	13	2
95 B	-	AGS4200, IGS3000, PGS4200, VV2945	150	100	125	60	19	14	14	9	13	2

修复可能性 / Fixing possibilities



SF



半法兰的固定 / Fixing half-flanges

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

BMW	BZ 4009	MB	B8 0138 100 000 001
FCA	075.90.90	Renault	EM24.54.700
Ford	W-DX35-62M	VW	39D 848
General Motors	90.25.01		

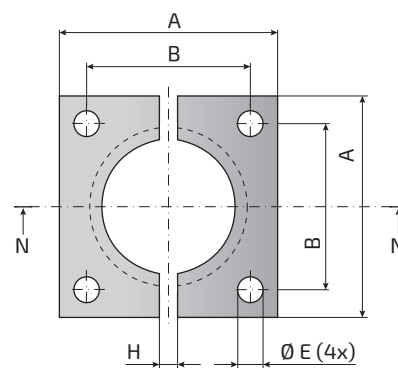
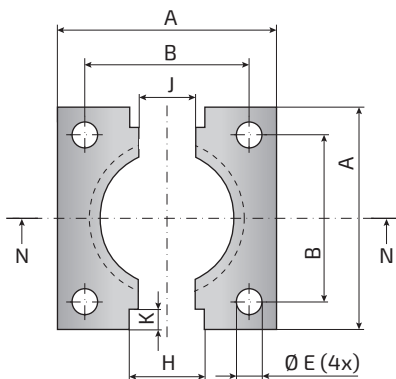
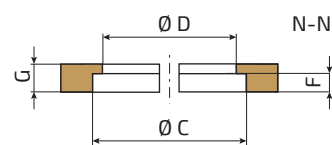
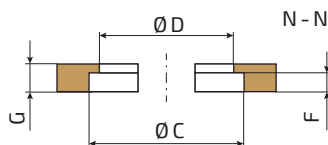
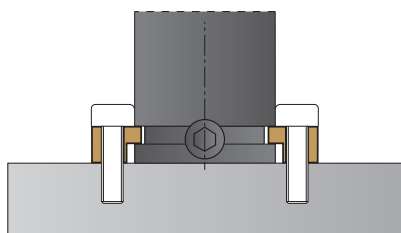


FIG. 1

FIG. 2

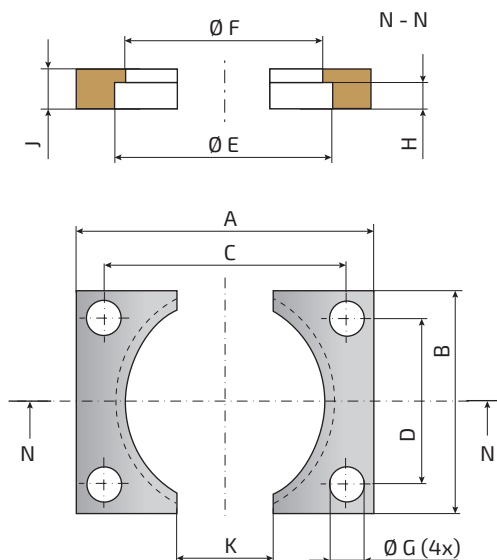
模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	ØC mm	ØD mm	ØE mm	F mm	G mm	H mm	J mm	K mm	FIG.
SF 32	-	AGS350, TGS700, IGS150, PGS300	50	35	32.5	28.5	6.6	4	7	21	17	6.5	1
38	-	AGS500, TGS1000, IGS250, PGS500	55	40	38.5	34.5	6.6	4	7	21	17	6.5	1
45	ISO 11901-2, VDI 3003	AGS750, IGS500, LGS500, PGS750	70	50	45.5	41.5	9	4	7	20	-	-	2
50	ISO 11901-2, VDI 3003	AGS1000, AGS1200, TGS2000, IGS750, PGS1000	75	56.5	50.5	44.5	9	8	12	24	-	-	2
63	-	AGS1500, TGS3000, PGS1500	85	63.5	63.5	57.5	11	8	12	24	-	-	2
63 A	ISO 11901-2	AGS1500, TGS3000, PGS1500	100	73.5	64	57	11	8	12	24	-	-	2
75	ISO 11901-2, VDI 3003	AGS2400, TGS5000, IGS1500, PGS2400	100	73.5	75.5	68.5	11	8	12	24	-	-	2
95	ISO 11901-2, VDI 3003	AGS4200, TGS8000, IGS3000, PGS4200	120	92	95.5	88.5	13.5	8	12	24	-	-	2
120	ISO 11901-2, VDI 3003	AGS6600, TGS12000, IGS5000, PGS6600	140	109.5	120.5	113.5	13.5	8	12	24	-	-	2
150	ISO 11901-2, VDI 3003	AGS9500, TGS20000, IGS7500, PGS9500	190	138	150.5	143.5	17.5	8	12	24	-	-	2
195	ISO 11901-2, VDI 3003	AGS20000, IGS10000, PGS20000	210	170	195.5	188	17.5	8	13	24	-	-	2

修复可能性 / Fixing possibilities



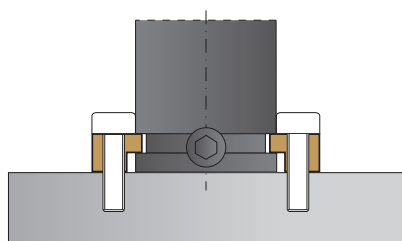
SFA

半法兰的固定 / Fixing half-flanges

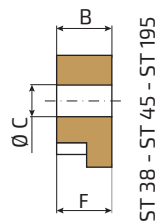
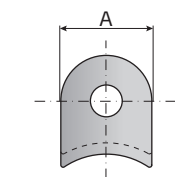


模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	C mm	D mm	Ø E mm	Ø F mm	Ø G mm	H mm	J mm	K mm
SFA 32	-	AGS350, TGS700, IGS150, PGS300	50	27	40	18	32.5	28.5	6.6	4	7	20
38	-	AGS500, TGS1000, IGS250, PGS500	55	33	44	20	38.5	34.5	6.6	4	7	20
45	-	AGS750, IGS500, LGS500, PGS750	70	40	57	27	45.5	41.5	9	4	7	25
50	-	AGS1000, AGS1200, TGS2000, IGS750, PGS1000	75	45	62	32	50.5	44.5	9	8	12	25
63	-	AGS1500, TGS3000, PGS1500	85	58	69	42	63.5	57.5	11	8	12	30
75	-	AGS2400, TGS5000, IGS1500, PGS2400	100	70	84	54	75.5	68.5	11	8	12	30
95	-	AGS4200, TGS8000, IGS3000, PGS4200	120	90	100	70	95.5	88.5	13.5	8	12	40
120	-	AGS6600, TGS12000, IGS5000, PGS6600	140	115	120	95	120.5	113.5	13.5	8	12	50
150	-	AGS9500, TGS20000, IGS7500, PGS9500	190	145	165	120	150.5	143.5	17.5	8	12	60
195	-	AGS20000, IGS10000, PGS20000	210	190	185	165	195.5	188	17.5	8	13	80

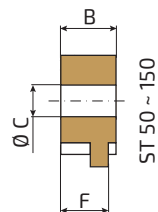
修复可能性 / Fixing possibilities



安装脚架 / Fixing foot brackets



ST 38 - ST 45 - ST 195



ST 50 ~ 150

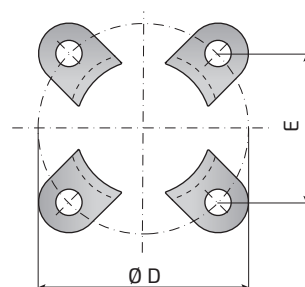
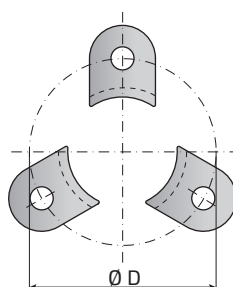


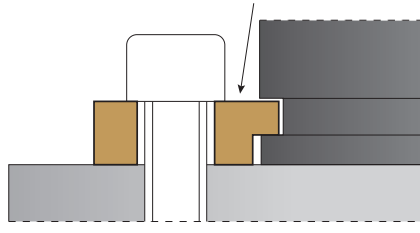
FIG. 1

FIG. 2

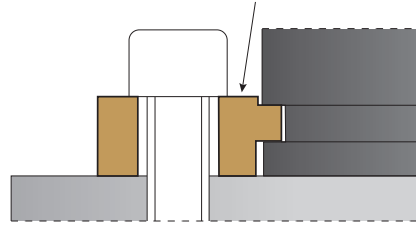
模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	C mm	Ø D mm	E mm	F mm	FIG.
ST 38	-	AGS500, TGS1000, IGS250, PGS500	20	7	7	56.6	-	7	1
45	-	AGS750, IGS500, LGS500, PGS750	25	7	9	70.7	-	7	1
50	-	AGS1000, AGS1200, TGS2000, IGS750, PGS1000	30	14.2	13	80	-	13	1
63	-	AGS1500, TGS3000, PGS1500	30	14.2	13	92	65	13	2
75	-	AGS2400, TGS5000, IGS1500, PGS2400	30	14.2	13	104	73.5	13	2
95	-	AGS4200, TGS8000, IGS3000, PGS4200	40	14.2	17	130	92	13	2
120	-	AGS6600, TGS12000, IGS5000, PGS6600	50	14.2	17	155	109.5	13	2
150	-	AGS9500, TGS20000, IGS7500, PGS9500	50	14.2	21	195	138	13	2
195	-	AGS20000, IGS10000, PGS20000	58	16	21	240	169	16	2

修复可能性 / Fixing possibilities

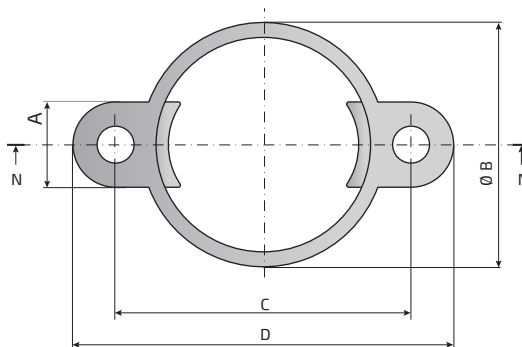
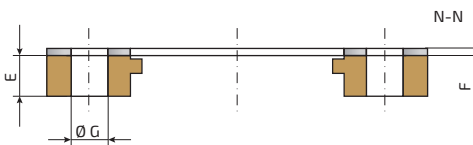
ST 38 - ST 45 - ST 195



ST 50 ~ 150

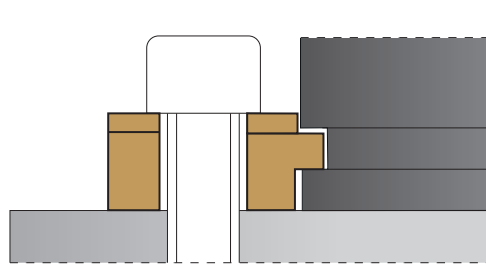


安装脚架 / Fixing foot brackets



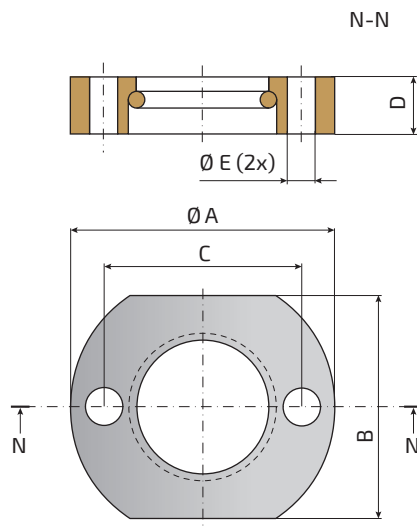
模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	Ø B mm	C mm	D mm	E mm	F mm	Ø G mm
STA 38	-	AGS500, TGS1000, IGS250, PGS500	20	48	56.6	76.6	7	2.5	7
45	-	AGS750, IGS500, LGS500, PGS750	25	56	70.7	95.7	7	2.5	9
50	-	AGS1000, AGS1200, TGS2000, IGS750, PGS1000	30	61	80	110	14.2	2.5	13
63	-	AGS1500, TGS3000, PGS1500	30	73	92	122	14.2	2.5	13
75	-	AGS2400, TGS5000, IGS1500, PGS2400	30	86	104	134	14.2	2.5	13
95	-	AGS4200, TGS8000, IGS3000, PGS4200	40	106	130	170	14.2	2.5	17
120	-	AGS6600, TGS12000, IGS5000, PGS6600	50	131	155	205	14.2	2.5	17
150	-	AGS9500, TGS20000, IGS7500, PGS9500	50	170	195	245	14.2	2.5	21

修复可能性 / Fixing possibilities



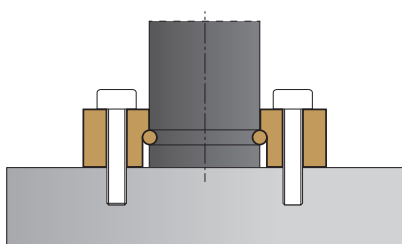
FV

套圈法兰 (用于底座固定) / Collar flange (for base-fixing)



模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	Ø A mm	B mm	C mm	D mm	Ø E mm
FV 19	-	VG590	45	25	32	9.2	7

修复可能性 / Fixing possibilities



FL 12~25



ISO 11901-2



VDI 3003

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

BMW	B2 4009	MB	B8 0134 400 008 801
FCA	075.90.75	PSA	E24.54.815.G
Ford	W-DX35-80M	VW	39D 848

领缘法兰 / Collar flange

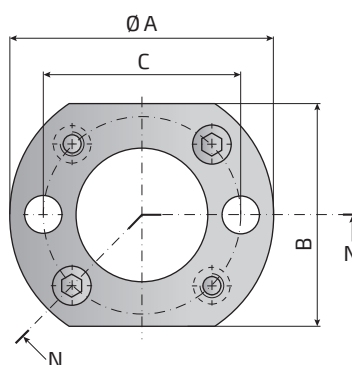
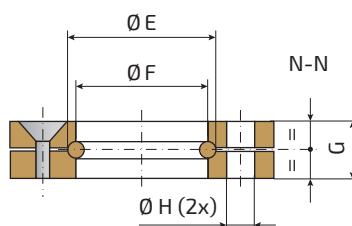


FIG. 1

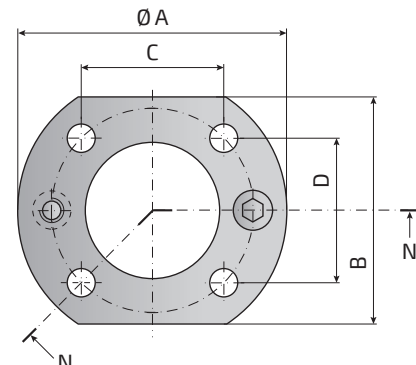
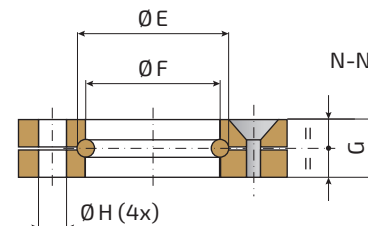
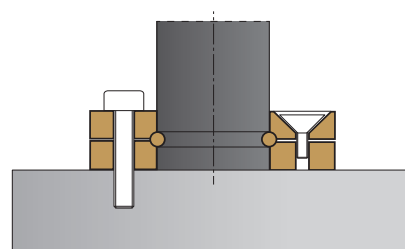
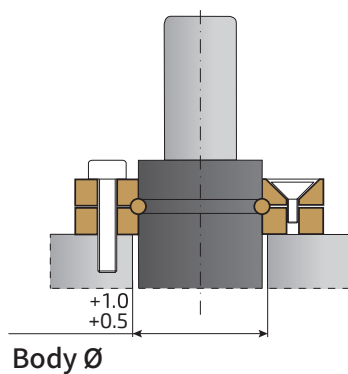


FIG. 2

模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	Ø A mm	B mm	C mm	D mm	Ø E mm	Ø F mm	G mm	Ø H mm	FIG.
FL 12	-	VGS50	34	21	24	-	13.6	12.5	9	6.6	1
15	-	VGS70	37	24	27	-	16.6	15.5	9	6.6	1
19 A	VDI 3003	VGS90, AGS170, VV170	44	25	32	-	21	19.5	9	6.6	1
19 B	ISO 11901-2	VGS90, AGS170, VV170	44	25	30	12	21	19.5	9	6.6	2
25 A	VDI 3003	VGS200, AGS320, TGS400, VV320-63/63H	50	30	38	-	27	25.5	9	6.6	1
25 B	ISO 11901-2	VGS200, AGS320, TGS400, VV320-63/63H	50	30	34	18	27	25.5	9	6.6	2

修复可能性 / Fixing possibilities



(仅适用于 VGS200 和 TGS400 型号)
(For VGS200 and TGS400 models only)

FL 32~195

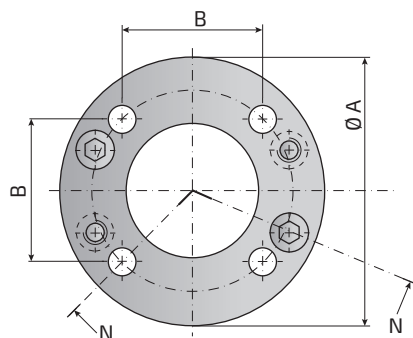
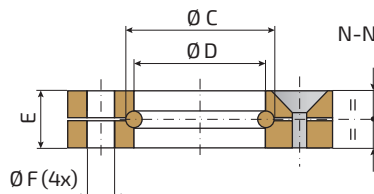


该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

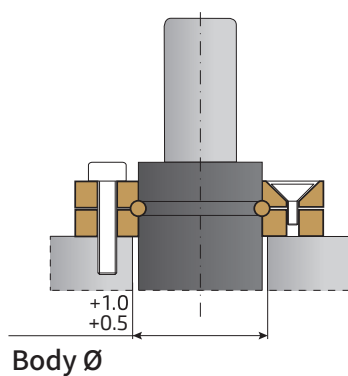
BMW	BZ 4009	MB	B8 0134 300 000 001
FCA	075.90.80	Renault	EM24.54.700
General Motors	90.25.03		

领缘法兰 / Collar flange



模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	Ø A mm	B mm	Ø C mm	Ø D mm	E mm	Ø F mm
FL 32	ISO 11901-2, VDI 3003	AGS350, TGS700, IGS150, PGS300	60	35	34	32.5	9	6.6
38	ISO 11901-2, VDI 3003	AGS500, TGS1000, IGS250, PGS500	68	40	40	38.5	9	6.6
45	ISO 11901-2, VDI 3003	AGS750, IGS500, LGS500, PGS750	86	50	47	45.5	13	9
50	ISO 11901-2, VDI 3003	AGS1000, AGS1200, IGS750, PGS1000	95	56.5	54	50.5	13	9
63	ISO 11901-2	AGS1500, TGS3000, PGS1500	122	73.5	67	63.5	16	11
75	ISO 11901-2, VDI 3003	AGS2400, IGS1500, PGS2400, VV2385	122	73.5	80	75.5	16	11
95	ISO 11901-2, VDI 3003	AGS4200, IGS3000, PGS4200	150	92	100	95.5	18	13.5
120	ISO 11901-2, VDI 3003	AGS6600, TGS12000, IGS5000, PGS6600	175	109.5	125	120.5	21	13.5
150	ISO 11901-2, VDI 3003	AGS9500, TGS20000, IGS7500, PGS9500	220	138	155	150.5	27	17.5
195	ISO 11901-2, VDI 3003	AGS20000, IGS10000, PGS20000	290	170	200	195.5	27	17.5

修复可能性 / Fixing possibilities



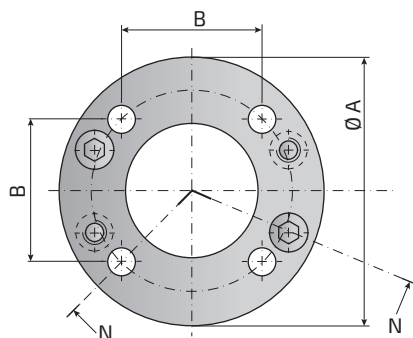
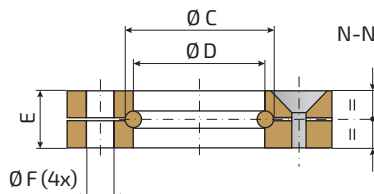
FLA

领缘法兰 / Collar flange

该系列包括符合汽车标准的车型 /

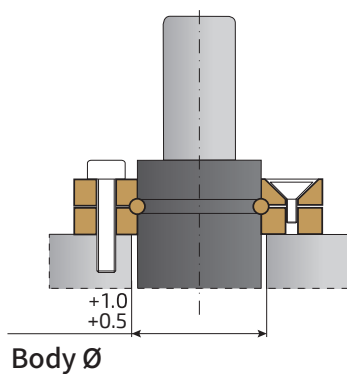
This series includes the models compliant with automotive standards

Renault EM24.54.700



模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	Ø A mm	B mm	Ø C mm	Ø D mm	E mm	Ø F mm
FLA 50	-	TGS2000	95	56.5	53	50.5	13	9
75	-	TGS5000	122	73.5	78	75.5	16	11
95	-	TGS8000	150	92	98	95.5	18	13.5

修复可能性 / Fixing possibilities



FLQ

领缘法兰 / Collar flange



ISO 11901-2

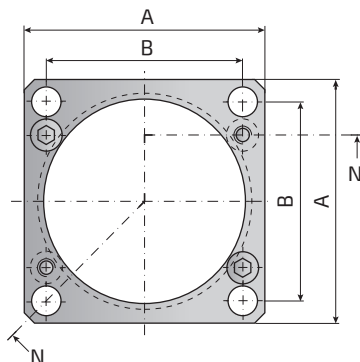
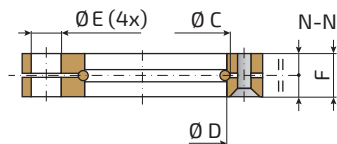


VDI 3003

该系列包括符合汽车标准的车型 /

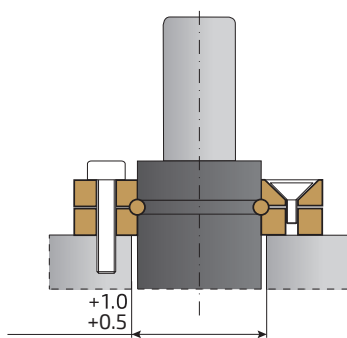
This series includes the models compliant with automotive standards

BMW	B2 4009	General Motors	90.25.02
FCA	075.90.85	VW	39D 848
Ford	W-DX35-62M		



模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	Ø C mm	Ø D mm	Ø E mm	F mm
FLQ 32	ISO 11901-2, VDI 3003	AGS350, TGS700, IGS150, PGS300	45	35	34	32.5	6.6	9
38	ISO 11901-2, VDI 3003	AGS500, TGS1000, IGS250, PGS500	52	40	40	38.5	6.6	9
45	ISO 11901-2, VDI 3003	AGS750, IGS500, LGS500, PGS750	64	50	47	45.5	9	13
50	ISO 11901-2, VDI 3003	AGS1000, AGS1200, IGS750, PGS1000	70	56.5	54	50.5	9	13
63 A	ISO 11901-2, VDI 3003	AGS1500, TGS3000, PGS1500	80	64	67	63.5	11	16
63 B	-	AGS1500, TGS3000, PGS1500	90	73.5	67	63.5	11	16
75	ISO 11901-2, VDI 3003	AGS2400, IGS1500, PGS2400, VV2385	90	73.5	80	75.5	11	16
95	ISO 11901-2, VDI 3003	AGS4200, IGS3000, PGS4200	110	92	100	95.5	13.5	18
120	ISO 11901-2, VDI 3003	AGS6600, TGS12000, IGS5000, PGS6600	130	109.5	125	120.5	13.5	21
150	ISO 11901-2, VDI 3003	AGS9500, TGS20000, IGS7500, PGS9500	162	138	155	150.5	17.5	27
195	ISO 11901-2, VDI 3003	AGS20000, IGS10000, PGS20000	210	170	200	195.5	17.5	27

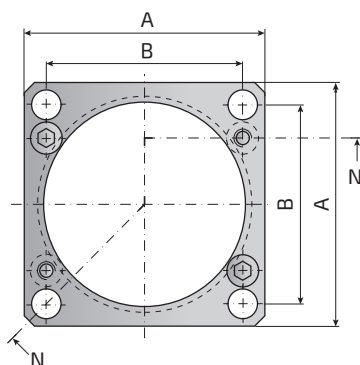
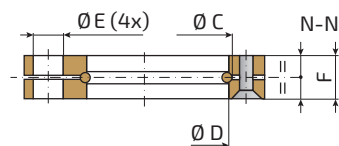
修复可能性 / Fixing possibilities



Body Ø

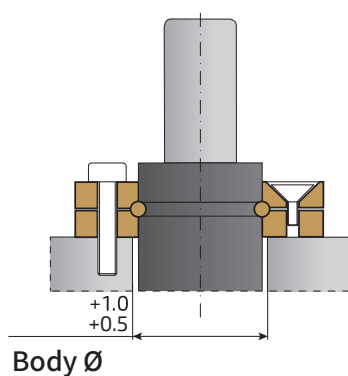
FLQA

领缘法兰 / Collar flange



模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	Ø C mm	Ø D mm	Ø E mm	F mm
FLQA 50	-	TGS2000	70	56.5	53	50.5	9	13
75	-	TGS5000	90	73.5	78	75.5	11	16
95	-	TGS8000	110	92	98	95.5	13.5	18

修复可能性 / Fixing possibilities



FT

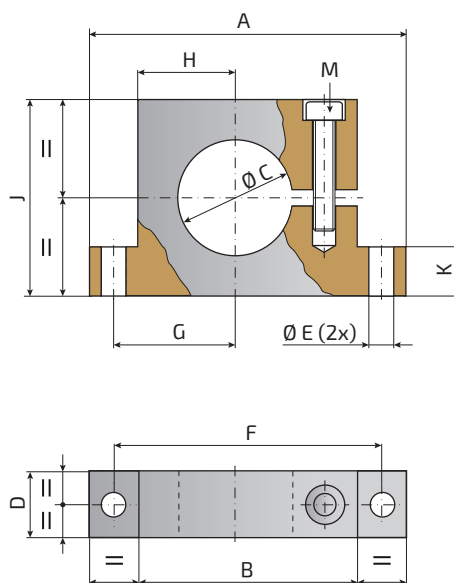
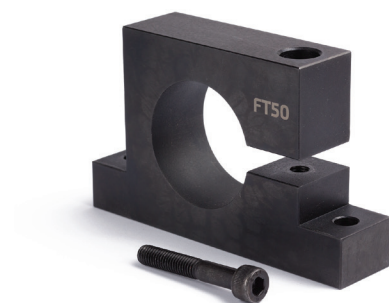


该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

BMW	B2 4009	PSA	E24.54.815.G
General Motors	90.25.455		

前方支援 / Front support

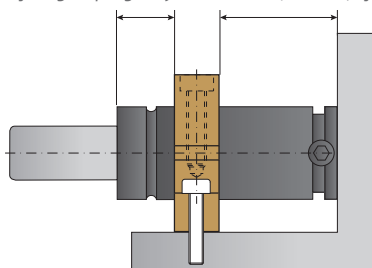


模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	ØC mm	D mm	ØE mm	F mm	G mm	H mm	J mm	K mm	M
FT 32	VDI 3003	AGS350, TGS700, IGS150, PGS300, VV320-80, VV500, VV565	90	54	32	20	9	72	31	22	45	15	M8
38	VDI 3003	AGS500, TGS1000, IGS250, PGS500	95	59	38	20	9	77	34	25	55	15	M8
45	VDI 3003	AGS750, IGS500, LGS500, PGS750	100	64	45	20	9	82	37	28	60	15	M8
50	ISO 11901-2, VDI 3003	AGS1000, AGS1200, TGS2000, IGS750, PGS1000, VV750	130	90	50	30	9	110	50	40	80	20	M8
75	ISO 11901-2, VDI 3003	AGS2400, TGS5000, IGS1500, PGS2400, VV2385	160	115	75	30	11	137	63.5	52.5	105	20	M10
95	ISO 11901-2, VDI 3003	AGS4200, TGS8000, IGS3000, PGS4200, VV2945	195	145	95	30	13.5	170	80	67.5	125	20	M12
120	ISO 11901-2, VDI 3003	AGS6600, TGS12000, IGS5000, PGS6600	220	165	120	30	13.5	195	92.5	77.5	148	20	M12
150	ISO 11901-2, VDI 3003	AGS9500, TGS20000, IGS7500, PGS9500	260	200	150	30	13.5	230	110	95	200	20	M12

修复可能性 / Fixing possibilities

马克斯
气弹簧体直径0.5 x
0.5 x diameter of the gas spring body

明尼苏达州
气弹簧尺寸 Lmin 的 1/3 (三分之一)
1/3 (one third) of dimension Lmin of the gas spring



必须遵守尺寸 MIN, 以确保超压和超行程安全系统正常工作 (详见专门目录部分)

Dimension MIN must be respected to allow the over-pressure and over-stroke safety system to work properly (see dedicated catalogue section).

FTA



ISO 11901-2



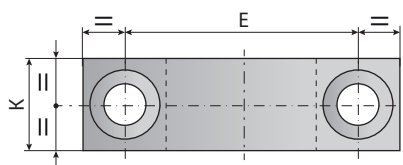
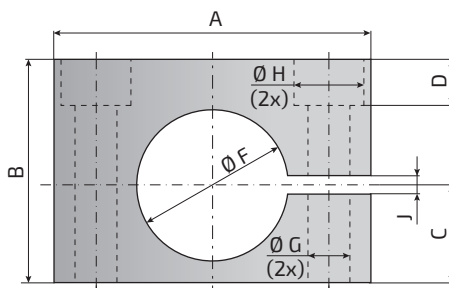
VDI 3003

该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

BMW	B2 4009	General Motors	90.25.07
FCA	075.90.95	MB	B8 ...
Ford	W-DX35-62M	VW	39D 848

前方支援 / Front support

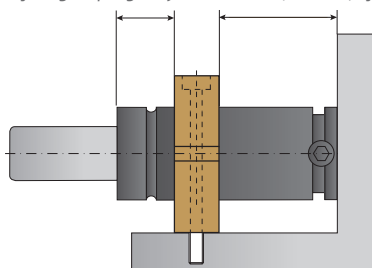


模型 Model	标准参考 Reference to Standards	对于模特来说..... For models...	A mm	B mm	C mm	D mm	E mm	Ø F mm	Ø G mm	Ø H mm	J mm	K mm
FTA 32	ISO 11901-2, VDI 3003	AGS350, TGS700, IGS150, PGS300, VV320-80, VV500, VV565	68	48	20.9	10	50	32.5	9	15	4	20
38	ISO 11901-2, VDI 3003	AGS500, TGS1000, IGS250, PGS500	74	54	23.9	16	54	38.5	9	15	4	20
45	ISO 11901-2, VDI 3003	AGS750, IGS500, LGS500, PGS750	80	60	27.5	22	60	45.5	9	15	4	20
50	ISO 11901-2, VDI 3003	AGS1000, AGS1200, TGS2000, IGS750, PGS1000, VV750	90	70	30	25	68	50.5	11	18	5	30
63 A	ISO 11901-2, VDI 3003	AGS1500, TGS3000, PGS1500	108	82	36.5	27	84	63.5	11	18	5	30
63 B	-	AGS1500, TGS3000, PGS1500	105	80	40	11	80	63	10.5	17	10	30
75	ISO 11901-2, VDI 3003	AGS2400, TGS5000, IGS1500, PGS2400, VV2385	125	94	42	32	100	75.5	13.5	20	5	30
95	ISO 11901-2, VDI 3003	AGS4200, TGS8000, IGS3000, PGS4200, VV2945	140	115	52.5	33	115	95.5	13.5	20	5	30
120	ISO 11901-2, VDI 3003	AGS6600, TGS12000, IGS5000, PGS6600	170	140	65	58	145	120.5	13.5	20	7	30
150	ISO 11901-2, VDI 3003	AGS9500, TGS20000, IGS7500, PGS9500	200	170	80	68	175	150.5	13.5	20	7	30

修复可能性 / Fixing possibilities

马克斯
气弹簧体直径0.5 x
0.5 x diameter of the gas spring body

明尼苏达州
气弹簧尺寸 Lmin 的 1/3 (三分之一)
1/3 (one third) of dimension Lmin of the gas spring

必须遵守尺寸 **MIN**，以确保超压和超行程安全系统正常工作 (详见专门目录部分)Dimension **MIN** must be respected to allow the over-pressure and over-stroke safety system to work properly (see dedicated catalogue section).

关联系统示例

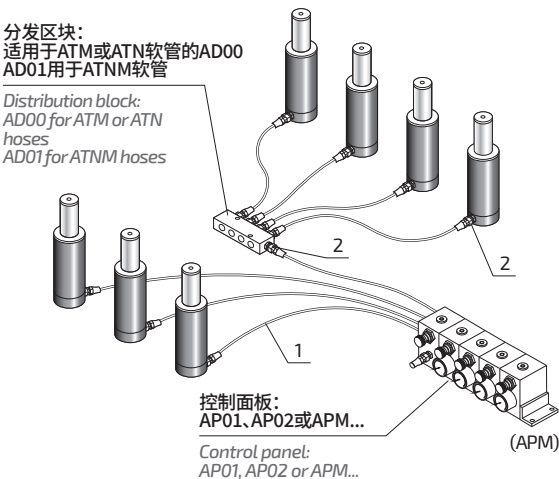
LINKED SYSTEM EXAMPLES

配备Ø5毫米软管

With Ø5 mm hoses

分发区块：
适用于ATM或ATN软管的AD00
AD01用于ATNM软管

Distribution block:
AD00 for ATM or ATN
hoses
AD01 for ATNM hoses



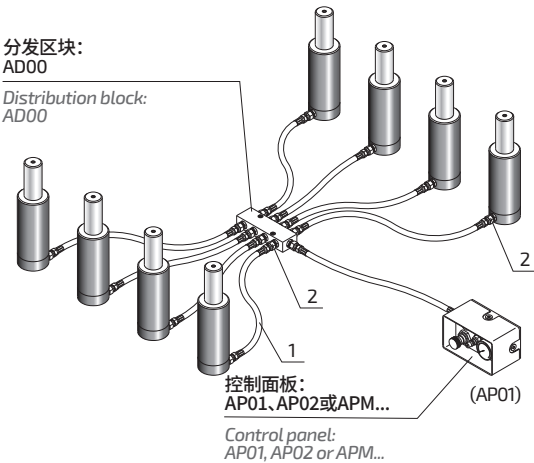
- 1 - 软管 ATM 或 ATN 或 ATNM / Hoses ATM or ATN or ATNM
2 - 接头为ARM (用于软管ATM) 或ARN (用于软管ATN) 或ARNM (用于软管ATNM)
Fittings ARM (for hoses ATM) or ARN (for hoses ATN) or ARNM (for hoses ATNM)

配备Ø8毫米软管

With Ø8 mm hoses

分发区块：
AD00

Distribution block:
AD00



- 1 - AT软管 / Hoses AT
2 - AR装配 / Fittings AR

1 选择 气弹簧模型 CHOOSE GAS SPRING MODEL



气弹簧型号 Gas spring models	侧口 Side port
AGS350-AGS2400 IGS150, IGS250 PGS300, PGS500 VV2385	M6
AGS4200-AGS20000 IGS500-IGS10000 LGS500 PGS750-PGS20000 VV750, VV2945	G1/8

2 选择 软管型号 CHOOSE HOSE MODEL

用于带M6侧孔的气弹簧
For gas springs with M6 side port

对于带G1/8侧孔的气弹簧
For gas springs with G1/8 side port



3 选择合适的 配件 CHOOSE PROPER FITTINGS



4

选择控制 面板模型 CHOOSE CONTROL PANEL MODEL



AP01
标准
Standard



AP02
紧凑型
Compact



APM
模块化
Modular

...以及其他可用型号
... and other available models

5

分配区块 (如果需要的话) DISTRIBUTION BLOCKS (IF NEEDED)



AD01



AD00

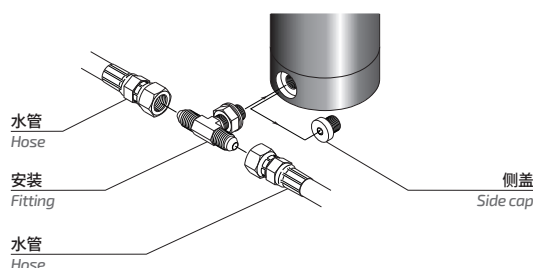


AD04

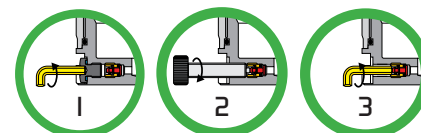
...以及其他可用型号
... and other
available models

6

连接 瓦斯普林斯 CONNECTING THE GAS SPRINGS



- ⚠ 注意!
在连接气弹簧前, 请按照第12页的说明作
- ⚠ ATTENTION!
Follow the instructions on page 12 before connecting the gas springs



放气弹簧并拆除
连接系统前的阀门
Discharge the gas spring and remove
the valve before connecting to system

7

充电和 放电 CHARGING AND DISCHARGING



COMPL
充放电装置
(也适用于自带式气弹簧)
Charging and discharging set
(also for self-contained gas springs)



CUC01
充电单元
(也适用于自带式气弹簧)
完整套装COMPL中收录
Charging unit
(also for self-contained gas springs)
included in the complete set COMPL



AN-1/4
控制面板快速接头的充电适配器
Charging adapter for the quick
coupling on the control panels

ATM

MINIMESS 软管 Ø 5 mm 及接头

Hoses Ø 5 mm and fittings (MINIMESS-type)

直径5毫米的柔性软管带接头, 用于连接氮气弹簧及多种其他设备。

Flexible hose diameter 5 mm with fittings, for connecting nitrogen gas springs and many other devices.

软管机械规格

- 工作温度: -40 +100 °C
- 工作压力: 最大630巴
- 最小弯曲半径: 20 mm
- 外径: 5 mm

HOSE MECHANICAL SPECIFICATIONS

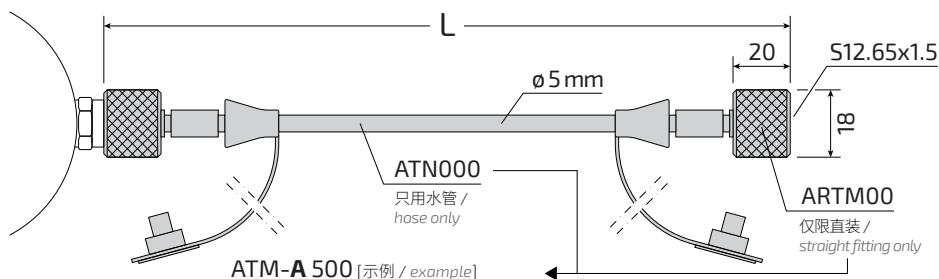
- Working temperature: -40 +100 °C
- Working pressure: max 630 bar
- Minimum bending radius: 20 mm
- Outside diameter: 5 mm

技术说明

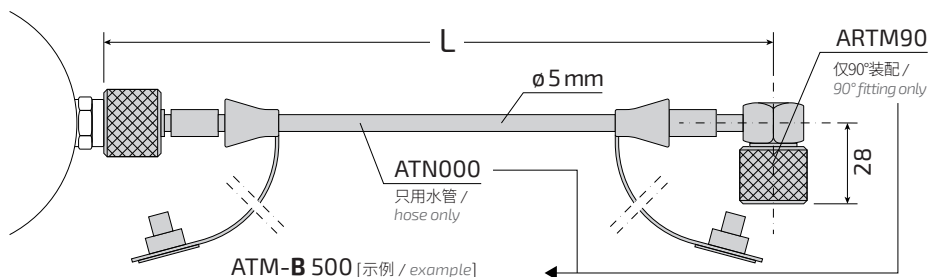
根据“组装”指示选择合适的软管长度。

TECHNICAL NOTES

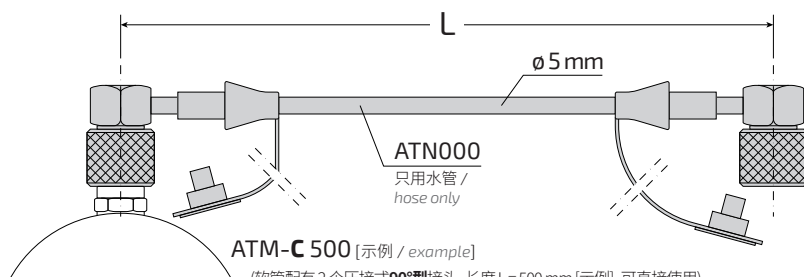
Choose the proper hose length considering the "Assembly" indications.



(软管配有 2 个压接式直通型接头, 长度 L = 500 mm [示例], 可直接使用)
(hose complete with no. 2 crimped-on **straight** fittings, length L = 500 mm [example], ready for use)



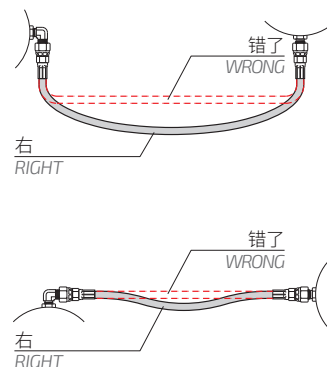
(软管配有 2 个压接式接头 (直通型 + 90°型), 长度 L = 500 mm [示例], 可直接使用)
(hose complete with no. 2 crimped-on fittings (**straight + 90°**), length L = 500 mm [example], ready for use)



(软管配有 2 个压接式 90°型接头, 长度 L = 500 mm [示例], 可直接使用)
(hose complete with no. 2 crimped-on **90°** fittings, length L = 500 mm [example], ready for use)



集会 / Assembly



订购软管 (代码 ATN000, 按米计量, 例如: “ATN000 10 m”) 以及接头 (代码 ARTM00/ARTM90), 适用于自切割和自压接
ORDER HOSE cod. ATN000 (quantity in metres, for example: “ATN000 10 m”) and FITTINGS cod. ARTM00/ARTM90 for SELF-CUTTING and SELF-CRIMPING

标准软管长度, 包括配件 (可根据要求准备不同长度——最小长度: 参见“L MIN”)

LENGTH OF STANDARD HOSES, FITTINGS INCLUDED (Different lengths can be prepared on request - Minimum lengths: see “L MIN”)

模型 Model	L mm	模型 Model	L mm	模型 Model	L mm	模型 Models	L MIN* mm
ATM-... 150	150	ATM-... 400	400	ATM-... 1000	1000	ATM-A...	90
ATM-... 175	175	ATM-... 500	500	ATM-... 1500	1500	ATM-B...	95
ATM-... 200	200	ATM-... 600	600	ATM-... 2000	2000	ATM-C...	105
ATM-... 250	250	ATM-... 700	700				
ATM-... 300	300	ATM-... 800	800				
ATM-... 350	350	ATM-... 900	900				

* L型<150 mm没有塑料盖

* No plastic caps for L < 150 mm

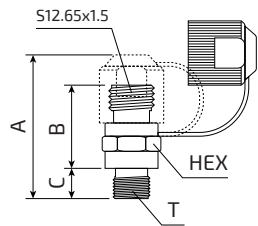
ARM

ATM 软管用 MINIMESS 接头

AUTOMOTIVE LINE

Fittings for ATM hoses (MINIMESS-type)

用于连接气弹簧、控制面板和分配块的配件
FITTINGS FOR LINKING GAS SPRINGS, CONTROL PANELS AND DISTRIBUTION BLOCKS

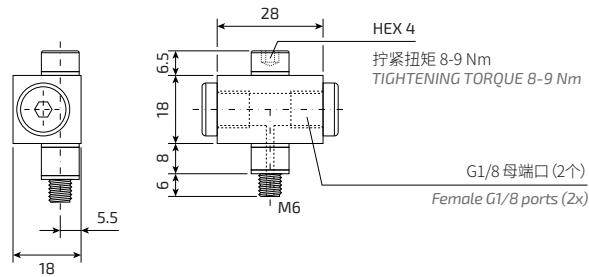


模型 Model	A mm	B mm	C mm	T	HEX	拧紧扭矩 Tightening torque	不回流阀 Non-return valve
ARM000-1/8	48	30	8	G1/8	14	ca. 18 Nm	NO
ARM000-1/8V	48	30	8	G1/8	14	ca. 18 Nm	YES
ARM000-1/4	43	21	12	G1/4	19	ca. 45 Nm	NO
ARM000-1/4V	43	21	12	G1/8	19	ca. 45 Nm	YES

注意! 连接气弹簧和其他设备到开放系统(软管系统)时, 使用无回流阀的接头。
ATTENTION! Use fittings **without** non-return valve when connecting gas springs and other devices to open system (hose system).

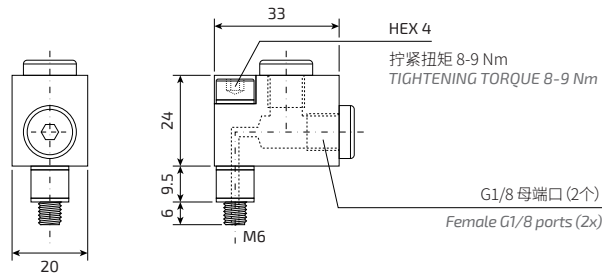
模型
Model

ARM270-M6



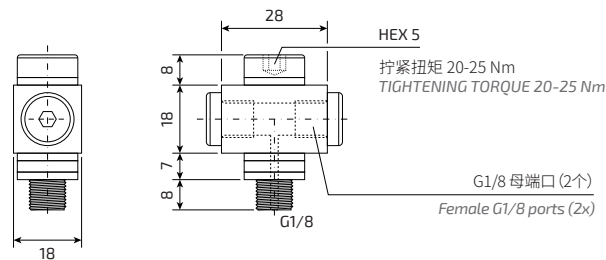
模型
Model

ARM270R-M6



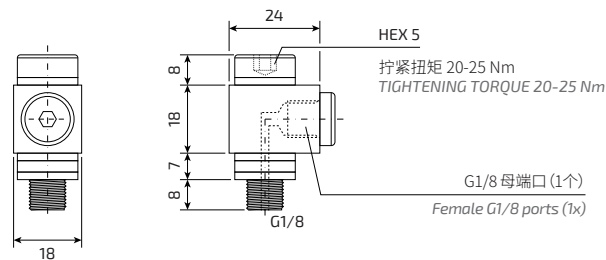
模型
Model

ARM270-1/8



模型
Model

ARM090-1/8

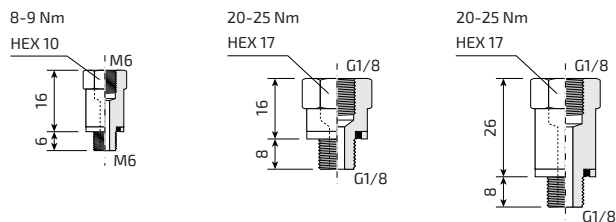


半法兰固定时可能需要的延长接头
Extension fittings which may be needed in case of fixing with half-flanges

PL-M6

PL-1/8A

PL-1/8B



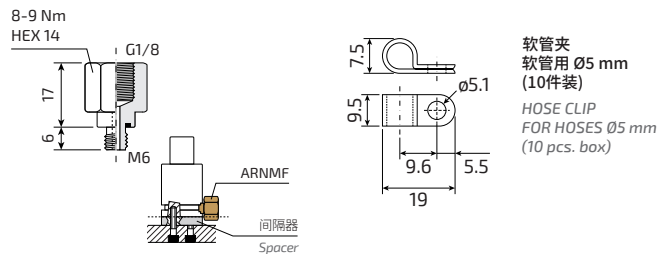
其他配件
OTHER ACCESSORIES

M6 到 G1/8 侧口转换器
M6 to G1/8 side port converter

模型
Model

ARNMF

CFT-5



Flexible hose diameter 5 mm with fittings, for connecting nitrogen gas springs and many other devices.

HOSE MECHANICAL SPECIFICATIONS

- Working temperature: $-40 + 100\text{ }^{\circ}\text{C}$
- Working pressure: max 630 bar
- Minimum bending radius: 20 mm
- Outside diameter: 5 mm

TECHNICAL NOTES

Calculating hose length:

$$L = (A - 20) \times 1.05 \text{ (dimensions in millimetres)}$$

L = Hose length (fittings included)

A = Distance between gas springs to be connected

错了
WRONG

右
RIGHT

错了
WRONG

右
RIGHT

拧紧扭矩 8-9 Nm
TIGHTENING TORQUE 8-9 Nm

M8 x 1

12

(M6侧口)
(M6 side port)

ARTNM00
(只合适 / fitting only)

ATN000
(只用水管 / hose only)

ø 5 mm

(M6侧口)
(M6 side port)

A

L

ATNM 500 [示例 / example]

(配备2号压接接头的软管, 长度L = 500 mm[示例], 准备使用)
(hose complete with no. 2 crimped-on fittings, length L = 500 mm [example], ready for use)

ORDER HOSE cod. ATN000 (quantity in metres, for example: "ATN000 10 m") and FITTINGS cod. ARTNM00 for SELF-CUTTING and SELF-CRIMPING

LENGTH OF STANDARD HOSES, FITTINGS INCLUDED (Different lengths can be prepared on request - Minimum lengths L = 90 mm)

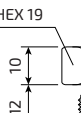
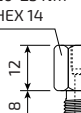
模型 Model	A mm	L mm	模型 Model	A mm	L mm	模型 Model	A mm	L mm
ATNM 100	115	100	ATNM 300	306	300	ATNM 800	782	800
ATNM 125	139	125	ATNM 350	353	350	ATNM 900	877	900
ATNM 150	163	150	ATNM 400	401	400	ATNM 1000	972	1000
ATNM 175	187	175	ATNM 500	496	500	ATNM 1500	1449	1500
ATNM 200	210	200	ATNM 600	591	600	ATNM 2000	1925	2000
ATNM 250	258	250	ATNM 700	687	700			

ATNM软管的微型接头

Fittings for ATNM hoses (MICRO-type)

用于连接气弹簧、控制面板和分配块的配件

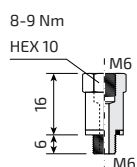
FITTINGS FOR LINKING GAS SPRINGS, CONTROL PANELS AND DISTRIBUTION BLOCKS

模型 Model	模型 Model	模型 Model	模型 Model
ARNM000	ARNM000CP	ARNM00P	ARNM00G
 M8x1 HEX 10 拧紧扭矩 8-9 Nm TIGHTENING TORQUE 8-9 Nm M6	 M8x1 HEX 14 拧紧扭矩 20-25 Nm TIGHTENING TORQUE 20-25 Nm G1/8	 25-30 Nm HEX 19 M6 G1/4	 20-25 Nm HEX 14 M6 G1/8
模型 Model	模型 Model	模型 Model	模型 Model
ARNM090	ARNM270R	ARNM270	ARNM360
 拧紧扭矩 8-9 Nm TIGHTENING TORQUE 8-9 Nm HEX 4 M8x1 M6	 HEX 10 拧紧扭矩 8-9 Nm TIGHTENING TORQUE 8-9 Nm M8x1 (2x) M6	 拧紧扭矩 8-9 Nm TIGHTENING TORQUE 8-9 Nm HEX 4 M8x1 (2x) M6	 HEX 10 拧紧扭矩 8-9 Nm TIGHTENING TORQUE 8-9 Nm M8x1 (3x) M6

半法兰固定时可能需要的延长接头
Extension fittings which may be needed
in case of fixing with half-flanges



PL-M6



软管连接配件

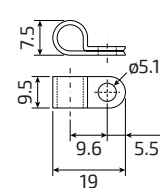
FITTINGS FOR HOSE-HOSE CONNECTION

模型 Model	模型 Model
ARNM270T	ARNM360T
 32 21 M8x1 (3x)	 32 M8x1 (4x)

其他配件

OTHER ACCESSORIES

模型 Model
CFT-5



软管夹
软管用 Ø5 mm
(10件装)
HOSE CLIP
FOR HOSES Ø5 mm
(10 pcs. box)

ATN

Ø5 mm软管及接头

AUTOMOTIVE LINE

Hoses Ø 5 mm and fittings



直径5毫米的柔性软管带接头,用于连接氮气弹簧及多种其他设备。

Flexible hose diameter 5 mm with fittings, for connecting nitrogen gas springs and many other devices.

软管机械规格

- 工作温度: -40 +100 °C
- 工作压力: 最大630巴
- 最小弯曲半径: 20 mm
- 外径: 5 mm

HOSE MECHANICAL SPECIFICATIONS

- Working temperature: -40 +100 °C
- Working pressure: max 630 bar
- Minimum bending radius: 20 mm
- Outside diameter: 5 mm

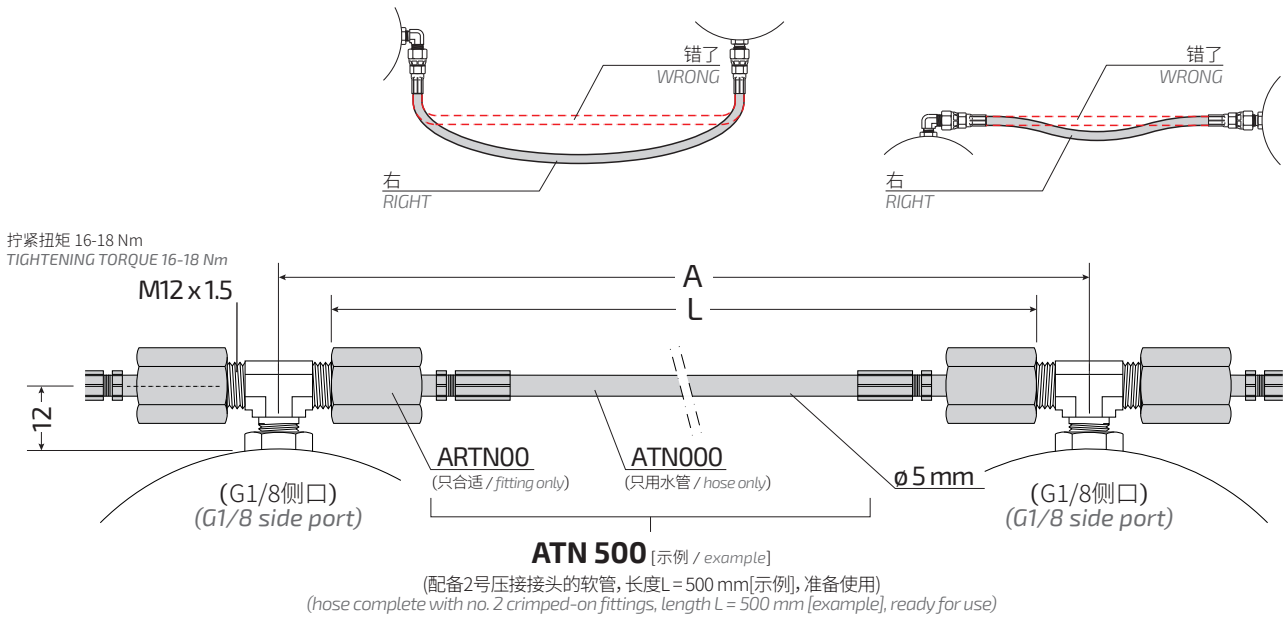
技术说明

计算软管长度:
 $L = (A - 25) \times 1.05$ (尺寸以毫米为单位)
L = 软管长度 (含配件)
A = 要连接的气弹簧之间的距离

TECHNICAL NOTES

Calculating hose length:
 $L = (A - 25) \times 1.05$ (dimensions in millimetres)
L = Hose length (fittings included)
A = Distance between gas springs to be connected

集会 / Assembly



订购软管 (代码 ATN000, 按米计量, 例如: “ATN000 10 m”) 以及接头 (代码 ARTN00), 适用于自切割和自压接

ORDER HOSE cod. ATN000 (quantity in metres, for example: “ATN000 10 m”) and FITTINGS cod. ARTN00 for SELF-CUTTING and SELF-CRIMPING

标准软管长度, 含配件 (可根据要求准备不同长度——最小长度L = 90 mm)

LENGTH OF STANDARD HOSES, FITTINGS INCLUDED (Different lengths can be prepared on request - Minimum lengths L = 90 mm)

模型 Model	A mm	L mm	模型 Model	A mm	L mm	模型 Model	A mm	L mm
ATN 100	120	100	ATN 300	311	300	ATN 800	787	800
ATN 125	144	125	ATN 350	358	350	ATN 900	882	900
ATN 150	168	150	ATN 400	406	400	ATN 1000	977	1000
ATN 175	192	175	ATN 500	501	500	ATN 1500	1454	1500
ATN 200	215	200	ATN 600	596	600	ATN 2000	1930	2000
ATN 250	263	250	ATN 700	692	700			

ARN

ATN软管接头

AUTOMOTIVE LINE

Fittings for ATN hoses

用于连接气弹簧、控制面板和分配块的配件

FITTINGS FOR LINKING GAS SPRINGS, CONTROL PANELS AND DISTRIBUTION BLOCKS

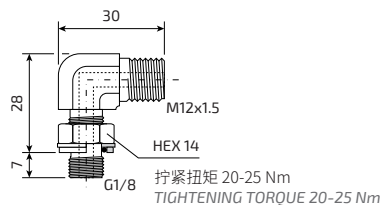
模型
Model

ARN000



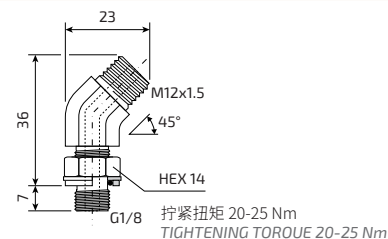
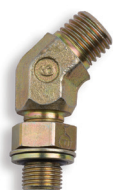
模型
Model

ARN090



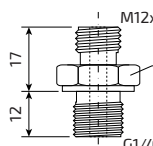
模型
Model

ARN045



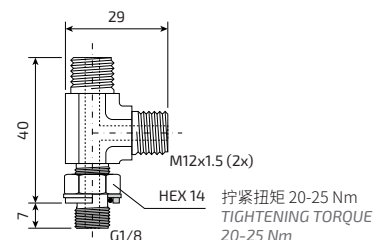
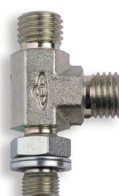
模型
Model

ARN000-1/4



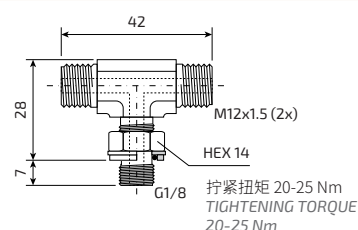
模型
Model

ARN270R



模型
Model

ARN270



半法兰固定时可能需要的延长接头

Extension fittings which may be needed in case of fixing with half-flanges

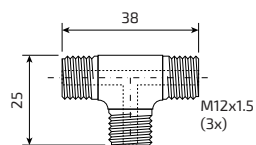
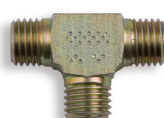


软管连接配件

FITTINGS FOR HOSE-HOSE CONNECTION

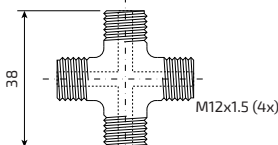
模型
Model

ARN270T



模型
Model

ARN360T

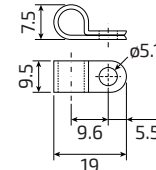


其他配件

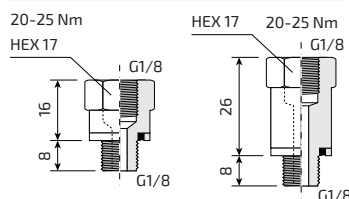
OTHER ACCESSORIES

模型
Model

CFT-5

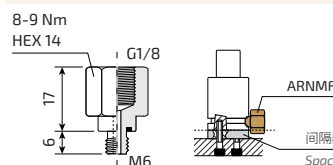


软管夹
软管用 Ø5 mm
(10件装)
HOSE CLIP
FOR HOSES Ø5 mm
(10 pcs. box)



M6 到 G1/8 侧口转换器
M6 to G1/8 side port converter

ARNMF



AT

Ø8 mm软管及配件

AUTOMOTIVE LINE

Hoses Ø 8 mm and fittings



直径8 mm的柔性软管带接头, 用于连接氮气弹簧及多种设备。

Flexible hose diameter 8 mm with fittings, for connecting nitrogen gas springs and many other devices.

软管机械规格

- 工作温度: -40 +100 °C
- 工作压力: 最大630巴
- 最小弯曲半径: 40毫米
- 外径: 8 mm

HOSE MECHANICAL SPECIFICATIONS

- Working temperature: -40 +100 °C
- Working pressure: max 630 bar
- Minimum bending radius: 40 mm
- Outside diameter: 8 mm

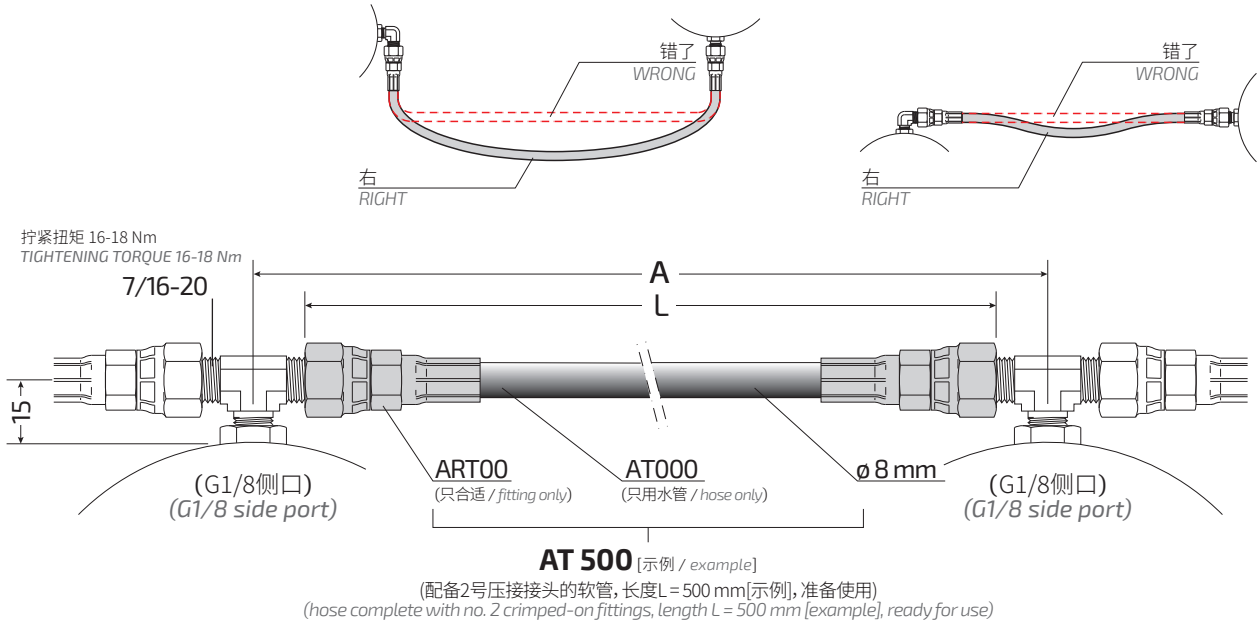
技术说明

计算软管长度:
 $L = (A - 25) \times 1.05$ (尺寸以毫米为单位)
L = 软管长度 (含配件)
A = 要连接的气弹簧之间的距离

TECHNICAL NOTES

Calculating hose length:
 $L = (A - 25) \times 1.05$ (dimensions in millimetres)
L = Hose length (fittings included)
A = Distance between gas springs to be connected

集会 / Assembly



订购软管 (代码 AT000, 按米计量, 例如: “AT000 10 m”) 以及接头 (代码 ART00), 适用于自切割和自压接

ORDER HOSE cod. AT000 (quantity in metres, for example: “AT000 10 m”) and FITTINGS cod. ART00 for SELF-CUTTING and SELF-CRIMPING

标准软管长度, 含配件 (可根据要求准备不同长度——最小长度L = 125毫米)

LENGTH OF STANDARD HOSES, FITTINGS INCLUDED (Different lengths can be prepared on request - Minimum length L = 125 mm)

模型 Model	A mm	L mm	模型 Model	A mm	L mm	模型 Model	A mm	L mm
-	-	-	AT 300	311	300	AT 800	787	800
AT 125	144	125	AT 350	358	350	AT 900	882	900
AT 150	168	150	AT 400	406	400	AT 1000	977	1000
AT 175	192	175	AT 500	501	500	AT 1500	1454	1500
AT 200	215	200	AT 600	596	600	AT 2000	1930	2000
AT 250	263	250	AT 700	692	700			

AR AT软管配件

AUTOMOTIVE LINE

Fittings for AT hoses

用于连接气弹簧、控制面板和分配块的配件

FITTINGS FOR LINKING GAS SPRINGS, CONTROL PANELS AND DISTRIBUTION BLOCKS

模型
Model

AR000



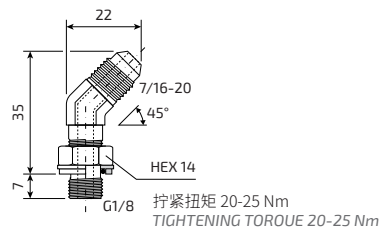
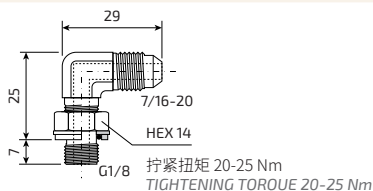
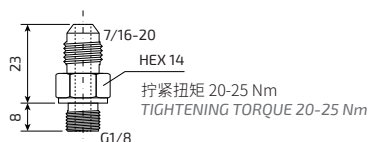
模型
Model

AR090



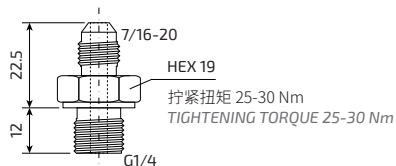
模型
Model

AR045



模型
Model

AR000-1/4



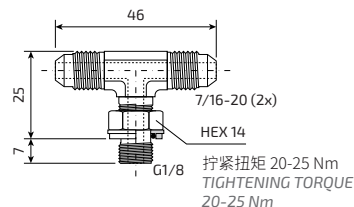
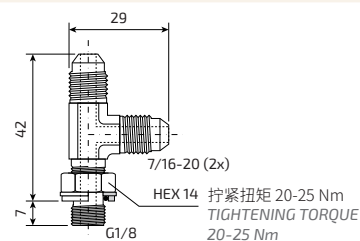
模型
Model

AR270R



模型
Model

AR270



半法兰固定时可能需要的延长接头
Extension fittings which may be needed
in case of fixing with half-flanges



软管连接配件

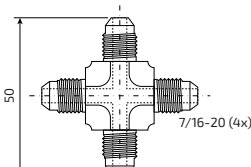
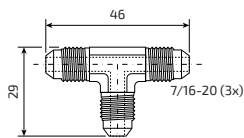
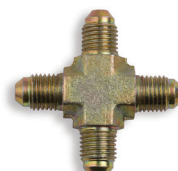
FITTINGS FOR HOSE-HOSE CONNECTION

模型
Model

AR270T

模型
Model

AR360T

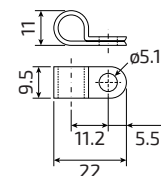


其他配件

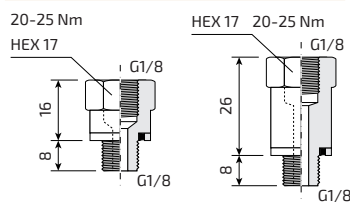
OTHER ACCESSORIES

模型
Model

CFT-8

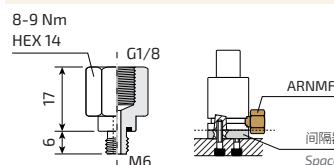


软管夹
软管用 Ø8 mm
(10件装)
HOSE CLIP
FOR HOSES Ø8 mm
(10 pcs. box)



M6 到 G1/8 侧口转换器
M6 to G1/8 side port converter

ARNMF



AP01CV / AP01 控制面板

AUTOMOTIVE LINE

AP01CV / AP01 control panel



该面板可用于充放氮气弹簧或氮气弹簧系统，并监控压力。

This panel allows to charge and discharge a nitrogen gas spring or a nitrogen gas springs system, and to monitor the pressure.

技术说明

TECHNICAL NOTES

- A**  **充气阀:**
- **AP01CV:** CEJN 型, 与大多数非 Bordignon 充气系统兼容
 - **AP01:** Bordignon 标准型, 仅可与 CUC01、COMPL 或 BOOSTER 配合使用
- B** 排气阀
- C** 压力表
- D** 3号连接端口 (G1/8)
- E** 安全压力开关的插头准备好
- F** M6六角螺丝的2号固定孔
- G** 连接端口被堵住了

- A**  **Charging valve:**
- **AP01CV:** CEJN-type, compatible with most non-Bordignon charging systems
 - **AP01:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER
- B** Discharging valve
- C** Pressure gauge
- D** No. 3 connection ports (G1/8)
- E** Plug ready for safety pressure switch
- F** No. 2 fixing holes for M6 hex-socket screws
- G** The connection ports are plugged

 **注意!** 只使用氮氮₂

 **ATTENTION!** USE NITROGEN N₂ ONLY

最常用
Most used

AP01CV



CEJN 10 358

AP01



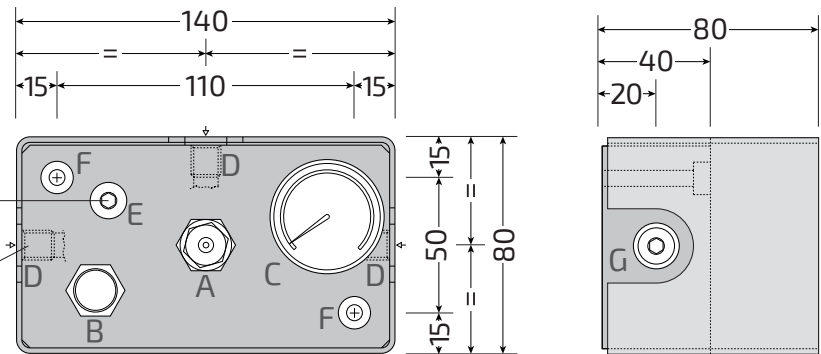
Bordignon 标准
Bordignon-standard

尺寸 / Dimensions

如有需要, 这里可安装APR01AN
压力开关
(参见现有型号)

APR01AN pressure switch
installed here if required
(see available models)

如果需要, 这里安装过压破裂塞
(参见现有型号)
Overpressure rupture plug installed here if required (see available models)



模型 Model	模型 Model	
AP01CV	AP01	控制面板 Control panel
AP01PANCV	AP01PAN	控制面板带APR01AN压力开关 (正常打开50-300巴) Control panel with APR01AN pressure switch (50-300 bar normally open)
AP01RPCV	AP01RP	带过压破裂塞的控制面板 Control panel with overpressure rupture plug
AP01FCV	AP01F	控制面板APR01AN压力开关 (正常打开时50-300巴), 并配有过压破裂塞 Control panel with APR01AN pressure switch (50-300 bar normally open) and with overpressure rupture plug



在控制面板代码后加上“LOCK”, 以便通过可锁定的排气阀接收该设备, 适用于锁定-标签应用。单独订购挂锁 (代码: PADLOCK) (也可与BRADY部件编号850821挂锁一起使用)。示例: “AP01FLOCK” = 带可锁定排气阀的控制面板 AP01F。
Add “LOCK” after the control panel code to receive it with lockable discharging valve for Lockout-Tagout applications. Order padlock (code: PADLOCK) separately (also usable with BRADY part no. 850821 padlock). Example: “AP01FLOCK” = control panel AP01F with lockable discharging valve.

所有车型均可预配已组装好的安全阀VS500 (应要求)。/ All models are available with safety valve VS500 already assembled (on request).

AP02CV / AP02

控制面板 (紧凑型)

AP02CV / AP02 control panel (compact)



该紧凑型面板可用于充放氮气弹簧或氮气弹簧系统,并监测压力。

This compact panel allows to charge and discharge a nitrogen gas spring or a nitrogen gas springs system, and to monitor the pressure.

技术说明

TECHNICAL NOTES

A 充气阀:

- **AP02CV:** CEJN 型,与大多数非 Bordignon 充气系统兼容
- **AP02:** Bordignon 标准型,仅可与 CUC01、COMPL 或 BOOSTER 配合使用

A 充气阀:

- **AP02CV:** CEJN-type, compatible with most non-Bordignon charging systems
- **AP02:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER

B 排气阀

B Discharging valve

C 压力表

C Pressure gauge

- M5六角螺丝的2号固定孔
- 5号连接端口 (G1/8)
- 连接端口被堵住了

- No. 2 fixing holes for M5 hex-socket screws
- No. 5 connection ports (G1/8)
- The connection ports are plugged

⚠ 注意!只使用氮气N₂

⚠ ATTENTION! USE NITROGEN N₂ ONLY

最常用
Most used

AP02CV



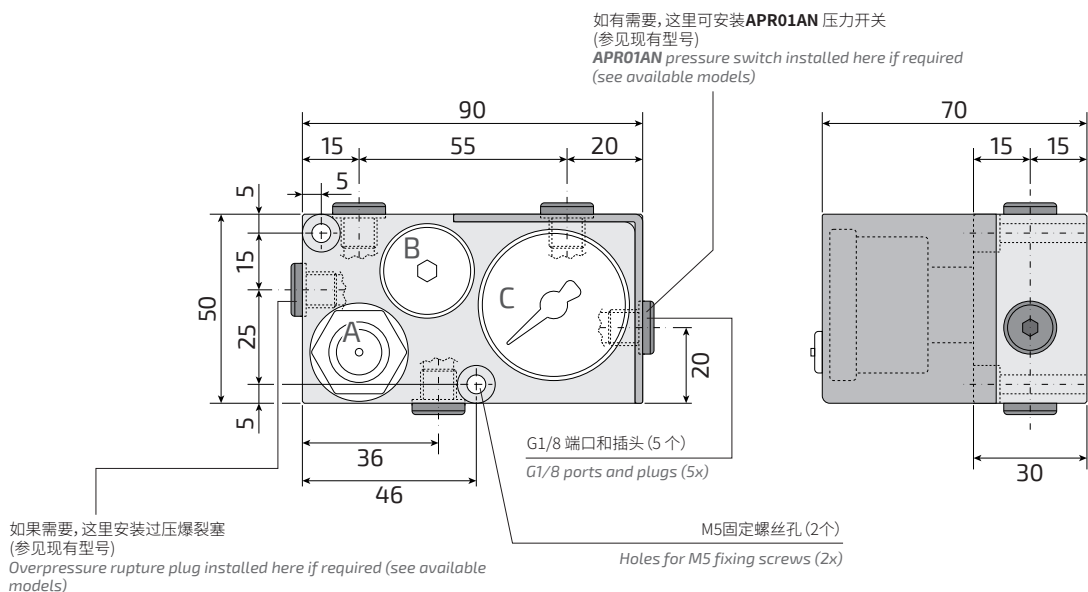
CEJN 10 358

AP02



Bordignon 标准
Bordignon-standard

尺寸 / Dimensions



模型 Model	模型 Model	
AP02CV	AP02	控制面板 (紧凑型) Control panel (compact version)
AP02PANCV	AP02PAN	控制面板 (紧凑型), 带APR01AN压力开关 (正常打开50-300巴) Control panel (compact version) with APR01AN pressure switch (50-300 bar normally open)
AP02RPCV	AP02RP	带超压爆裂塞的控制面板 (紧凑型) Control panel (compact version) with overpressure rupture plug
AP02FCV	AP02F	控制面板 (紧凑型), 带有APR01AN压力开关 (正常打开50-300巴) 和过压爆裂塞 Control panel (compact version) with APR01AN pressure switch (50-300 bar normally open) and with overpressure rupture plug

所有车型均可预配已组装好的安全阀VS500 (应要求)。/ All models are available with safety valve VS500 already assembled (on request).

AP03CV / AP03

控制面板 (紧凑型)

AP03CV / AP03 control panel (compact)

该紧凑型面板可用于充放氮气弹簧或氮气弹簧系统,并监测压力。

This compact panel allows to charge and discharge a nitrogen gas spring or a nitrogen gas springs system, and to monitor the pressure.

技术说明

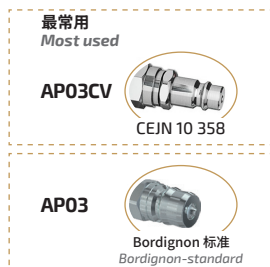
- A**  **充气阀:**
- **AP03CV:** CEJN 型,与大多数非 Bordignon 充气系统兼容
 - **AP03:** Bordignon 标准型,仅可与 CUC01、COMPL 或 BOOSTER 配合使用
- B** 排气阀
- C** 压力表
- D** 3号连接端口 G1/4
- E** 2号连接端口 G1/8
- 连接端口被堵住了
 - M6六角螺丝的2号固定孔

 **注意!**只使用氮氮₂

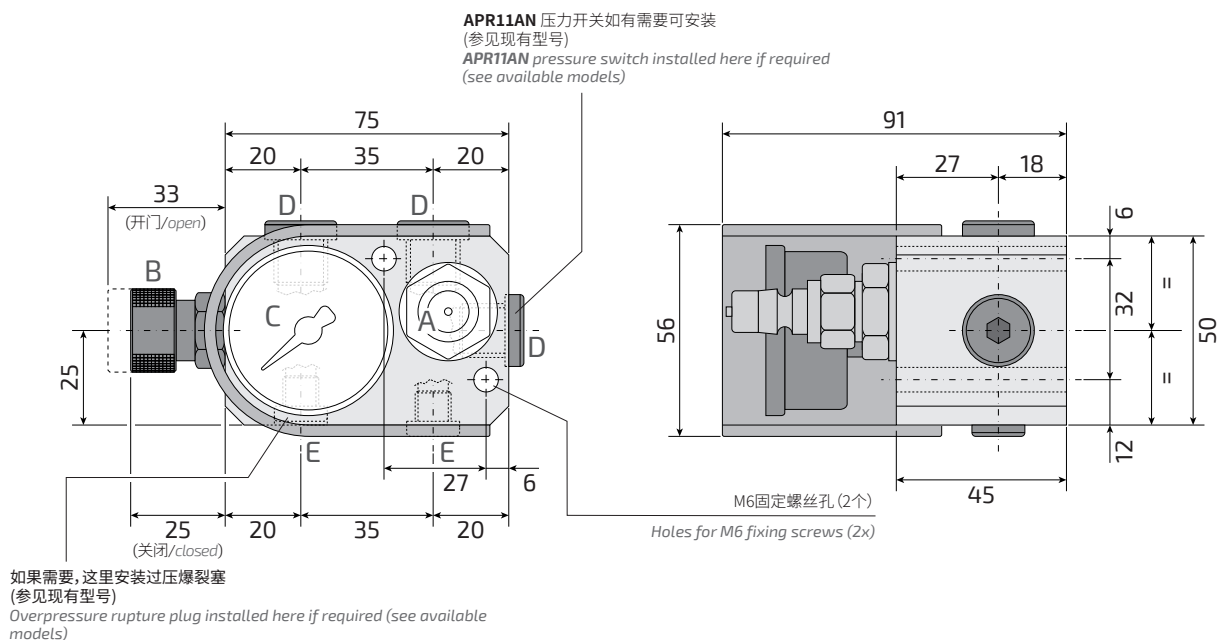
TECHNICAL NOTES

- A**  **Charging valve:**
- **AP03CV:** CEJN-type, compatible with most non-Bordignon charging systems
 - **AP03:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER
- B** Discharging valve
- C** Pressure gauge
- D** No. 3 connection ports G1/4
- E** No. 2 connection ports G1/8
- The connection ports are plugged
 - No. 2 fixing holes for M6 hex-socket screws

 **ATTENTION!** USE NITROGEN N₂ ONLY



尺寸 / Dimensions



模型 Model	模型 Model	
AP03CV	AP03	控制面板 (紧凑型) Control panel (compact version)
AP03PANCV	AP03PAN	控制面板 (紧凑型), 带APR11AN压力开关 (正常打开时50-300巴) Control panel (compact version) with APR11AN pressure switch (50-300 bar normally open)
AP03RPCV	AP03RP	带超压破裂塞的控制面板 (紧凑型) Control panel (compact version) with overpressure rupture plug
AP03FCV	AP03F	控制面板 (紧凑型), 带APR11AN压力开关 (正常打开50-300巴) 和过压破裂塞 Control panel (compact version) with APR11AN pressure switch (50-300 bar normally open) and with overpressure rupture plug

所有车型均可预配已组装好的安全阀VS500 (应要求)。/ All models are available with safety valve VS500 already assembled (on request).

AP04CV / AP04

控制面板

AP04CV / AP04 control panel



该面板可用于充放氮气弹簧或氮气弹簧系统，并监控压力。

This panel allows to charge and discharge a nitrogen gas spring or a nitrogen gas springs system, and to monitor the pressure.

技术说明

TECHNICAL NOTES

- A**  **充气阀:**
- **AP04CV:** CEJN 型, 与大多数非 Bordignon 充气系统兼容
 - **AP04:** Bordignon 标准型, 仅可与 CUC01、COMPL 或 BOOSTER 配合使用
- B** 排气阀
- C** 压力表
- D** 1号连接端口 G1/4 **
- E** 7号连接端口 G1/8
- 连接端口被堵住了
 - M10六角螺丝的2号固定孔

- A**  **Charging valve:**
- **AP04CV:** CEJN-type, compatible with most non-Bordignon charging systems
 - **AP04:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER
- B** Discharging valve
- C** Pressure gauge
- D** No. 1 connection port G1/4 **
- E** No. 7 connection ports G1/8
- The connection ports are plugged
 - No. 2 fixing holes for M10 hex-socket screws

 **注意!** 只使用氮气N₂

 **ATTENTION!** USE NITROGEN N₂ ONLY

最常用
Most used

AP04CV



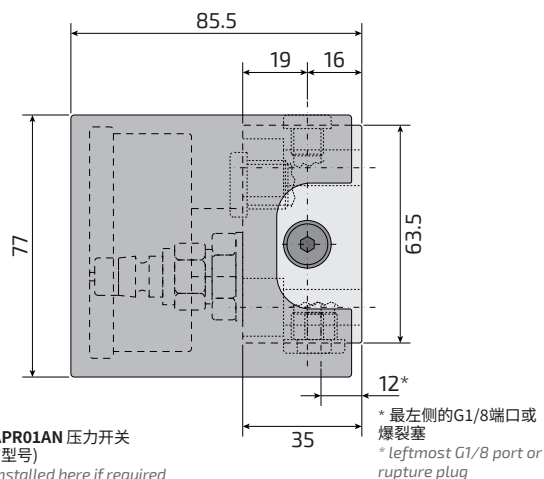
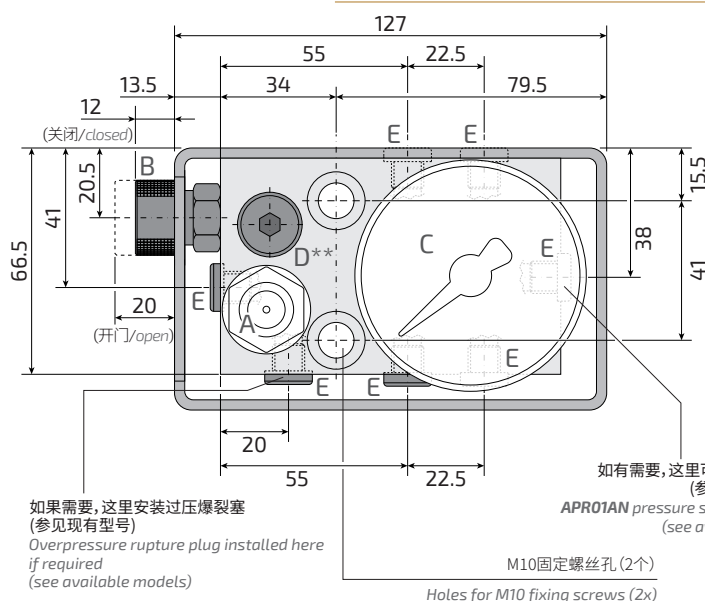
CEJN 10 358

AP04



Bordignon 标准
Bordignon-standard

尺寸 / Dimensions



** 注意: 对于AP04CV型号, CEJN型充电阀不允许连接前部G1/4端口 (上图“D”端口) 的安全开关或安全阀。

** NOTE: for the AP04CV models, the CEJN-type charging valve will not allow the connection of safety switches or safety valves on the front G1/4 port (port "D" on the drawing above).

模型 Model	模型 Model	
AP04CV	AP04	控制面板 Control panel
AP04PANCV	AP04PAN	控制面板带APR01AN压力开关 (正常打开50-300巴) Control panel with APR01AN pressure switch (50-300 bar normally open)
AP04RPCV	AP04RP	带过压破裂塞的控制面板 Control panel with overpressure rupture plug
AP04FCV	AP04F	控制面板APR01AN压力开关 (正常打开时50-300巴), 并配有过压破裂塞 Control panel with APR01AN pressure switch (50-300 bar normally open) and with overpressure rupture plug

所有车型均可预配已组装好的安全阀VS500 (应要求)。/ All models are available with safety valve VS500 already assembled (on request).

This panel allows to charge and discharge a nitrogen gas spring or a nitrogen gas springs system, and to monitor the pressure.

TECHNICAL NOTES

A **Charging valve:**

- **AP05CV:** CEIN-type, compatible with most non-Bordignon charging systems
- **AP05:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER

- B Discharging valve
- C Pressure gauge
- D No. 9 connection ports G1/4"

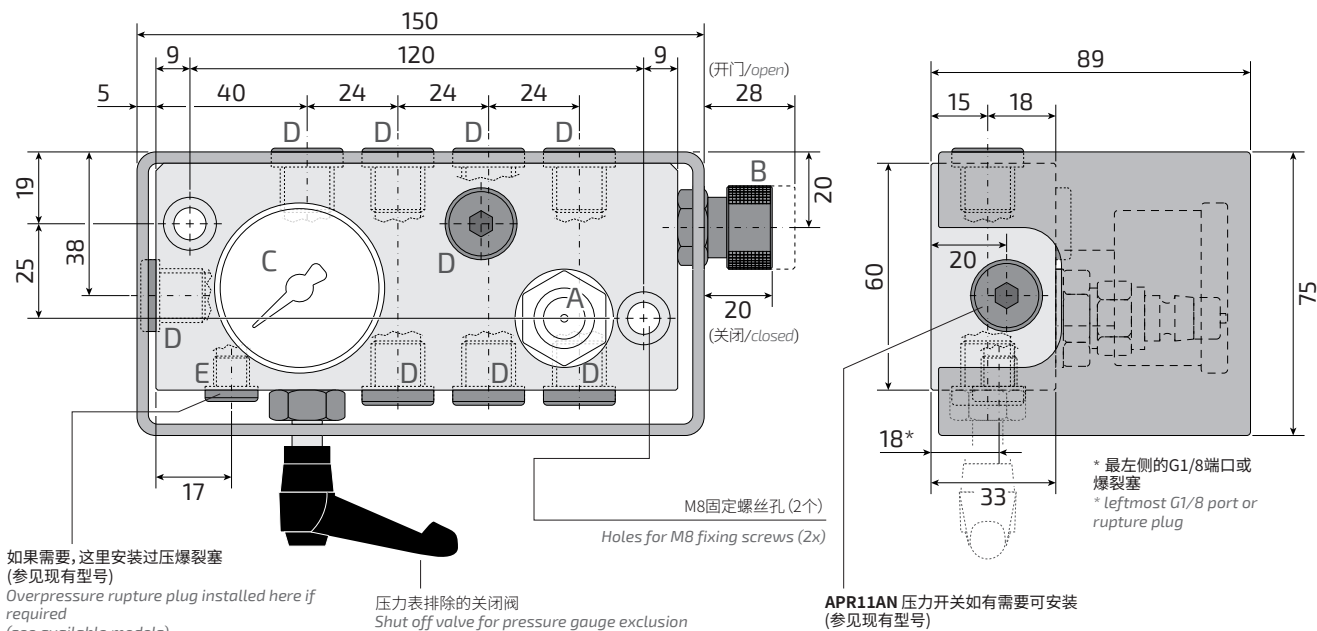
- No. 1 connection port G1/8
- The connection ports are plugged
- No. 2 fixing holes for M8 hex-socket screws
- Shut off valve for protecting the pressure gauge from pulsating pressure during operation

 ATTENTION! USE NITROGEN N₂ ONLY

最常用
Most used

AP05CV

CEJN 10 358



如果需要, 这里安装过压爆裂塞
(参见现有型号)
*Overpressure rupture plug installed here if
required
(see available models)*

压力表排除的关闭阀
Shut off valve for pressure gauge exclusion

APR11AN 压力开关如有需要可安装
(参见现有型号)
*APR11AN pressure switch installed here if required
(see available models)*

模型 Model	模型 Model	
AP05CV	AP05	控制面板 Control panel
AP05PANCV	AP05PAN	控制面板带APR11AN压力开关 (正常打开50-300巴) Control panel with APR11AN pressure switch (50-300 bar normally open)
AP05RPCV	AP05RP	带过压破裂塞的控制面板 Control panel with overpressure rupture plug
AP05FCV	AP05F	控制面板配有APR11AN压力开关 (正常打开时50-300巴), 并配有过压破裂塞 Control panel with APR11AN pressure switch (50-300 bar normally open) and with overpressure rupture plug

所有车型均可预配已组装好的安全阀VS500 (应要求)。/ *All models are available with safety valve VS500 already assembled (on request).*

AP06CV / AP06

控制面板 (微型接口)

AUTOMOTIVE LINE

AP06CV / AP06 Control panel (MICRO-type ports)

该面板可用于充放氮气弹簧或氮气弹簧系统，并监控压力。

This panel allows to charge and discharge a nitrogen gas spring or a nitrogen gas springs system, and to monitor the pressure.

技术说明

TECHNICAL NOTES

- A**  **充气阀:**
- **AP06CV:** CEJN 型, 与大多数非 Bordignon 充气系统兼容
 - **AP06:** Bordignon 标准型, 仅可与 CUC01、COMPL 或 BOOSTER 配合使用

- A**  **Charging valve:**
- **AP06CV:** CEJN-type, compatible with most non-Bordignon charging systems
 - **AP06:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER

- B** 排气阀
C 压力表
D 1号连接端口 G1/4
E 1号连接端口 G1/8
F 15号连接端口 M6 (5x上层, 5x下层, 5x后方)
- 连接端口被堵住了
 - 6号 (4x + 2x) 固定孔用于M6六角螺丝

- B** Discharging valve
C Pressure gauge
D No. 1 connection port G1/4
E No. 1 connection port G1/8
F No. 15 connection ports M6 (5x top, 5x bottom, 5x rear)
- The connection ports are plugged
 - No. 6 (4x + 2x) fixing holes for M6 hex-socket screws

 **注意!** 只使用氮气N₂

 **ATTENTION!** USE NITROGEN N₂ ONLY

最常用
Most used

AP06CV



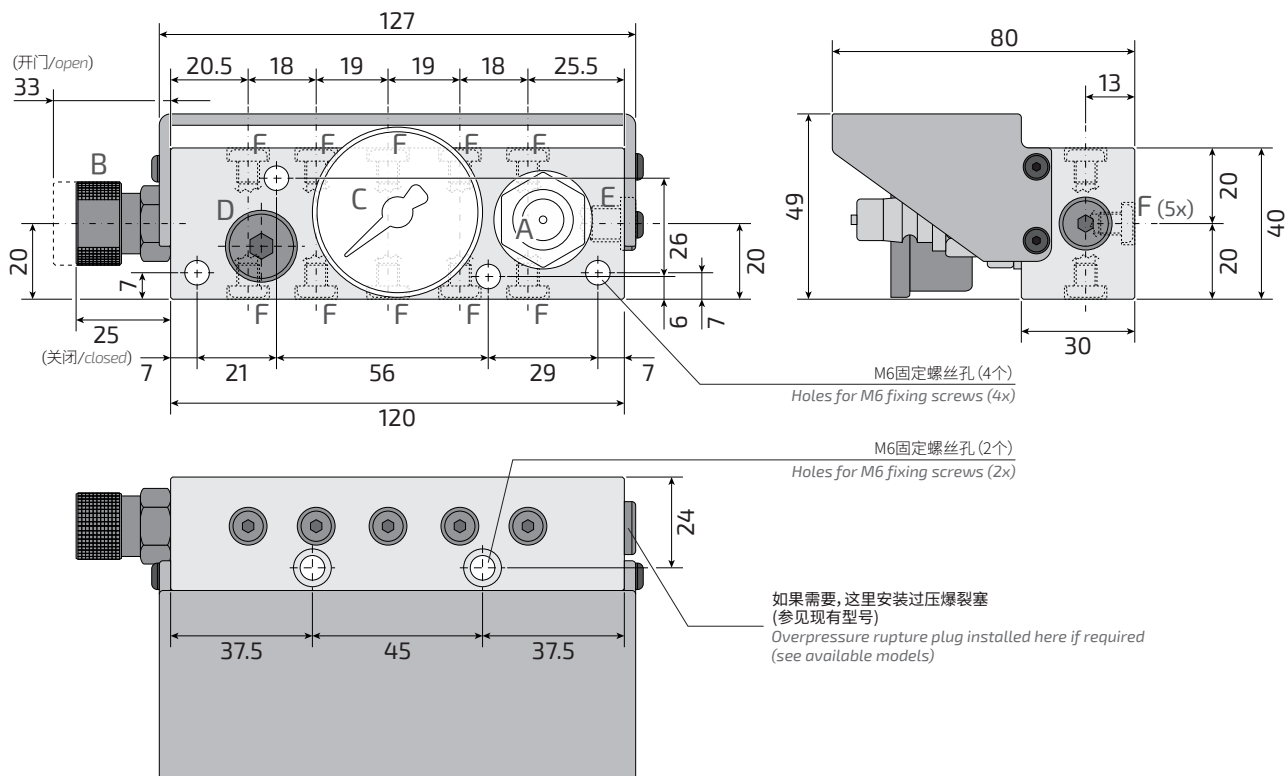
CEJN 10 358

AP06



Bordignon 标准
Bordignon-standard

尺寸 / Dimensions



模型 Model	模型 Model	
AP06CV	AP06	控制面板 (MICRO型端口) Control panel (MICRO-type ports)
AP06RPCV	AP06RP	控制面板 (MICRO型端口) 带过压破裂塞 Control panel (MICRO-type ports) with overpressure rupture plug

APM...CV / APM... 模块化控制面板

APM...CV / APM... modular control panel



该面板允许对氮气弹簧、氮气弹簧系统或多个独立的氮气弹簧系统进行充放电，并监控压力。每个模块可以以不同的压力充电。

This panel allows to charge and discharge a nitrogen gas spring, or a nitrogen gas springs system, or multiple independent nitrogen gas springs systems, and to monitor the pressure. Each module can be charged at a different pressure.

技术说明

- A**  **充气阀:**
- **APM...CV:** CEJN 型, 与大多数非 Bordignon 充气系统兼容
 - **APM...:** Bordignon 标准型, 仅可与 CUC01、COMPL 或 BOOSTER 配合使用
- B** 排气阀
- C** M5固定孔
- D** 单模块增压或放电阀 (使用时始终关闭)
- E** 连接端口 (G1/8)
- F** 每个模块可能连接更多的氮气弹簧。

它允许分别检测每个模块的压力。
可连接模块的数量没有限制。

 **注意!** 只使用氮氮 N_2

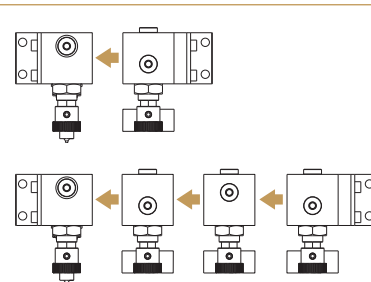
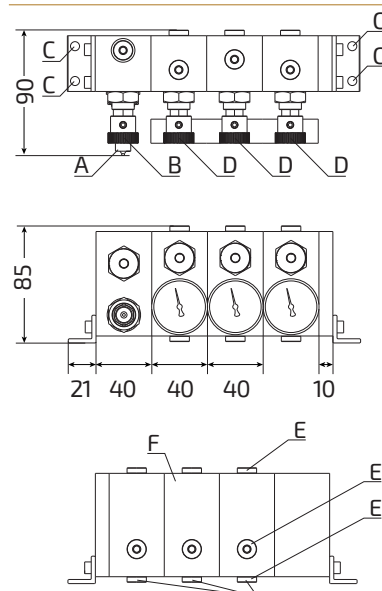
TECHNICAL NOTES

- A**  **Charging valve:**
- **APM...CV:** CEJN-type, compatible with most non-Bordignon charging systems
 - **APM...:** Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER
- B** Discharging valve
- C** M5 fixing hole
- D** Single-module charging or discharging valve (always turned off during use)
- E** Connection ports (G1/8)
- F** Each module may be connected with more nitrogen gas springs.

It allows to check the pressure of each module separately.
No limit as to the quantity of connectible modules.

 **ATTENTION!** USE NITROGEN N_2 ONLY

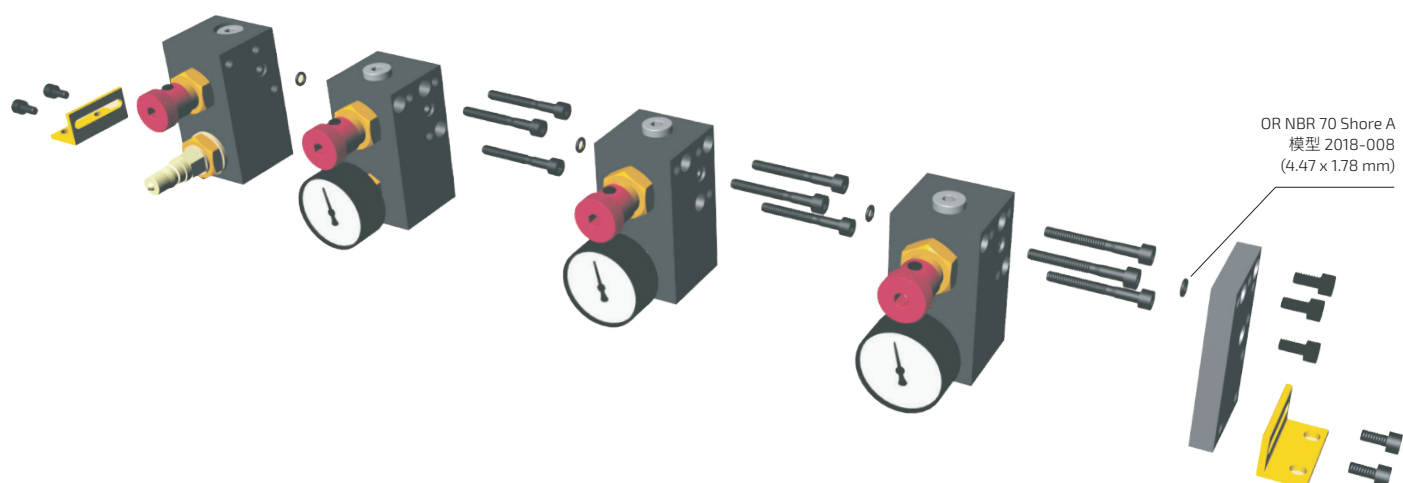
尺寸 / Dimensions



超压破裂塞 (每个模块一个)
如有需要, 可以安装在这里
(参见现有型号)
Overpressure rupture plugs (one for each module)
installed here if required
(see available models)

模型 Model	模型 Model		模型 Model	模型 Model	
APM1CV	APM1	控制面板含1模块 Control panel with 1 module	APM1RPCV	APM1RP	控制面板,带1模块,带过压破裂塞 Control panel with 1 module, with overpressure rupture plug
APM2CV	APM2	控制面板,包含两个模块 Control panel with 2 modules	APM2RPCV	APM2RP	控制面板,有两个模块,两个电脑.过压破裂塞 Control panel with 2 modules, with 2 pcs. overpressure rupture plugs
APM3CV	APM3	控制面板,包含3模块 Control panel with 3 modules	APM3RPCV	APM3RP	控制面板,包含3个模块,3台电脑.过压破裂塞 Control panel with 3 modules, with 3 pcs. overpressure rupture plugs
APM4CV	APM4	控制面板,包含4模块 Control panel with 4 modules	APM4RPCV	APM4RP	控制面板,4个模块,4个电脑.过压破裂塞 Control panel with 4 modules, with 4 pcs. overpressure rupture plugs
APM...CV	APM...	控制面板 ... 模 Control panel with ... modules	APM...RPCV	APM...RP	控制面板...模块,带有...PCS.过压破裂塞 Control panel with ... modules, with ... pcs. overpressure rupture plugs

组装方案 / ASSEMBLY SCHEME



连接氮气弹簧的多种可能性 / VARIOUS POSSIBILITIES FOR CONNECTING THE NITROGEN GAS SPRINGS

上方连接

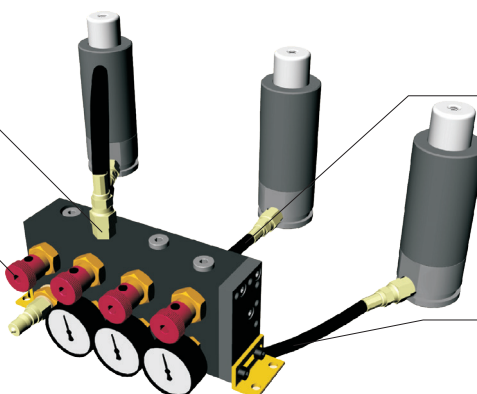
ABOVE CONNECTION

连接背后

BEHIND CONNECTION

6 mm 六角套筒

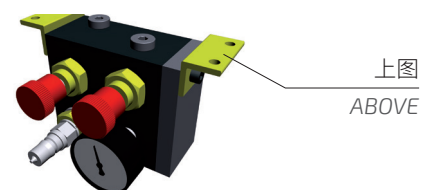
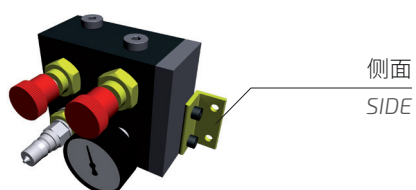
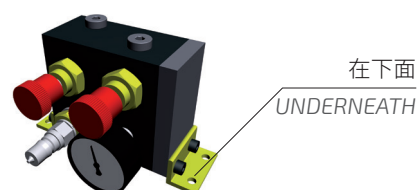
6 mm HEX SOCKET



连接之下

UNDERNEATH CONNECTION

修复可能性 / FIXING POSSIBILITIES



安全 压力开关

Safety pressure switches

AUTOMOTIVE LINE



数字版 Digital

数字压力开关, 可设置4至400巴, 供控制面板组装使用。

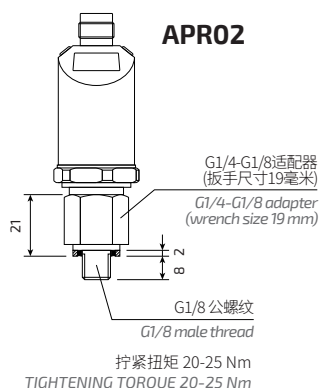
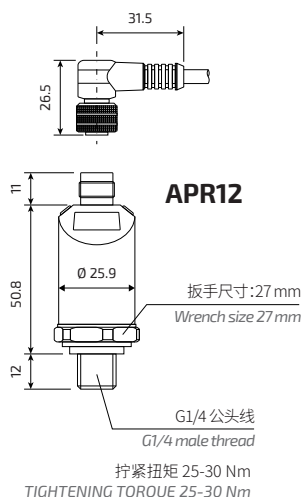
Digital pressure switch that can be set from 4 to 400 bar, available for the assembly on control panels.

技术说明

- 2号PNP晶体管开关输出
- 开关电流: 每个输出最大250 mA
- 技术数据表应请求

TECHNICAL NOTES

- No. 2 PNP transistor switching outputs
- Switching current: max 250 mA per output
- Technical data sheet on request



模型 Model	线索 Thread
APR02	G1/8
APR12	G1/4

模型 Model
RGV14

用于压力开关朝向的旋转接头 (针对APR02型号: 安装在压力开关本体与G1/4-G1/8适配器之间——见图纸)
Swivel fitting for pressure switch orientation (for APR02 model: install between pressure switch body and G1/4-G1/8 adapter - see drawing)

模拟 Analog

压力开关可根据型号设置50至150-300巴, 供控制面板组装使用。

Pressure switches, which can be set from 50 to 150-300 bar depending on model, available for the assembly on control panels.



模型 Model	T	拧紧扭矩 Tightening torque Nm	A mm	分布范围 Range bar	类型 Type	最大电压 MAX voltage	最大电流 MAX current
APR01A	G1/8	20-25	8	50-150	通常断开 Normally open	48V ac/dc	0.5 A
APR01AN	G1/8	20-25	8	50-300	通常断开 Normally open	48V ac/dc	0.5 A
APR11A	G1/4	25-30	10	50-150	通常断开 Normally open	48V ac/dc	0.5 A
APR11AN	G1/4	25-30	10	50-300	通常断开 Normally open	48V ac/dc	0.5 A

安全阀

Safety valve



超压安全阀，安装在控制面板上。

Overpressure safety valve, available for the assembly on control panels.

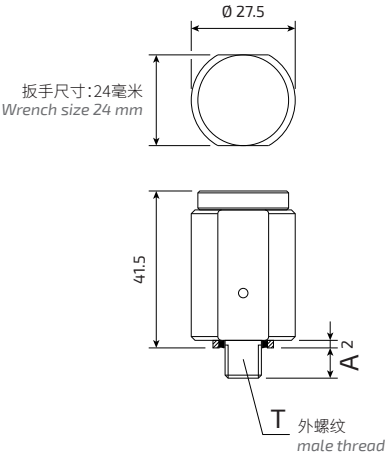
技术说明

- 名义激活压力: 500巴
- 如阀门激活, 请联系博迪尼翁进行修复

TECHNICAL NOTES

- Nominal activation pressure: 500 bar
- In case of valve activation, contact Bordignon for reparation

尺寸 / Dimensions



模型 Model	T	拧紧扭矩 Tightening torque Nm	A mm
VS500	G1/8	20-25	8
VS500-1/4	G1/4	25-30	10

分配区块

Distribution blocks

分配块允许在电池中连接多个气弹簧。每个气动块可连接多个带侧孔的气弹簧，且多个气动弹簧可相互连接。选择合适的接头来连接软管。

The distribution blocks allow several gas springs to be connected in a battery.

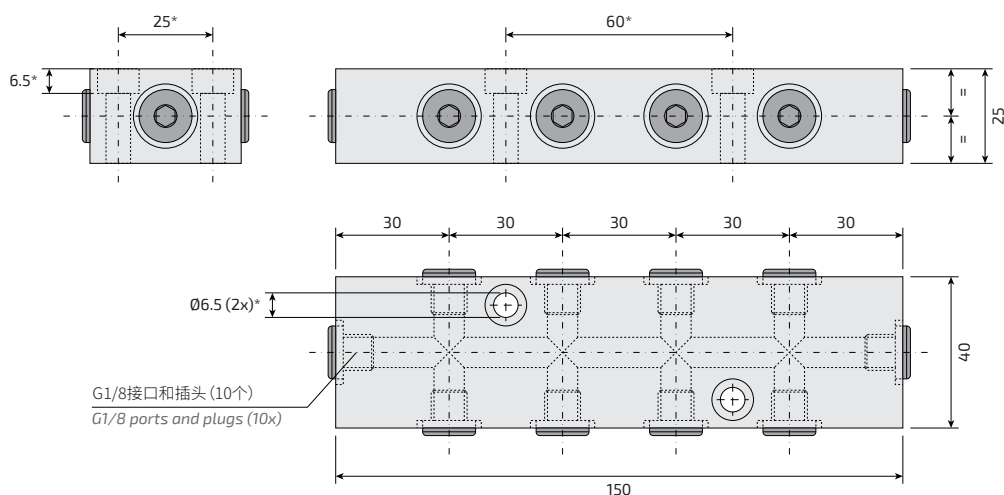
Each block can connect several gas springs equipped with side port, and several blocks can be interconnected.

Choose the proper fittings for hose connection.

尺寸 / Dimensions

模型
Model

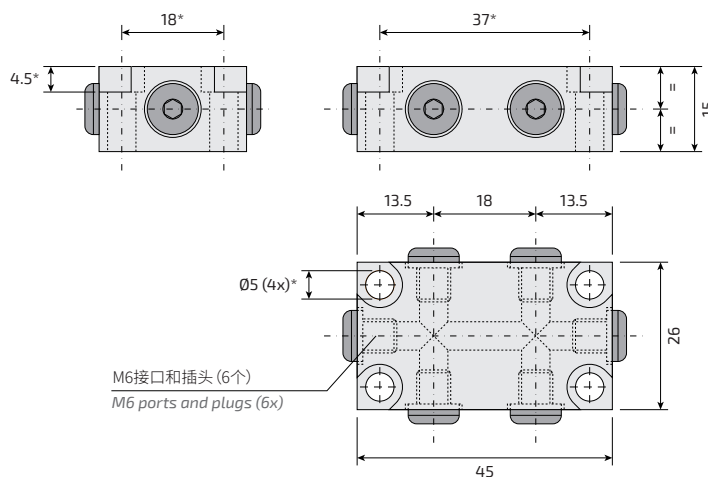
AD00



* 用于M6固定螺丝 (两次) / For M6 fixing screws (2x)

模型
Model

AD01

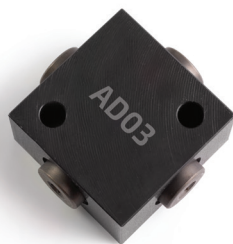


* 用于M4固定螺丝 (4倍) / For M4 fixing screws (4x)



模型
Model

AD02



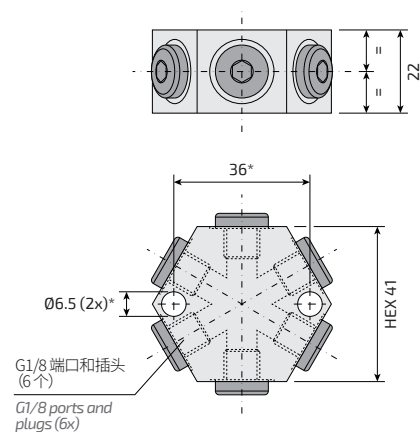
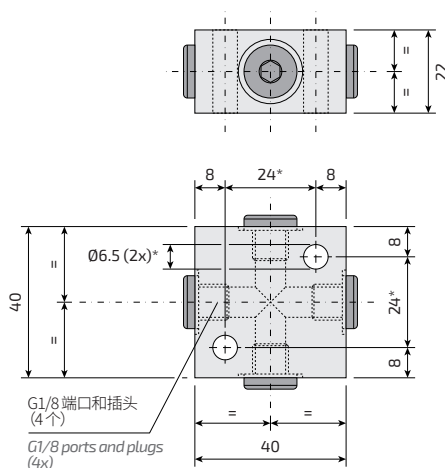
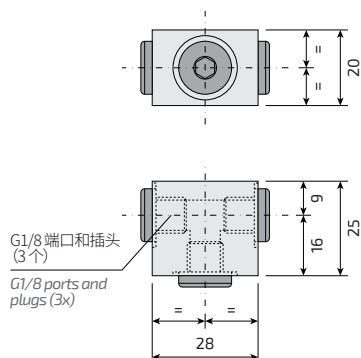
模型
Model

AD03



模型
Model

AD04



* 用于M6固定螺丝 (两次) / For M6 fixing screws (2x)

* 用于M6固定螺丝 (两次) / For M6 fixing screws (2x)

连接多个配电区块的配件

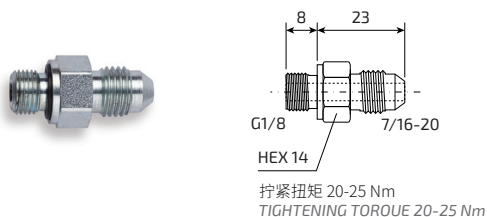
Fittings for connecting several distribution blocks

模型
Model

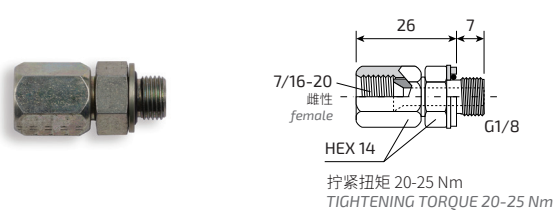
AR000

模型
Model

AR000G



(仅适用于带G1/8端口的AD00)
(only for AD00 with G1/8 ports)



(仅适用于带G1/8端口的AD00)
(only for AD00 with G1/8 ports)

充电与放电设置

Charging and discharging set



全系列充电单元、充电适配器和放电设备, 适用于自带式燃气弹簧和控制面板。

Complete series of charging unit, charging adapters and discharging devices, for both self-contained gas springs and control panels.

模型
Model

COMPL

充电单元

Charging unit



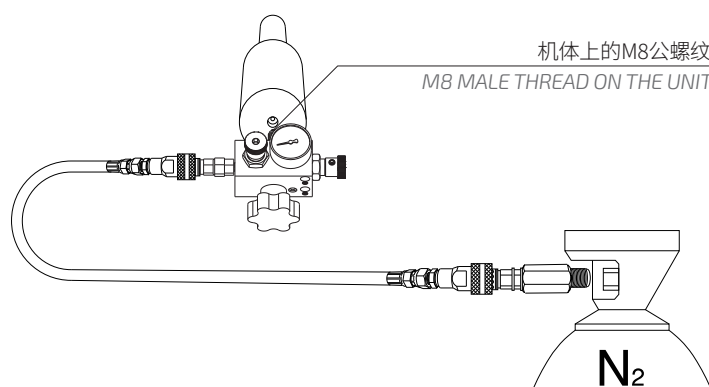
该装置允许为博迪尼翁自带式气弹簧和控制面板充氮气。

This device allows to charge Bordignon self-contained gas springs and control panels with nitrogen gas.

规格 / Specifications

模型
Model

CUC01



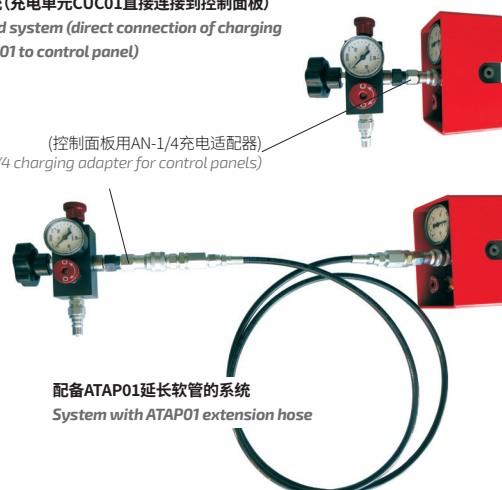
型号 (可选)
Model (optional)

ATAP01

延长软管 (长度: 2米), 便于控制面板充电
Extension hose (length: 2 metres) for an easier charging of control panels

标准系统 (充电单元CUC01直接连接到控制面板)
Standard system (direct connection of charging unit CUC01 to control panel)

(控制面板用AN-1/4充电适配器)
(AN-1/4 charging adapter for control panels)



配备ATAP01延长软管的系统
System with ATAP01 extension hose

充电适配器

AUTOMOTIVE LINE

Charging adapters



氮气弹簧充电单元的适配器 (仅适用于与M8不同的气弹簧充电孔)。带充电孔M8的气弹簧 (下表未列出) 必须用CUC01单元充电, 且不允许适配器。

Adapters for the nitrogen gas springs charging unit (only for gas springs with charging hole different from M8). Gas springs with charging hole M8 (not listed in table below) must be charged with CUC01 unit with no adapter.

	模型 Model	对于气弹簧型号... For gas spring models...	控制面板 Control panels
 M4 M8	AN-M4	EGS16, TGS700	-
 M5 M8	AN-M5	EGS24	-
 M6 M8	AN-M6	AGS170-AGS320, TGS400, VGS (所有型号), VV170, VV320-63/63H, VV320-80, VV500, VV565	-
 M6 M8	AN-M6/2	AGS350-AGS2400, IGS150-IGS250, PGS300-PGS500, VV2385	-
 G1/8 M8	AN-1/8	AGS4200-AGS20000, IGS500-IGS10000, LGS500, PGS750-PGS20000, VV750, VV2945	-
 快速耦合 Quick coupling M8	AN-1/4	-	除“CV”版本外的所有型号 All models except “CV” versions

放电装置

Discharging devices



用于释放氮气弹簧的装置。

Devices for discharging the nitrogen gas springs.

	模型 Model	对于气弹簧型号... For gas spring models...	控制面板 Control panels
 M4	ADS-M4/2	TGS700	-
 M4	ADS-M4/3	EGS16	-
 M5	ADS-M5/2	EGS24	-
 M6	ADS-M6	TGS400	-
 M6	ADS-M6/2	AGS170-AGS320	-
 M6	ADS-M6/3	AGS350-AGS20000, IGS (所有型号), LGS500, PGS (所有型号), VV750, VV2385, VV2945	-
 M6	ADS-M6/4	VGS (所有型号), VV170, VV320-63/63H, VV320-80, VV500, VV565	-
 M8	ADS-M8	TGS1000-TGS20000	-

用于 N₂ 氮气的 BOOSTER

Booster for nitrogen N₂



博迪尼翁助推器是一种气动泵。通过使用压缩空气,它在模具气弹簧充气过程中以安全且非常精确的方式提高氮气N₂压力。Bordignon 助推器轻巧紧凑,压缩空气消耗低,节省了时间和成本。

The Bordignon Booster is a pneumatic pump. By using compressed air, it increases the nitrogen N₂ pressure during the charging operation of gas springs for dies, in a safe and very precise way. Light and compact, the Bordignon Booster has a low compressed air consumption, resulting in savings of time and costs.

使用说明

- 将 N₂ 氮气瓶 (压力: 最小20 bar / 最大220 bar) 连接到 Booster (必须使用 ATBOOSTER 型号软管)。
- 将 Booster 连接到氮气弹簧。(需要配备 COMPL 型充气套件。)
- 接上压缩空气 (最大压力8巴;连续工作超过30分钟时使用润滑空气)。
- 关闭排气阀。
- 打开增压器的增压阀。
- 打开压缩空气,并缓慢打开 N₂ 氮气瓶。
- 当氮气弹簧达到所需压力后,关闭增压阀,打开放气阀并断开氮气弹簧。
- 操作完成后,关闭压缩空气和 N₂ 氮气瓶。

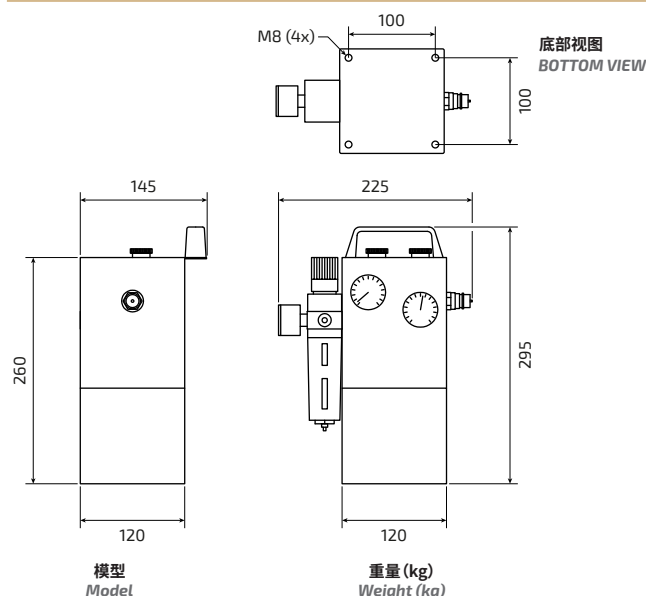
USE INSTRUCTIONS

- Connect nitrogen N₂ tank (pressure: minimum 20 bar / maximum 220 bar) to the Booster (it's necessary to have the hose model ATBOOSTER).
- Connect Booster to the nitrogen gas spring (it's necessary to have the charging set mod. COMPL).
- Connect the compressed air (max pressure 8 bar; use lubricated air when working continuously for more than 30 minutes).
- Turn off the discharging valve.
- Turn on the charging valve of the Booster.
- Turn on the compressed air and slowly turn on nitrogen N₂ tank.
- When the nitrogen gas spring has reached the required pressure, turn the charging valve off, turn on discharging valve and disconnect the nitrogen gas spring.
- Once finished, turn off both the compressed air and the nitrogen N₂ tank.

⚠ 注意! 只使用氮氮N₂

⚠ ATTENTION! USE NITROGEN N₂ ONLY

尺寸 / Dimensions



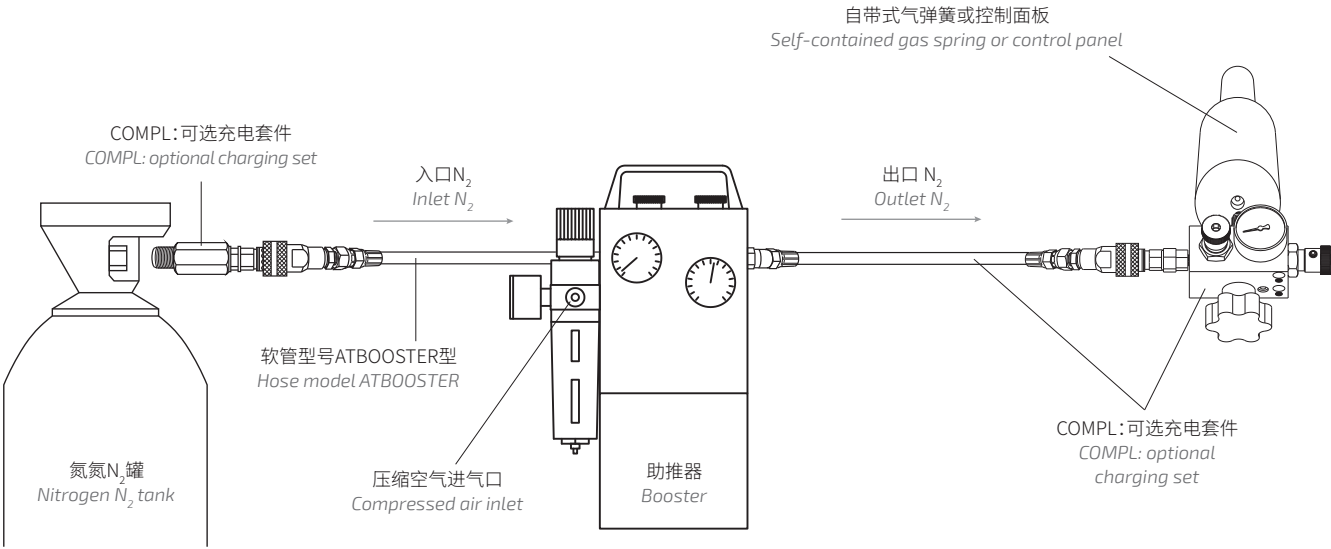
BOOSTER

9.5

组成部分 / COMPONENTS



运营方案 / OPERATING SCHEME



最大可达出口氮气压力相对于压缩空气压力
MAX reachable outlet nitrogen pressure in relation to the compressed air pressure

压缩空气压力 (棒) Compressed air pressure (bar)	7	4	2
N ₂ 最大出口压力 (bar) N ₂ max outlet pressure (bar)	220	125	60

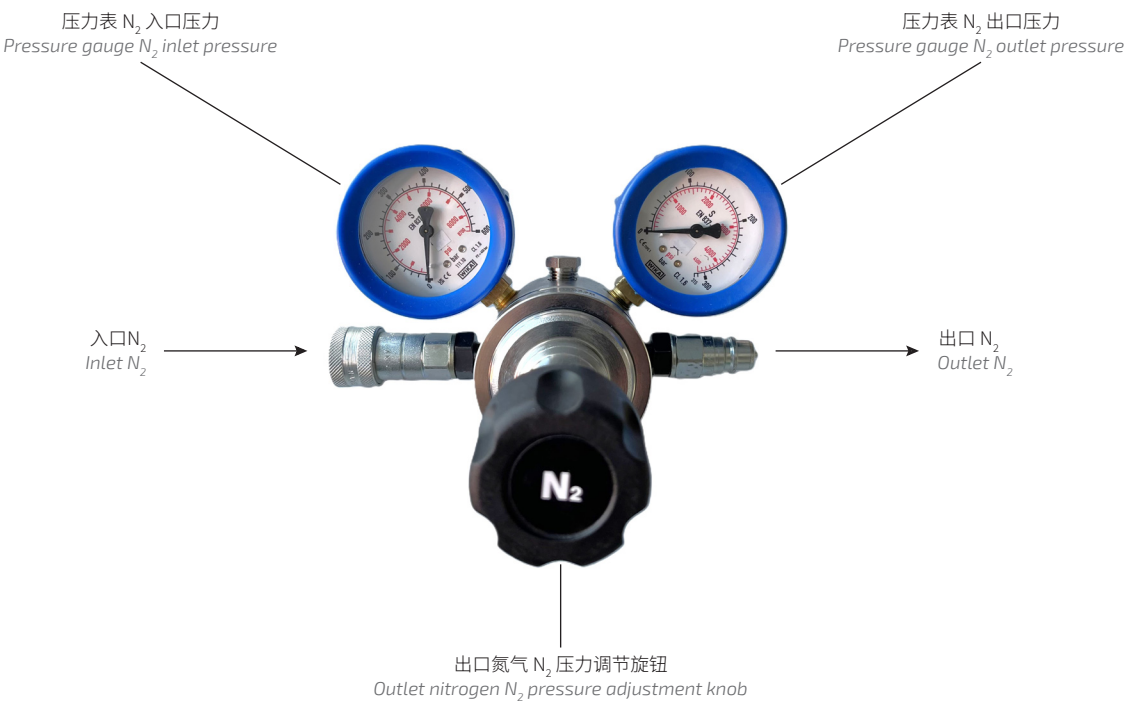
压力调节器

Pressure regulator

氮气N₂气体压力调节器。

Pressure regulator for nitrogen N₂ gas.

规格 / Specifications

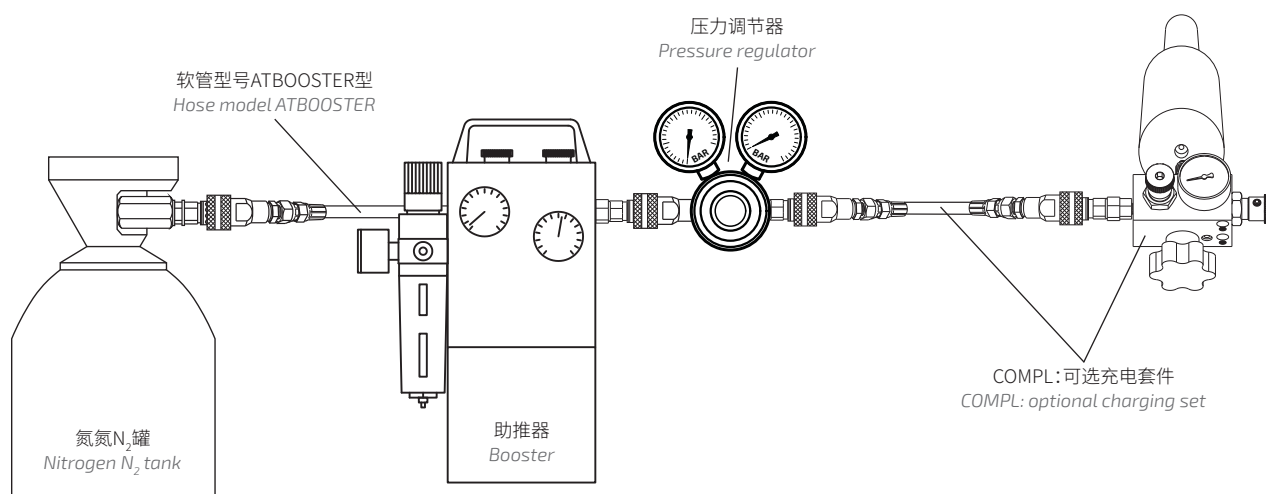


模型 Model	最大进气口 N ₂ 压力 MAX inlet N ₂ pressure bar	出口范围压力 Outlet range pressure bar	入海口 Inlet	出口 Outlet
REG220	300	20-220	博尔迪尼翁标准快速联结 (雌性) Bordignon-standard quick coupling (female)	博尔迪尼翁标准快速联结 (男性) Bordignon-standard quick coupling (male)

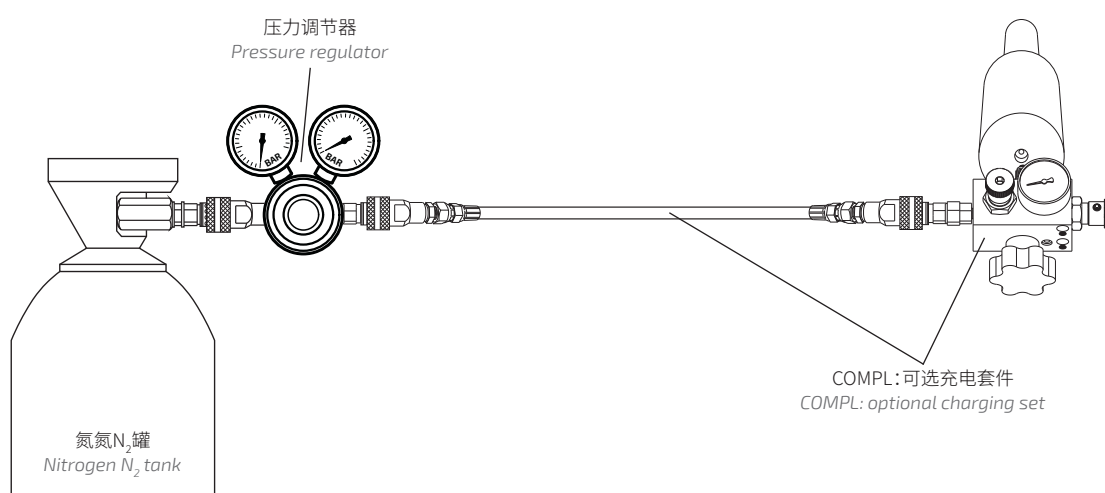
⚠ 注意!只使用氮氮N₂

⚠ ATTENTION! USE NITROGEN N₂ ONLY

增压器出口的压力调节器 Pressure regulator on Booster outlet



氮气罐上的压力调节器 N₂ Pressure regulator on nitrogen N₂ tank



OV气弹簧系统 (备选流形)

AUTOMOTIVE LINE

OV gas spring system (alternative manifold)

无阀氮气弹簧用于**备用歧管连接 ("OV系统")**:

- 使用标准气弹簧, 快速配送!
- 比传统歧管板和专用歧管气弹簧更低的制造和维护成本
- 更紧凑的板尺寸
- 简单的气弹簧通过板螺丝固定
- OV气动弹簧的可选行程、尺寸及下一页未列出的其他规格, 与相应标准型号相同 (例如: 未公开的AGS1000-50-A-OV型号规格与AGS1000-50-A相同)

Valveless nitrogen gas springs for an **alternative manifold connection ("OV system")**:

- Use of standard gas springs, fast delivery!
- Lower manufacturing and maintenance costs than traditional manifold plates and dedicated manifold gas springs
- More compact plate dimensions
- Simple gas spring fixing with through-plate screws
- OV gas springs available strokes, dimensions, and the other specifications not listed on the next page, are the same as the corresponding standard models (example: the unlisted specifications of model AGS1000-50-A-OV are the same as model AGS1000-50-A)

技术说明

• OV气弹簧使用以下说明:

- 安装说明见下一页
- 使用说明、信息和目录帮助:
详见专门目录部分
- 每分钟最大循环数: 详见相应标准模型的规格表

• 板材要求:

- 弹性KV ≥ 27 焦耳 (0°C时)
- 断裂A处的伸长 $\geq 14\%$
- 尊重国家关于压力设备的规定

• 最小板厚 = 25 mm

TECHNICAL NOTES

• OV gas springs use instructions:

- Mounting instructions on the next page
- Use instructions, information and catalogue help:
see dedicated catalogue section
- Cycles per minute MAX: see specifications tables for the corresponding standard model

• Plate material requirements:

- Resilience KV ≥ 27 J (at 0°C)
- Elongation at break A $\geq 14\%$
- Respect national regulations about pressure equipment

• Minimum plate thickness = 25 mm



使用示例

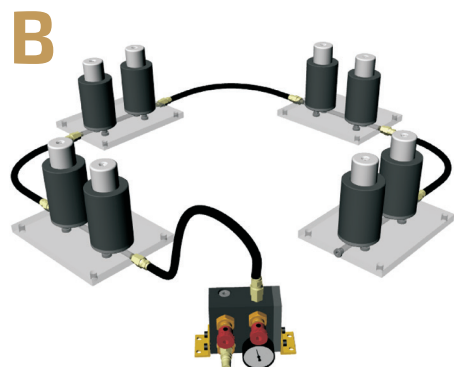
A OV气弹簧和OV控制面板固定在一块低厚度板上, 无连接软管。

B OV气弹簧固定在较小的钢板上, 通过软管连接, 标准控制面板通过软管连接。

USE EXAMPLES

A OV gas springs and OV control panel fixed on a single low-thickness plate, without connection hoses.

B OV gas springs fixed on smaller plates connected by hoses, and standard control panel connected by hose.



OV控制面板 及其他OV系统配件

详见本目录后续内容。

OV CONTROL PANELS & OTHER ACCESSORIES FOR OV SYSTEM

See further on in this catalogue.

OV气弹簧

OV gas springs



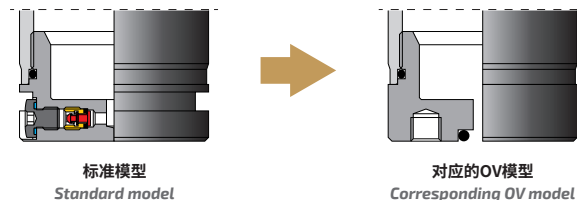
该气弹簧系列包括符合汽车标准的型号 /
This gas spring series includes the models compliant with automotive standards

VW 39D 22100

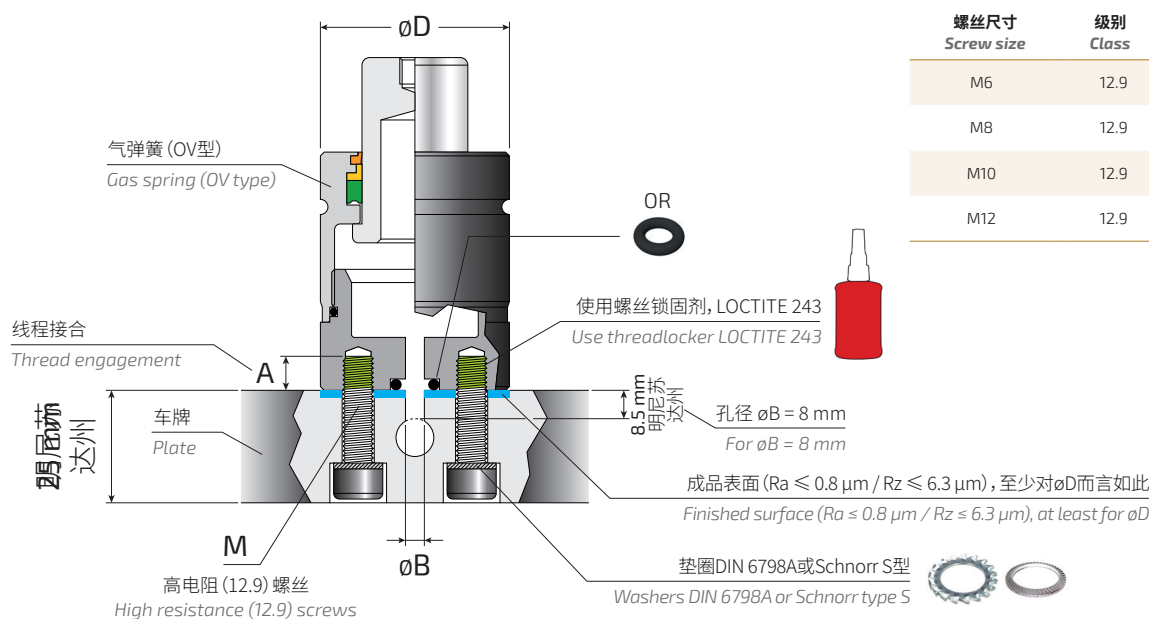
一般特征 / GENERAL FEATURES

与相应的标准型号相比, OV气弹簧为无阀(无侧孔), 底部孔可直接连接(或密封)于歧管板, 且没有底部(方形)槽。

In comparison with the corresponding standard models, OV gas springs are valveless (no side port), they have a bottom hole for direct connection (OR-sealed) to manifold plate, and they do not feature the bottom (square) groove.



安装与技术规格 / MOUNTING AND TECHNICAL SPECIFICATIONS



螺丝尺寸 Screw size	级别 Class	拧紧扭矩 Tightening torque
M6	12.9	10.5 Nm
M8	12.9	26 Nm
M10	12.9	51 Nm
M12	12.9	89 Nm

模型 Models	Ø D (MIN) mm	Ø B ± 0.1 mm	M mm	A mm	OR NBR 90 Sh. A
AGS 350-...-A-OV	32	5	M6	6	2025-010 (6.07 x 1.78)
AGS 500-...-A-OV	38	5	M6	6	2025-010 (6.07 x 1.78)
AGS 750-...-A-OV	45	5	M8	6	2025-010 (6.07 x 1.78)
AGS 1000-...-A-OV	50	5	M8	6	2025-010 (6.07 x 1.78)
AGS 1200-...-A-OV	50	5	M8	6	2025-010 (6.07 x 1.78)
AGS 1500-...-A-OV	63	5	M8	6	2025-010 (6.07 x 1.78)
AGS 2400-...-A-OV	75	5	M8	6	2025-010 (6.07 x 1.78)
AGS 4200-...-A-OV	95	8	M8	12	112-613 (9.92 x 2.62)
AGS 6600-...-A-OV	120	8	M10	12	112-613 (9.92 x 2.62)
AGS 9500-...-A-OV	150	8	M10	16	112-613 (9.92 x 2.62)
AGS 20000-...-A-OV	195	8	M12	18	112-613 (9.92 x 2.62)

- 螺纹孔的数量和布局

气弹簧底座: 参见相应的标准型号。
Number and layout of the threaded holes on the gas springs base: see corresponding standard models.

- 螺纹啮合长度A为最大可用长度线深。不要使用<A的线啮合长度。

The thread engagement length A is the maximum available thread depth. Do not use thread engagement lengths < A.

- 1个角色。每个OV气弹簧均配备有机化装置

1 pc. OR is supplied with each OV gas spring

APV...CV / APV... OV系统控制面板

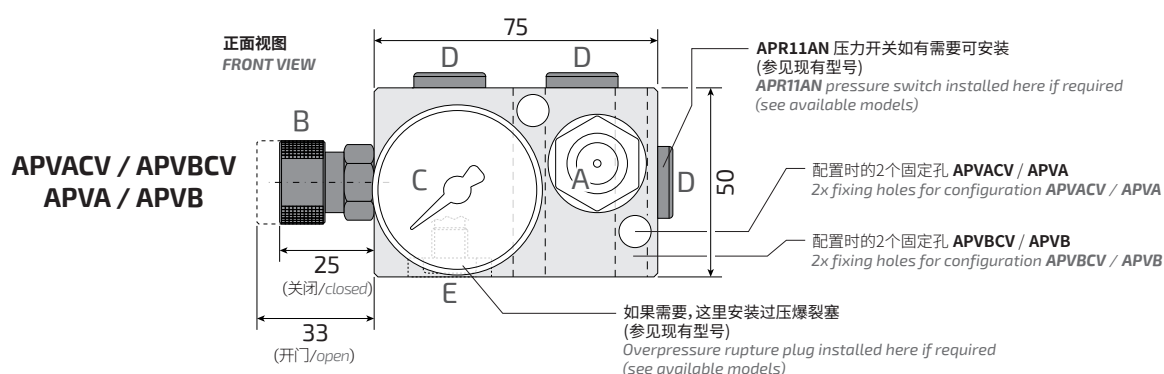
APV...CV / APV... control panel for OV system



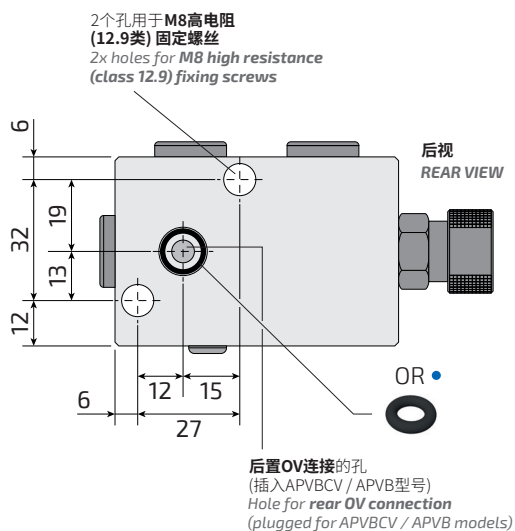
该面板允许通过直接联结(无需软管)来充放歧管板(“OV系统”或其他型号)。

This panel allows to charge and discharge a manifold plate (“OV system” or other) using a direct-coupling to the plate (no need for hoses).

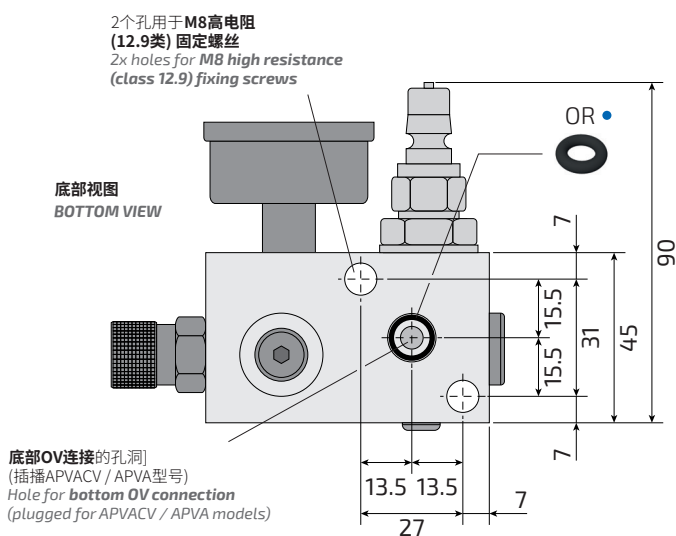
配置与尺寸 / CONFIGURATIONS AND DIMENSIONS



APVACV / APVA模型配置 Configuration for model APVACV / APVA



APVBCV / APVB模型配置 Configuration for model APVBCV / APVB



模型 Model	模型 Model	
APVACV	APVA	OV 系统控制面板, 带有与板的背面直接连接 Control panel for OV system with rear direct-connection to plate
APVBCV	APVB	OV 系统控制面板, 带有与板的底部直接连接 Control panel for OV system with bottom direct-connection to plate
APVAPANCV APVBPCV	APVAPAN APVBPAN	配备 APR11AN 压力开关 (50-300 bar, 常开型) 的 OV 系统控制面板 Control panel for OV system with APR11AN pressure switch (50-300 bar normally open)
APVARPCV APVBRPCV	APVARP APVBRP	配备超压爆裂塞的 OV 系统控制面板 Control panel for OV system with overpressure rupture plug
APVAFCV APVBFCV	APVAF APVBF	配备 APR11AN 压力开关 (50-300 bar, 常开型) 和超压爆裂塞的 OV 系统控制面板 Control panel for OV system with APR11AN pressure switch (50-300 bar normally open) and with overpressure rupture plug

所有车型均可预配已组装好的安全阀VS500 (应要求)。/ All models are available with safety valve VS500 already assembled (on request).



技术说明

A ! 充气阀:

- APV...CV: CEJN 型, 与大多数非 Bordignon 充气系统兼容
- APV...: Bordignon 标准型, 仅可与 CUC01、COMPL 或 BOOSTER 配合使用

B 排气阀

C 压力表

D 3号连接端口 G1/4

E 1号连接端口 G1/8

• 连接端口被堵住了

• M8高阻抗 (12.9) 六角套筒螺丝的2号固定孔

⚠ 注意! 只使用氮氮 N_2

TECHNICAL NOTES

A ! Charging valve:

- APV...CV: CEJN-type, compatible with most non-Bordignon charging systems
- APV...: Bordignon-standard, to be used only with CUC01 or COMPL or BOOSTER

B Discharging valve

C Pressure gauge

D No. 3 connection ports G1/4

E No. 1 connection port G1/8

• The connection ports are plugged

• No. 2 fixing holes for M8 high resistance (12.9) hex-socket screws

⚠ ATTENTION! USE NITROGEN N_2 ONLY

APVACV / APVA安装

APVACV / APVA MOUNTING

APVACV / APVA

仅用于APVBCV / APVB模型的额外孔洞

Additional holes only for model APVBCV / APVB

达州
达州

车牌
Plate

成品表面 ($R_a \leq 0.8 \mu m$ / $R_z \leq 6.3 \mu m$)Finished surface ($R_a \leq 0.8 \mu m$ / $R_z \leq 6.3 \mu m$) $\varnothing 8 \pm 0.1$

OR •

- 1个角色。OR NBR 90 Shore A 型号 2037-012 (9.25 x 1.78 mm) 配有控制面板 / 1 pc. OR NBR 90 Shore A model 2037-012 (9.25 x 1.78 mm) is supplied with the control panel

APVBCV / APVB安装

APVBCV / APVB MOUNTING

APVBCV / APVB

仅用于APVACV / APVA模型的额外孔洞

Additional holes only for model APVACV / APVA

达州
达州

车牌
Plate

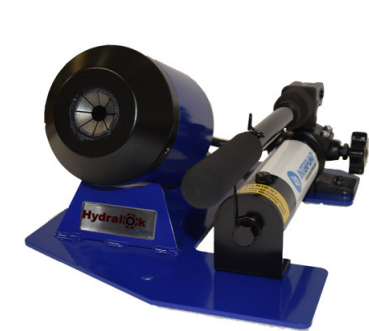
成品表面 ($R_a \leq 0.8 \mu m$ / $R_z \leq 6.3 \mu m$)Finished surface ($R_a \leq 0.8 \mu m$ / $R_z \leq 6.3 \mu m$) $\varnothing 8 \pm 0.1$

OR •

- 1个角色。OR NBR 90 Shore A 型号 2037-012 (9.25 x 1.78 mm) 配有控制面板 / 1 pc. OR NBR 90 Shore A model 2037-012 (9.25 x 1.78 mm) is supplied with the control panel

软管压接装置

Hose crimping device



适用于 Bordignon 接头和软管的便携式手动软管压接装置。该设备轻便、紧凑且易于使用，非常适合现场操作。随附完整配件及使用说明书。

Portable hand-operated hose crimping device designed for Bordignon fittings and hoses. Lightweight, compact, and easy to use, it is ideal for carrying out on-site operations. Supplied complete with accessories and use instructions.

模型 Model	重量 (kg) Weight (kg)	尺寸 ↔ × ʘ × ⚓ (mm) Dimensions ↔ × ʘ × ⚓ (mm)
CR01M	23	330 x 490 x 210

HCA



VDI 3003

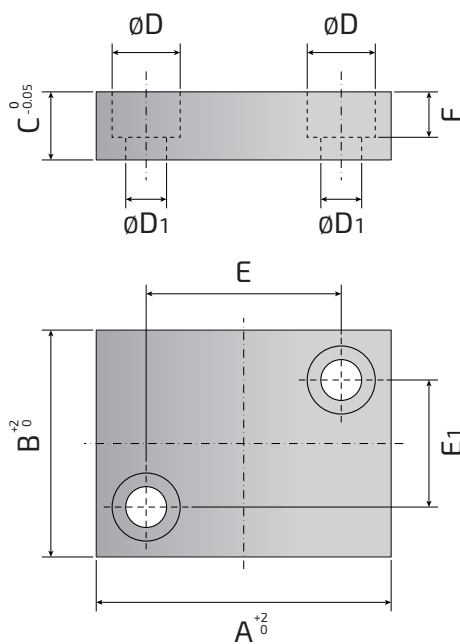
该系列包括符合汽车标准的车型 /

This series includes the models compliant with automotive standards

BMW	MB	VW
FCA	Renault	Volvo

柜板 / Counter plate

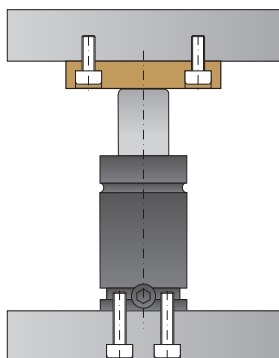
硬化钢
Hardened steel



对于气弹簧，具有
活塞杆直径最大值
For gas springs with
piston rod diameter MAX

模型 Model	标准参考 Reference to Standards	A mm	B mm	C mm	Ø D mm	Ø D1 mm	E mm	E1 mm	F mm	
HCA 4040A	VDI 3003, FCA	40	40	15	15	9	21	21	10	20
4040B	BMW, VW	40	40	12	11	7	24	24	7	20
4040C	-	40	40	15	11	7	24	24	7	20
5656	FCA, Renault	56	56	20	18	11	32	32	13	36
6060A	BMW, VW	60	60	15	15	9	40	40	9	36
6060B	MB	60	60	12	14	9	38	38	9	36
7070	VDI 3003, BMW, VW	70	70	15	15	9	50	50	9	60
7171	FCA	71	71	20	18	11	48	48	13	60
8080	Volvo	80	80	16	15	9	62	0	10	65
9090A	-	90	90	12	15	9	64	64	9	80
9090B	VDI 3003	90	90	15	15	9	70	70	9	80
9090C	FCA, Renault, Volvo	90	90	20	18	11	67	67	13	80
9090D	MB	90	90	12	14	9	70	70	9	80
100100A	Volvo	100	100	16	15	9	82	0	10	90
100100B	BMW, VW	100	100	20	18	11	74	74	11	90
100100C	MB	100	100	12	14	9	81	81	9	90
140140A	VW	140	140	20	18	11	110	110	11	130
140140B	FCA, Renault	140	140	20	18	11	110	110	13	130
5025	VDI 3003, FCA	50	25	12	11	7	32	8	8	15
5030	FCA	50	30	12	11	7	40	14	8	20
5030A	FCA	50	30	12	11	7	35	14	7	20
5530	VDI 3003	55	30	12	11	7	40	14	8	20
5532	Volvo	55	32	16	15	9	37	0	10	20
6550	Volvo	65	50	16	15	9	47	0	10	36
7035	VDI 3003, FCA	70	35	15	15	9	48	14	10	30
7550	VDI 3003, FCA	75	50	15	15	9	56	30	10	36
8060	Volvo	80	60	16	15	9	62	0	10	55
8560A	FCA	85	60	15	15	9	56	40	10	55
8560B	VDI 3003	85	60	15	15	9	66	40	10	55
10080	VDI 3003, FCA	100	80	20	18	11	72	56	12	70
110100	FCA	110	100	20	18	11	85	75	12	100

举例说明 / Use example



识别车牌

Identifying plate

AUTOMOTIVE LINE

识别用于配备氮气弹簧的冲压工具、模具和模具的板材。

按要求提供不同语言。

应要求提供不同的作品。

Identifying plate to be used on the press tools, dies and moulds equipped with nitrogen gas springs.

Different languages on request.

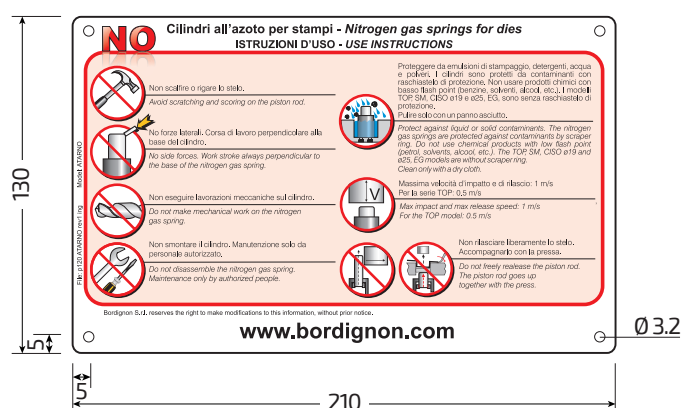
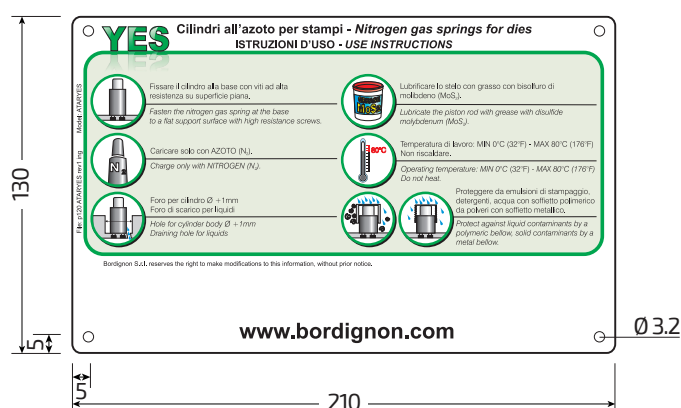
Different writings on request.

模型
Model

ATARYES

模型
Model

ATARNO



模型
Model

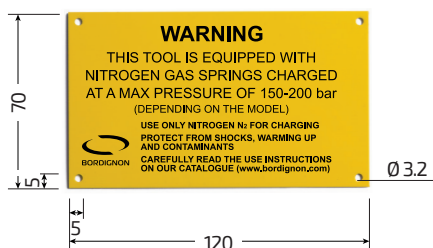
ATAR EN

模型
Model

ATAR IT

模型
Model

ATAR DE



模型
Model

ATAR CN





为延长气弹簧的使用寿命，有必要保持活塞杆润滑。
我们可提供含二硫化钼的润滑脂，600 g 罐装。

It is necessary to keep the piston rod lubricated for a longer life of the gas spring.
We can supply grease with molybdenum disulfide in 600 g cartridges.

模型
Model

PLUBZ

氮气弹簧初始负载检查装置

Device for the nitrogen gas springs initial load check



该装置是氮气弹簧的载荷表。该装置通常用于测量氮气弹簧的初始力，以验证其是否真正充满电。

This device is a load gauge for nitrogen gas springs.
This device is usually used to measure the initial force of nitrogen gas springs, in order to verify that they are actually charged.

模型
Model

AK2

液压力测量装置 MAX 12000 daN
Hydraulic force-measuring device MAX 12000 daN

● 负载传感器需单独订购 (见下文)
Load cells have to be ordered separately (see below)



模型
Model

AH1000

模拟负载传感器 100-1000 daN
Analog load cell 100-1000 daN

AH4000

模拟负载传感器 400-4000 daN
Analog load cell 400-4000 daN

AH10000

模拟负载传感器 1000-10000 daN
Analog load cell 1000-10000 daN

模型
Model

AHD1000

数字负载单元 100-1000 daN
Digital load cell 100-1000 daN

AHD5000

数字负载传感器 500-5000 daN
Digital load cell 500-5000 daN

AHD10000

数字负载传感器 1000-10000 daN
Digital load cell 1000-10000 daN

模型
Model

AHD1000T630

数字载荷传感器 100-1000 daN, 软管 L = 630 mm
Digital load cell 100-1000 daN with hose L = 630 mm

AHD5000T630

数字载荷传感器 500-5000 daN, 软管 L = 630 mm
Digital load cell 500-5000 daN with hose L = 630 mm

AHD10000T630

数字载荷传感器 1000-10000 daN, 软管 L = 630 mm
Digital load cell 1000-10000 daN with hose L = 630 mm

- 可根据需求提供不同长度的软管: 300 mm (型号: AHD.....T300), 500 mm (型号: AHD...T500), 1000 mm (型号: AHD...T1000)
Different hose lengths available on request: 300 mm (models: AHD...T300), 500 mm (models: AHD...T500), 1000 mm (models: AHD...T1000)



模型
Model

AHDTFX

固定支架
用于带软管的负载传感器
Fixing bracket
for load cells with hose



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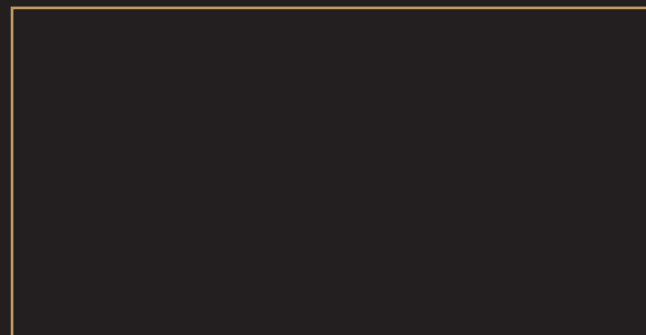
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