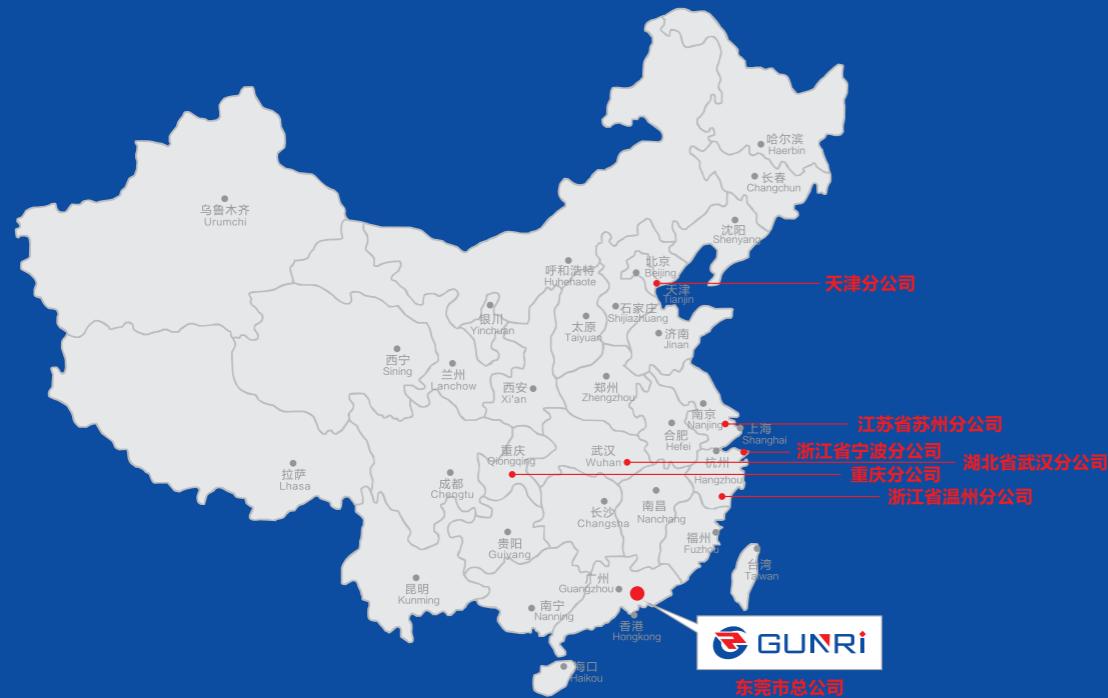




企业官网

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东莞市钢锐精密五金有限公司（总公司）

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联系人：宿经理 150 7109 3305

天津分公司

地址：天津市北辰区

联系人：孙经理 135 0969 9725

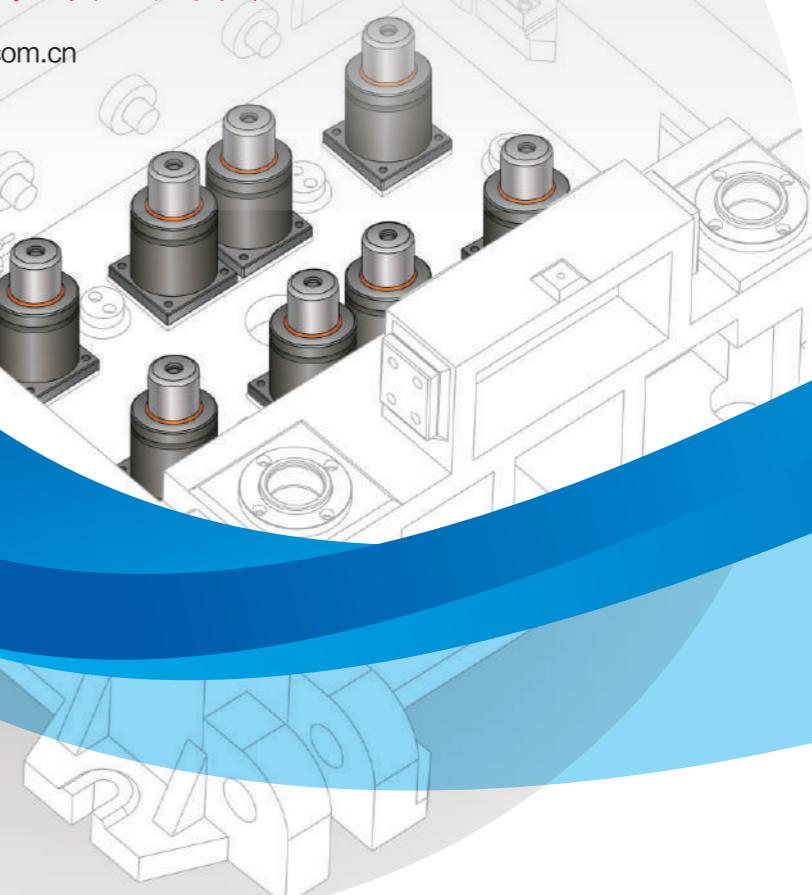
网址(Web): www.gunri.com.cn



GUNRI STANDARD NITROGEN GAS SPRINGS

钢锐标准 氮气弹簧

www.gunri.com.cn



东莞市钢锐精密五金有限公司
DONGGUAN GUNRI PRECISION HARDWARE CO., LTD.



COMPANY PROFILE

企业简介

东莞市钢锐精密五金有限公司成立于2006年，专业从事高精密模具零配件生产与销售，地处东莞市横沥镇六甲工业区，交通便利。公司占地6000平方米，建筑面积7000平方米，拥有员工200多人。

钢锐凭借高水准、高素质的研发和技术团队，精良的加工设备，精密的检测仪器，完善的质量管理体系（ISO9001:2015 / IATF:16949:2016 质量管理体系认证），物超所值的产品价格和完善的售后服务体系，在广大客户心中树立了“信誉高、品质精、交期快、服务好”的良好企业形象，赢得了新老客户的信赖和支持。并与一些高品质要求的客户保持着长期的合作。

钢锐致力于发展“全球模具零配件标准化”，“让中国的企业能够用上中国人自己的品牌零件”为愿景，力争成为可提供高品质模具零配件的中国制造商。目前，本公司可全面提供符合日标JIS标准、德标DIN标准、美标AISI标准等国际品牌的五金模具、塑胶模具等标准零配件。公司产品已遍布全球：德国、英国、法国、意大利、日本、韩国等20多个国家。同时，钢锐长期为国外模具零配件品牌提供OEM代工。

钢锐主要产品：氮气弹簧、导柱导套、独立导柱、钢球衬套、凸模凹模、顶针司筒、非标零件、矩形弹簧、模座、FA工厂自动化设备用零件等。

钢锐产品服务于：五金冲压模具、塑胶成型模具、半导体封装模具、压铸模具以及航空航天、汽车、机械、机电、电器、电子、医学、文具等多个行业及领域。

钢锐将一直秉承“品质求生存、信誉求发展”的经营理念，热忱欢迎新老朋友莅临指导，携手合作。

让一流的企业成为我们的客户
Let first-class enterprises to be our customers

让我们的客户成为一流的企业
Make our customers to be first-class enterprises

Dongguan Gunri Precision Hardware Co., Ltd. was founded in 2006, as a professional manufacturer of high quality precision components for moulds, dies and machines, with about 7000 square meters covered area and over 200 specialized employees.

Due to over 10 years experience, high level R&D team, many imported production equipments and measuring instruments, knowledgeable and helpful customer service, and perfect Quality Management System (passed the ISO9001: 2000 and IATF16949: 2016 quality management system certification).

GUNRI earning a good corporate image with high quality products, short delivery time, competitive prices and best service. Established a long term cooperation with customers who need high quality.

We strive to the development of standardization for global mould components. Not only can we offer plastic injection, die casting and metal stamping mold components according to international standards, such as, JIS, DIN, AISI. We can also produce as customers, drawings, and provide OEM service for different Brands.

Specializing in the production of gas springs, guide posts and bushings for die sets, stripper guide pins and bushings, holder guide post sets, guide elements, punches and die buttons, ejector pins and sleeves, date mark inserts, mould springs, non-standard core inserts, mold base and other spare parts, our products can be seen in various kinds of industries, including metal stamping, plastic injection, semi-conductor, die casting, electric, automotive, medical, mechanical, aerospace, stationary and so on.

We insist on the principle of "quality for survival, reputation for development", and always in the pursuit of mutual benefit. If there is any way in which we can serve you needs better, we appreciate your suggestion and advice, and looking forward to cooperating with you.



COMPANY CULTURE

企业文化

东莞市钢锐精密五金有限公司秉承诚信、学习、团队、创新的理念
Dongguan Gunri Precision Hardware Co., Ltd. adheres to the concept of integrity, learning, teamwork and innovation.



诚信 Integrity

使客户满意是钢锐人对客户诚信的表现，使投资者获得稳定收益是钢锐对投资者诚信的表现，使合作伙伴与公司共赢是钢锐对合作伙伴诚信的表现。

Customer satisfaction is GUNRI's integrity to customers, A stable return is GUNRI's integrity to investors, mutual benefit and common development is GUNRI's integrity to partners.

学习 Learning

学习是力量之源，学习科学技术更是企业发展的根本，“邓小平说过科学技术是第一生产力”！唯有通过学习才能使自己更新换代，使能力不断提升。做好本职工作是最好的学习过程；同事、同行的经验是最好的培训教材；自我加压、自我学习是最好的学习方式。钢锐提倡终身学习，鼓励员工为组织积累经验与知识，努力创建学习型组织，不断提高企业竞争能力！

Learning is the source of strength. Learning science and technology is the foundation of enterprise development. "Deng Xiaoping said that science and technology are the primary productive forces!" Only through learning can we upgrade and improve our ability. Doing your job is the best learning process; the experience of colleagues and peers is the best training material; self-pressure and self-learning are the best ways to learn. Gunri advocates lifelong learning, encourages employees to accumulate experience and knowledge for the organization, and strives to create a learning organization to continuously improve the competitiveness of the enterprise!

团队 Teamwork

钢锐倡导内部协作与配合，营造和谐健康的工作环境。员工不仅要对自己的工作负责，也要对集体的工作负责，对整个企业负责。公司崇尚团队作战，个人的成功只有在团队的成功中才能得到体现，团队的失败就是个人的失败。

GUNRI advocates teamwork and cooperation to create a positive working environment. Employees are not only responsible for their own work, but also for the team and company. GUNRI advocate teamwork, Only unity is the guarantee of victory.

创新 Innovation

创新使钢锐赢得了过去的成就，创新将创造钢锐未来的辉煌。钢锐的创新不仅体现在技术创新、产品创新，也包括管理创新、经营创新、生产创新、服务创新，各个方面，每项工作都要创新。

Innovation has enabled GUNRI to achieve past ,and will create a bright future. GUNRI's innovation is not only reflected in technology and products, but also management, business philosophy, production process and service. Only constantly pioneering and innovating can make us stronger.



PRODUCTION EQUIPMENT

生产设备



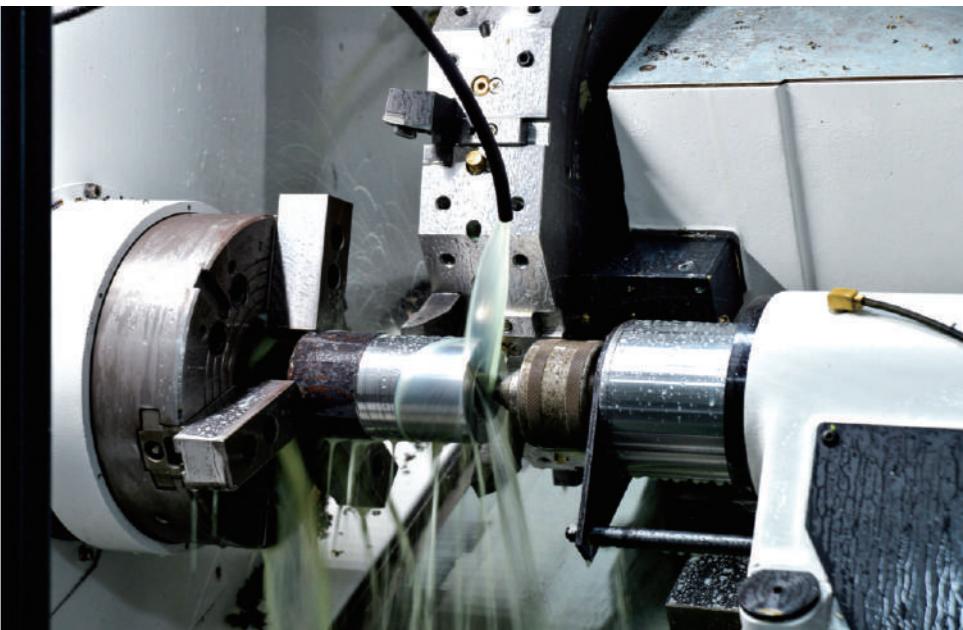
深化质量管理，提高产品质量

Deepen quality management and improve product quality.



精密的产品出自精良的加工设备，
先进的制造技术，精密的检查仪器。

Precision products come from
sophisticated processing equipment.
Advanced manufacturing technology,
sophisticated inspection equipment.



TESTING EQUIPMENT

检测仪器

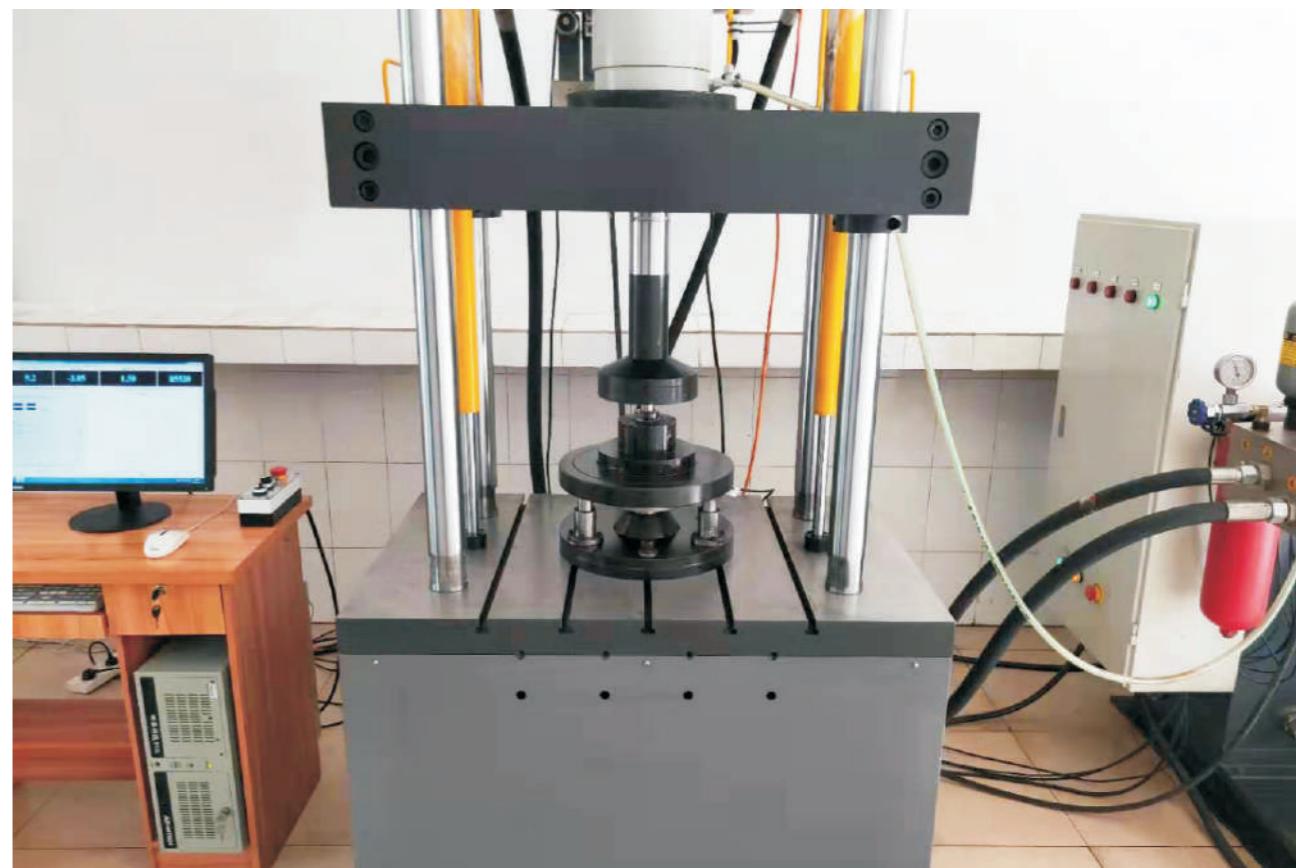
质量方针 / Quality policy

以品质、交期为公司的优势，为顾客提供优质的产品和满意的服务。

质量管理体系：通过IS9001:2015质量管理体系。

Quality and delivery are the core competencies of GUNRI.

Our aim is to satisfy our customers with good quality and satisfactory service. Passed the standard of quality management system of ISO 9001:2015.



以科技为动力，以质量求生存，
质量是我们钢锐的根本。

Taking science and technology as
the driving force, surviving on quality,
quality is the foundation of GUNRI.



一、氮气弹簧的概述 About gas spring

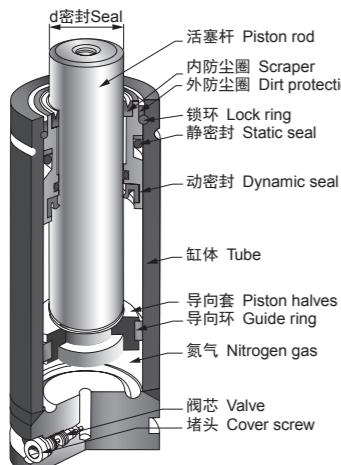
氮气弹簧的基本工作原理是将密封在气缸体内的高压氮气，通过活塞杆的上下运动进行压缩，从而产生弹性的压力。

The basic principle of the gas spring is to compress the nitrogen sealed in the cylinder tube, elastic force is generated by compressing nitrogen by the up and down movement of the piston rod.

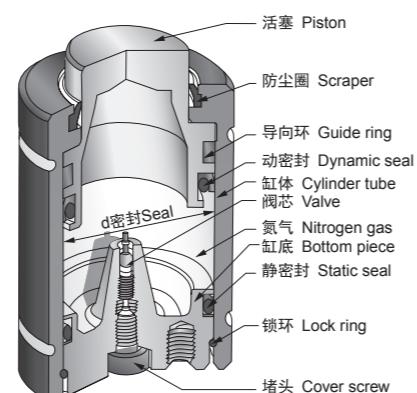
氮气是一种惰性气体，无毒、无腐蚀、不燃烧，膨胀系数小，工作性能稳定，安全可靠。

Nitrogen is an inert gas, non-toxic, non-corrosive, non-combustible, with small expansion coefficient, stable working performance, safe and reliable.

二、氮气弹簧的基本结构 Basic structure of gas spring



柱塞密封式氮气弹簧
Piston Rod Sealed gas spring



活塞密封式氮气弹簧
Bore Sealed gas spring

三、选用氮气弹簧优点 Gas spring advantage

(1) 使用寿命长 Long life

我公司选用优质的材料，活塞杆经过特殊的加工工艺，表面硬度高，光洁度达Ra0.02um以下，加上欧洲原装进口的高性能密封元件，保证产品使用寿命；在正确安装和使用情况下，使用寿命不低于100万次（或工作行程达100千米），符合国际标准。

We use high-quality materials, after special processing, the surface hardness of the piston rod is high, the finish is less than Ra0.02um, and the sealing components are imported from Europe. These guaranteed products have a strokes of 100 kilometers or a service life of more than 1 million times. In line with international standards.

(2) 可降低成本 Cost saving

氮气弹簧具有体积小、弹力大、寿命长、弹力恒定的特点；体积小可节约模具的空间，弹力大可减少弹簧使用数量，寿命长可减少模具维修次数，因此降低了模具的总成本。

Compared with Coil Springs, nitrogen gas springs have the advantages of small size, large spring force, long life and constant elasticity. The small size saves the space of the mold, the large elastic force can reduce the number of springs, and the long life can reduce the maintenance of the mold. All of this reduces the total cost of the mold.

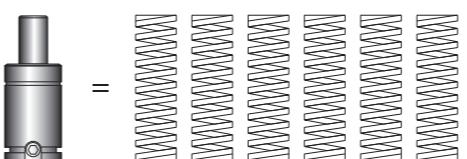
(3) 绝对的安全 Safety

我公司选用优质的材料，并且探伤检测，确保材料内部无裂伤；我公司的氮气弹簧缸体采用整体结构设计及加工工艺，与其它缸体采用管料圆周焊接加工方式相比，更加绝对的确保产品安全。

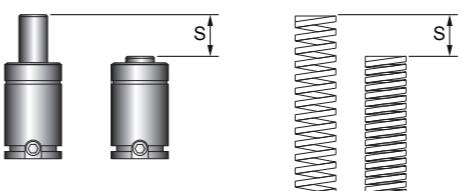
High-quality materials, and crack detection, to ensure that there is no crack in the material; Compared with other welded tube, our tube of gas spring adopts the overall structure design and processing, more to ensure product safety.

氮气弹簧的特点 Gas spring specification

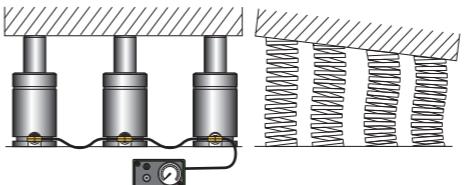
1. 平面安装空间更小
Force with less place requirement



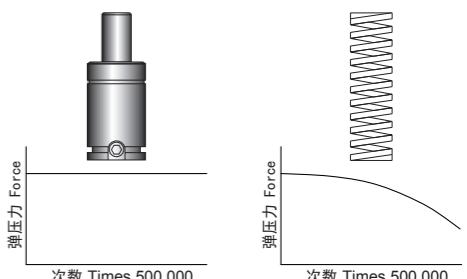
2. 高度安装空间更小
Small installation size with the same working stroke and the same force



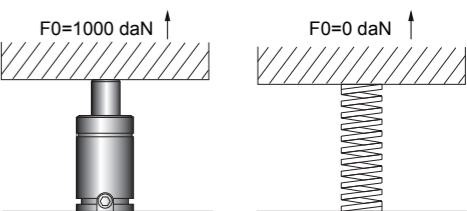
3. 具有均衡的弹压力
Same force at all contact point



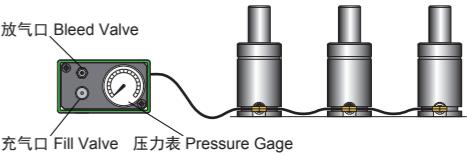
4. 具有恒定的弹压力
Has a constant elastic pressure



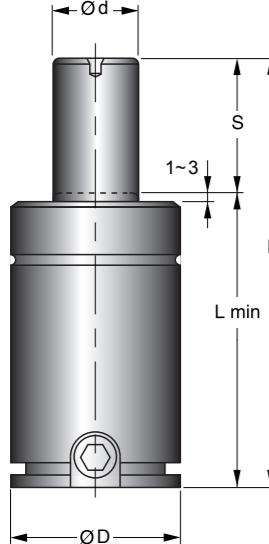
5. 具有初始弹压力
Has a constant elastic pressure



6. 可调节压力大小
Adjustable pressure



模具氮气弹簧的基本术语 Gas spring terminology



1. 公称弹压力F:是指该系列氮气弹簧在20°C时,充气压强为15MPa后初始状态时的弹力;在用户没有特别要求时,初始弹压力值均按公称弹压力制造。同一系列氮气弹簧的公称弹压力是一致的。

Initial Force : The initial given forces in the catalogue are based on a temperature of 20°C. The pressure force is 15MPa. If there is no special requirement , the initial is our nominal pressure force.The same series of nitrogen gas springs are the same forces.

2. 行程S:是指该型号氮气弹簧的工作行程,这些行程可以充分被利用,但是为了防止在模具更换或调试中出现氮气弹簧超出行程而过载的突发事件,因此推荐在设计中保留>5mm或10% S的空余行程。

Stroke Length : The nominal stroke defined as S in the catalogue, may be utilized fully in all our gassprings . However , the recommendation is not to use the full stroke in normal operation . This is to prevent the spring from being "over-stroked" as a result of changes to the tool or mis happenings in the tool , we do not recommend the last 5mm or 10% of the nominal stroke be utilized.

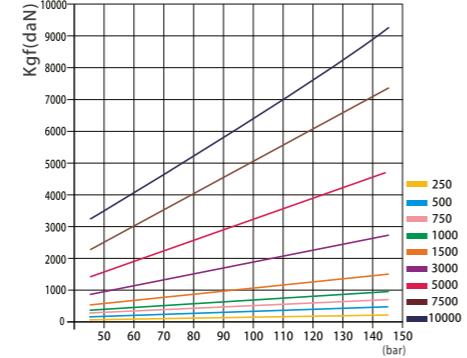
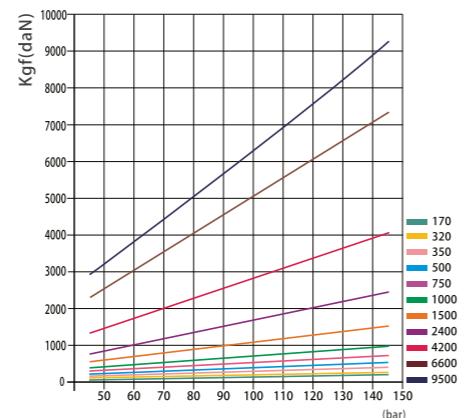
3. 总长L:是指该型号氮气弹簧的制造长度,即在自然状态时的最大长度,必须满足总长L≥基长+2×行程S。

Total Length is the length of cylinder and its length of piston rod under the natural situation . Total Length ≥ Ground Length +2×stroke.

弹簧初始弹力与充气压强的关系 Initial Spring Force related to the Charging Pressure

类型 TYPE		GX/GXG 充气压强 Charging pressure[Kgf/cm²(bar)]												
规格	初始弹力	50	60	70	80	90	100	110	120	130	140	150		
Kgf (daN)	170	39	47	55	63	71	79	86	94	102	110	118		
	320	77	92	108	123	138	154	169	185	200	215	231		
	350	127	153	178	203	229	254	280	305	331	356	382		
	500	157	188	220	251	283	314	345	377	408	440	471		
	750	245	294	343	393	442	491	540	589	638	687	736		
	1000	308	369	431	492	554	615	677	739	800	862	923		
	1500	509	610	712	814	916	1017	1119	1221	1323	1424	1526		
	2400	795	954	1113	1272	1431	1590	1749	1908	2067	2225	2384		
	4200	1413	1696	1978	2261	2543	2826	3109	3391	3674	3956	4239		
	6600	2512	3014	3517	4019	4522	5024	5526	6029	6531	7034	7536		
	9500	3179	3815	4451	5087	5723	6359	6994	7630	8266	8902	9538		

类型 TYPE		GTU 充气压强 Charging pressure[Kgf/cm²(bar)]												
规格	初始弹力	50	60	70	80	90	100	110	120	130	140	150		
Kgf (daN)	250	88	106	124	141	159	177	194	212	230	247	265		
	500	157	188	220	251	283	314	345	377	408	440	471		
	750	245	294	343	393	442	491	540	589	638	687	736		
	1000	353	424	495	565	636	707	777	848	918	989	1060		
	1500	509	610	712	814	916	1017	1119	1221	1323	1424	1526		
	3000	981	1178	1374	1570	1766	1963	2159	2355	2551	2748	2944		
	5000	1658	1990	2322	2653	2985	3317	3648	3980	4312	4643	4975		
	7500	2512	3014	3517	4019	4522	5024	5526	6029	6531	7034	7536		
	10000	3542	4251	4959	5668	6376	7085	7793	8502	9210	9918	10627		



弹簧弹力的计算公式 Initial spring force related to the charging pressure

$$\textcircled{1} F_i = P \cdot \frac{\pi d^2}{40} \quad \textcircled{2} F_e = F_i \times f$$

F_i:初始力/Initial Force(Kgf,daN)

F_e:终始力/End Force(Kgf,daN)

P:充气压强/Charging pressure(bar,Kgf/cm²)

d:活塞直径/Rod diameter(mm)

f:增压率/Pressure Increasing Factor(1.6倍)

例如: GTU1500-50型氮气弹簧充气到100Kgf/cm²(bar)时,弹簧初始力与终压力的计算式

F_i and F_e when apply to charging pres 100bar to the GTU1500-50

$$F_i = 100 \cdot \frac{3.14 \times 36^2}{40} = 1017 \text{ Kgf(daN)}$$

$$F_e = F_i \times f = 1017 \times 1.6 = 1627 \text{ Kgf(daN)}$$

弹簧弹力与行程的关系式 Force Increasing related to the Stroke Performance

$$F_s = F_i \cdot \frac{S_n}{S_n - S_u(1 - F_e/F_i)}$$

F_s:中间行程任一位置力/spring force at performed stroke(Kgf,daN)

S_n:额定行程长度/Nom.stroke length(mm)

F_i:初始力/Initial Force(Kgf,daN)

F_e:终压力/Final Force(Kgf,daN)

S_u:已用行程长度/Used stroke length(mm)

例如: GTU1500-50型氮气弹簧行程25mm时,弹簧弹力的计算式

F_s,stroke performed to 25mm of GTU1500-50

$$F_s = F(25\text{mm}) = 1500 \cdot \frac{50}{50-25} \cdot \frac{1-15000/23000}{1-15000/23000} = 18160$$

弹簧的增压率 Force Increasing Ratio

所有弹簧的增压率约为1.6。也就是说,弹簧的终压力是初始力的约1.6倍。

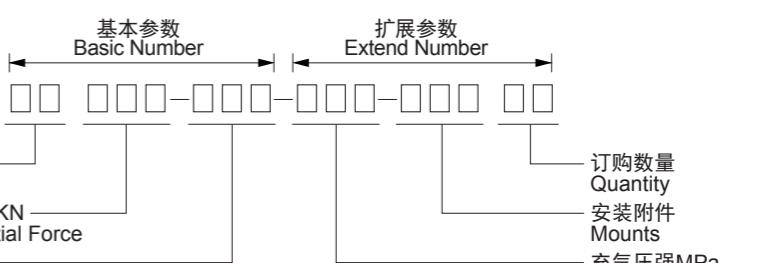
All the cylinders force increasing ratio between initial and end stroke is about 1.6

多变弹力增加 Polytrophic force increase

在多数应用场合,在冲程过程中,氮气弹簧内的温度并非恒定不变。因此,实际弹力视不同应用场合而异并取决于行程长度和已用行程、气体体积、冲压速率及每分钟冲程次数(次/分钟),操作温度与环境、内部摩擦等因素。

For most applications the temperature inside the gas spring will not stay constant during the stroke. Therefore the real force is different from application to application depending on: Stroke length and used stroke, gas volume, press velocity and strokes per minute (SPM), operating temperature and environment, internal frictions etc.

氮气弹簧订购方式 (How to order)



示例: GX1000-050-P150-FFC-750 20

Example: GX1000-050-P150-FFC-750 20

注意:在编码时基本参数部分必须标注,扩展参数部分可视情况省略

Note: The extend number would be ignored if it is not required

SELECTION GUIDE

氮气弹簧选型

About Gas Springs				
F _{INIT} Initial force N 初始压力	Cylinder diameter mm 缸筒直径	Models 型号		1
INIT < 2,500	Ø12 Ø32	GR45, GR60, GR75 GM170, GMC170 GX170		2
2,500 ≤ INIT < 5,000	Ø25 Ø38	GCU420 GX320, GX350, GXG350 GTU250		3
5,000 ≤ INIT < 7,500	Ø38 Ø45	GCU740 GX500, GXG500 GK500 GTU500		4
7,500 ≤ INIT < 10,000	Ø45 Ø75	GX750, GXG750 GK750, GTU750		5
10,000 ≤ INIT < 25,000	Ø38 Ø95	GCU1000, GCU1800 GX1000, GXG1000 GX1500, GXG1500, GX2400 GXG2400, GK1500, GTU1500		6
25,000 ≤ INIT < 50,000	Ø75 Ø120	GCU2900, GCU4700 GX4200, GXG4200 GTU3000		7
50,000 ≤ INIT < 75,000	Ø120 Ø150	GX6600, GXG6600 GTU5000		8
75,000 ≤ INIT < 100,000	Ø95 Ø150	GCU7500 GX9500 GTU7500		9
INIT ≥ 100,000	Ø120 Ø195	GCU11800, GCU18300 GTU10000 GX20000		10

SELECTION GUIDE

氮气弹簧选型

系列 Series	描述 Description	型号 Model	缸径(mm) Cylinder diamter	杆径(mm) Rod diameter	行程(mm) Available Stroke Lengths	总长(mm) Total length	压力 daN Initial Force at Max pressure	标准充气压力 Standard inflation pressure	端口螺纹 Port thread	安装螺纹 Installation thread	页码 Page No
GX	活塞杆密封，总长最短及弹簧压力最大的紧凑型氮气弹簧，可节约模具空间，相对GTU系列工作缸外径更小。	GX170	19	11	7-63 75-125 35+2S	30+2S 35+2S	170	180	M6	M6	P20
		GX320	25	15	7-63 75-125 35+2S	30+2S 35+2S	320	180	M6	M6	P22
		GX350	32	16	10-125	30+2S	360	180	M6	2-M6	P24
		GX500	38	20	10-125	30+2S	470	150	M6	4-M6	P26
		GX750	45	25	10-125	32+2S	740	150	M6	2-M8	P28
		GX1000	50	28	13-125	38+2S	920	150	M6	2-M8	P30
		GX1500	63	36	13-125	44+2S	1500	150	M6	6-M8	P32
		GX2400	75	45	16-125	45+2S	2400	150	M6	4-M8	P34
		GX4200	95	60	16-125	58+2S	4200	150	G1/8	4-M8	P36
		GX6600	120	75	16-125	68+2S	6630	150	G1/8	4-M10	P38
GTU	基于ISO11901标准的氮气弹簧，拥用更长的工作行程及较小的增压比。	GTU250	38	15	10-125	50+2S	265	150	M6	4-M6	P44
		GTU500	45	20	10-160	85+2S	470	150	G1/8	2-M8	P46
		GTU750	50	25	13-300	95+2S	740	150	G1/8	2-M8	P48
		GTU1500	75	36	25-300	110+2S	1500	150	G1/8	4-M8	P50
		GTU3000	95	50	25-300	120+2S	3000	150	G1/8	4 M8	P52
		GTU5000	120	65	25-300	140+2S	5000	150	G1/8	4-M10	P54
		GTU7500	150	80	25-300	155+2S	7500	150	G1/8	4-M10	P56
		GTU10000	195	95	25-300	160+2S	10600	150	G1/8	4-M12	P58
		GXG350	32	16	10-125	40+2S	360	180	G1/8	2-M6	P60
		GXG500	38	20	10-125	40+2S	470	150	G1/8	2-M6	P62
GXG	基于GX系列之升级产品，总长稍长，拥用更长的导向性能和底部安装螺纹，底部充气孔设计为G1/8。	GXG750	45	25	10-125	47+2S	740	150	G1/8	2-M8	P64
		GXG1000	50	28	13-125	52+2S	920	150	G1/8	2-M8	P66
		GXG1500	63	36	13-125	52+2S	1500	150	G1/8	2-M8	P68
		GXG2400	75	45	16-125	59+2S	2400	150	G1/8	4-M8	P70
		GXG4200	95	60	16-125	62+2S	4200	150	G1/8	4-M8	P72
		GXG6600	120	75	16-125	72+2S	6630	150	G1/8	4-M10	P74
		GCU420	25	12	6-50	56-195	425	210	M6	M6	P76
GCU	超紧凑型氮气弹簧，以最小的体积提供更强的弹压力，是模具空间受严格限制时的首选产品之一。	GCU740	32	20	6-50	63-195	740	195	M6	2-M6	P78
		GCU1000	38	25	6-50	61-230	1060	210	M6	2-M6	P80
		GCU1800	50	30	6-50	66-220	1800	190	G1/8	2-M6	P82
		GCU2900	63	45	10-50	85-205	2950	185	G1/8	2-M8	P84
		GCU4700	75	50	10-50	80-240	4700	180	G1/8	4-M8	P86
		GCU7500	95	65	10-50	90-255	7500	170	G1/8	4-M8	P88
		GCU11800	120	80	10-50	100-260	11800	185	G1/8	4-M10	P90
		GCU18300	150	90	10-50	110-270	18300	162	G1/8	4-M10	P92
		GR45	12	6	7-50 63.5-125	42+2S 45+2S	45	180	M6	M6	P100
		GR60	15	7	7-50 63.5-125	42+2S 45+2S	60	180	M6	M6	P102
MINI	微型氮气弹簧，整体滚压结构不可维修，内部压力可按需调节，不可超过标准充气压力。	GR75	19	8	7-50 63.5-125	42+2S 45+2S	75	180	M6	M6	P104
		GM170	25	12	10-50 63.5-125	42+2S 45+2S	170	150	M6	M6	P106
		GMC170	32	12	10-125	50+2S	170	150	M6	2-M6	P108

使用注意事项 ATTENTION

氮气弹簧是高压容器装置，出厂前经过严格的检查和测试，不允许有任何的泄漏，因此要求用户正确的安装和使用，才能确保其安全可靠性和最佳的使用寿命。

1. 当氮气弹簧作为独立部件使用时，安装到模具后，在使用寿命范围内一般无需拆卸维修。
2. 若将氮气弹簧连成系统使用，需由经过专业训练的人员操作，应特别注意在气缸中的氮气尚未完全释放前，严禁拆卸或进行维修，以防发生意外。
3. 氮气弹簧的工作气体必须是氮气。
4. 工作状态的氮气弹簧必须用螺丝或安装板固定使用。
5. 固定安装时垂直度要保证在0.15°以内。
6. 正常使用温度在80°C以下。
7. 氮气弹簧下端的密封堵头主要起保护和加强密封作用，不得擅自拆卸。
8. 推荐工作行程90%或者3-5mm不要使用，严禁超行程压缩。
9. 不可有侧作用力，压缩作用力必须以缸体底平面垂直。
10. 氮气弹簧在压缩后，严禁使活塞自由空回程，以免引起氮气弹簧内部损坏。
11. 注意保持活塞杆表面清洁，避免碰伤和刮痕，严禁敲击碰撞。
12. 氮气弹簧缸体，活塞等禁止擅自拆卸、加工。安装使用过程中不得用外力大力锤击。
13. 活塞杆顶部螺孔，请不要使用，此孔仅用于产品维修。
14. 废弃处理氮气弹簧时，请将氮气弹簧内的气体全部放出后再进行废弃处理。

Gas spring is a high pressure device. It is strictly inspected and tested before delivery. No leakage is allowed. Therefore, users are required to install and use it correctly in order to ensure its safety, reliability and best service life.

1. When the gas spring is used as a separate component, it is generally not required to be disassembled and repaired within the service life after being installed in the mold.
2. If the gas spring is connected to the system, it must be operated by professionals. Special attention should be paid to disassembly or maintenance before the nitrogen in the cylinder has not been completely released.
3. Charge with nitrogen gas only.
4. Must be fixed with screws or mounting plate when using.
5. The work stroke must be perpendicular to the base of cylinder within 0.15°.
6. The max. working temperature is 80°C.
7. The plug at the lower end of the nitrogen spring mainly plays the role of protecting and strengthening the sealing, and may not be disassembled without authorization.
8. the maximum allowable stroke is 90% of piston rod or kept 3-5mm.
9. Do not subject the gas spring to side loads.
10. Do not use the gas spring in such a way that the piston rod is released freely from its compressed position, as this could cause internal damage to the gas spring
11. Protect the piston rod against mechanical damage and contact with fluids,
12. Do not mechanical work, welding and disassemble the cylinder.
13. Do not use the threaded hole in the piston rod top for mounting purposes. It is only to be used when servicing the gas spring.
14. Please discharge all the gas in the nitrogen spring before discarding it.



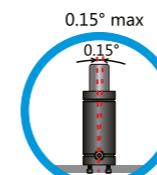
- 1、充入的工作气体必须是氮气（N₂）
Charge with Nitrogen (N₂) gas only.



- 2、氮气弹簧的活塞在润滑状态下使用，将延长其寿命。
We recommend the use of lubricant to increase the service life and protect from damage.



- 3、工作状态的氮气弹簧必须用螺丝或安装板固定使用。
All the cylinders must be fastened with screw and mounting bases.



- 4、固定安装时垂直度要保证在0.15°以内。
The work stroke must be perpendicular to the base of cylinder within 0.15°.



- 5、正常使用温度在80°C以下。
The max. working temperature is 80°C.



- 6、氮气弹簧的缸体，活塞等禁止擅自拆卸、加工。
Installation and use process不得用外力大力锤击。
Do not mechanical work, welding and disassemble on the cylinder.



- 7、最大安全使用行程90%或者3-5mm不要使用。
The maximum allowable stroke is 90% of piston rod or kept 3-5mm.

COMMON SPECIFICATION COMPARISON

氮气弹簧常用规格对照表

中国	瑞典	美国		韩国		意大利		日本		法国	西班牙
GUNRI	KALLER	HYSON	DADCO	TOSS	BESTEC	BORDIGNON	SPECIAL	PASCAL	MISUMI	QUIRI	AZOL-GAS
GX170	X170	T3-170	U.0175	TSP0170	NT170		RV170		GSV170	RGP170	CW170
GX320	X320	T3-320	U.0325	TSP0320	NT320		RV320		GSV320	RGP320	CW320
GX350	X350	T3-350	U.0400	TSP0350	NT350		RV350	DNR0350	GSV350	RGP350	CW350
GX500	X500	T3-500	U.0600	TSP0500	NT500		RV500	DNR0500	GSV500	RGP500	CW500
GX750	X750	T3-750	U.0800	TSP0750	NT750		RV750	DNR0750	GSV750	RGP750	CW750
GX1000	X1000	T3-1000	U.1000	TSP1000	NT1000		RV1000	DNR1000	GSV1000	RGP1000	CW1000
GX1500	X1500	T3-1500	U.1600	TSP1500	NT1500		RV1500	DNR1500	GSV1500	RGP1500	CW1500
GX2400	X2400	T3-2400	U.2600	TSP2400	NT2400		RV2400	DNR2400	GSV2400	RGP2400	CW2400
GX4200	X4200	T3-4200	U.4600	TSP4200	NT4200		RV4200	DNR4200	GSV4200	RGP4200	CW4200
GX6600	X6600	T3-6600	U.6600	TSP6600	NT6600		RV6600	DNR6600	GSV6600	RGP6600	CW6600
GX9500	X9500	T3-9500	U.9600	TSP9500	NT9500		RV9500	DNR9500		RGP9500	CW9500
GX20000	X20000		U.20000				RV20000				
GTU250	TU250	T2L-300	L.300		NC250	CISO38	SC250	DNA250	GSK250	RG250	APP250
GTU500	TU500	T2ISO-500	90.10.00500	TSL0500	NC500	CISO45	SC500	DNA500	GSK500	RG500	APP500
GTU750	TU750	T2ISO-750	90.10.00750	TSL0750	NC750	CISO50	SC750	DNA750	GSK750	RG750	AG750
GTU1500	TU1500	T2ISO-1500	90.10.01500	TSL1500	NC1500	CISO75	SC1500	DNA1500	GSK1500	RG1500	AG1500
GTU3000	TU3000	T2ISO-3000	90.10.03000	TSL3000	NC3000	CISO95	SC3000	DNA3000	GSK3000	RG3000	AG3000
GTU5000	TU5000	T2ISO-5000	90.10.05000	TSL5000	NC5000	CISO120	SC5000	DNA5000	GSK5000	RG5000	AG5000
GTU7500	TU7500	T2ISO-7500	90.10.07500	TSL7500	NC7500	CISO150	SC7500	DNA7500	GSK7500	RG7500	AG7500
GTU10000	TU10000	T2ISO-10000	90.10.10000	TSL10000	NC10000		SC10000		GSK10000	RG10000	AG10000
GXG350	XG350	T3T-350	UH.0400	TSX0350	NTT350		RT350	DNK0350	GST350	RGT350	KZ350
GXG500	XG500	T3T-500	UH.0600	TSX0500	NTT500		RT500	DNK0500	GST500	RGT500	KZ500
GXG750	XG750	T3T-750	UH.0800	TSX0750	NTT750		RG750	DNK0750	GST750	RGT750	KZ750
GXG1000	XG1000	T3T-1000	UH.1000	TSX1000	NTT1000		RG1000	DNK1000	GST1000	RGT1000	KZ1000
GXG1500	XG1500	T3T-1500	UH.1600	TSX1500	NTT1500		RG1500	DNK1500	GST1500	RGT1500	KZ1500
GXG2400	XG2400	T3T-2400	UH.2600	TSX2400	NTT2400		RG2400	DNK2400	GST2400	RGT2400	KZ2400
GXG4200	XG4200	T3T-4200	UH.4600	TSX4200	NTT4200		RG4200	DNK4200	GST4200	RGT4200	KZ4200
GXG6600	XG6600	T3T-6600	UH.6600	TSX6600	NTT6600		RG6600	DNK6600	GST6600	RGT6600	KZ6600
GCU420	CU420	T2SC-420	SC.00420			KE400	DNP0420	GSSC420	RGC420	CS420	
GCU740	CU740	T2SC-740	SC.00740			KE750		GSSC750	RGC750	CS770	
GCU1000	CU1000	T2SC-1000	SC.01000			KE1000	DNP1000	GSSC1000	RGC1000	CS1000	
GCU1800	CU1800	T2SC-1800	SC.01800			KE1800	DNP1800	GSSC1800	RGC1800	CS1800	
GCU2900	CU2900	T2SC-2900	SC.03500			KE3000		GSSC3000	RGC3000	CS3000	
GCU4700	CU4700	T2SC-4700	SC.04700			KE4700	DNP4700	GSSC4700	RGC4700	CS4700	
GCU7500	CU7500	T2SC-7500	SC.07500			KE7500	DNP7500	GSSC7500	RGC7500	CS7500	
GCU11800	CU11800	T2SC-11800	SC.11800			KE12000	DNP11800	GSSC12000	RGC1180	CS11800	
GCU18300	CU18300	T2SC-18300	SC.18300			KE18500	DNP18300	GSSC18500	RGC1830	CS18300	
GR45	R12	T2-50	C.045	TSM50		CVDI19	M50		GSU50		AFB
GR60	R15		C.070	TSM70		CVDI25	M70		GSU70		AFH
GR75	R19	T2-90	C.090	TSM90			M90		GSU90	RG19	AFJ-X
GM170	M2	T2-180	C.180	TSM0150			M200		GSU200	MRG	AFC-X
GMC170	MC3		90.10.00170								
GK500	K500										
GK1000	K1000										
GK1500	K1500										

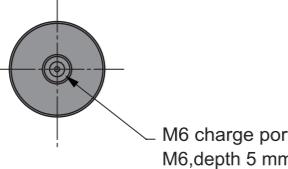
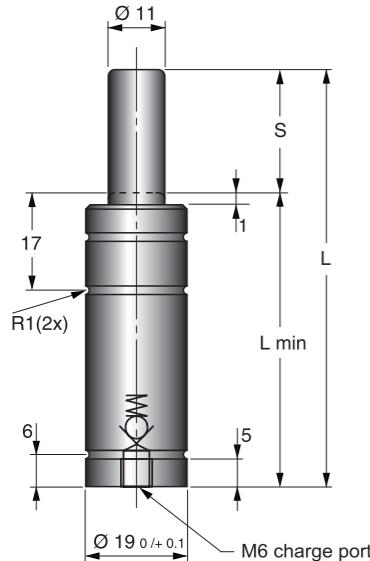
*以上常用规格对照表仅供参考，部分产品可能会存在一定的差异。

*The above commonly used specifications are for reference only. Some products may have some differences.

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强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。此系列氮气弹簧的弹压力从1700 N 到 200000 N，工作行程从7至125mm。

GX170氮气弹簧在缸底部有一个充气口，也可以使用这个充气口，用于微型管路连接系统。

GX170缸上部有一个符合ISO标准的C形槽，它同缸底部螺孔一起，提供了各种安装可能性。

The Power Line Series includes our shortest and most powerful Piston Rod Sealed gas springs, offering impressive force in a very compact format.

The Power Line springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm.

The GX170 has a bottom port for gas charging that can also be used to connect to a gas link system.

The GX170 has an upper ISO Standard C-groove and a lower C-groove, which together with a threaded bottom hole offer various mounting possibilities using our standard mounts.

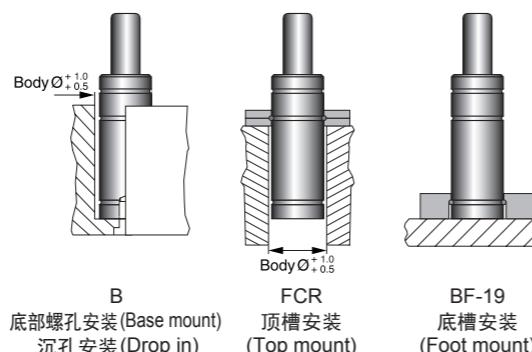
Order No.	行程 Stroke S	弹压力N在180bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX170-007	7	1700	44	37	
GX170-010	10		50	40	
GX170-015	15		60	45	
GX170-019	19		68	49	
GX170-025	25		80	55	
GX170-038	38		106	68	
GX170-050	50		130	80	
GX170-063	63		156	93	
GX170-075	75		185	110	
GX170-080	80		195	115	
GX170-100	100		235	135	
GX170-125	125		285	160	

*=在全行程 at full stroke

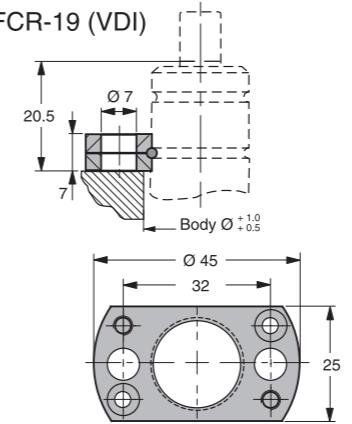
基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

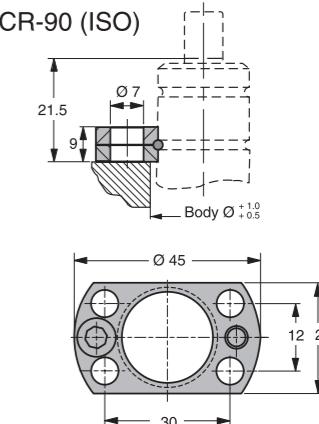
几种安装可能性 Mounting Possibilities



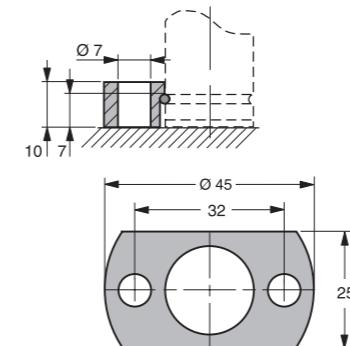
FCR-19
Order No: FCR-19 (VDI)



FCR-90
Order No: FCR-90 (ISO)

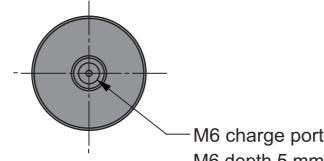
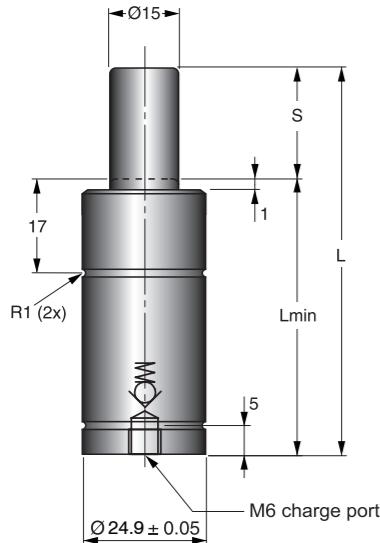


BF-19
Order No: BF-19



订购方法 Ordering method

GX 170 - 050 - P180 - FCR-19 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。

此系列氮气弹簧的弹压力从1700 N 到 200000 N，工作行程从7至125mm。

GX320氮气弹簧在缸底部有一个充气口，也可以使用这个充气口，用于微型管路连接系统。

GX320缸上部有一个符合ISO标准的C形槽，它同缸底部螺孔一起，提供了各种安装可能性。

The Power Line Series includes our shortest and most powerful Piston Rod Sealed gas springs, offering impressive force in a very compact format.

The Power Line springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm.

The GX320 has a bottom port for gas charging that can also be used to connect to a gas link system.

The GX320 has an upper ISO Standard C-groove that together with a threaded bottom hole offers various mounting possibilities using our standard mounts.

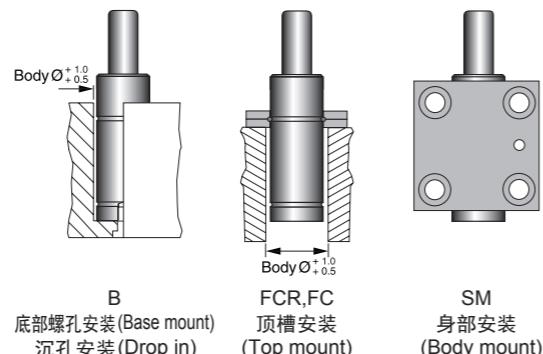
Order No.	行程 Stroke S	弹压力N在180bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX320-007	3200	4800	44	37	
GX320-010		4900	50	40	
GX320-015		5100	60	45	
GX320-019		5100	68	49	
GX320-025		5200	80	55	
GX320-038		5300	106	68	
GX320-050		5300	130	80	
GX320-063		5300	156	93	
GX320-075		5300	185	110	
GX320-080		5300	195	115	
GX320-100		5300	235	135	
GX320-125		5300	285	160	

*=在全行程 at full stroke

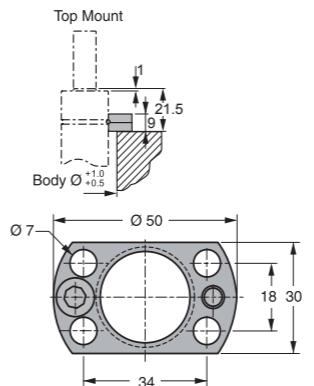
基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

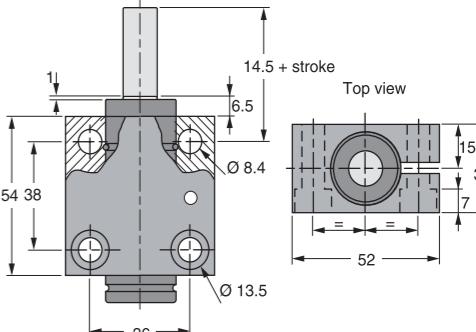
几种安装可能性 Mounting Possibilities



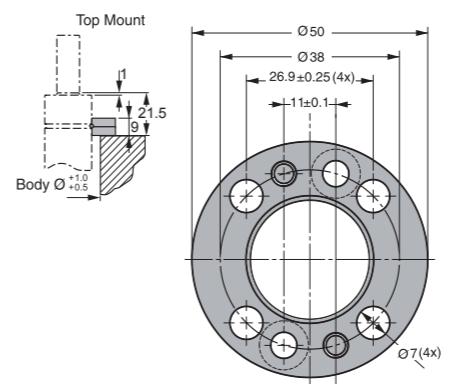
FCR Order No: FCR-150



SM Order No: SM-150

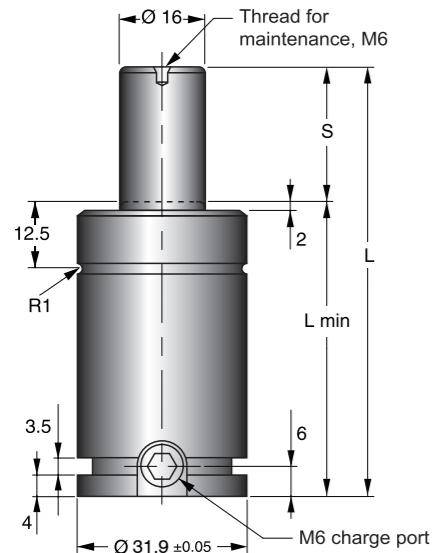


FC-150 Order No: FC-150



订购方法 Ordering method

GX 320 - 050 - P180 - FC-150 20
 系列代码 Series
 充气压力 Charging Pressure
 规格型号 Model
 订购数量 Quantity
 安装附件 Mounts



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There is a side port for gas charging that can also be used to connect to a gas link system.

An upper C-groove, lower U-groove together with two M6 threaded holes allow various mounting possibilities using our standard mounts.

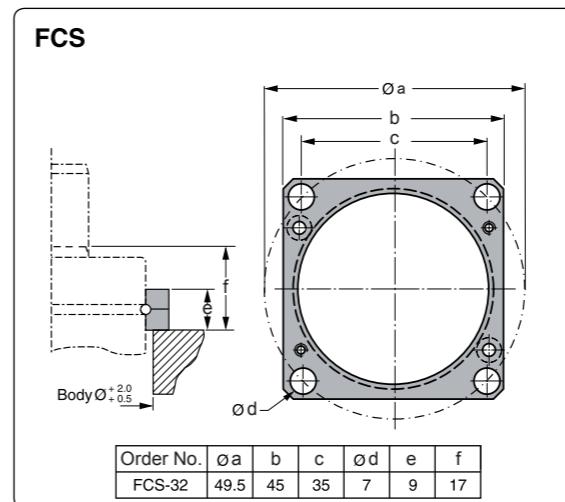
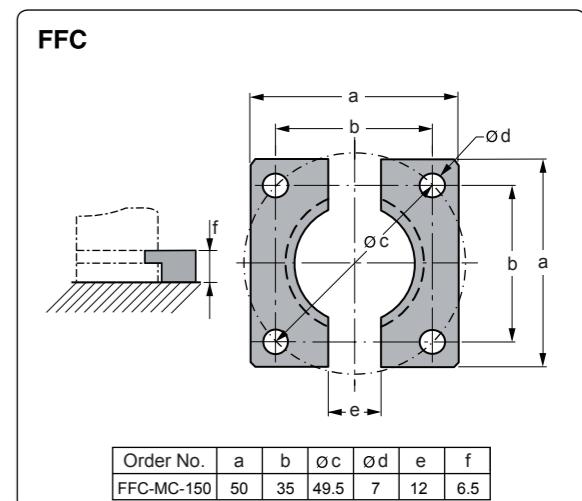
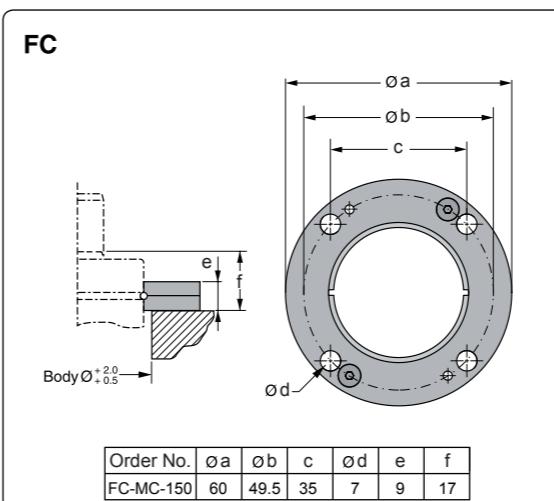
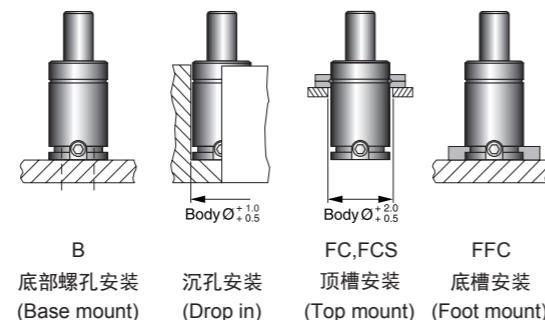
Order No.	行程 Stroke S	弹压力N在180bar+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX350-010	10	3600	5900	50	40
GX350-013	13		5200	56	43
GX350-016	16		5300	62	46
GX350-019	19		5600	68	49
GX350-025	25		5500	80	55
GX350-032	32		5500	94	62
GX350-038	38		5500	106	68
GX350-050	50		5600	130	80
GX350-063	63		5500	156	93
GX350-075	75		5500	180	105
GX350-080	80		5500	190	110
GX350-100	100		5500	230	130
GX350-125	125		5500	280	155

*=在全行程 at full stroke

基本参数 Basic information

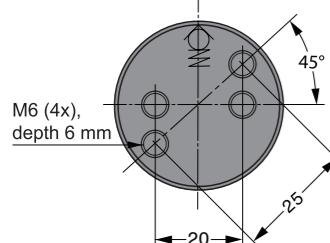
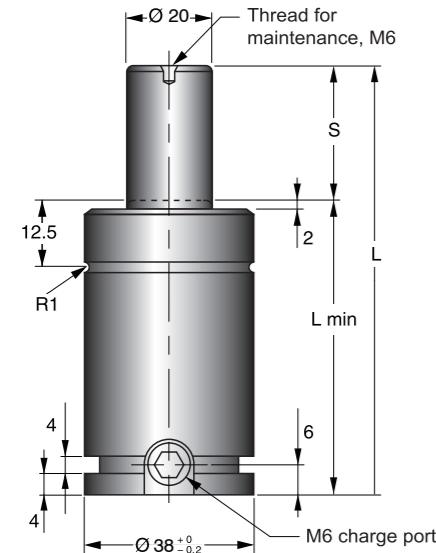
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3% / °C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GX 350 - 050 - P180 - FCS-32 20
 系列代码 Series
 充气压力 Charging Pressure
 规格型号 Model
 安装附件 Mounts
 订购数量 Quantity



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The Power Line springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm.

There is a side port for gas charging that can also be used to connect to a gas link system.

An upper C-groove, lower U-groove together with four M6 threaded holes allow various mounting possibilities using our standard mounts.

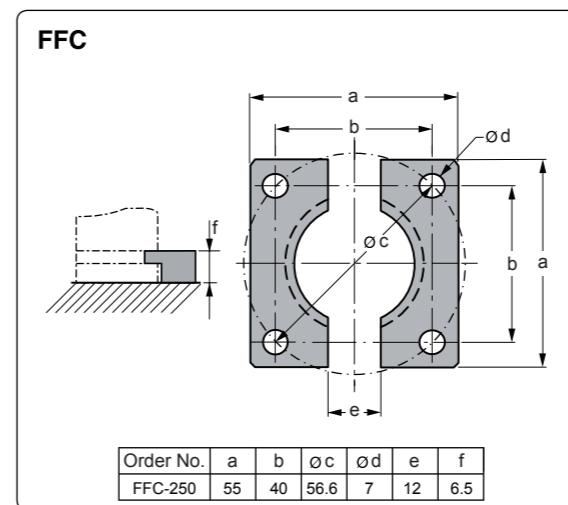
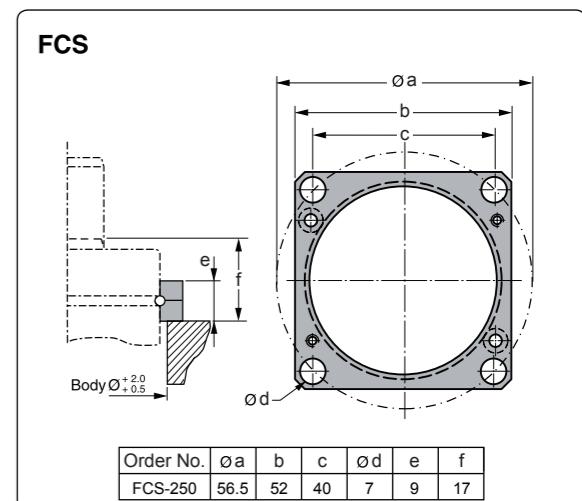
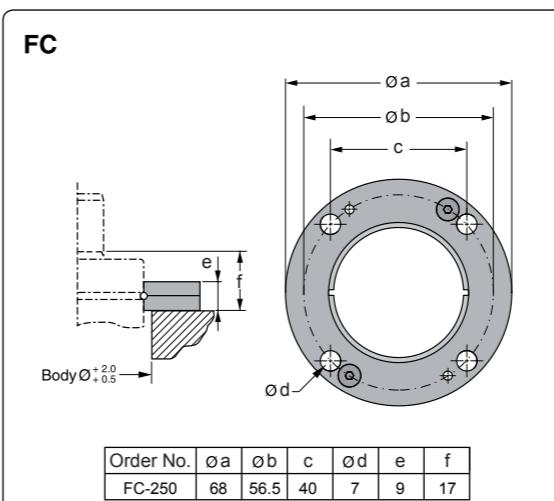
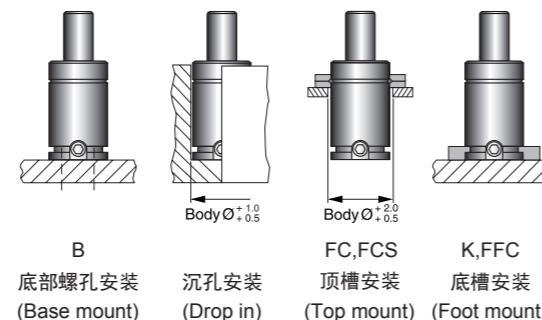
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX500-010	10	4700	7200	50	40
GX500-013	13		7100	56	43
GX500-016	16		7200	62	46
GX500-019	19		7400	68	49
GX500-025	25		7300	80	55
GX500-032	32		7200	94	62
GX500-038	38		7200	106	68
GX500-050	50		7200	130	80
GX500-063	63		7200	156	93
GX500-075	75		7100	180	105
GX500-080	80		7100	190	110
GX500-100	100		7100	230	130
GX500-125	125		7100	280	155

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

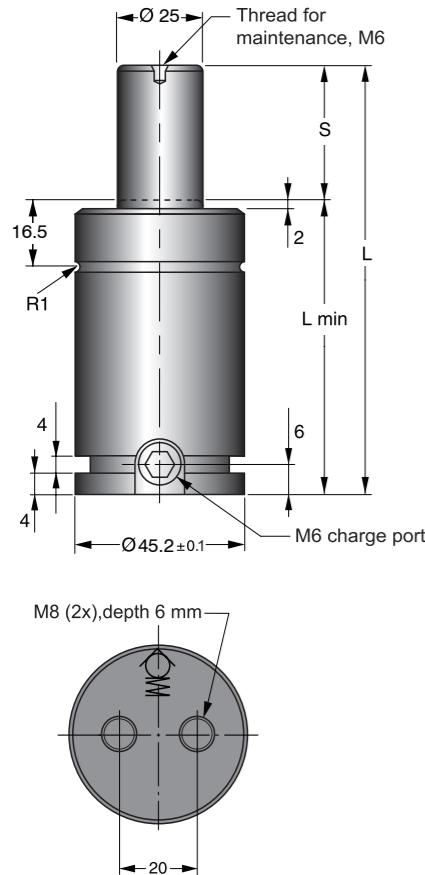
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GX 500 - 050 - P150 - FC-250 20

系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
规格型号 Model 安装附件 Mounts



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These gas springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm.

There is a side port for gas charging that can also be used to connect to a hose system.

An upper C-groove, lower U-groove together with two M8 threaded holes allow various mounting possibilities using our standard mounts.

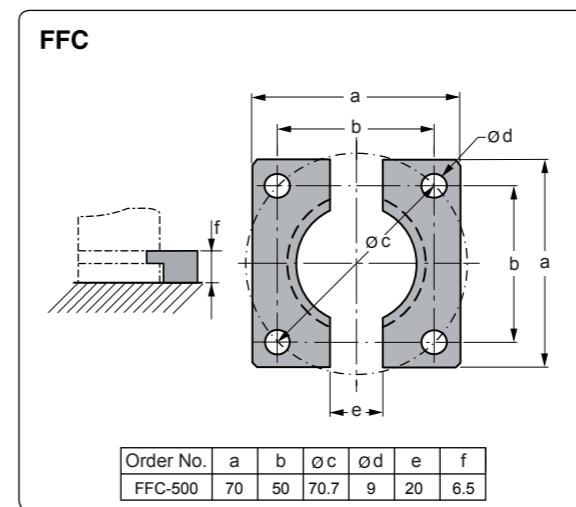
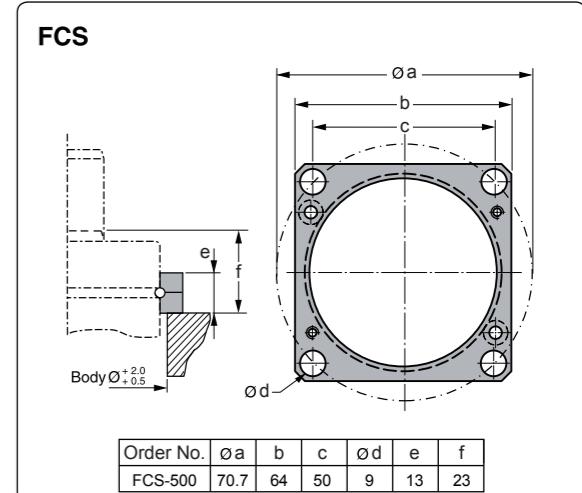
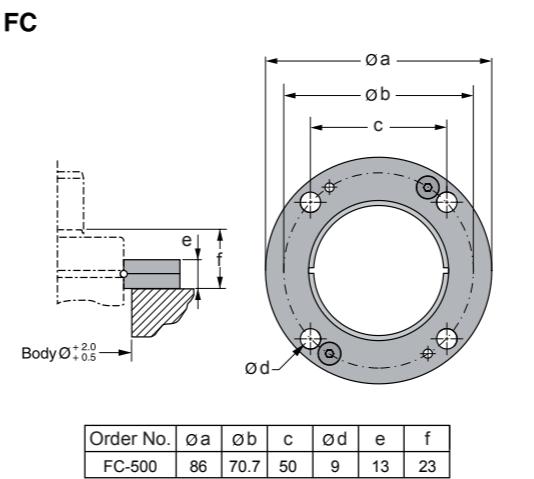
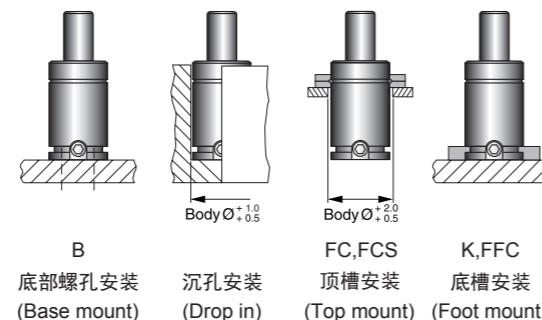
Order No.	行程 Stroke S	弹压力N在150bar+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX750-010	10	7400	12100	52	42
GX750-013	13		12100	58	45
GX750-016	16		12100	64	48
GX750-019	19		11700	70	51
GX750-025	25		11800	82	57
GX750-032	32		11800	96	64
GX750-038	38		11800	108	70
GX750-050	50		11800	132	82
GX750-063	63		11800	158	95
GX750-075	75		11900	182	107
GX750-080	80		11900	192	112
GX750-100	100		11900	232	132
GX750-125	125		11900	282	157

*=在全行程 at full stroke

基本参数 Basic information

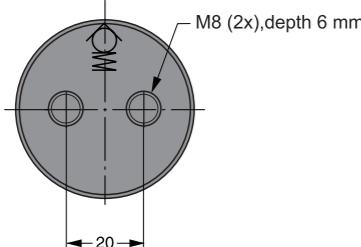
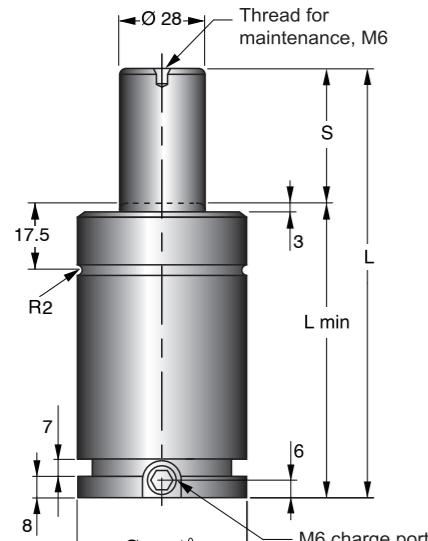
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3% / °C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GX 750 - 050 - P150 - FC-500 20
 系列代码 Series
 充气压力 Charging Pressure
 规格型号 Model
 订购数量 Quantity
 安装附件 Mounts



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There is a side port for gas charging that can also be used to connect to a gas link system.

An upper C-groove, lower U-groove together with two M8 threaded holes allow various mounting possibilities using our standard mounts.

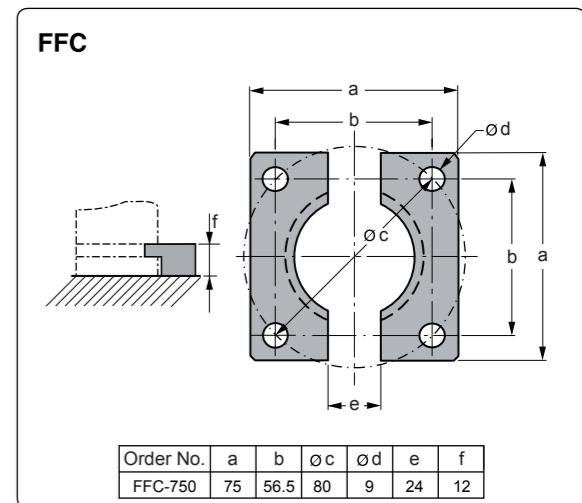
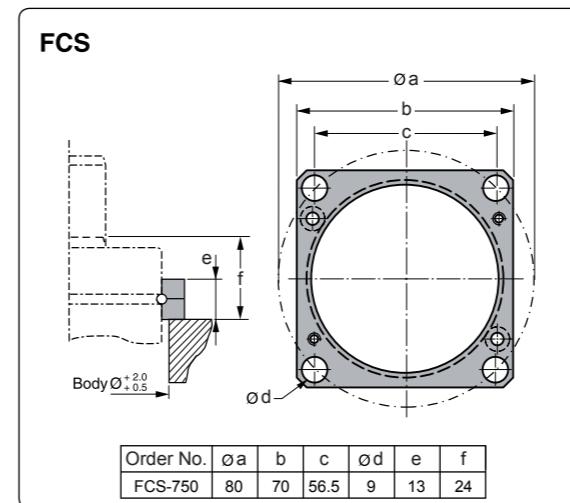
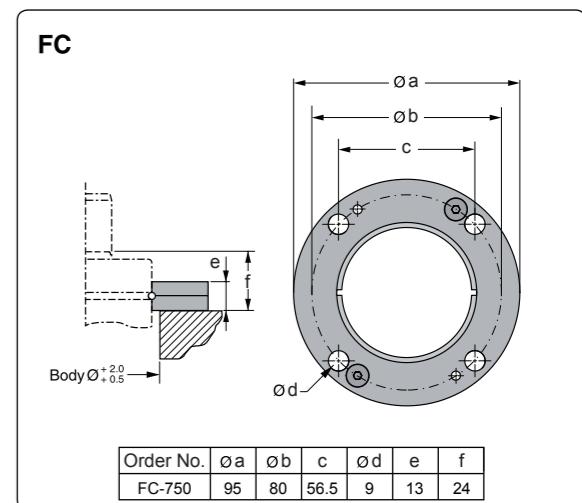
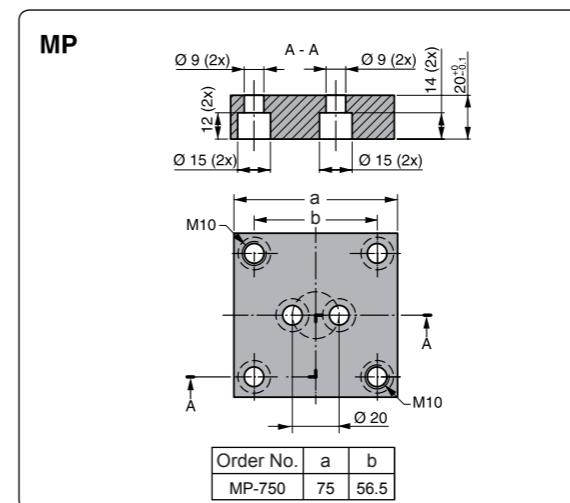
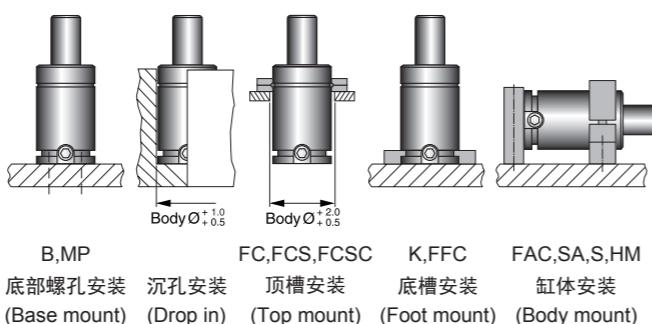
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX1000-013	13	13800	64	51	9200
GX1000-016	16	13800	70	54	
GX1000-019	19	14000	76	57	
GX1000-025	25	14200	88	63	
GX1000-032	32	14300	102	70	
GX1000-038	38	14500	114	76	
GX1000-050	50	14600	138	88	
GX1000-063	63	14700	164	101	
GX1000-075	75	14700	188	113	
GX1000-080	80	14800	198	118	
GX1000-100	100	14800	238	138	
GX1000-125	125	14800	288	163	

*=在全行程 at full stroke

基本参数 Basic information

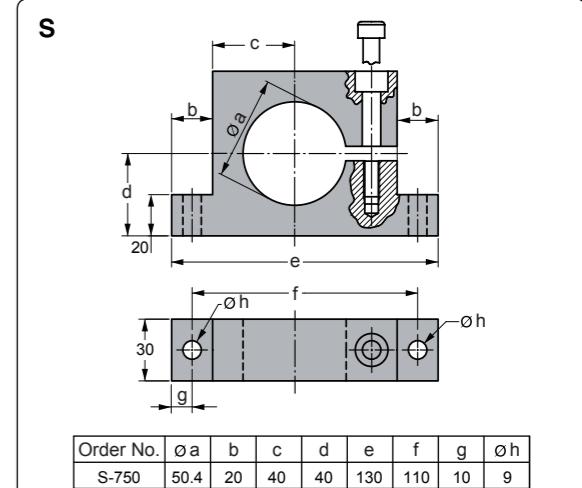
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

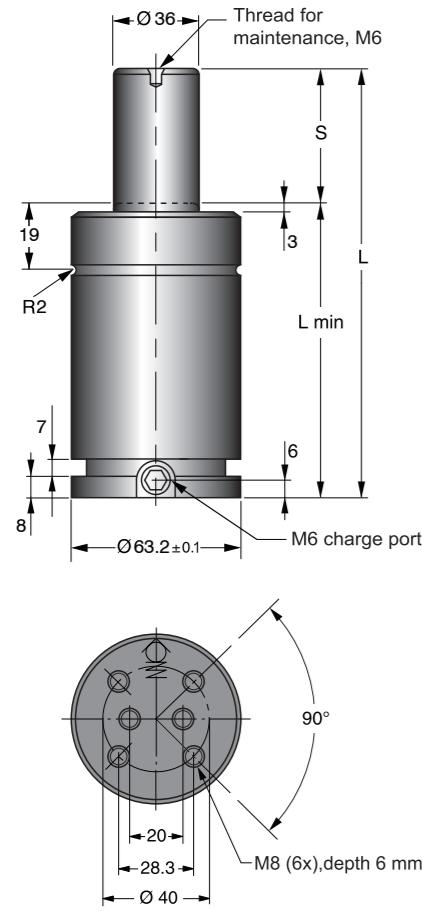
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GX 1000 - 050 - P150 - FFC-750 20
 系列代码 Series
 规格型号 Model
 充气压力 Charging Pressure
 安装附件 Mounts
 订购数量 Quantity





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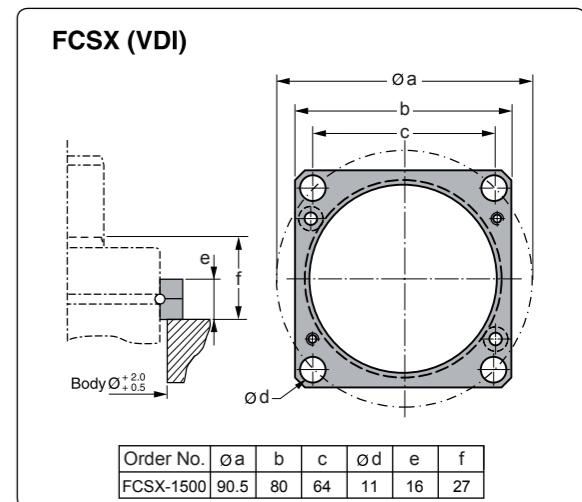
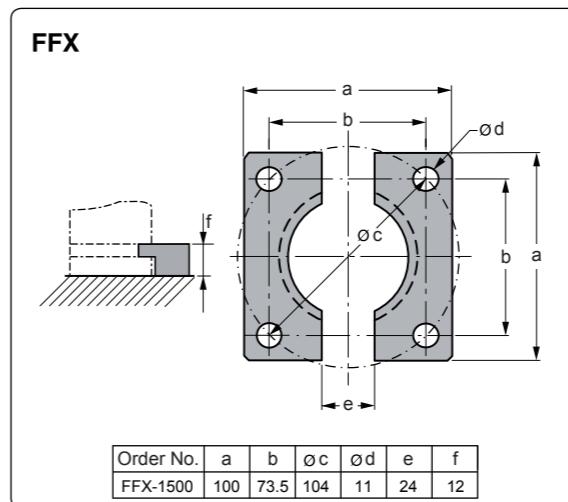
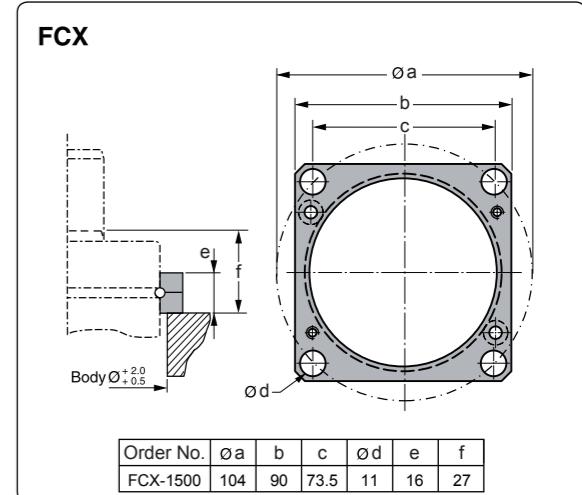
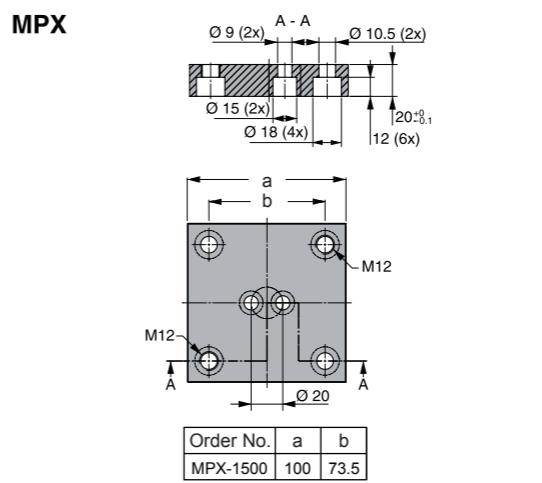
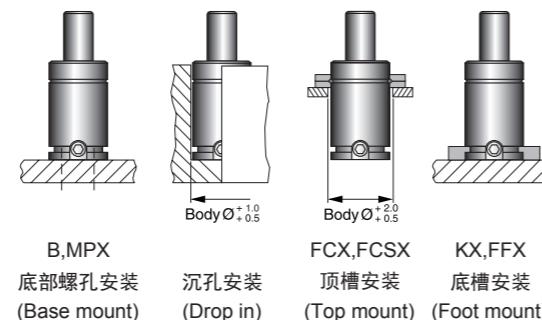
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX1500-013	13	24000	70	57	15000
GX1500-016	16	24100	76	60	
GX1500-019	19	24200	82	63	
GX1500-025	25	24300	94	69	
GX1500-032	32	23800	108	76	
GX1500-038	38	23900	120	82	
GX1500-050	50	24000	144	94	
GX1500-063	63	24100	170	107	
GX1500-075	75	24200	194	119	
GX1500-080	80	24200	204	124	
GX1500-100	100	24300	244	144	
GX1500-125	125	24300	294	169	

*=在全行程 at full stroke

基本参数 Basic information

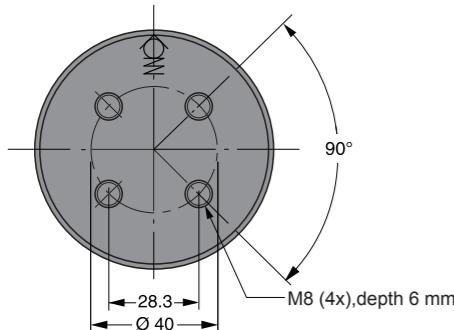
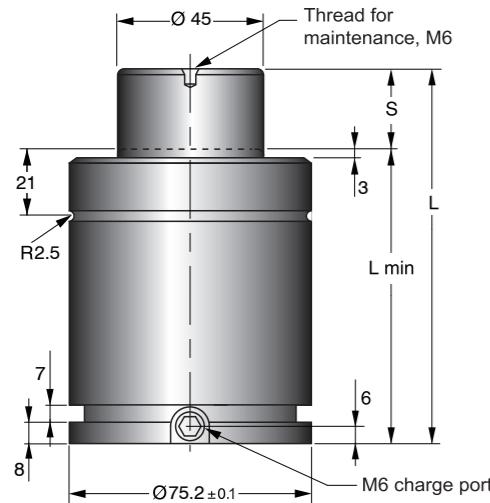
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3% / °C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GX 1500 - 050 - P150 - FFX-1500 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



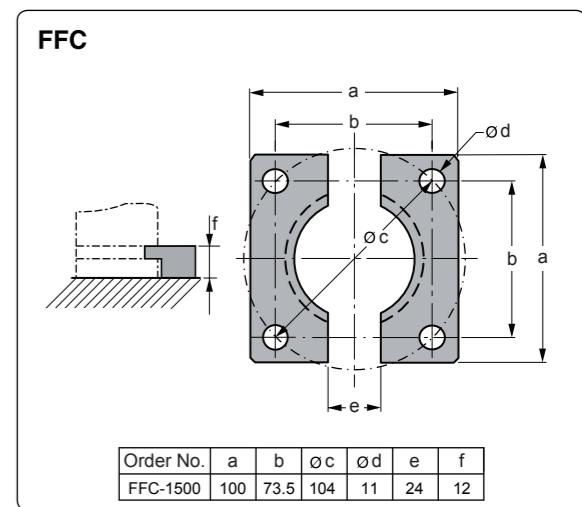
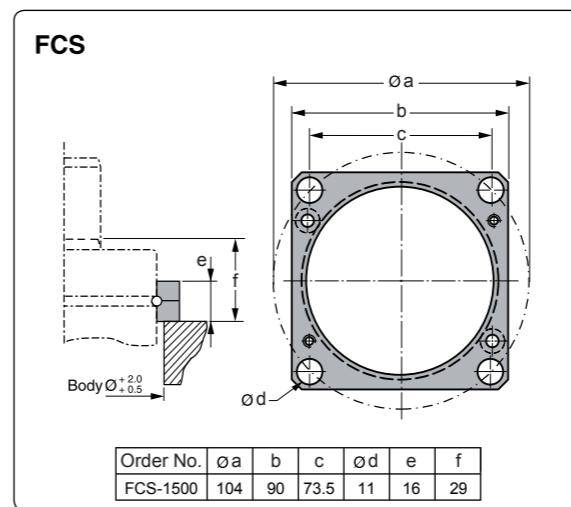
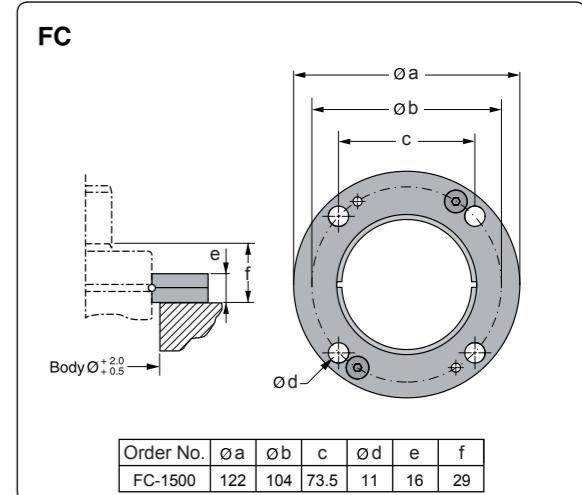
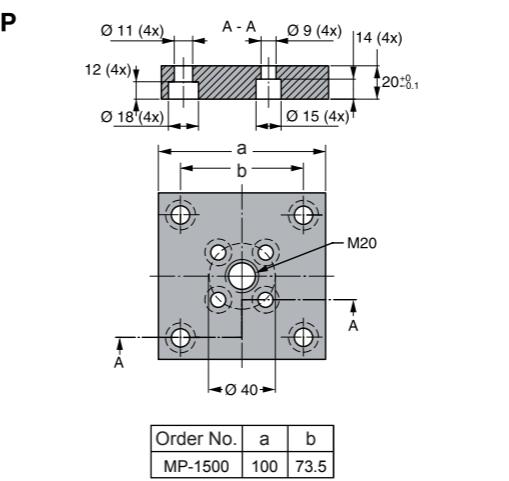
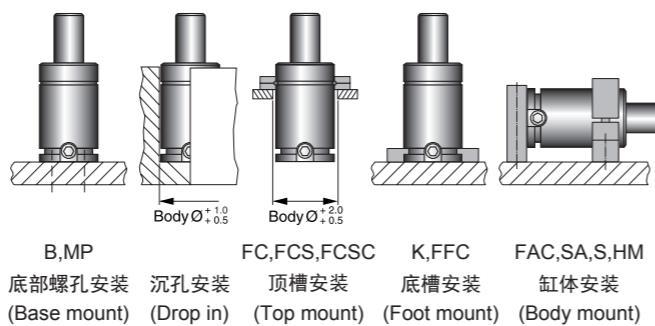
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX2400-016	16	38300	77	61	24000
GX2400-019	19	38500	83	64	
GX2400-025	25	38700	95	70	
GX2400-032	32	38600	109	77	
GX2400-038	38	38400	121	83	
GX2400-050	50	39200	145	95	
GX2400-063	63	39200	171	108	
GX2400-075	75	39200	195	120	
GX2400-080	80	39200	205	125	
GX2400-100	100	39300	245	145	
GX2400-125	125	39300	295	170	

*=在全行程 at full stroke

基本参数 Basic information

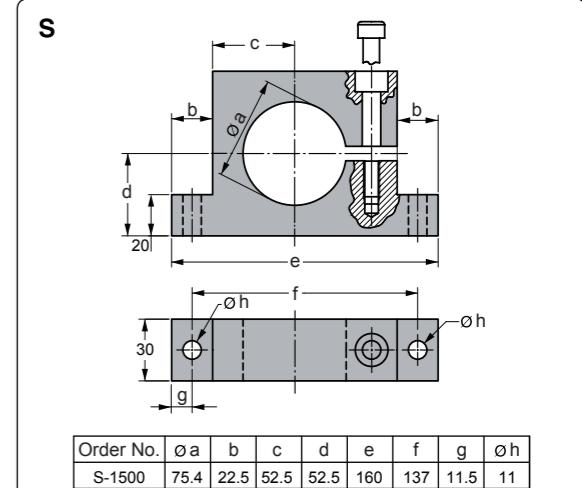
充气介质	氮气 Nitrogen
Pressure medium	
最大充气压力	150 bar(at 20°C)
Max.charging pressure	
最小充气压力	25 bar(at 20°C)
Min.charging pressure	
工作环境温度	0~80°C
Operating temperature	
单位温度弹压力量	±0.3%/°C
Force increase by temperature	
推荐每分钟工作频率	20-80spm(20°C)
Recommended working frequency	
最大工作速度	96 m/min
Max.piston rod velocity	

几种安装可能性 Mounting Possibilities



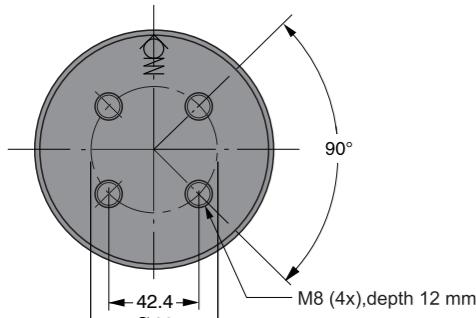
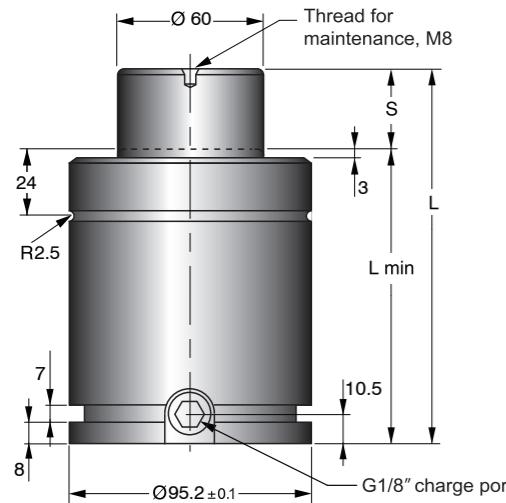
订购方法 Ordering method

GX 2400 - 050 - P150 - FCS-1500 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts





ISO



强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。

此系列氮气弹簧的弹压力从1700 N 到 200000 N，工作行程从7至125mm。

此系列气弹簧在缸侧面有一个充气口，也可以使用这个充气口，用于微型管路连接系统。

缸体上部有一个C形槽，缸体下部有一个U形槽，它们同缸体底部四个M8螺孔一起，提供了各种安装可能性。

The Power Line Series includes our shortest and most powerful Piston Rod Sealed gas springs, offering impressive force in a very compact format.

The Power Line springs are available with forces from 1,700 N up to 200,000 N and stroke lengths between 7 and 125 mm.

There is a side port for gas charging that can also be used to connect to a gas link system.

An upper C-groove, lower U-groove together with four M8 threaded holes allow various mounting possibilities using our standard mounts.

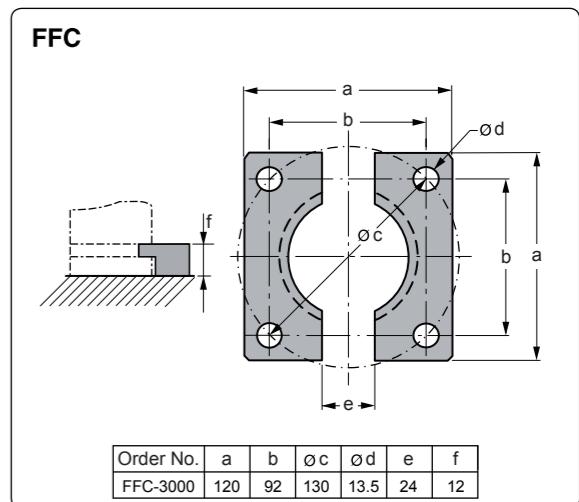
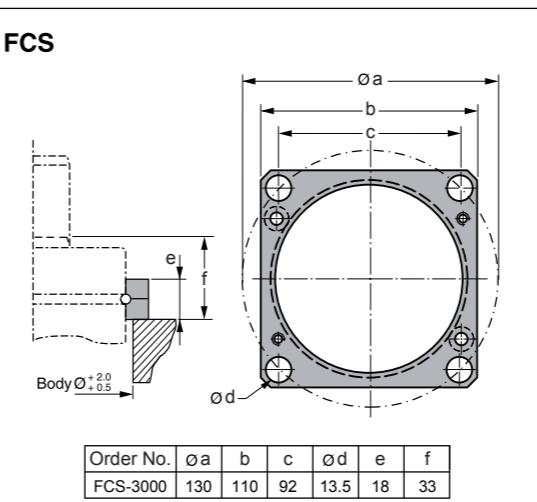
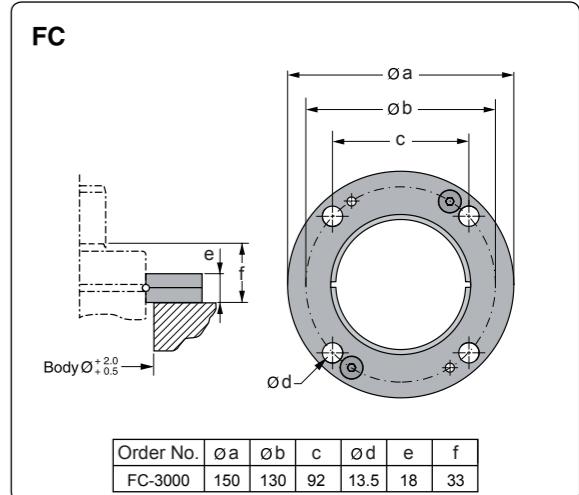
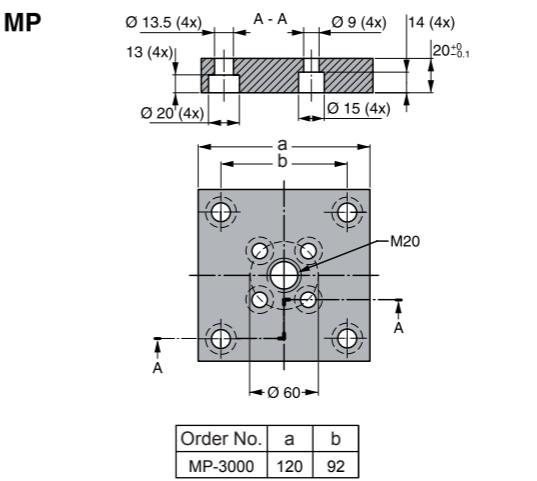
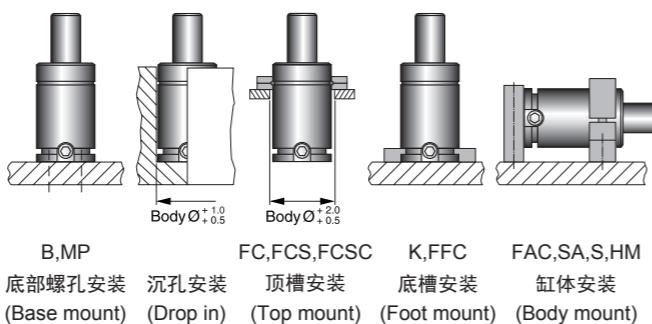
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GX4200-016	16	42000	61700	90	74
GX4200-019	19		63700	96	77
GX4200-025	25		60800	108	83
GX4200-032	32		64300	122	90
GX4200-038	38		65800	134	96
GX4200-050	50		67000	158	108
GX4200-063	63		67800	184	121
GX4200-075	75		68000	208	133
GX4200-080	80		68600	218	138
GX4200-100	100		69100	258	158
GX4200-125	125		69600	308	183

*=在全行程 at full stroke

基本参数 Basic information

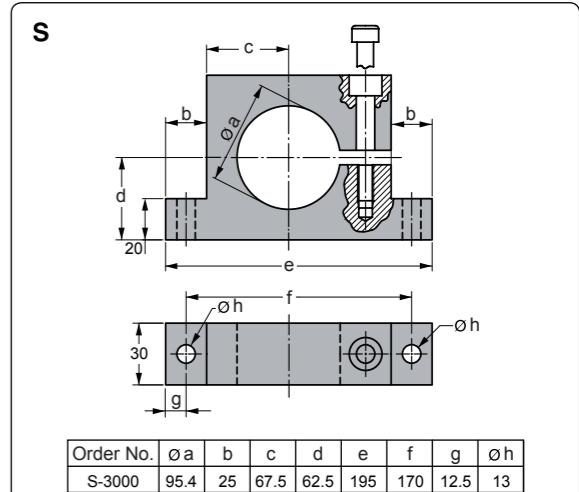
充气介质	氮气 Nitrogen
Pressure medium	
最大充气压力	150 bar(at 20°C)
Max.charging pressure	
最小充气压力	25 bar(at 20°C)
Min.charging pressure	
工作环境温度	0~80°C
Operating temperature	
单位温度弹压力量增加量	±0.3%/°C
Force increase by temperature	
推荐每分钟工作频率	20-80spm(20°C)
Recommended working frequency	
最大工作速度	96 m/min
Max.piston rod velocity	

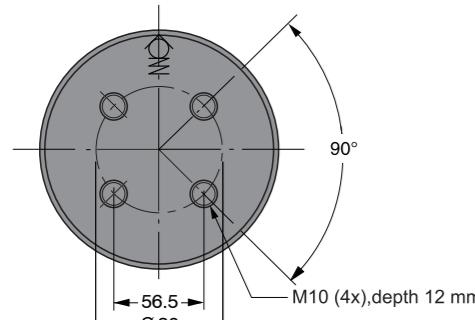
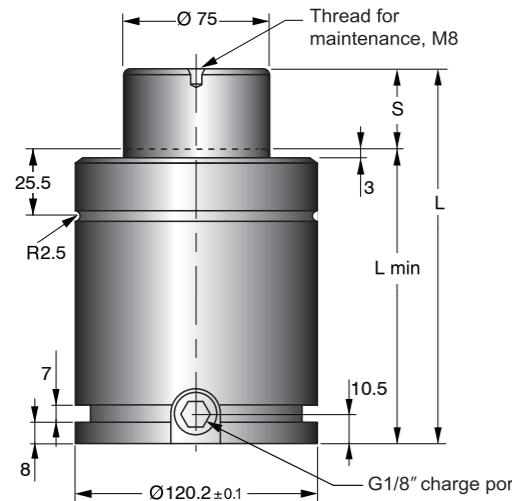
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GX 4200 - 050 - P150 - FFC-3000 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



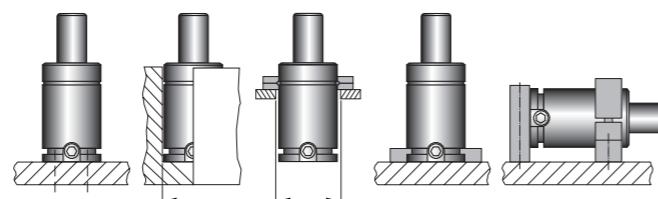


Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GX6600-016	16	66300	89000	100	84
GX6600-019	19		91000	106	87
GX6600-025	25		93900	118	93
GX6600-032	32		96100	132	100
GX6600-038	38		98200	144	106
GX6600-050	50		100600	168	118
GX6600-063	63		102400	194	131
GX6600-075	75		103400	218	143
GX6600-080	80		104100	228	148
GX6600-100	100		105400	268	168
GX6600-125	125		106500	318	193

*=在全行程 at full stroke

基本参数 Basic information

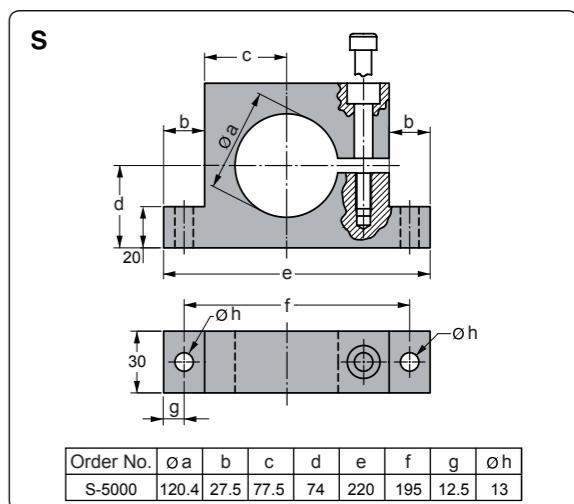
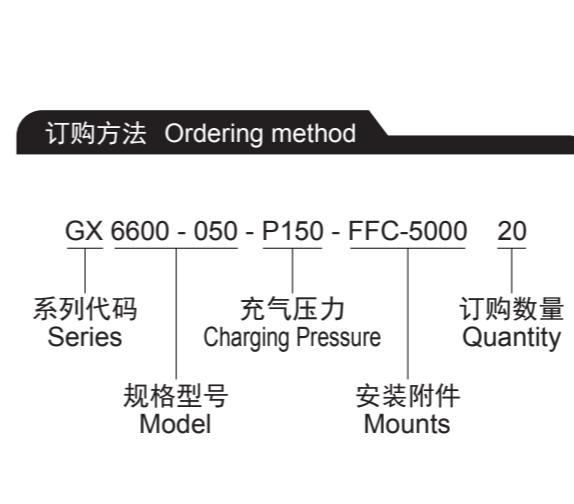
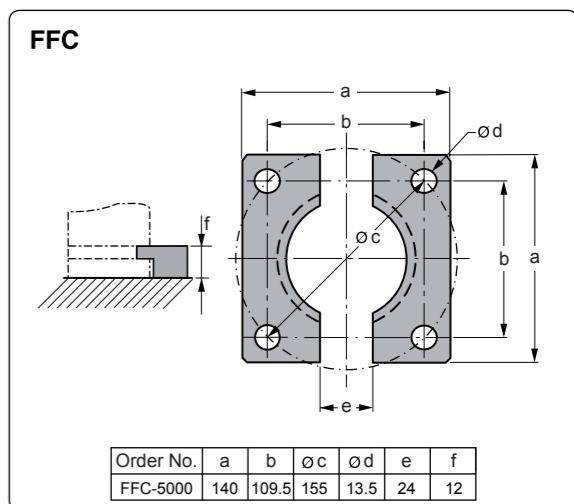
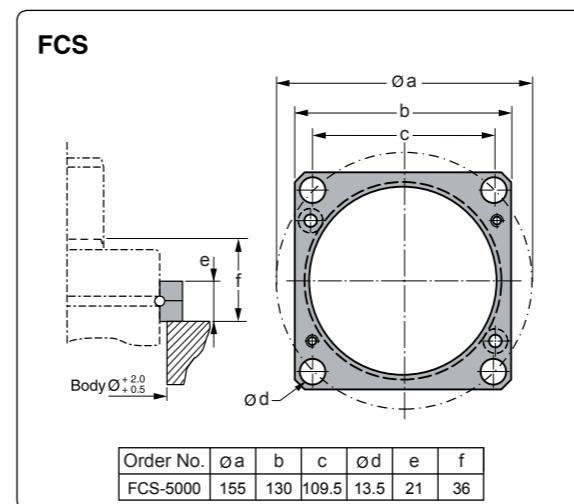
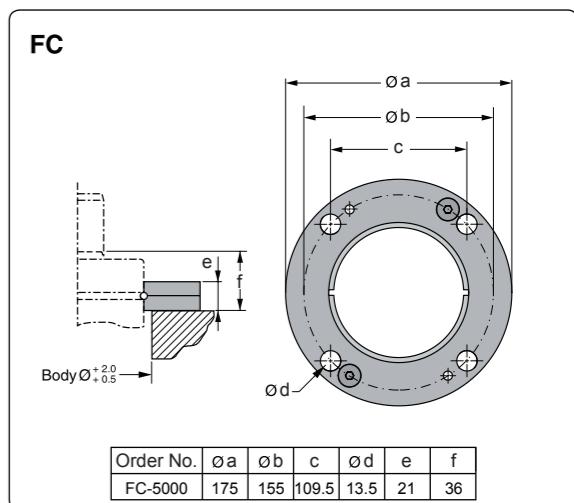
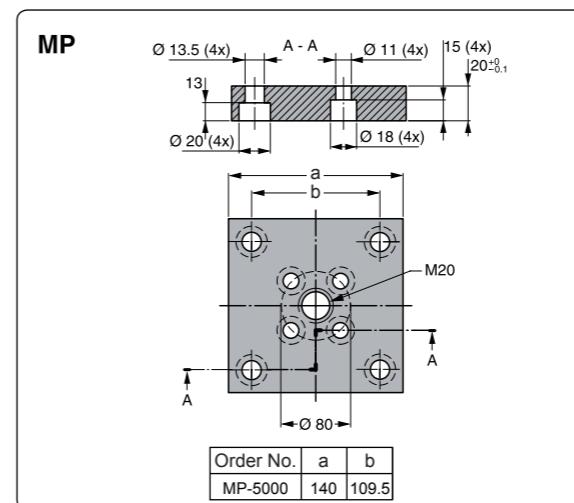
充气介质	- - - - -	氮气	Nitrogen
Pressure medium			
最大充气压力	- - - - -	150	bar(at 20°C)
Max.charging pressure			
最小充气压力	- - - - -	25	bar(at 20°C)
Min.charging pressure			
工作环境温度	- - - - -	0~80	°C
Operating temperature			
单位温度弹压力增量	- - - - -	± 0.3%	/°C
Force increase by temperature			
推荐每分钟工作频率	- - - - -	20-80	spm(20°C)
Recommended working frequency			
最大工作速度	- - - - -	96	m/min
Max piston rod velocity			

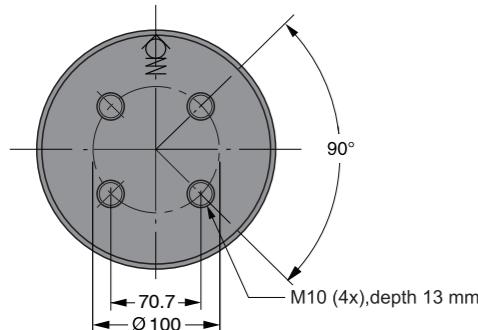
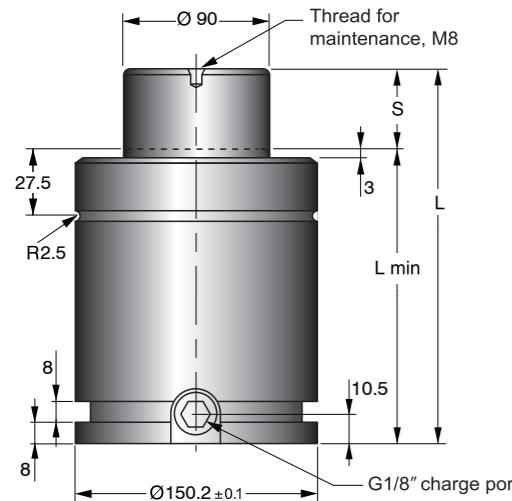


B,MP	FC,FCS,FCSC	K,FFC	FAC,SA,S
底部螺孔安装 (Base mount)	沉孔安装 (Drop in)	顶槽安装 (Top mount)	底槽安装 (Foot mount)
			缸体安装 (Body mount)

38 ► DONGGUAN GUNRI PRECISION HARDWARE CO., LTD

DONGGUAN GUNRI PRECISION HARDWARE CO., LTD. ▶ 39



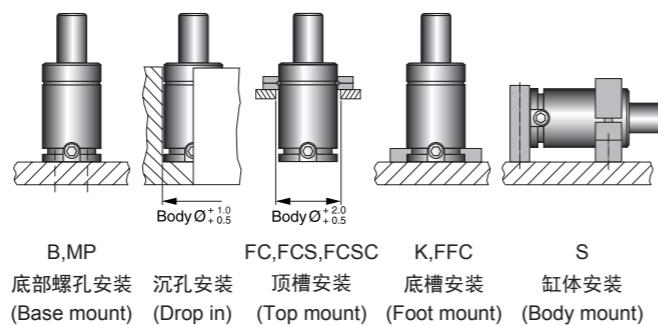


Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GX9500-019	19	95000	135000	116	97
GX9500-025	25		139000	128	103
GX9500-032	32		142000	142	110
GX9500-038	38		143000	154	116
GX9500-050	50		146000	178	128
GX9500-063	63		148000	204	141
GX9500-075	75		149000	228	153
GX9500-080	80		150000	238	158
GX9500-100	100		151000	278	178
GX9500-125	125		152000	328	203

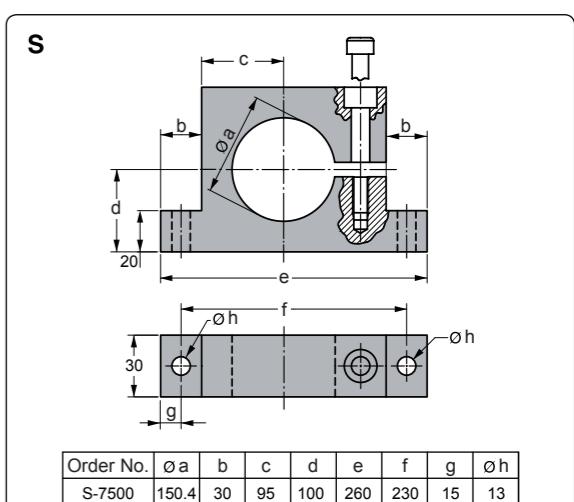
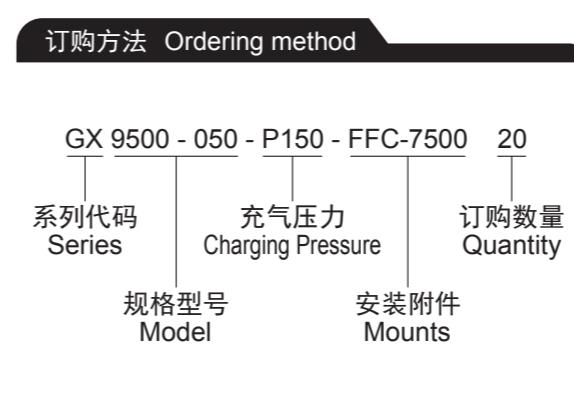
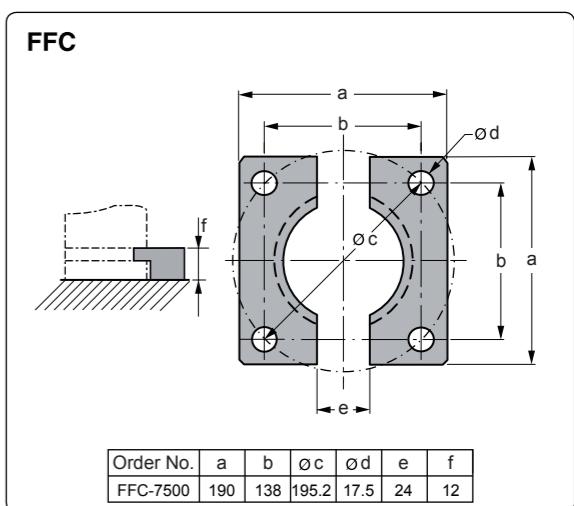
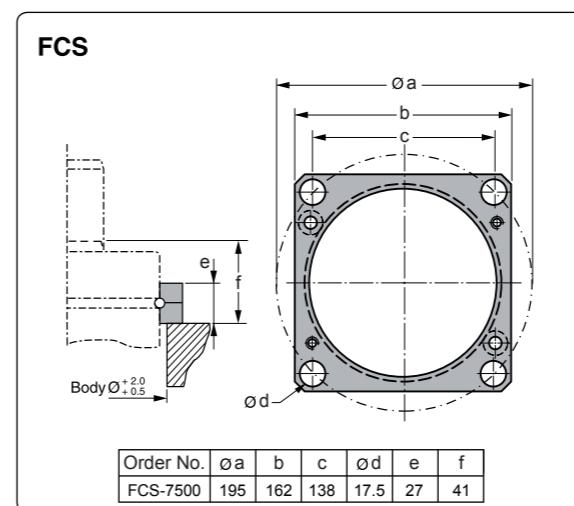
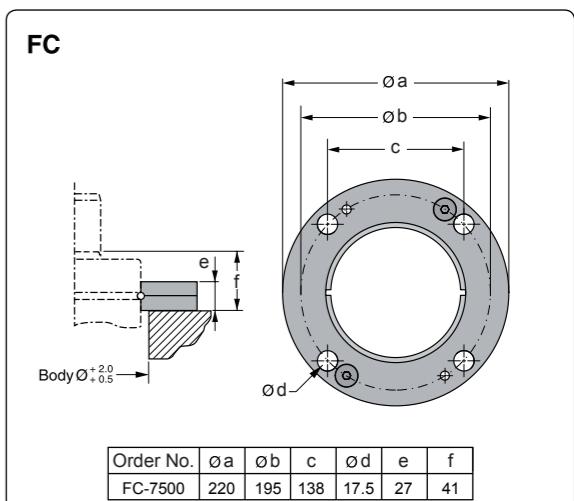
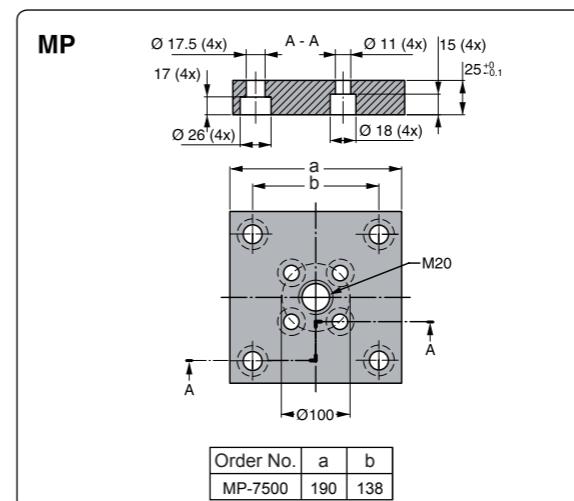
*=在全行程 at full stroke

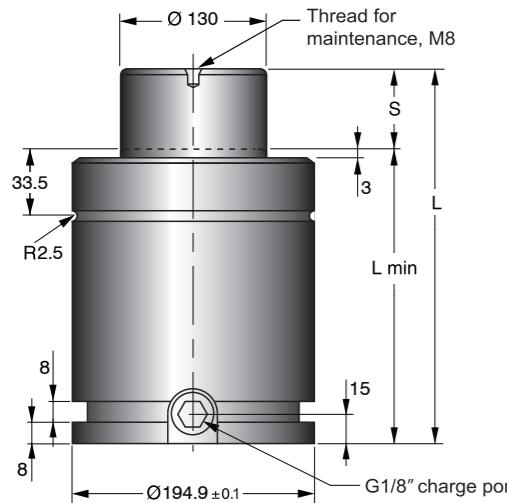
基本参数 Basic information

充气介质	- - - - -	氮气	Nitrogen
Pressure medium			
最大充气压力	- - - - -	150	bar(at 20°C)
Max.charging pressure			
最小充气压力	- - - - -	25	bar(at 20°C)
Min.charging pressure			
工作环境温度	- - - - -	0~80	°C
Operating temperature			
单位温度弹压力增量	- - - - -	± 0.3%	/°C
Force increase by temperature			
推荐每分钟工作频率	- - - - -	20-80	spm(20°C)
Recommended working frequency			
最大工作速度	- - - - -	96	m/min
Max piston rod velocity			



几种安装可能性 Mounting Possibilities





强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。

此系列氮气弹簧的弹压力从1700 N 到 200000 N，工作行程从7至125mm。

此系列气弹簧在缸侧面有一个充气口，也可以使用这个充气口，用于微型管路连接系统。

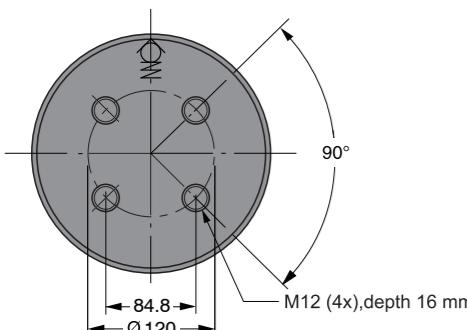
缸体上部有一个C形槽，缸体下部有一个U形槽，它们同缸体底部四个M12螺孔一起，提供了各种安装可能性。

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An upper C-groove, lower U-groove together with four M12 threaded holes allow various mounting possibilities using our standard mounts.



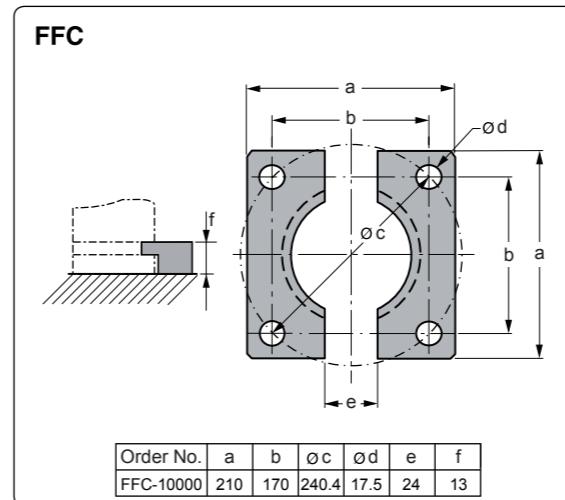
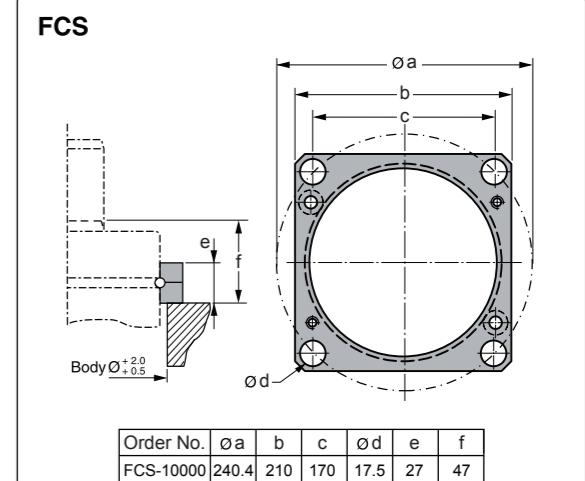
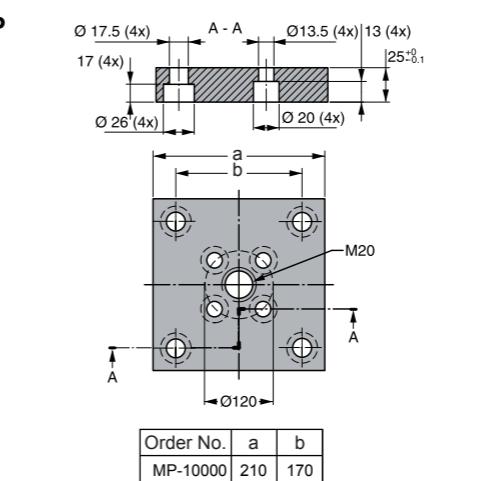
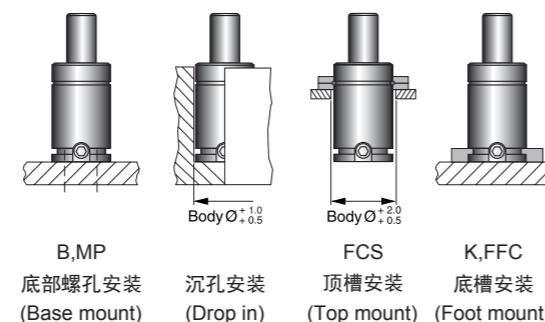
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GX20000-019	19	259000	148	129	
GX20000-025		270000	160	135	
GX20000-032		280000	174	142	
GX20000-038		287000	186	148	
GX20000-050		298000	210	160	
GX20000-063		307000	236	173	
GX20000-075		313000	260	185	
GX20000-080		315000	270	190	
GX20000-100		323000	310	210	
GX20000-125		330000	360	235	

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities

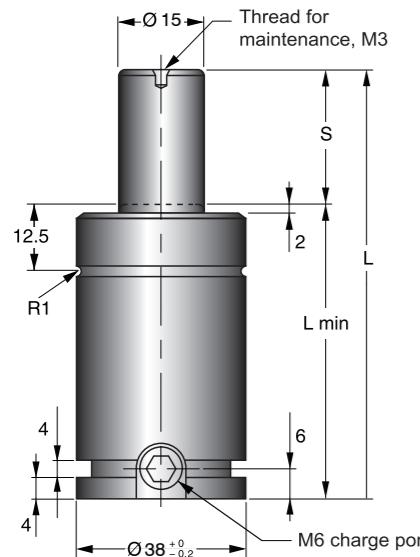


订购方法 Ordering method

GX 20000 - 050 - P150 - FCS-10000 20

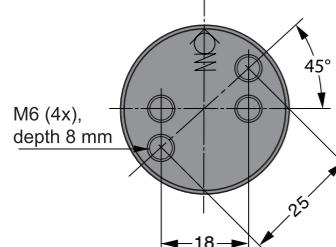
Series Charging Pressure Quantity

Model Mounts



氮气弹簧的标准系是GTU系列，其规格从250到10000的氮气弹簧都符合国际ISO 11901和VDI 3003氮气弹簧标准。总高度L为50 mm + (2 × 行程)。

The GTU line constitutes our standard line of gas springs. Sizes 250 to 10000 conform to the ISO 11901 gas spring standard as well as VDI 3003. The total length L is 50 mm + (2 × stroke).

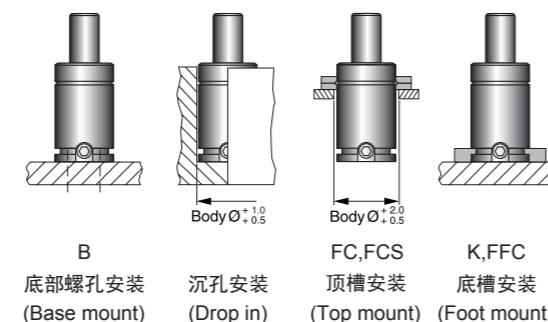


Order No.	行程 Stroke S	弹压力N在150bar/+20°C Initial Force		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU250-010	10	2650	3500	70	60
GTU250-013	12.7		3500	75.4	62.7
GTU250-016	16		3500	82	66
GTU250-025	25		3500	100	75
GTU250-038	38.1		3500	126.2	88.1
GTU250-050	50		3500	150	100
GTU250-064	63.5		3500	177	113.5
GTU250-080	80		3500	210	130
GTU250-100	100		3500	250	150
GTU250-125	125		3500	300	175

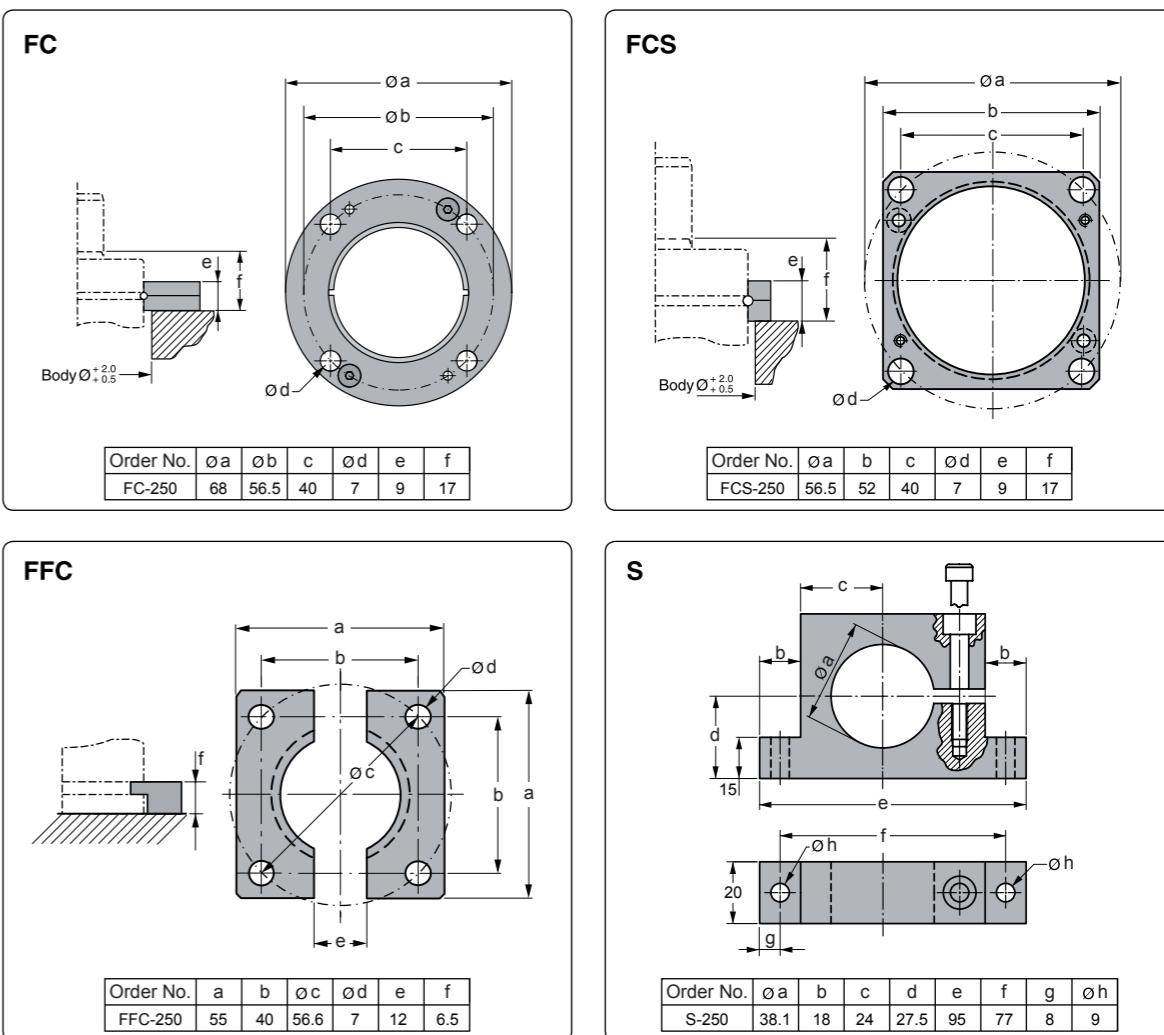
*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 50 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity



几种安装可能性 Mounting Possibilities



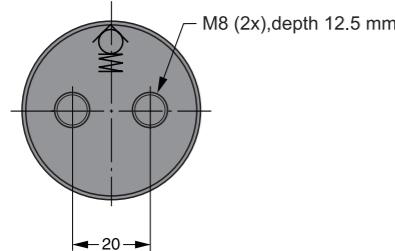
订购方法 Ordering method

GTU 250 - 050 - P150 - FFC-250 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



The technical drawing illustrates a cylindrical component with the following dimensions and features:

- Top Surface:** Thread for maintenance, M6.
- Top Diameter:** Ø 20.
- Top Edge:** Vertical dimension S.
- Top Flange:** Vertical dimension L min.
- Side Surface:** Vertical dimension L.
- Bottom Edge:** Vertical dimension 10.5.
- Bottom Flange:** Vertical dimension 4.
- Bottom Hole:** G1/8" charge port.
- Bottom Edge:** Vertical dimension 4.
- Left Side:** Radius R1.
- Left Edge:** Vertical dimension 16.5.



Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU500-010	10	4700	6000	105	95
GTU500-013	12.7		6100	110.4	97.7
GTU500-025	25		6400	135	110
GTU500-038	38.1		6500	161.2	123.1
GTU500-050	50		6600	185	135
GTU500-064	63.5		6600	212	148.5
GTU500-080	80		6700	245	165
GTU500-100	100		6700	285	185
GTU500-125	125		6700	335	210
GTU500-160	160		6700	405	245

*=在全行程 at full stroke

基本参数 Basic information

充气介质 ----- 氮气 Nitrogen
 Pressure medium

最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure

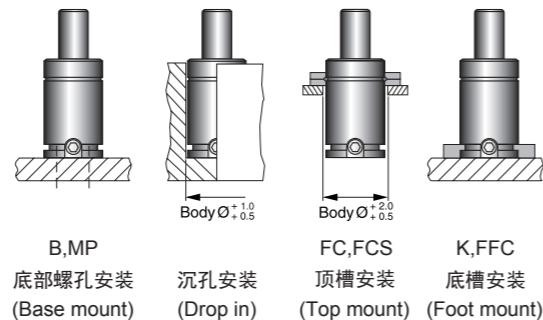
最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure

工作环境温度 ----- 0~80°C
 Operating temperature

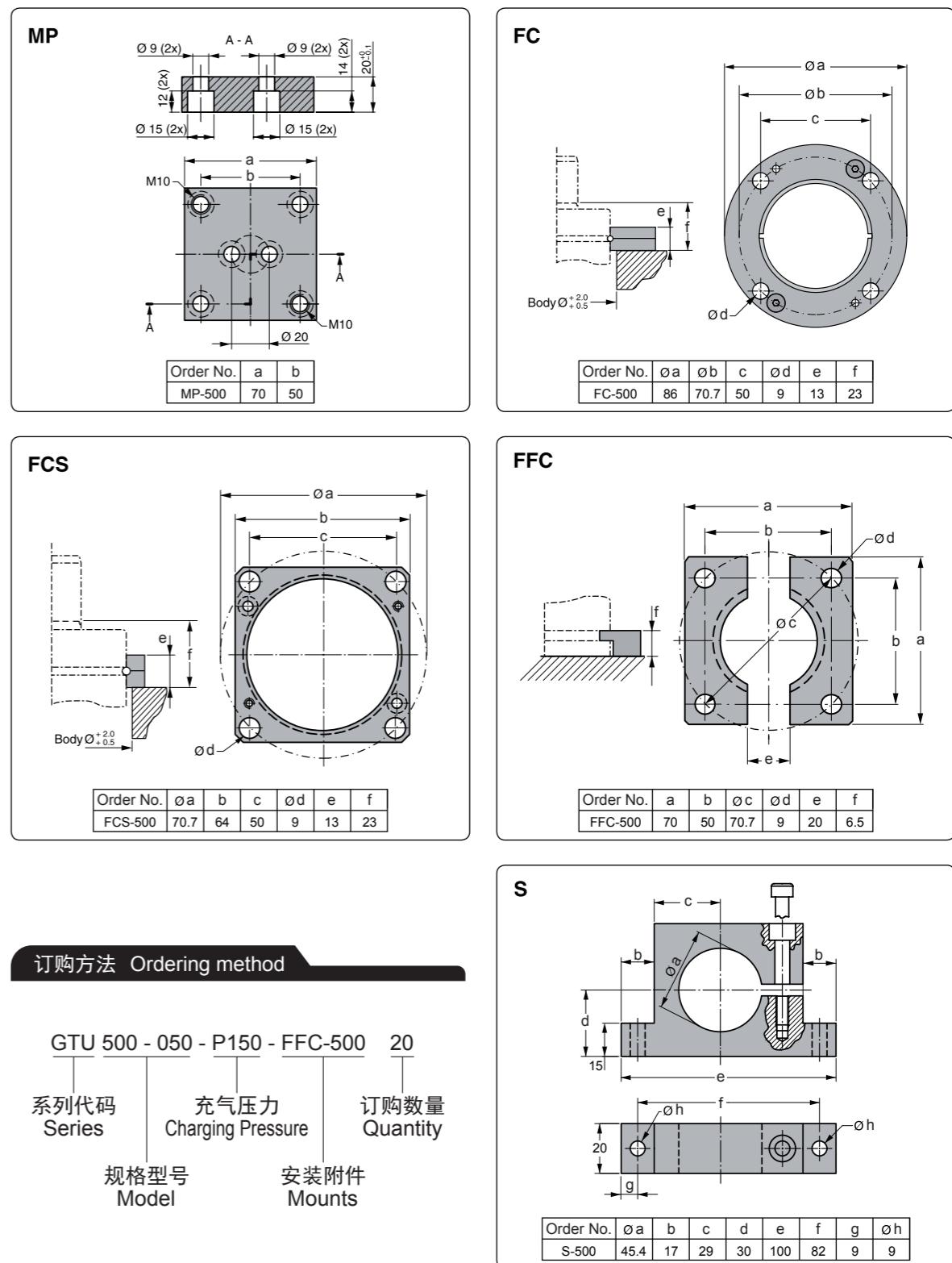
单位温度弹压力增量 ----- ± 0.3% / °C
 Force increase by temperature

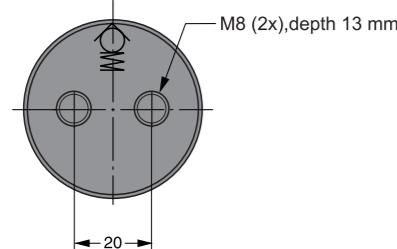
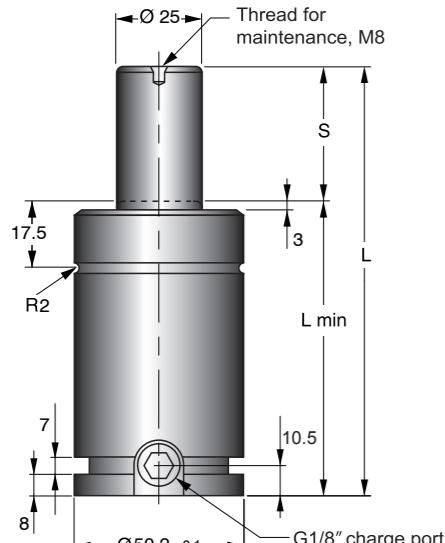
推荐每分钟工作频率 ----- 20-80 spm(20°C)
 Recommended working frequency

最大工作速度 ----- 96 m/min
 Max.piston rod velocity



几种安装可能性 Mounting Possibilities





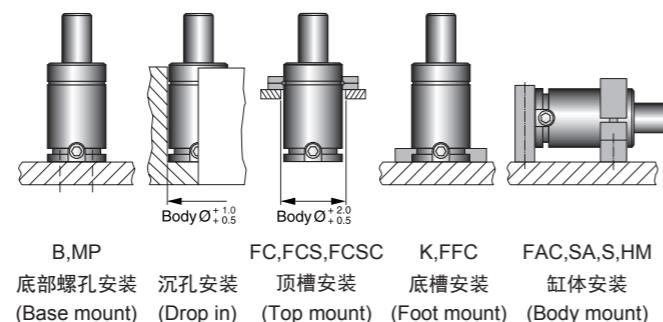
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		$L \pm 0.25$	Lmin
		初始力 Initial	终始力* End force*		
GTU750-013	7400	12.7	12000	120.4	107.7
GTU750-025		25	12000	145	120
GTU750-038		38.1	12000	171.2	133.1
GTU750-050		50	12000	195	145
GTU750-064		63.5	12000	222	158.5
GTU750-080		80	12000	255	175
GTU750-100		100	12000	295	195
GTU750-125		125	12100	345	220
GTU750-160		160	12100	415	255
GTU750-200		200	12100	495	295
GTU750-250		250	12100	595	345
GTU750-300		300	12100	695	395

*=在全行程 at full stroke

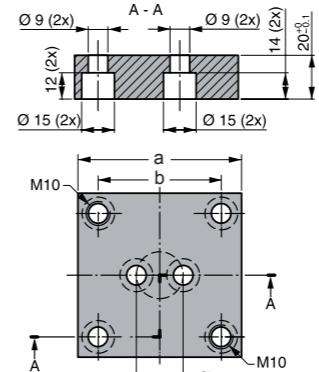
基本参数 Basic information

充气介质 ----- 氮气 Nitrogen
 Pressure medium
 最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure
 最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure
 工作环境温度 ----- 0~80°C
 Operating temperature
 单位温度弹压力增量 ----- ±0.3%/°C
 Force increase by temperature
 推荐每分钟工作频率 ----- 20-80spm(20°C)
 Recommended working frequency
 最大工作速度 ----- 96 m/min
 Max.piston rod velocity

几种安装可能性 Mounting Possibilities

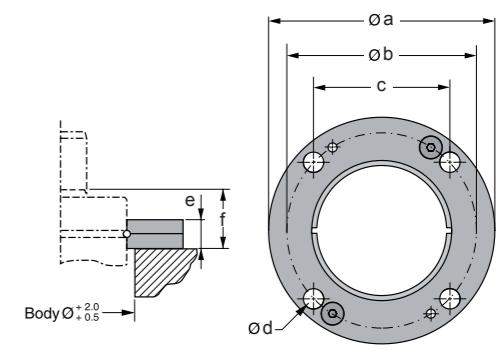


MP



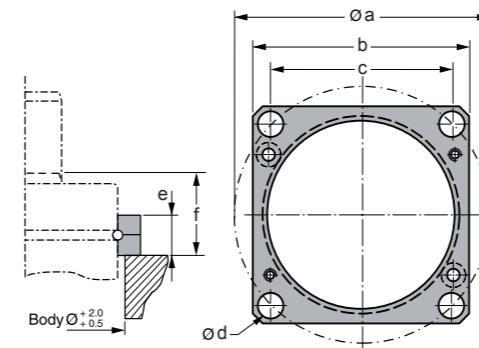
Order No.	a	b
MP-750	75	56.5

FC



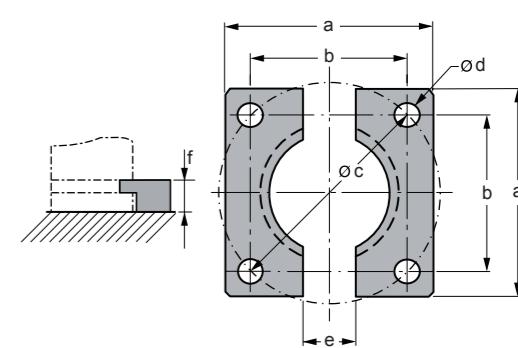
Order No.	Øa	Øb	c	Ød	e	f
FC-750	95	80	56.5	9	13	24

FCS



Order No.	Øa	b	c	Ød	e	f
FCS-750	80	70	56.5	9	13	24

FFC

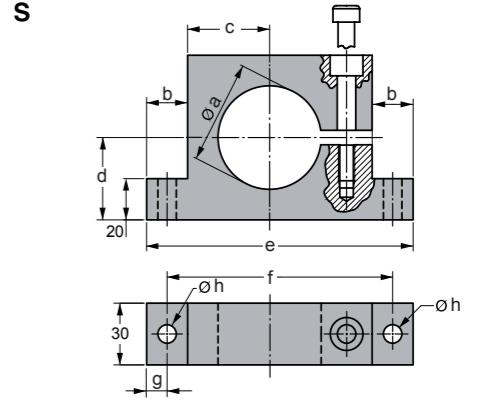


Order No.	a	b	c	d	e	f
FFC-750	75	56.5	80	9	24	12

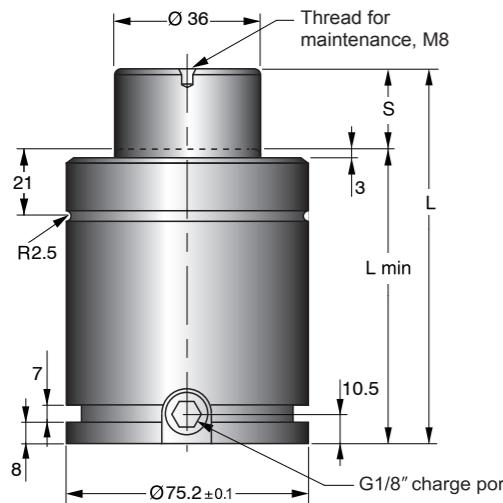
订购方法 Ordering method

GTU 750 - 050 - P150 - FFC-750 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts

S

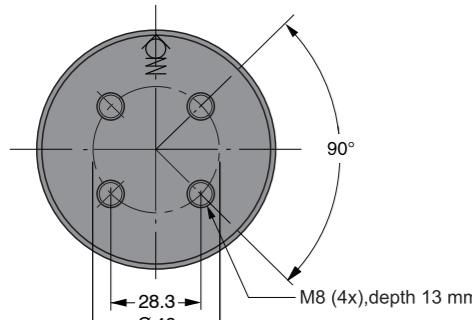


Order No.	Øa	b	c	d	e	f	g	Øh
S-750	50.4	20	40	40	130	110	10	9



氮气弹簧的标准系是GTU系列。
其规格从250到10000的氮气弹簧都符合国际ISO 11901标准。

The standard line of gas springs is the GTU line.
Sizes 250 to 10 000 correspond to the ISO 11901
standard for gas springs.



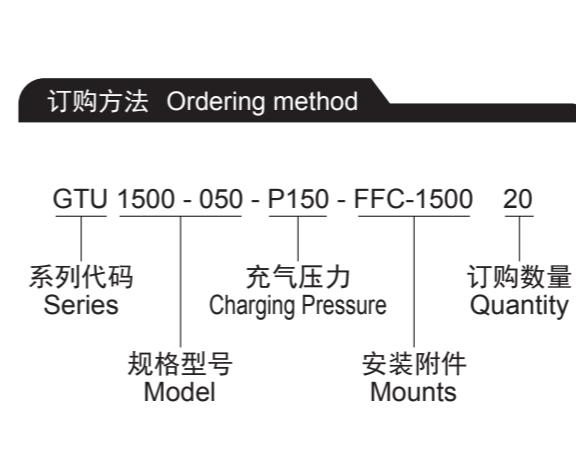
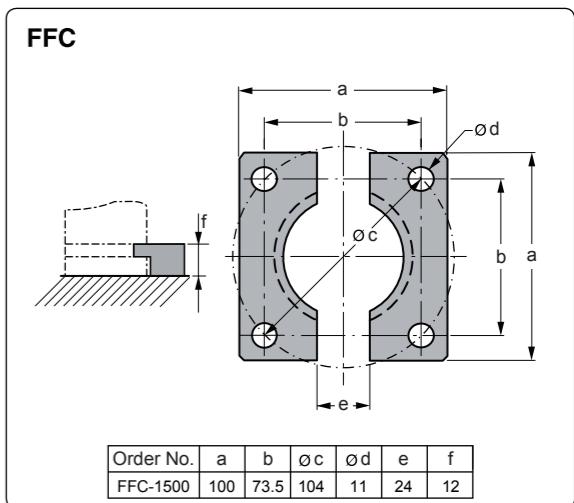
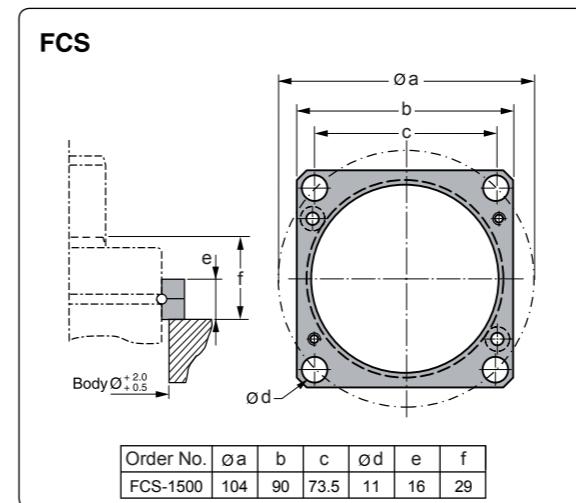
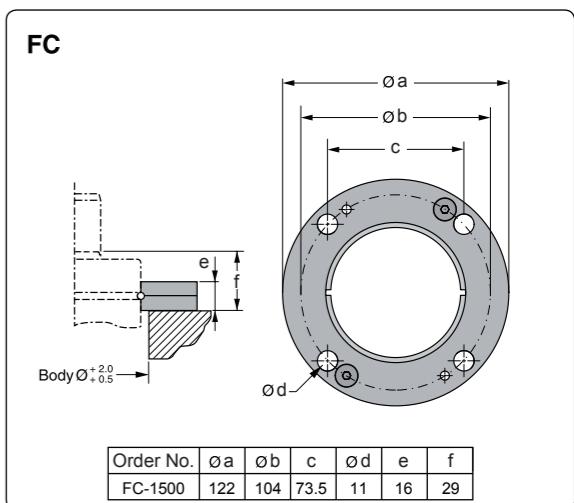
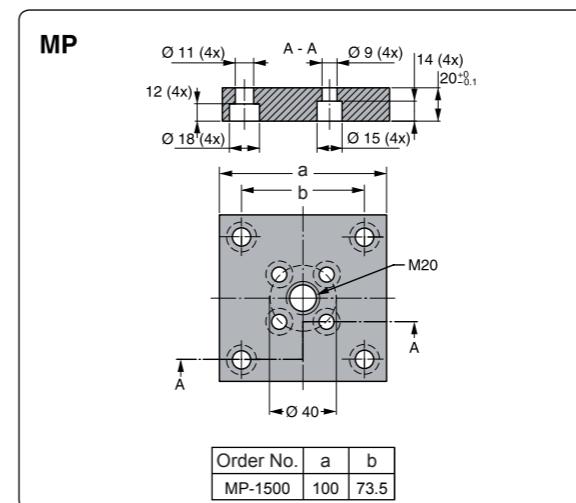
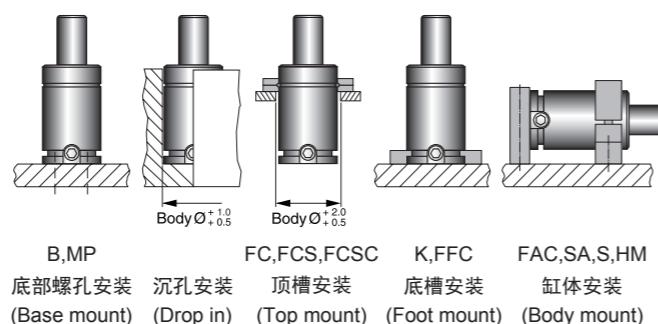
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU1500-025	25	23000	160	135	15000
GTU1500-038	38.1	23000	186.2	148.1	
GTU1500-050	50	23000	210	160	
GTU1500-064	63.5	23000	237	173.5	
GTU1500-080	80	23000	270	190	
GTU1500-100	100	23000	310	210	
GTU1500-125	125	23000	360	235	
GTU1500-160	160	23000	430	270	
GTU1500-200	200	23000	510	310	
GTU1500-250	250	23000	610	360	
GTU1500-300	300	23000	710	410	

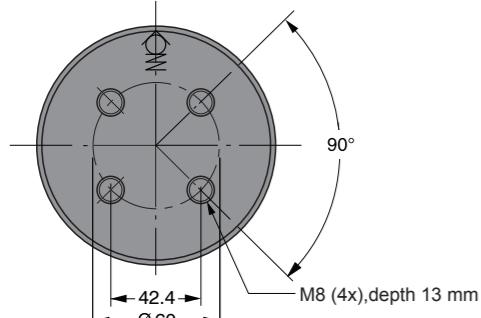
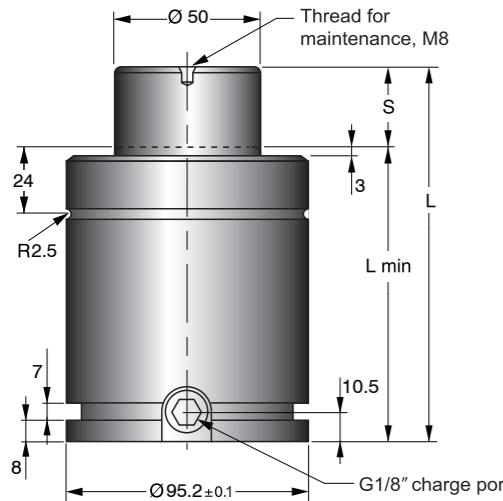
*=在全行程 at full stroke

基本参数 Basic information

充气介质 ----- 氮气 Nitrogen
Pressure medium
最大充气压力 ----- 150 bar(at 20°C)
Max.charging pressure
最小充气压力 ----- 25 bar(at 20°C)
Min.charging pressure
工作环境温度 ----- 0~80°C
Operating temperature
单位温度弹压力增量 ----- ±0.3%/°C
Force increase by temperature
推荐每分钟工作频率 ----- 20-80spm(20°C)
Recommended working frequency
最大工作速度 ----- 96 m/min
Max.piston rod velocity

几种安装可能性 Mounting Possibilities





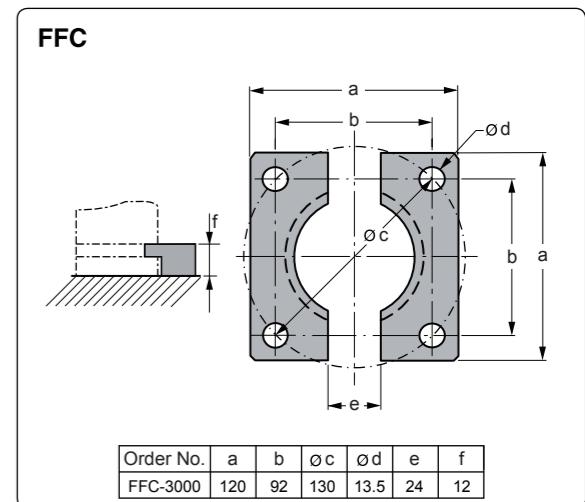
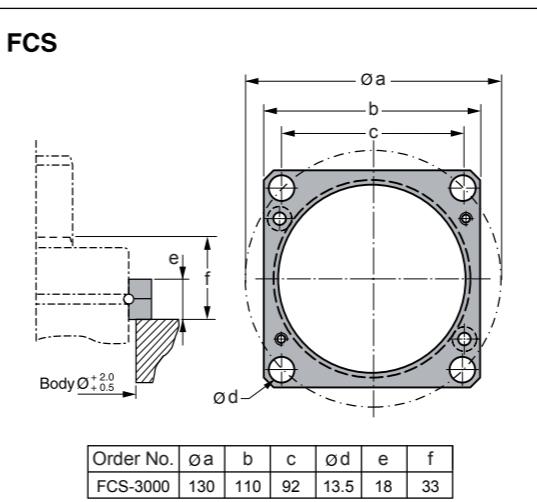
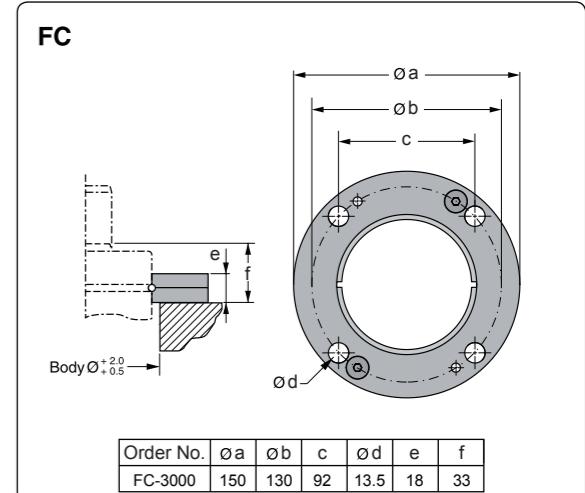
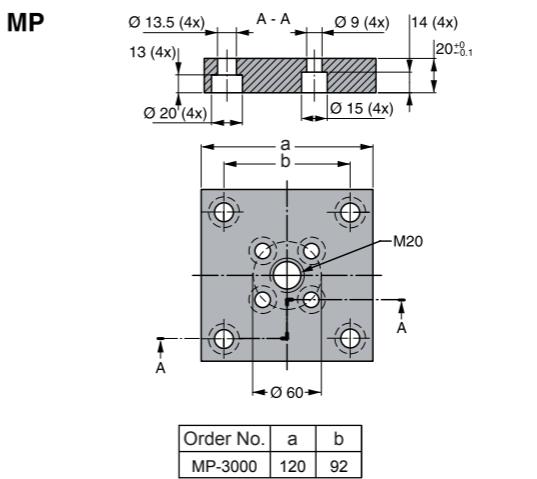
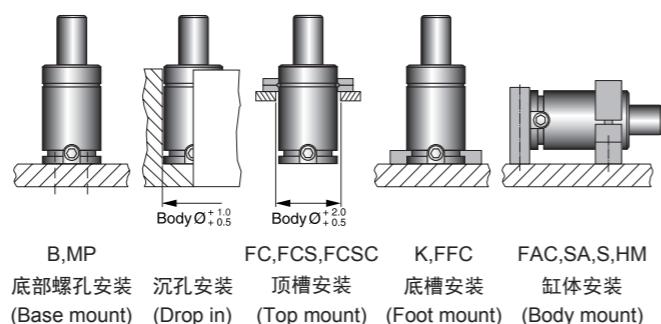
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU3000-025	25	42000	170	145	30000
GTU3000-038	38.1	43000	196.2	158.1	
GTU3000-050	50	44000	220	170	
GTU3000-064	63.5	45000	247	183.5	
GTU3000-080	80	46000	280	200	
GTU3000-100	100	47000	320	220	
GTU3000-125	125	47000	370	245	
GTU3000-160	160	47000	440	280	
GTU3000-200	200	48000	520	320	
GTU3000-250	250	48000	620	370	
GTU3000-300	300	48000	720	420	

*=在全行程 at full stroke

基本参数 Basic information

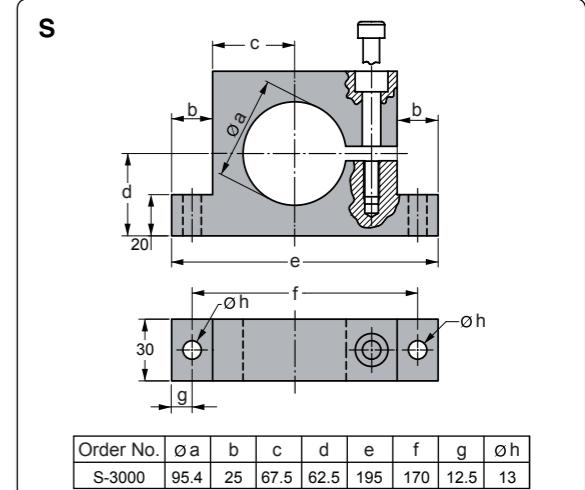
充气介质 ----- 氮气 Nitrogen
 Pressure medium
 最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure
 最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure
 工作环境温度 ----- 0~80°C
 Operating temperature
 单位温度弹压力增量 ----- ±0.3%/°C
 Force increase by temperature
 推荐每分钟工作频率 ----- 20-80spm(20°C)
 Recommended working frequency
 最大工作速度 ----- 96 m/min
 Max.piston rod velocity

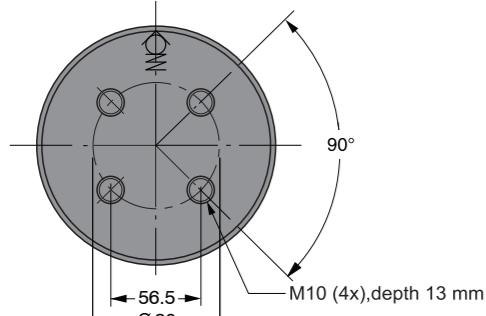
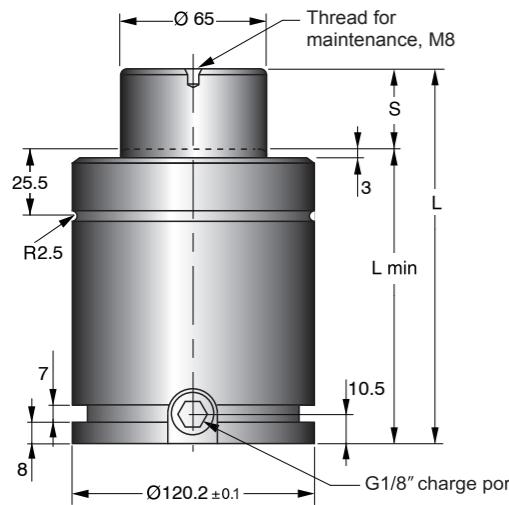
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GTU 3000 - 050 - P150 - FFC-3000 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts





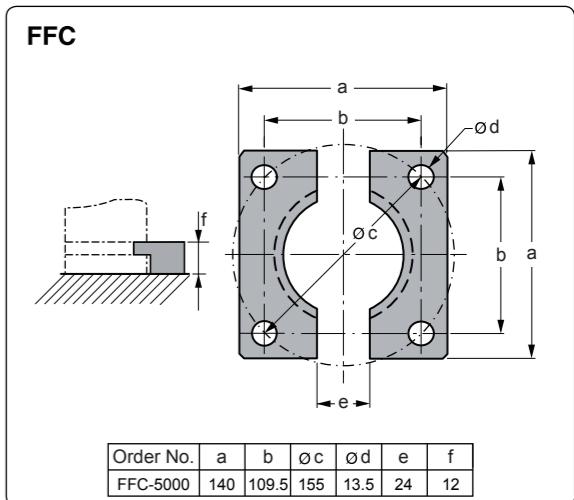
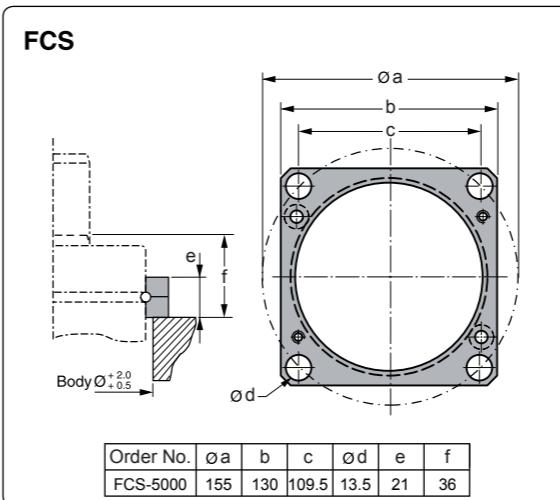
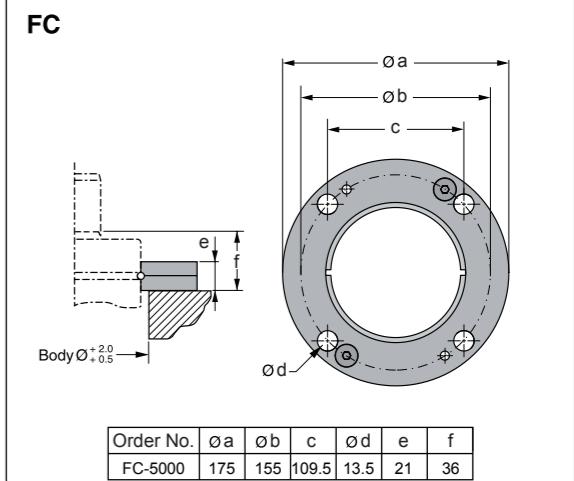
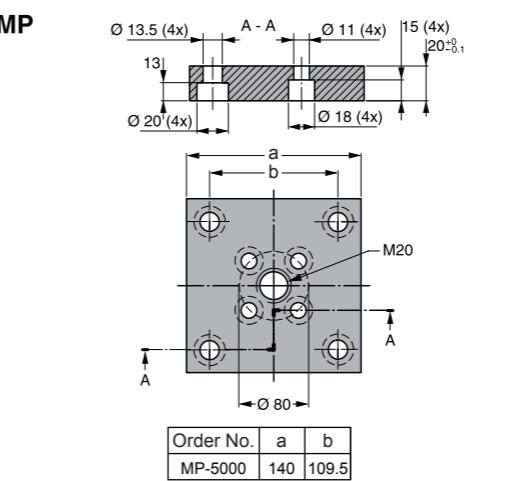
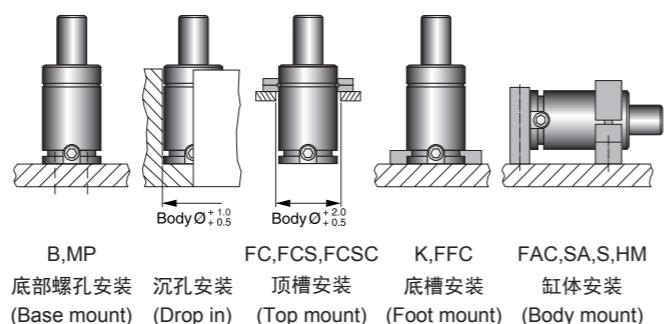
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU5000-025	25	71000	190	165	50000
GTU5000-038	38.1	75000	216.2	178.1	
GTU5000-050	50	77000	240	190	
GTU5000-064	63.5	80000	267	203.5	
GTU5000-080	80	81000	300	220	
GTU5000-100	100	82000	340	240	
GTU5000-125	125	82000	390	265	
GTU5000-160	160	83000	460	300	
GTU5000-200	200	84000	540	340	
GTU5000-250	250	84000	640	390	
GTU5000-300	300	84000	740	440	

*=在全行程 at full stroke

基本参数 Basic information

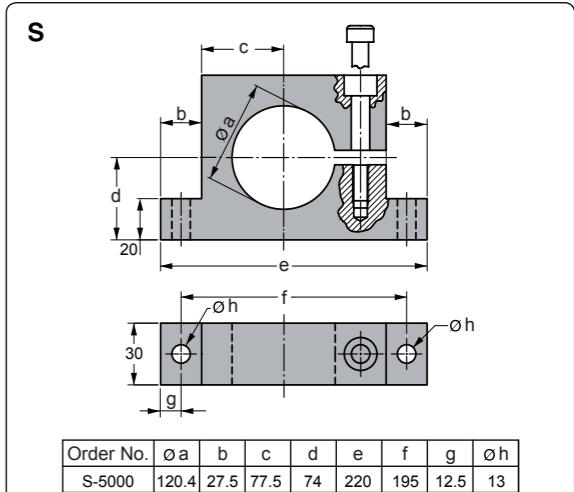
充气介质 ----- 氮气 Nitrogen
 Pressure medium
 最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure
 最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure
 工作环境温度 ----- 0~80°C
 Operating temperature
 单位温度弹压力增量 ----- ±0.3%/°C
 Force increase by temperature
 推荐每分钟工作频率 ----- 20-80spm(20°C)
 Recommended working frequency
 最大工作速度 ----- 96 m/min
 Max.piston rod velocity

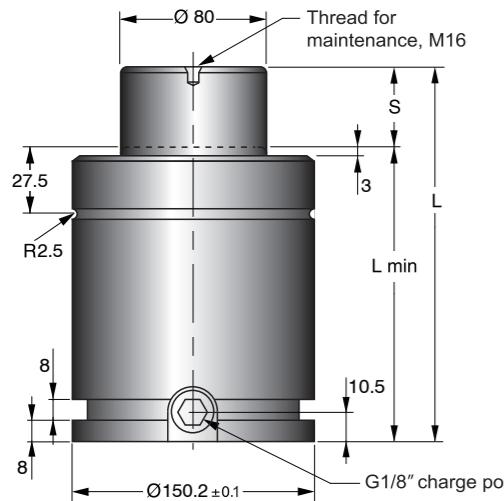
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GTU 5000 - 100 - P150 - FFC-5000 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts

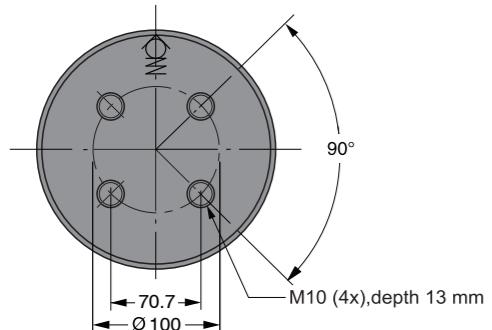




氮气弹簧的标准系是GTU系列。

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The standard line of gas springs is the GTU line.
Sizes 250 to 10 000 correspond to the ISO 11901
standard for gas springs.



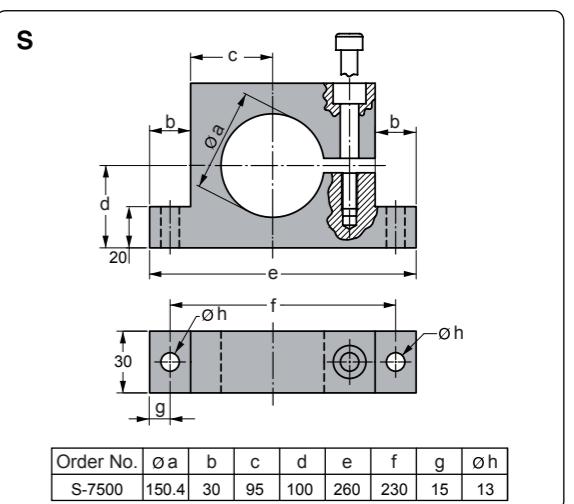
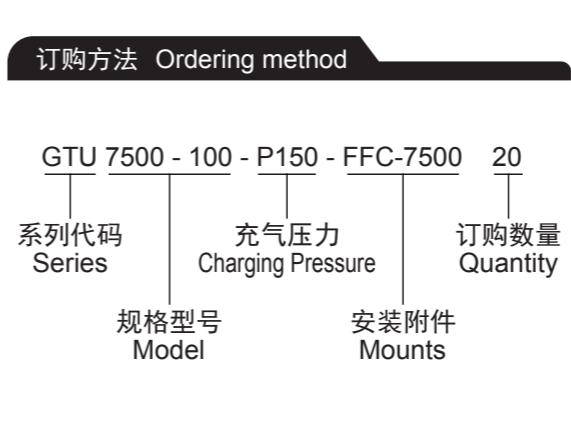
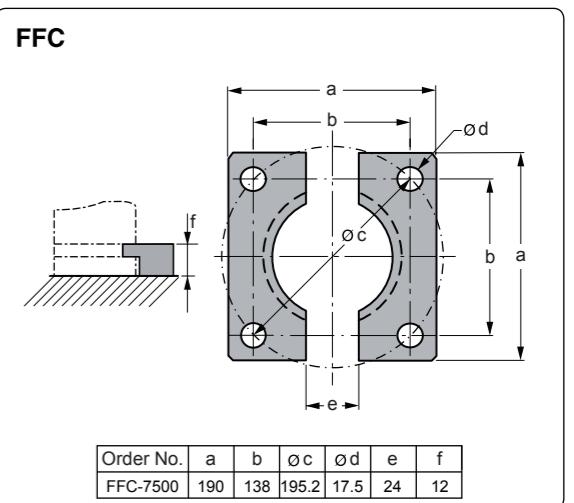
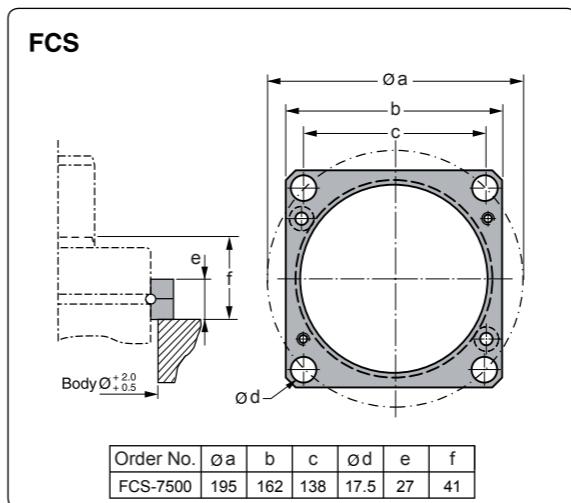
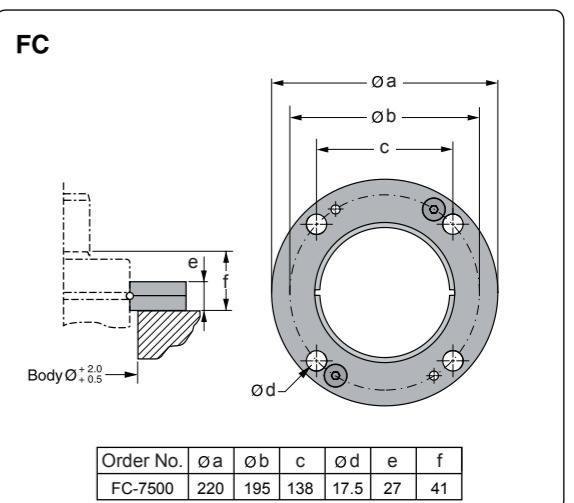
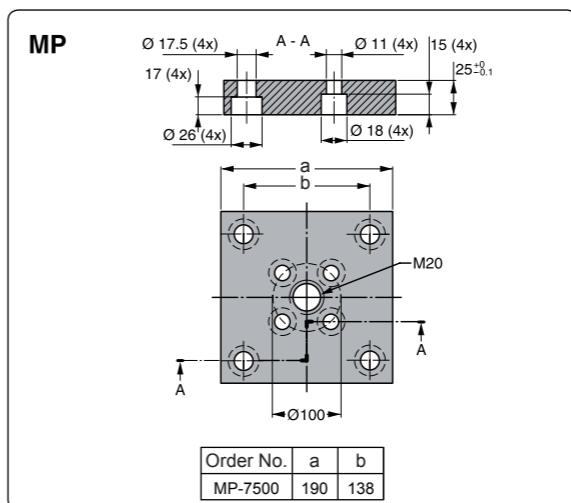
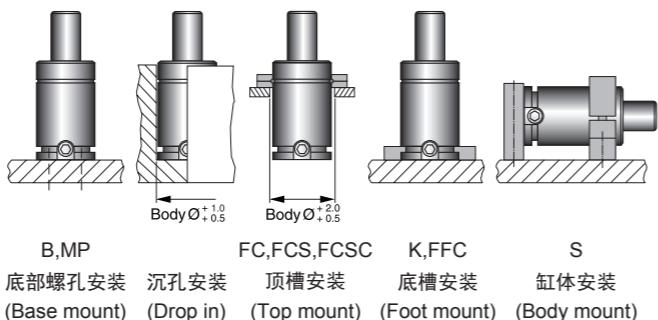
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU7500-025	25	105000	205	180	75000
GTU7500-038	38.1	110000	231.2	193.1	
GTU7500-050	50	113000	255	205	
GTU7500-064	63.5	115000	282	218.5	
GTU7500-080	80	117000	315	235	
GTU7500-100	100	119000	355	255	
GTU7500-125	125	121000	405	280	
GTU7500-160	160	122000	475	315	
GTU7500-200	200	123000	555	355	
GTU7500-250	250	124000	655	405	
GTU7500-300	300	124000	755	455	

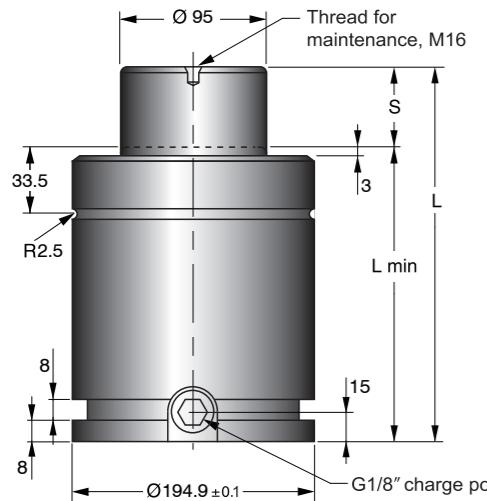
*=在全行程 at full stroke

基本参数 Basic information

充气介质 ----- 氮气 Nitrogen
Pressure medium
最大充气压力 ----- 150 bar(at 20°C)
Max.charging pressure
最小充气压力 ----- 25 bar(at 20°C)
Min.charging pressure
工作环境温度 ----- 0~80°C
Operating temperature
单位温度弹压力增量 ----- ±0.3%/°C
Force increase by temperature
推荐每分钟工作频率 ----- 20-80spm(20°C)
Recommended working frequency
最大工作速度 ----- 96 m/min
Max.piston rod velocity

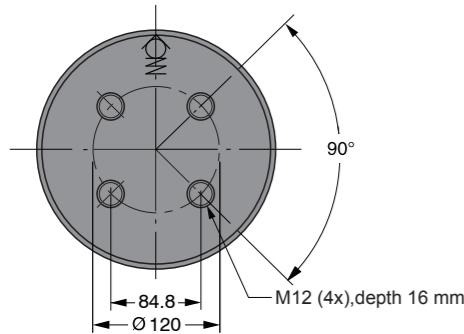
几种安装可能性 Mounting Possibilities





氮气弹簧的标准系是GTU系列。
其规格从250到10000的氮气弹簧都符合国际ISO 11901标准。

The standard line of gas springs is the GTU line.
Sizes 250 to 10 000 correspond to the ISO 11901
standard for gas springs.



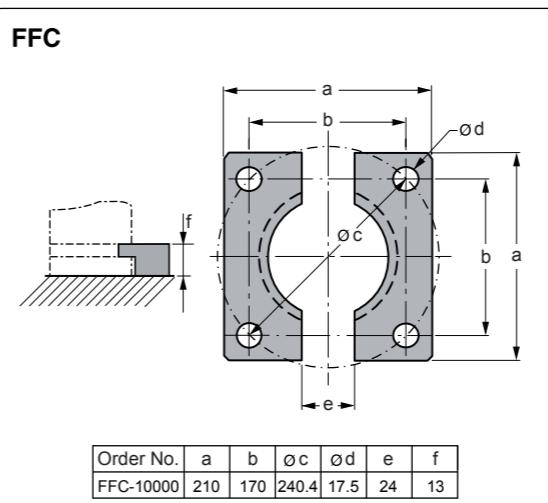
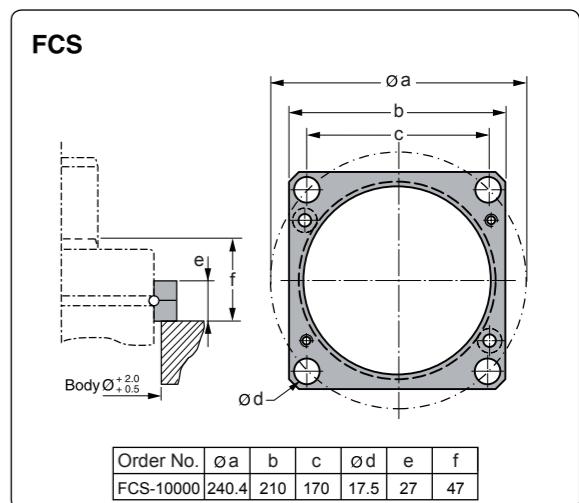
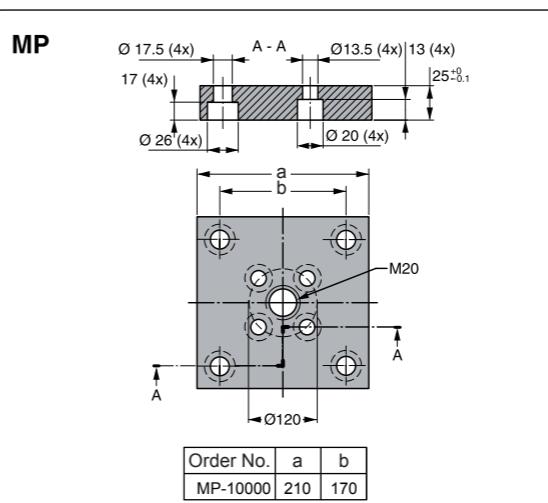
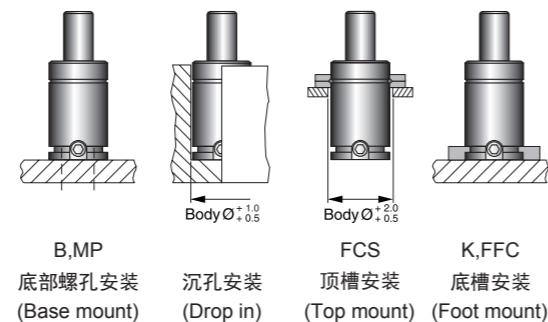
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU10000-025	25	138000	210	185	106000
GTU10000-038	38.1	143000	236.2	198.1	
GTU10000-050	50	147000	260	210	
GTU10000-064	63.5	150000	287	223.5	
GTU10000-080	80	152000	320	240	
GTU10000-100	100	156000	360	260	
GTU10000-125	125	157000	410	285	
GTU10000-160	160	158000	480	320	
GTU10000-200	200	160000	560	360	
GTU10000-250	250	160000	660	410	
GTU10000-300	300	160000	760	460	

*=在全行程 at full stroke

基本参数 Basic information

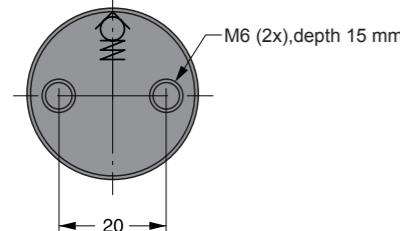
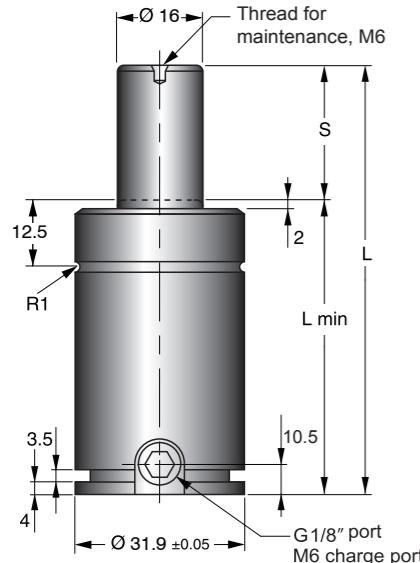
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GTU 10000 - 050 - P150 - FFC-10000 20
 系列代码 Series
 充气压力 Charging Pressure
 规格型号 Model
 安装附件 Mounts
 订购数量 Quantity



强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。一些系列氮气弹簧的弹压力从3600 N 到 66000 N，工作行程从10至125mm。

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An upper C-groove, lower U-groove together with two M6 threaded holes allow various mounting possibilities using our standard mounts.

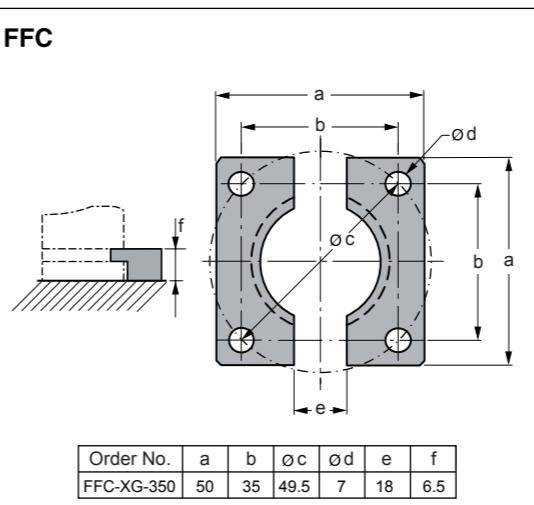
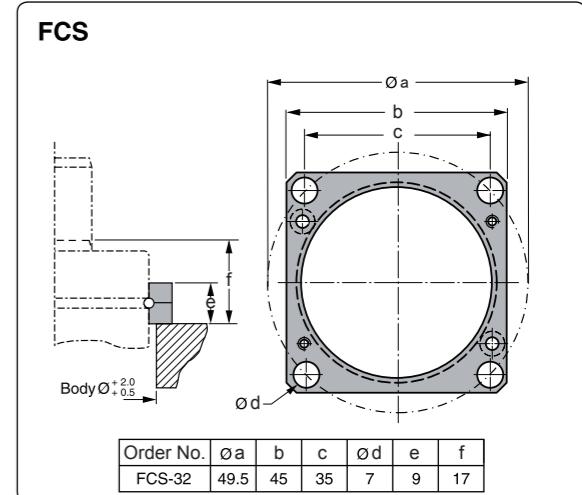
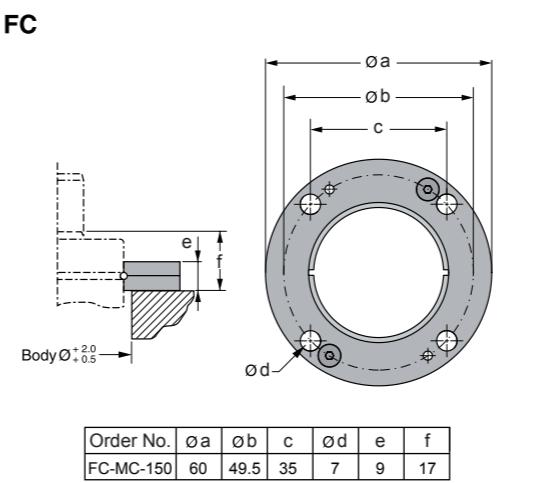
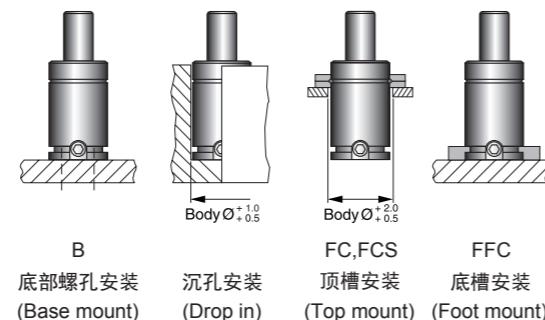
Order No.	行程 Stroke S	弹压力N在180bar+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG350-010	10	5900	60	50	3600
GXG350-013	13	5200	66	53	
GXG350-016	16	5300	72	56	
GXG350-019	19	5600	78	59	
GXG350-025	25	5500	90	65	
GXG350-032	32	5500	104	72	
GXG350-038	38	5500	116	78	
GXG350-050	50	5600	140	90	
GXG350-063	63	5500	166	103	
GXG350-075	75	5500	190	115	
GXG350-080	80	5500	200	120	
GXG350-100	100	5500	240	140	
GXG350-125	125	5500	290	165	

*=在全行程 at full stroke

基本参数 Basic information

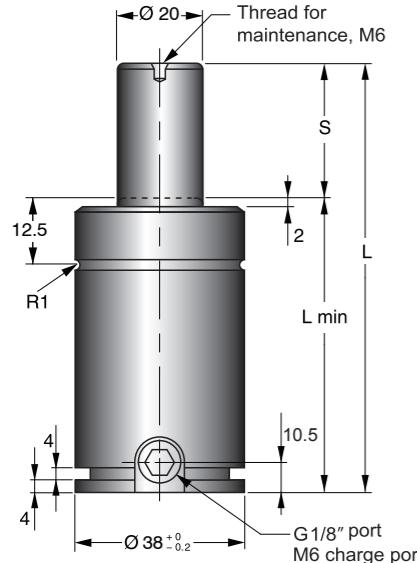
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GXG 350 - 050 - P180 - FCS-32 20
 系列代码 Series
 充气压力 Charging Pressure
 规格型号 Model
 订购数量 Quantity
 安装附件 Mounts



强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。一些系列氮气弹簧的弹压力从3600 N 到 66000 N，工作行程从10至125mm。

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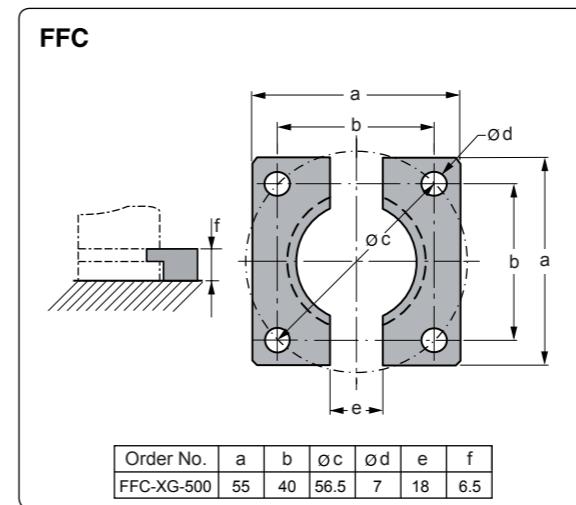
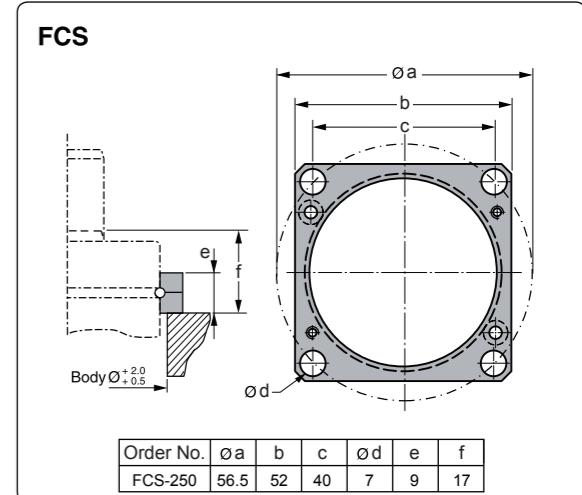
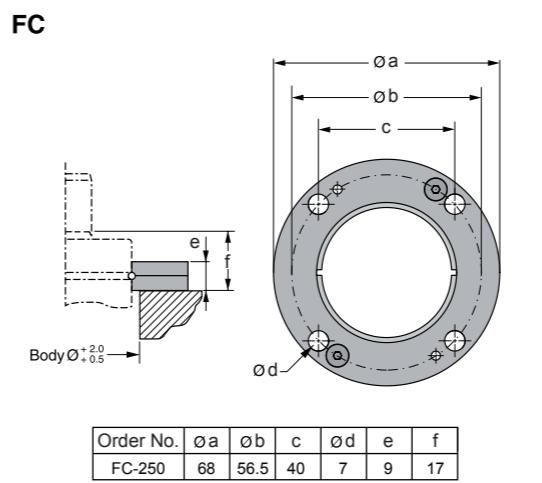
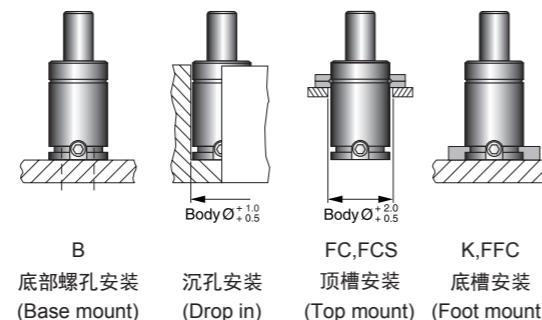
Order No.	行程 Stroke S	弹压力N在150bar+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG500-010	10	4700	7200	60	50
GXG500-013	13		7100	66	53
GXG500-016	16		7200	72	56
GXG500-019	19		7400	78	59
GXG500-025	25		7300	90	65
GXG500-032	32		7200	104	72
GXG500-038	38		7200	116	78
GXG500-050	50		7200	140	90
GXG500-063	63		7200	166	103
GXG500-075	75		7100	190	115
GXG500-080	80		7100	200	120
GXG500-100	100		7100	240	140
GXG500-125	125		7100	290	165

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

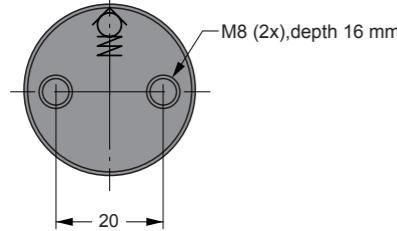
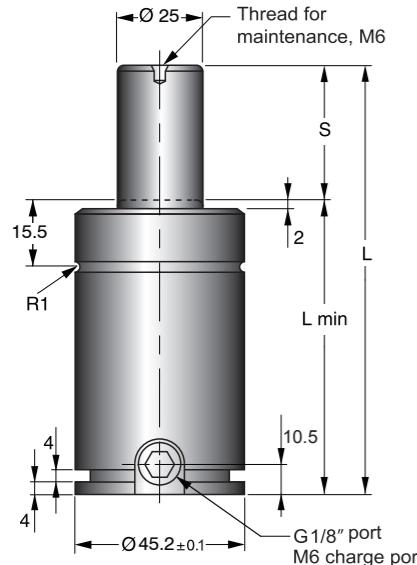
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GXG 500 - 050 - P150 - FCS-250 20

系列代码 Series
规格型号 Model
充气压力 Charging Pressure
订购数量 Quantity
安装附件 Mounts



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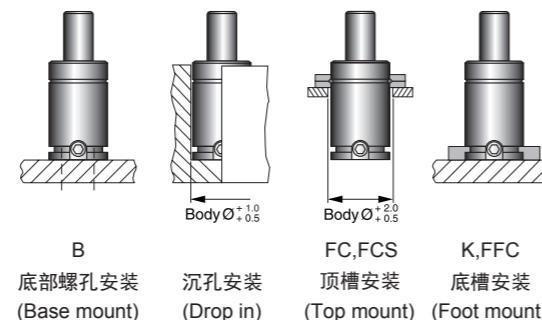
Order No.	行程 Stroke S	弹压力N在150bar+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG750-010	10	12100	67	57	7400
GXG750-013	13	12100	73	60	
GXG750-016	16	12100	79	63	
GXG750-019	19	11700	85	66	
GXG750-025	25	11800	97	72	
GXG750-032	32	11800	111	79	
GXG750-038	38	11800	123	85	
GXG750-050	50	11800	147	97	
GXG750-063	63	11800	173	110	
GXG750-075	75	11900	197	122	
GXG750-080	80	11900	207	127	
GXG750-100	100	11900	247	147	
GXG750-125	125	11900	297	172	

*=在全行程 at full stroke

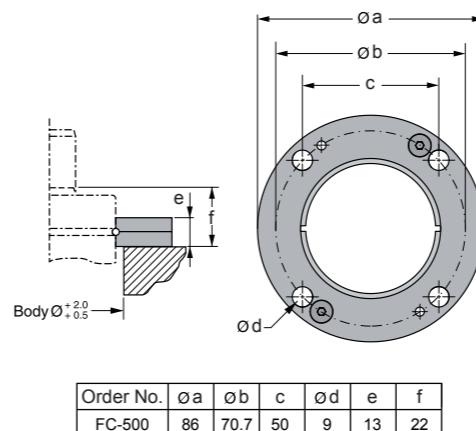
基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

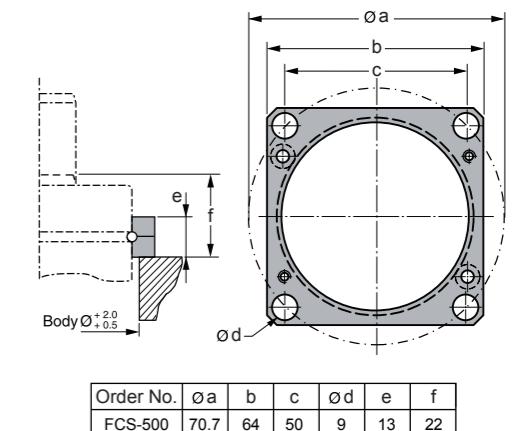
几种安装可能性 Mounting Possibilities



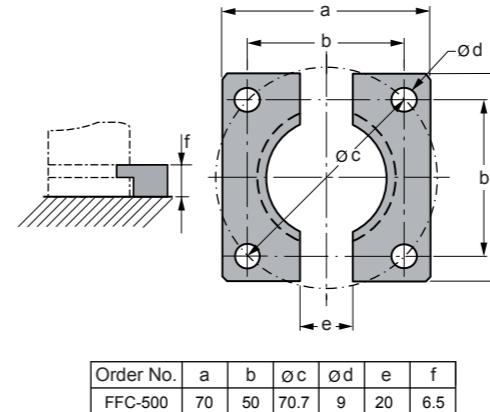
FC



FCS

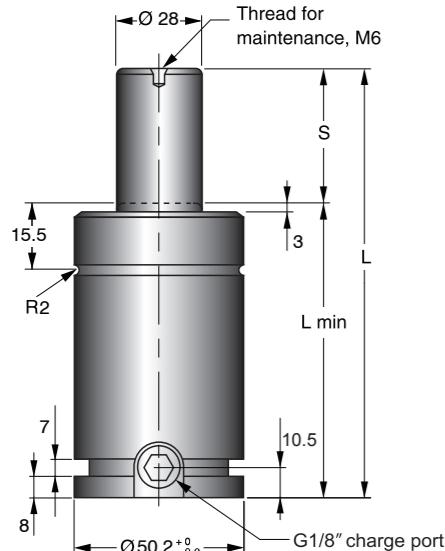


FFC



订购方法 Ordering method

GXG 750 - 050 - P150 - FCS-500 20
 系列代码 Series
 充气压力 Charging Pressure
 规格型号 Model
 订购数量 Quantity
 安装附件 Mounts



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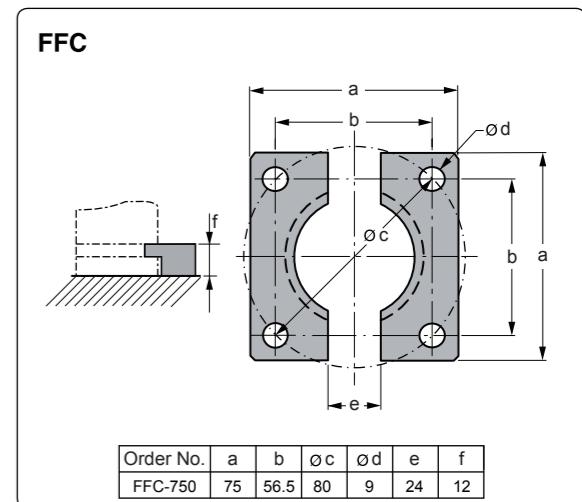
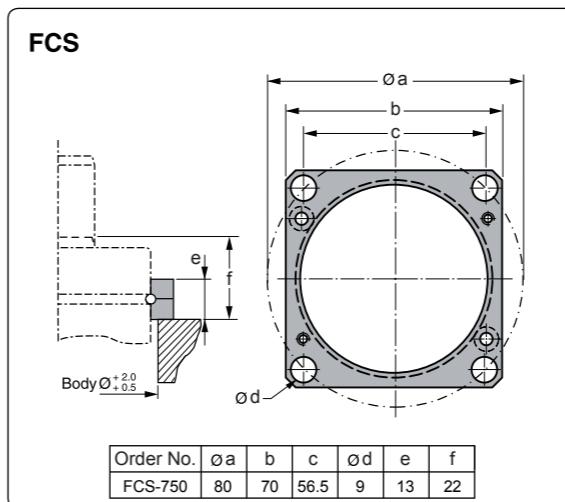
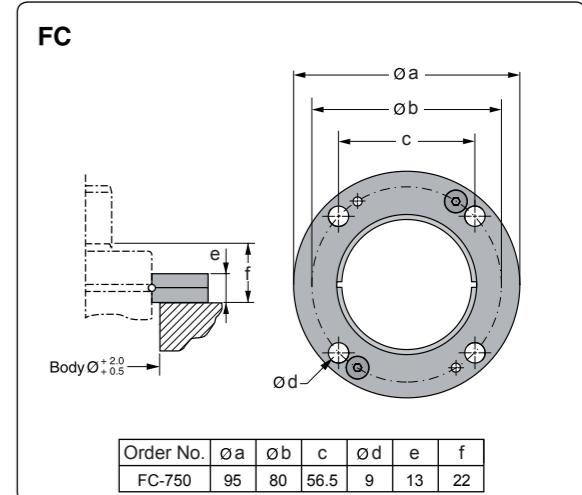
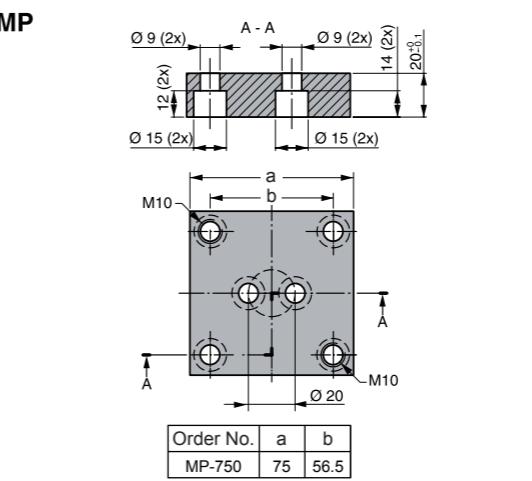
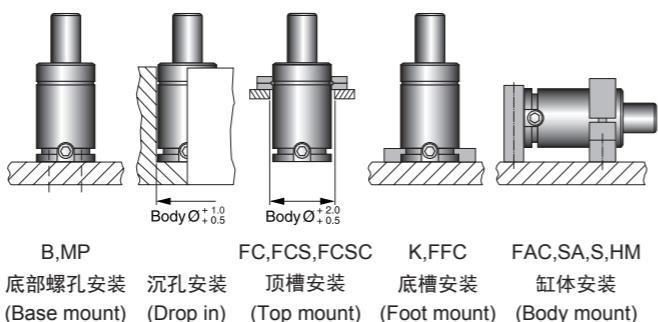
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG1000-013	13	13800	78	65	9200
GXG1000-016	16	13800	84	68	
GXG1000-019	19	14000	90	71	
GXG1000-025	25	14200	102	77	
GXG1000-032	32	14300	116	84	
GXG1000-038	38	14500	128	90	
GXG1000-050	50	14600	152	102	
GXG1000-063	63	14700	178	115	
GXG1000-075	75	14700	202	127	
GXG1000-080	80	14800	212	132	
GXG1000-100	100	14800	252	152	
GXG1000-125	125	14800	302	177	

*=在全行程 at full stroke

基本参数 Basic information

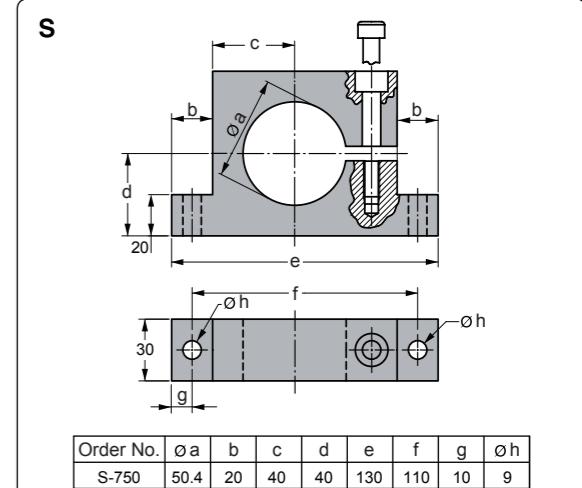
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

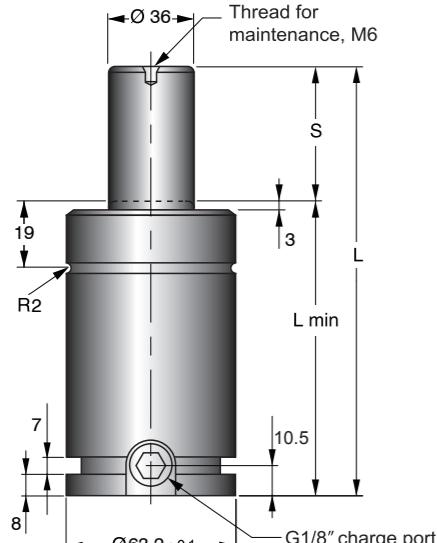
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GXG 1000 - 050 - P150 - FFC-750 20
 系列代码 Series 规格型号 Model 充气压力 Charging Pressure 订购数量 Quantity
 FFC-750 20





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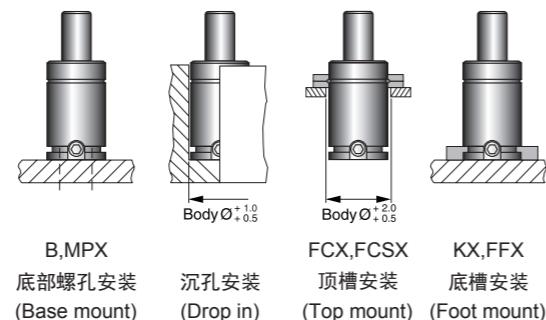
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG1500-013	13	15000	24000	78	65
GXG1500-016	16		24100	84	68
GXG1500-019	19		24200	90	71
GXG1500-025	25		24300	102	77
GXG1500-032	32		23800	116	84
GXG1500-038	38		23900	128	90
GXG1500-050	50		24000	152	102
GXG1500-063	63		24100	178	115
GXG1500-075	75		24200	202	127
GXG1500-080	80		24200	212	132
GXG1500-100	100		24300	252	152
GXG1500-125	125		24300	302	177

*=在全行程 at full stroke

基本参数 Basic information

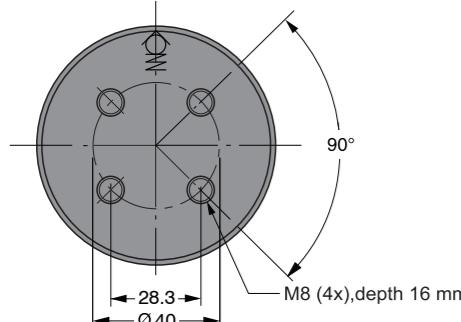
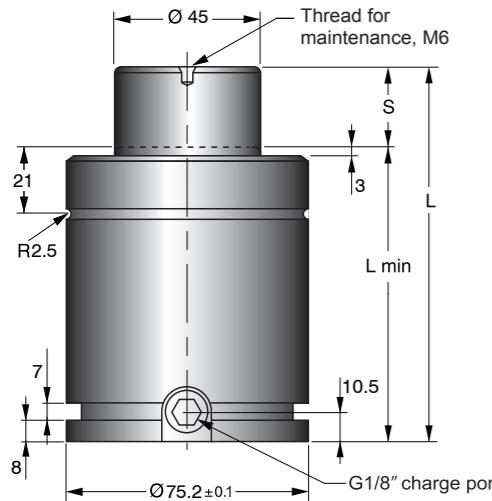
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- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3% / °C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GXG 1500 - 050 - P150 - FCX-1500 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



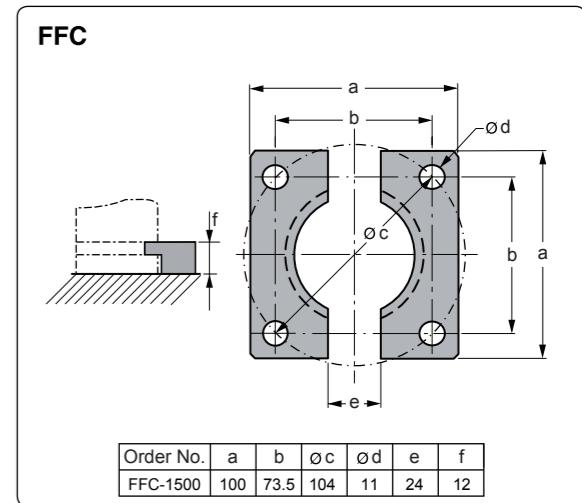
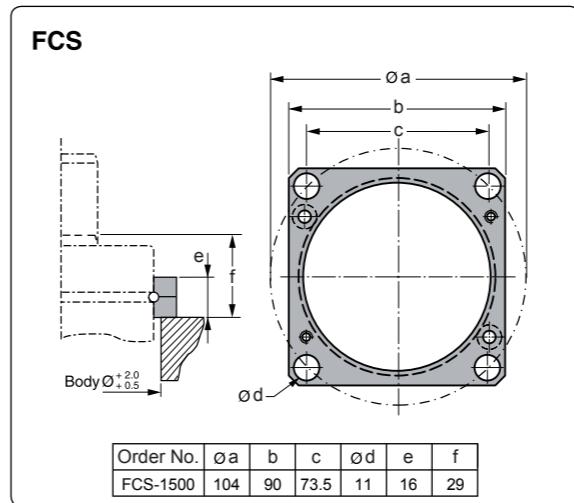
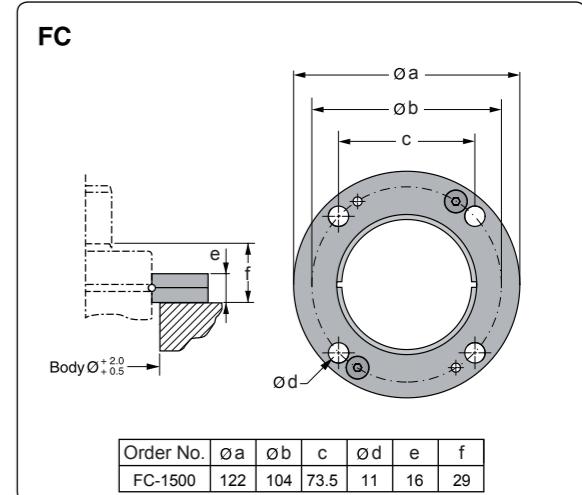
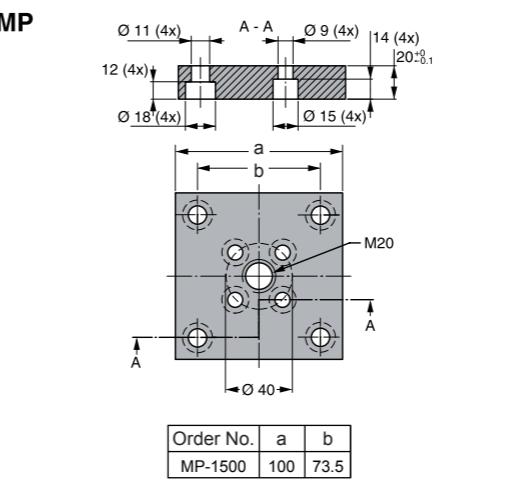
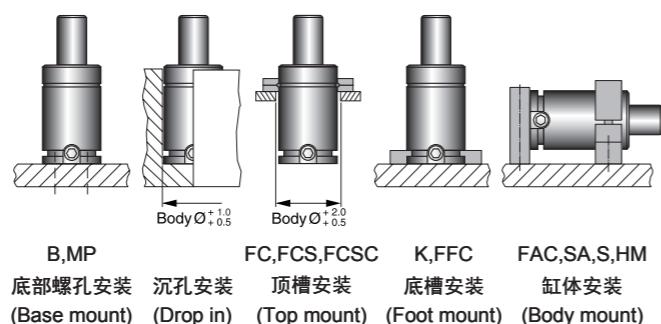
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG2400-016	16	38300	91	75	24000
GXG2400-019	19	38500	97	78	
GXG2400-025	25	38700	109	84	
GXG2400-032	32	38600	123	91	
GXG2400-038	38	38400	135	97	
GXG2400-050	50	39200	159	109	
GXG2400-063	63	39200	185	122	
GXG2400-075	75	39200	209	134	
GXG2400-080	80	39200	219	139	
GXG2400-100	100	39300	259	159	
GXG2400-125	125	39300	309	184	

*=在全行程 at full stroke

基本参数 Basic information

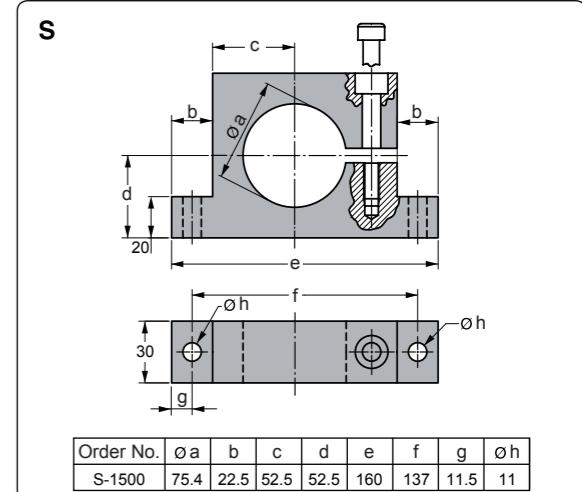
充气介质 ----- 氮气 Nitrogen
 Pressure medium
 最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure
 最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure
 工作环境温度 ----- 0~80°C
 Operating temperature
 单位温度弹压力量 ----- ±0.3%/°C
 Force increase by temperature
 推荐每分钟工作频率 ----- 20-80spm(20°C)
 Recommended working frequency
 最大工作速度 ----- 96 m/min
 Max.piston rod velocity

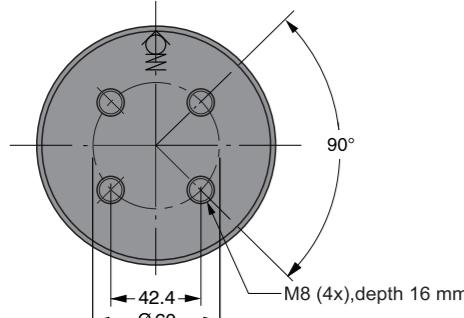
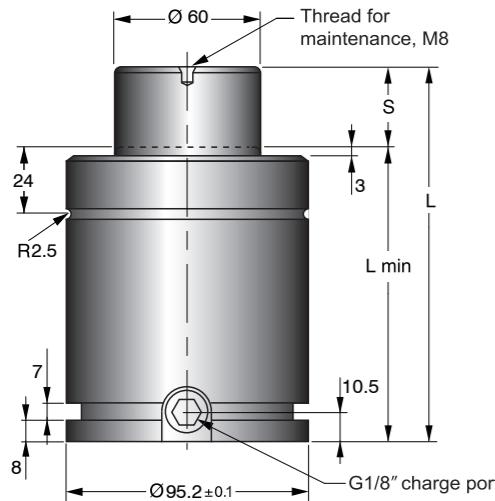
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GXG 2400 - 050 - P150 - FFC-1500 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts





强力氮气弹簧是我们产品中靠柱塞杆密封的最矮、弹压力最大的氮气弹簧。它可以在很小的模具内提供非常大的弹压力。此系列氮气弹簧的弹压力从3600 N 到 66000 N，工作行程从10至125mm。

此系列气弹簧在缸侧面有一个充气口，也可以使用这个充气口，用于管路连接系统。

缸体上部有一个C形槽，缸体下部有一个U形槽，它们同缸体底部四个M8螺孔一起，提供了各种安装可能性。

The Power Line Series includes our shortest and most powerful Piston Rod Sealed gas springs, offering impressive force in a very compact format.

The Power Line springs are available with forces from 3,600 N up to 66,000 N and stroke lengths between 10 and 125 mm.

There is a side and a bottom port for gas charging that can also be used to connect to a hose system.

An upper C-groove, lower U-groove together with four M8 threaded holes allow various mounting possibilities using our standard mounts.

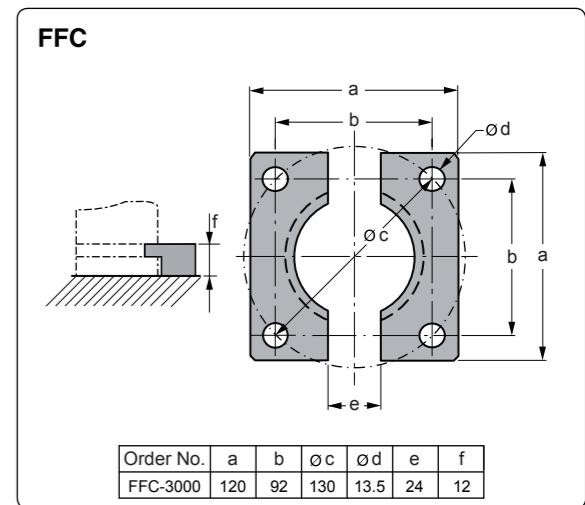
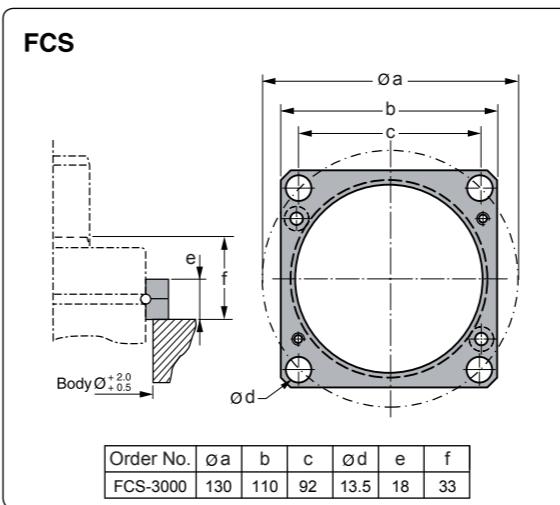
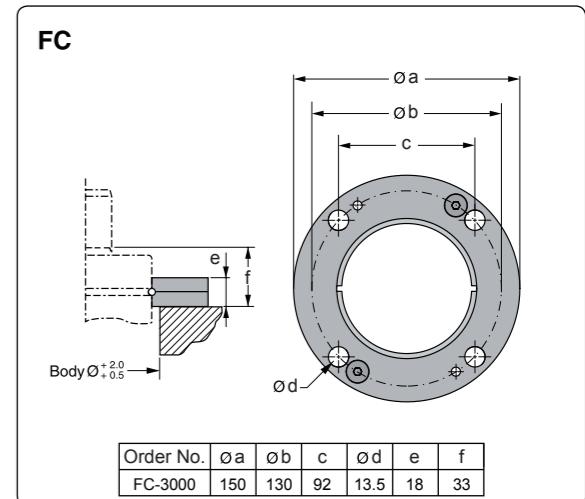
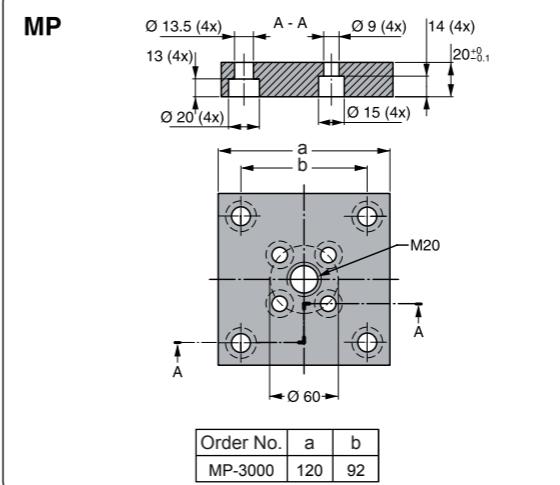
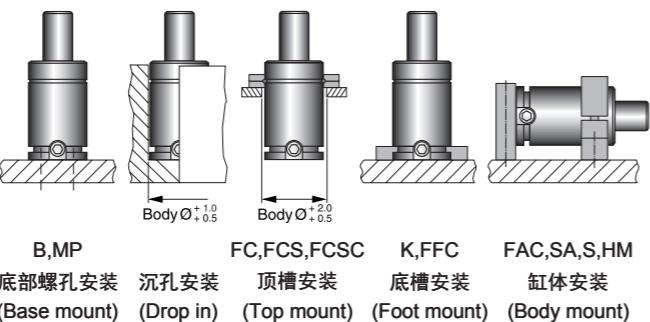
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG4200-016	16	61700	94	78	42000
GXG4200-019	19	63700	100	81	
GXG4200-025	25	60800	112	87	
GXG4200-032	32	64300	126	94	
GXG4200-038	38	65800	138	100	
GXG4200-050	50	67000	162	112	
GXG4200-063	63	67800	188	125	
GXG4200-075	75	68000	212	137	
GXG4200-080	80	68600	222	142	
GXG4200-100	100	69100	262	162	
GXG4200-125	125	69600	312	187	

*=在全行程 at full stroke

基本参数 Basic information

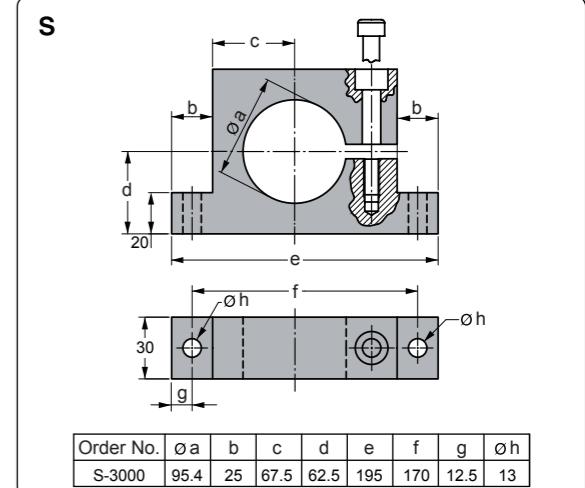
- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

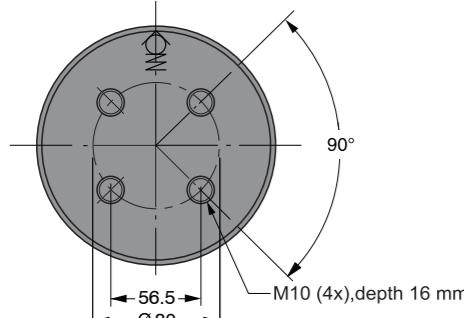
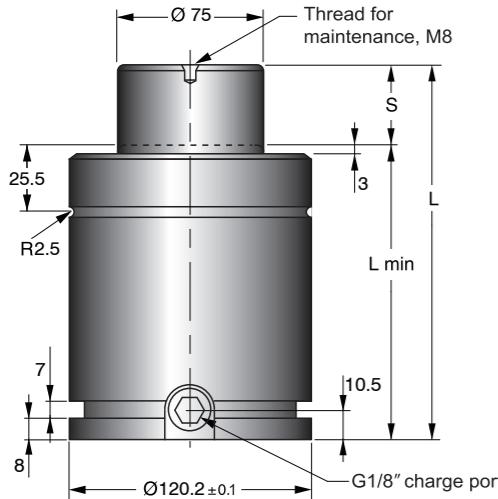
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GXG 4200 - 050 - P150 - FFC-3000 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts





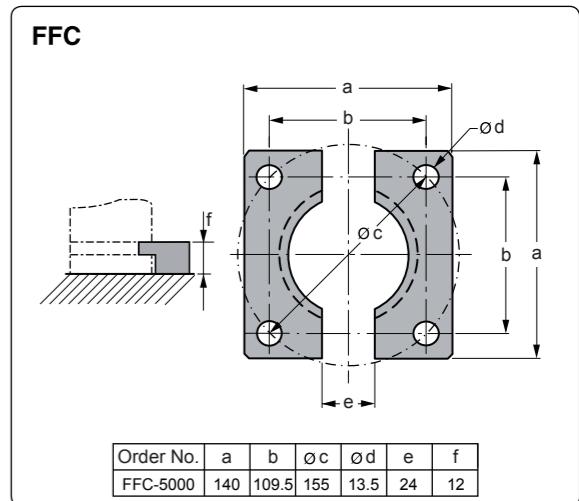
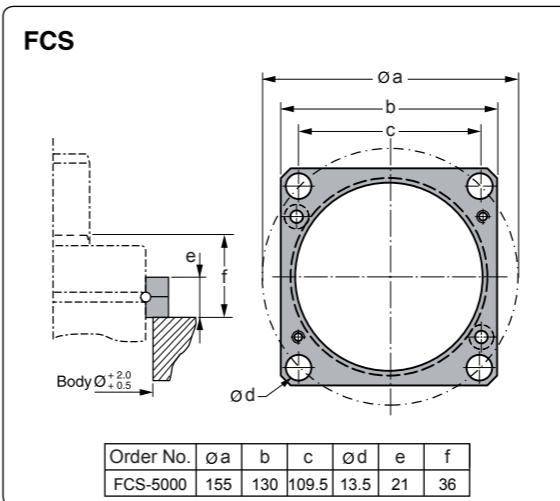
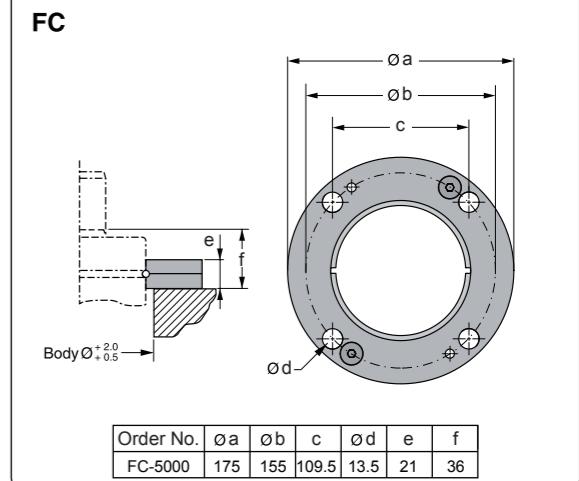
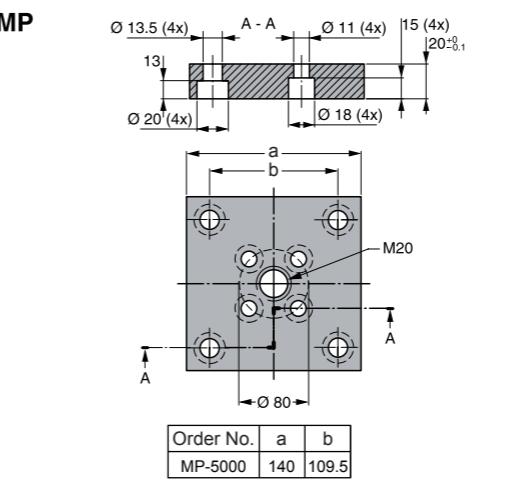
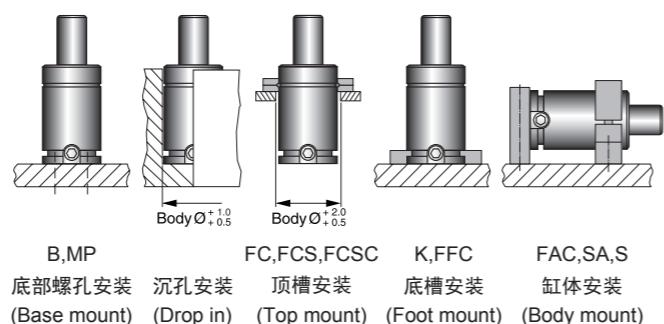
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG6600-016	16	89000	104	88	66300
GXG6600-019	19	91000	110	91	
GXG6600-025	25	93900	122	97	
GXG6600-032	32	96100	136	104	
GXG6600-038	38	98200	148	110	
GXG6600-050	50	100600	172	122	
GXG6600-063	63	102400	198	135	
GXG6600-075	75	103400	222	147	
GXG6600-080	80	104100	232	152	
GXG6600-100	100	105400	272	172	
GXG6600-125	125	106500	322	197	

*=在全行程 at full stroke

基本参数 Basic information

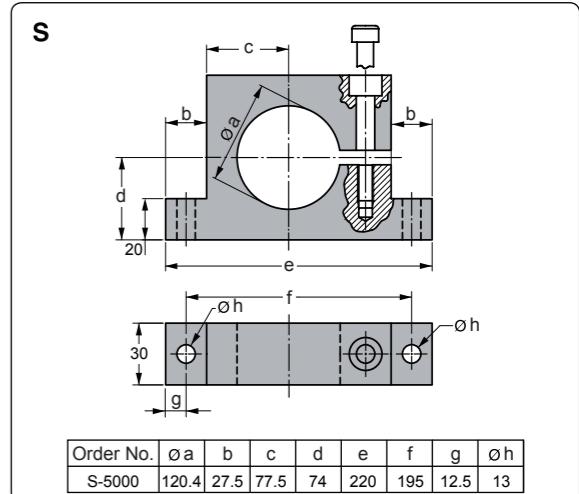
充气介质 ----- 氮气 Nitrogen
 Pressure medium
 最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure
 最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure
 工作环境温度 ----- 0~80°C
 Operating temperature
 单位温度弹压力量 ----- ±0.3%/°C
 Force increase by temperature
 推荐每分钟工作频率 ----- 20-80spm(20°C)
 Recommended working frequency
 最大工作速度 ----- 96 m/min
 Max.piston rod velocity

几种安装可能性 Mounting Possibilities



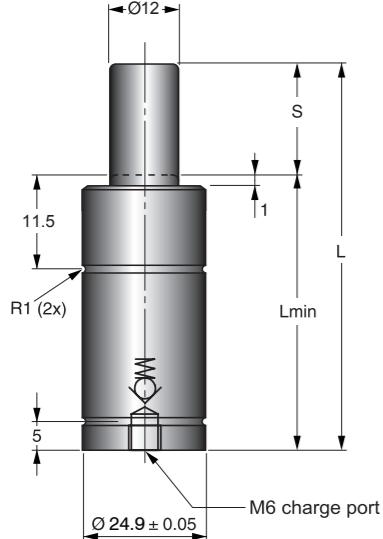
订购方法 Ordering method

GXG 6600 - 050 - P150 - FFC-5000 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts

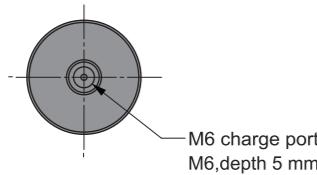




这是GCU氮气弹簧中最小的型号。
相对于缸体外径，此型号具有很大的弹压力。



This is the smallest member of the GCU family. As with the rest of the GCU springs it has a very high force compared to its outer diameter.



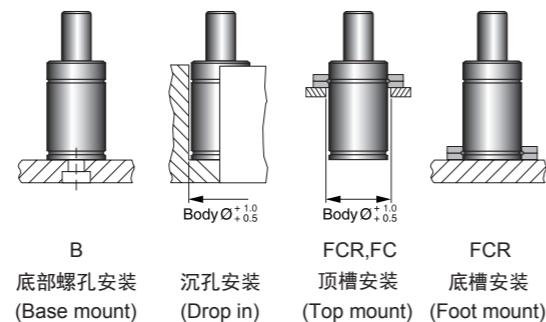
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU420-006	4250	7300	56	50	
GCU420-010		7300	70	60	
GCU420-016		7300	91	75	
GCU420-025		7400	120	95	
GCU420-032		7900	140	108	
GCU420-040		8000	165	125	
GCU420-050		8000	195	145	

*=在全行程 at full stroke

基本参数 Basic information

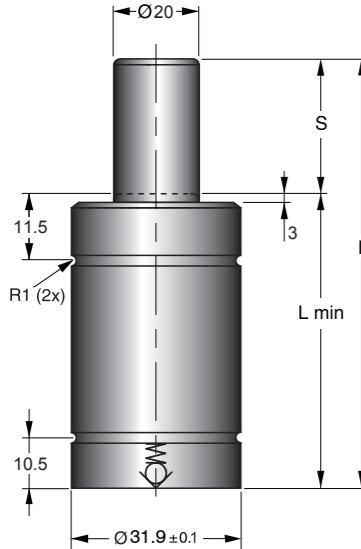
充气介质 ----- 氮气 Nitrogen
Pressure medium
最大充气压力 ----- 150 bar(at 20°C)
Max.charging pressure
最小充气压力 ----- 25 bar(at 20°C)
Min.charging pressure
工作环境温度 ----- 0~80°C
Operating temperature
单位温度弹压力增量 ----- ± 0.3%/°C
Force increase by temperature
推荐每分钟工作频率 ----- 20-80 spm(20°C)
Recommended working frequency
最大工作速度 ----- 96 m/min
Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

系列代码 Series	GCU 420 - 050 - P150 - FC-150	20
规格型号 Model	充气压力 Charging Pressure	订购数量 Quantity
	安装附件 Mounts	

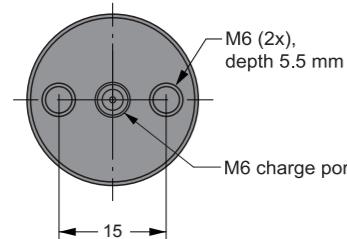


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

此氮气弹簧行程超过25mm时，应当采用法兰安装或氮气弹簧底孔螺纹安装。我们推荐对于短行程的应用，最好也要紧固产品，以便获得最佳的使用寿命。

The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

Springs with stroke lengths over 25 mm should always be attached to the tool, using a flange or the tapped holes in the bottom of the spring. We also recommend fixing of shorter stroke springs for optimal service life.



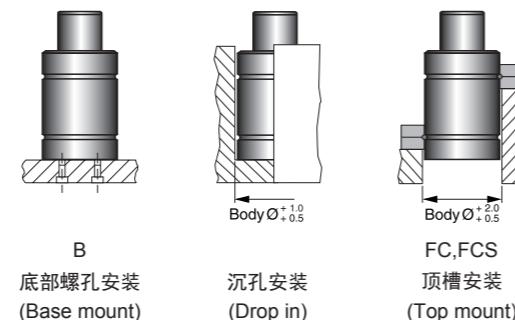
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU740-006	7400	10000	63	57	
GCU740-010		10000	75	65	
GCU740-016		11000	93	77	
GCU740-025		12000	120	95	
GCU740-032		12000	140	108	
GCU740-040		12000	165	125	
GCU740-050		12000	195	145	

*=在全行程 at full stroke

基本参数 Basic information

充气介质 -----	氮气 Nitrogen
Pressure medium	
最大充气压力 -----	150 bar(at 20°C)
Max.charging pressure	
最小充气压力 -----	25 bar(at 20°C)
Min.charging pressure	
工作环境温度 -----	0~80°C
Operating temperature	
单位温度弹压力增量 -----	± 0.3%/°C
Force increase by temperature	
推荐每分钟工作频率 -----	20-80 spm(20°C)
Recommended working frequency	
最大工作速度 -----	96 m/min
Max.piston rod velocity	

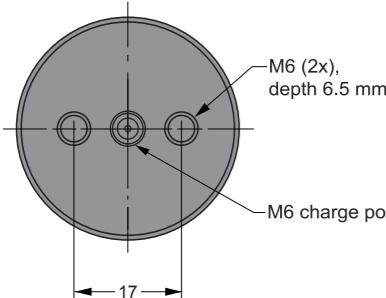
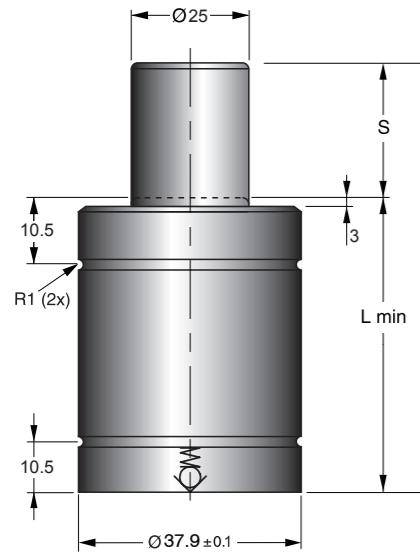
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 740 - 050 - P150 - FCS-32 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	



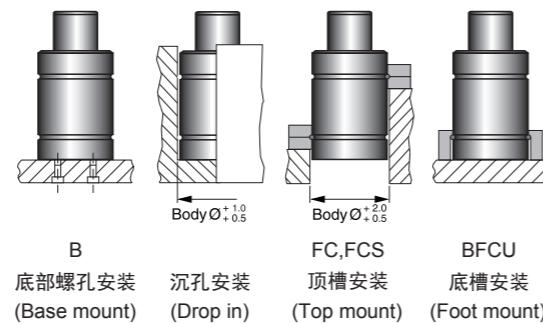
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU1000-006	6	10600	16000	61	55
	10		16000	78	68
	16		16000	100	84
	25		16000	135	110
	32		16000	167	135
	40		16000	195	155
	50		16000	230	180

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

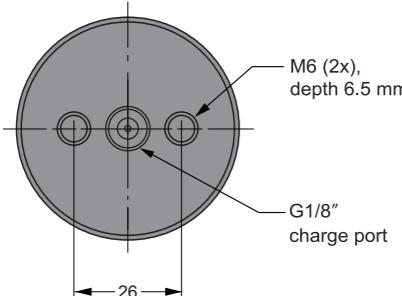
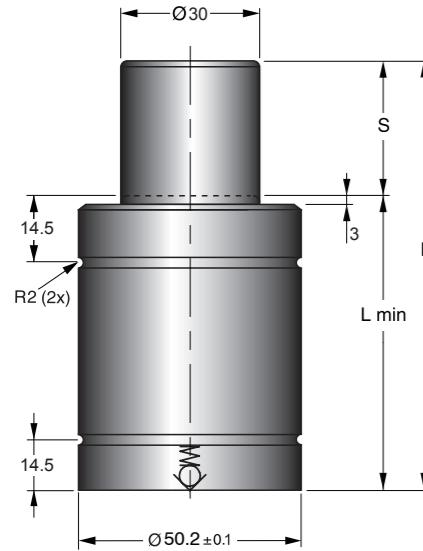
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 1000 - 050 - P150 - FCS-250 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	



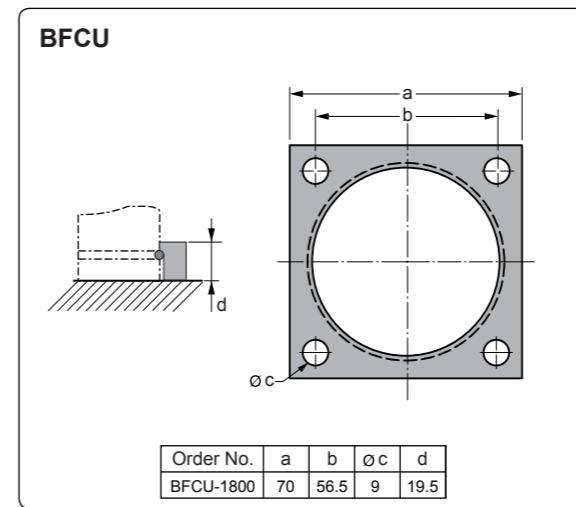
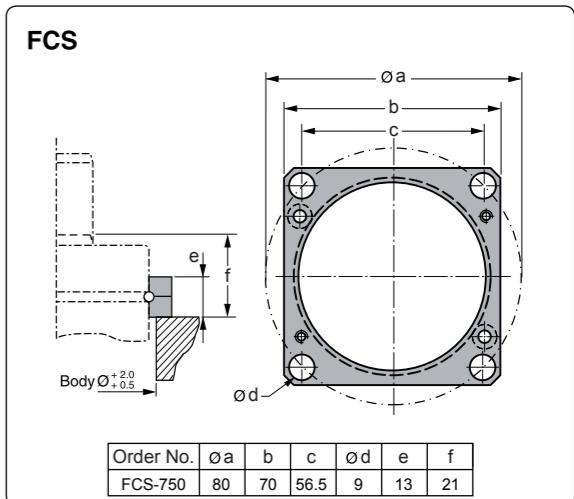
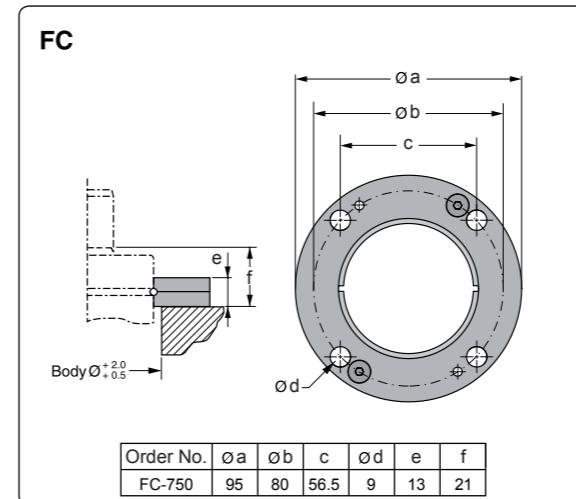
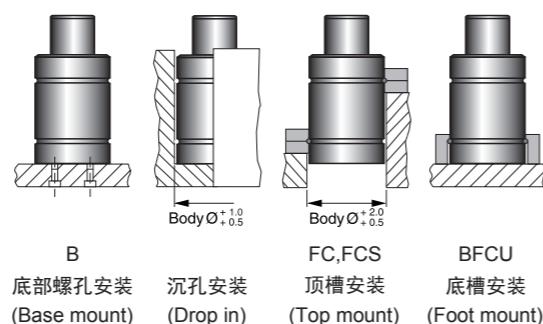
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU1800-006	18000	24000	66	60	
GCU1800-010		25000	80	70	
GCU1800-016		25000	106	90	
GCU1800-025		26000	135	110	
GCU1800-032		26000	162	130	
GCU1800-040		26000	190	150	
GCU1800-050		27000	220	170	

* = 在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 1800 - 050 - P150 - FCS-750 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts

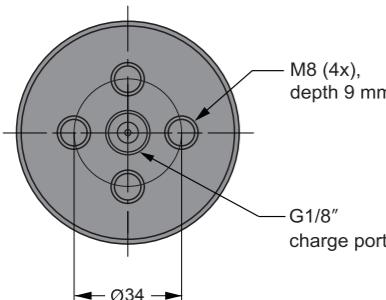
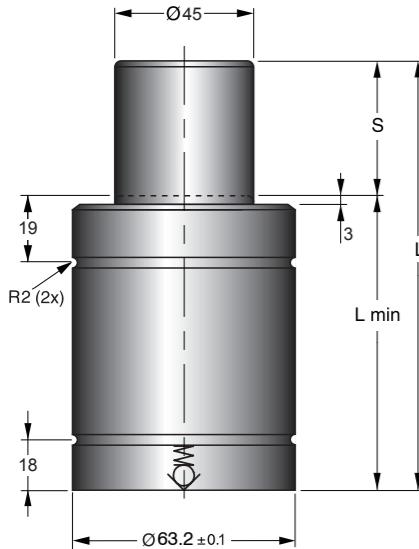


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

此氮气弹簧行程超过25mm时，应当采用法兰安装或氮气弹簧底孔螺纹安装。我们推荐对于短行程的应用，最好也要紧固产品，以便获得最佳的使用寿命。

The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

Springs with stroke lengths over 25 mm should always be attached to the tool, using a flange or the tapped holes in the bottom of the spring. We also recommend fixing of shorter stroke springs for optimal service life.



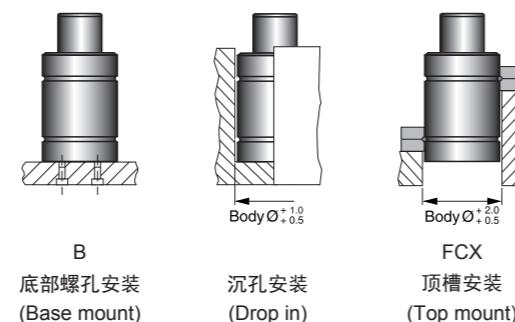
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU2900-010	10	29500	40000	85	75
GCU2900-016	16		42000	103	87
GCU2900-025	25		45000	130	105
GCU2900-032	32		46200	150	118
GCU2900-040	40		47200	175	135
GCU2900-050	50		45000	205	155

*=在全行程 at full stroke

基本参数 Basic information

充气介质 -----	氮气 Nitrogen
Pressure medium	
最大充气压力 -----	150 bar(at 20°C)
Max.charging pressure	
最小充气压力 -----	25 bar(at 20°C)
Min.charging pressure	
工作环境温度 -----	0~80°C
Operating temperature	
单位温度弹压力增量 -----	± 0.3%/°C
Force increase by temperature	
推荐每分钟工作频率 -----	20-80 spm(20°C)
Recommended working frequency	
最大工作速度 -----	96 m/min
Max.piston rod velocity	

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 2900 - 050 - P150 - FCX-1500 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	

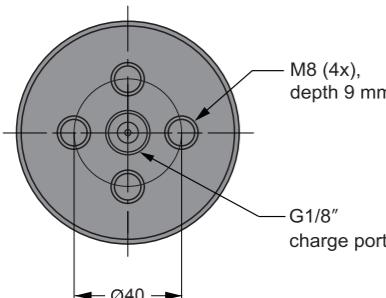
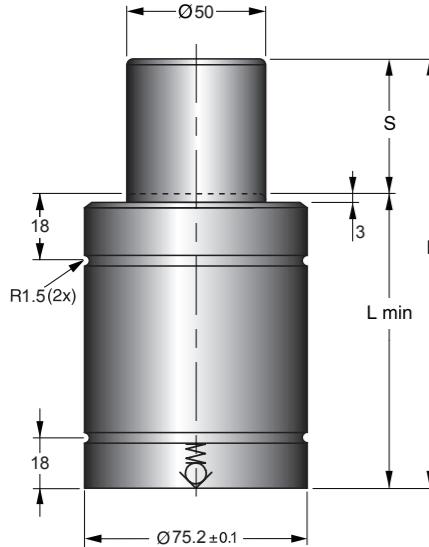


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

此氮气弹簧行程超过25mm时，应当采用法兰安装或氮气弹簧底孔螺纹安装。我们推荐对于短行程的应用，最好也要紧固产品，以便获得最佳的使用寿命。

The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

Springs with stroke lengths over 25 mm should always be attached to the tool, using a flange or the tapped holes in the bottom of the spring. We also recommend fixing of shorter stroke springs for optimal service life.



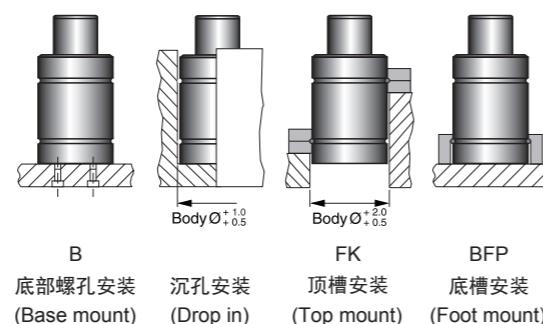
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU4700-010	47000	67000	80	70	
GCU4700-016		66000	106	90	
GCU4700-025		68000	135	110	
GCU4700-032		67000	167	135	
GCU4700-040		67000	200	160	
GCU4700-050		67000	240	190	

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 4700 - 050 - P150 - FK-1500 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts

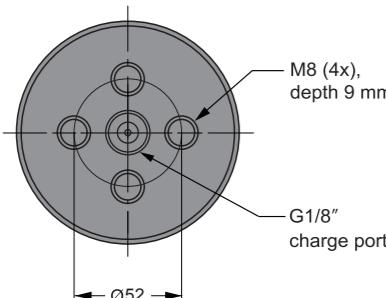
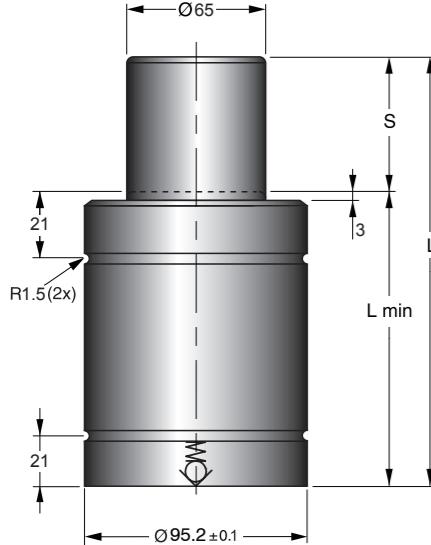


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

此氮气弹簧行程超过25mm时，应当采用法兰安装或氮气弹簧底孔螺纹安装。我们推荐对于短行程的应用，最好也要紧固产品，以便获得最佳的使用寿命。

The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

Springs with stroke lengths over 25 mm should always be attached to the tool, using a flange or the tapped holes in the bottom of the spring. We also recommend fixing of shorter stroke springs for optimal service life.



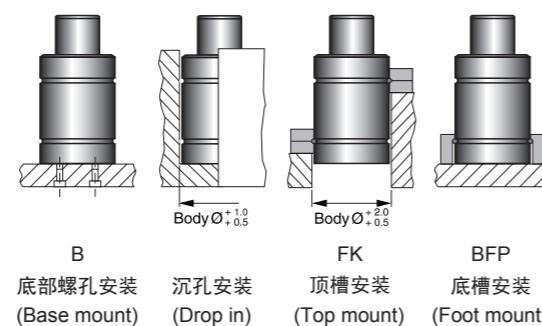
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU7500-010	75000	98500	90	80	
GCU7500-016		100000	116	100	
GCU7500-025		104000	145	120	
GCU7500-032		102000	182	150	
GCU7500-040		104000	210	170	
GCU7500-050		103000	255	205	

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 7500 - 050 - P150 - FK-3000 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	

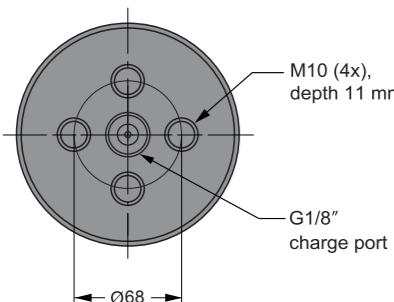
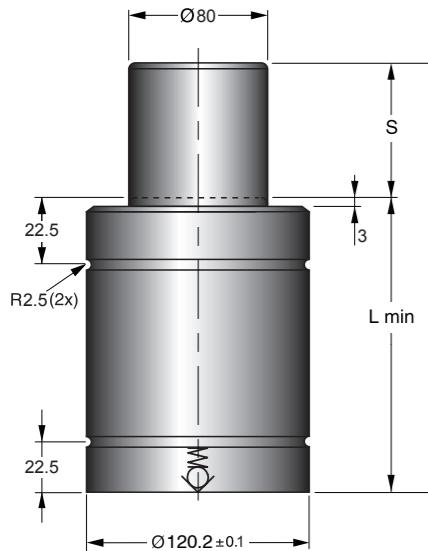


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

此氮气弹簧行程超过25mm时，应当采用法兰安装或氮气弹簧底孔螺纹安装。我们推荐对于短行程的应用，最好也要紧固产品，以便获得最佳的使用寿命。

The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

Springs with stroke lengths over 25 mm should always be attached to the tool, using a flange or the tapped holes in the bottom of the spring. We also recommend fixing of shorter stroke springs for optimal service life.



Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU11800-010	10	118000	150000	100	90
GCU11800-016	16		153000	126	110
GCU11800-025	25		160000	155	130
GCU11800-032	32		165000	187	155
GCU11800-040	40		160000	220	180
GCU11800-050	50		161000	260	210

*=在全行程 at full stroke

基本参数 Basic information

充气介质 ----- 氮气 Nitrogen
 Pressure medium

最大充气压力 ----- 150 bar(at 20°C)
 Max.charging pressure

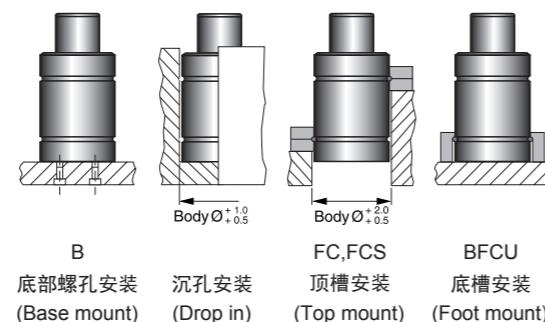
最小充气压力 ----- 25 bar(at 20°C)
 Min.charging pressure

工作环境温度 ----- 0~80°C
 Operating temperature

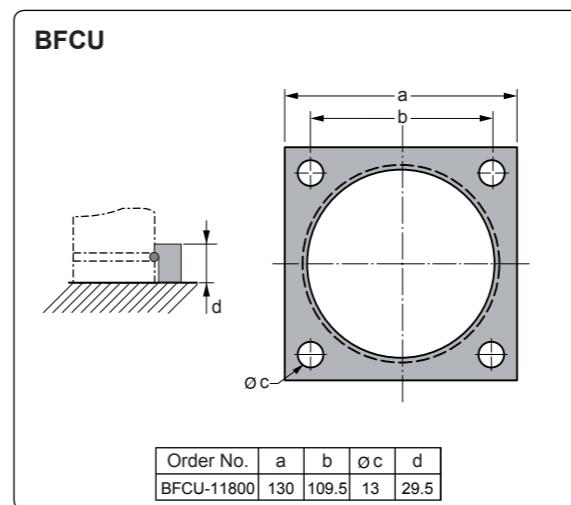
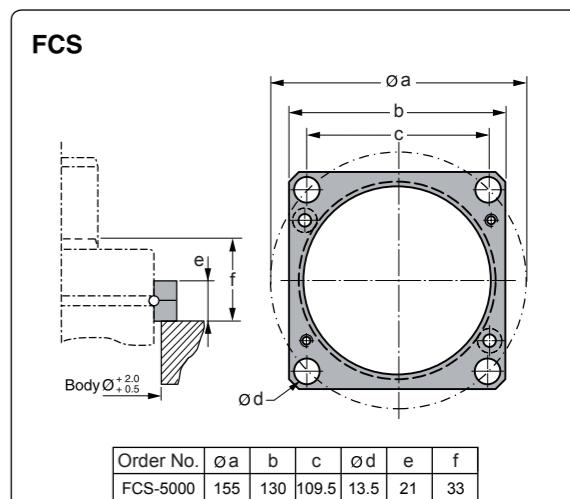
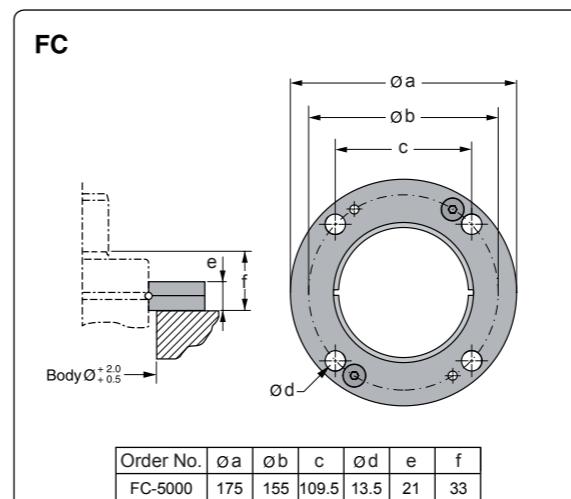
单位温度弹压力增量 ----- ± 0.3% / °C
 Force increase by temperature

推荐每分钟工作频率 ----- 20-80 spm(20°C)
 Recommended working frequency

最大工作速度 ----- 96 m/min
 Max.piston rod velocity



几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 11800 - 050 - P150 - FC-5000 20
系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
规格型号 Model 安装附件 Mounts

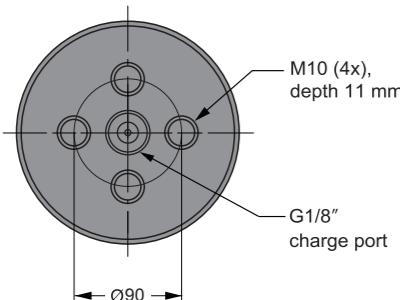
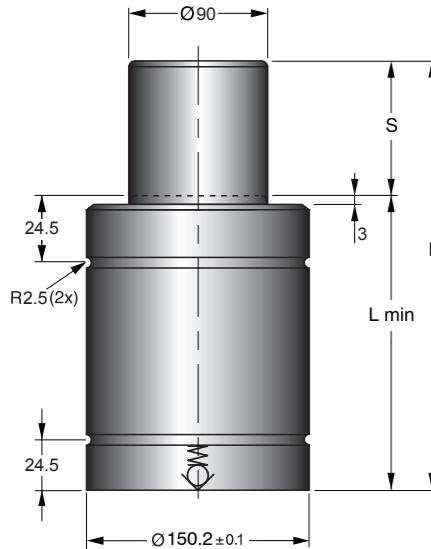


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

此氮气弹簧行程超过25mm时，应当采用法兰安装或氮气弹簧底孔螺纹安装。我们推荐对于短行程的应用，最好也要紧固产品，以便获得最佳的使用寿命。

The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

Springs with stroke lengths over 25 mm should always be attached to the tool, using a flange or the tapped holes in the bottom of the spring. We also recommend fixing of shorter stroke springs for optimal service life.



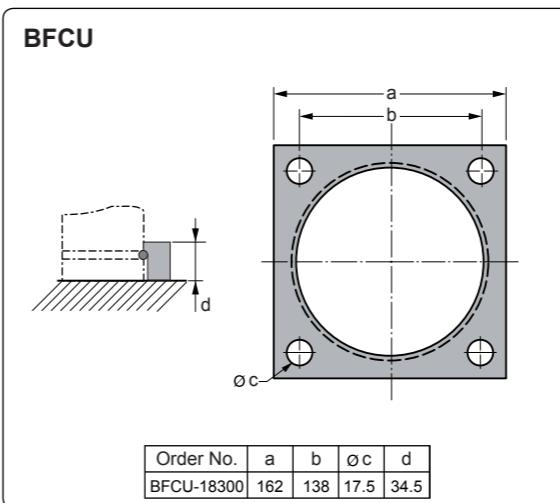
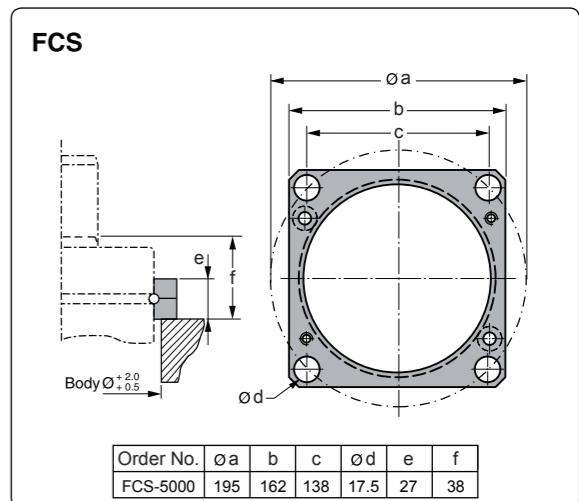
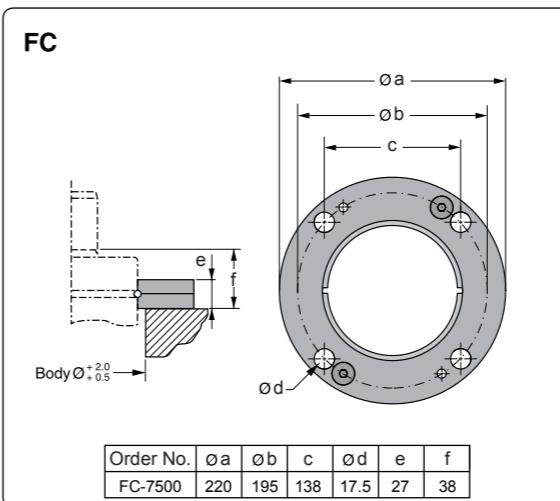
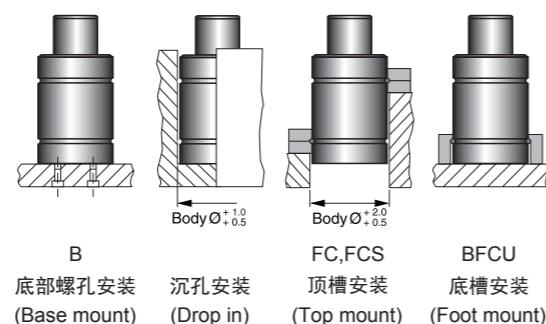
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU18300-010	10	227000	110	100	
GCU18300-016		233000	136	120	
GCU18300-025		244000	165	140	
GCU18300-032		244000	197	165	
GCU18300-040		244000	235	195	
GCU18300-050		248000	270	220	

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

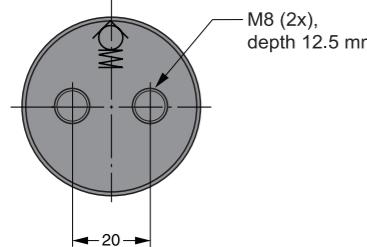
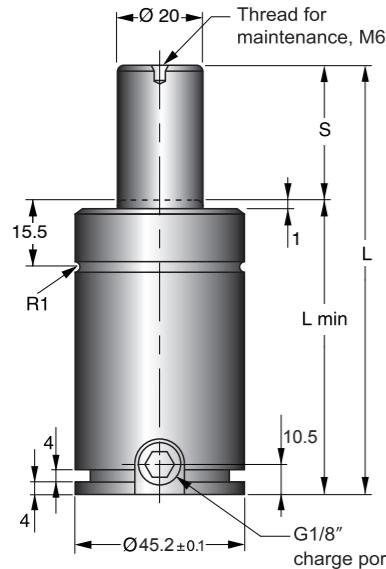
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GCU 18300 - 050 - P150 - FC-7500 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	



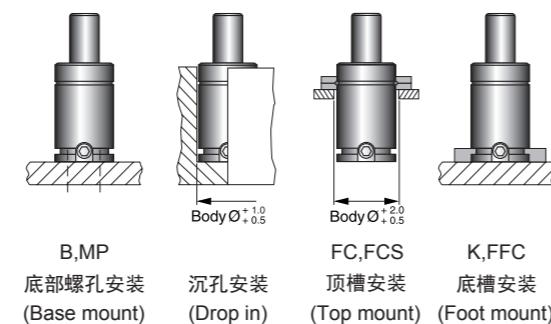
这是一种高度短并可连接管路的氮气弹簧，其初始弹压力4700N。
GK500总高度L为50 mm + (2 × 行程)，这类弹簧比GTU500型短35mm，安装附件选择与GTU500相同。
This is a short height hoseable spring with an initial force of 4,700 N.
The GK500 has a total length of 50 mm + (2 × stroke).
This spring is 35 mm shorter than the GTU500.
Mounting options are the same as for the GTU500.

Order No.	行程 Stroke S	弹压力N在150bar/+20°C Initial End force*		$L \pm 0.25$	Lmin
		初始力 Initial	终始力* End force*		
GK500-006	6	5600	62	56	4700
GK500-013	12.7	5900	75.4	62.7	
GK500-019	19	6100	88.1	69.05	
GK500-025	25	6100	100	75	
GK500-038	38.1	6200	126.2	88.1	
GK500-050	50	6300	150	100	
GK500-064	63.5	6300	177	113.5	
GK500-080	80	6600	210	130	
GK500-100	100	6600	250	150	
GK500-125	125	6600	300	175	

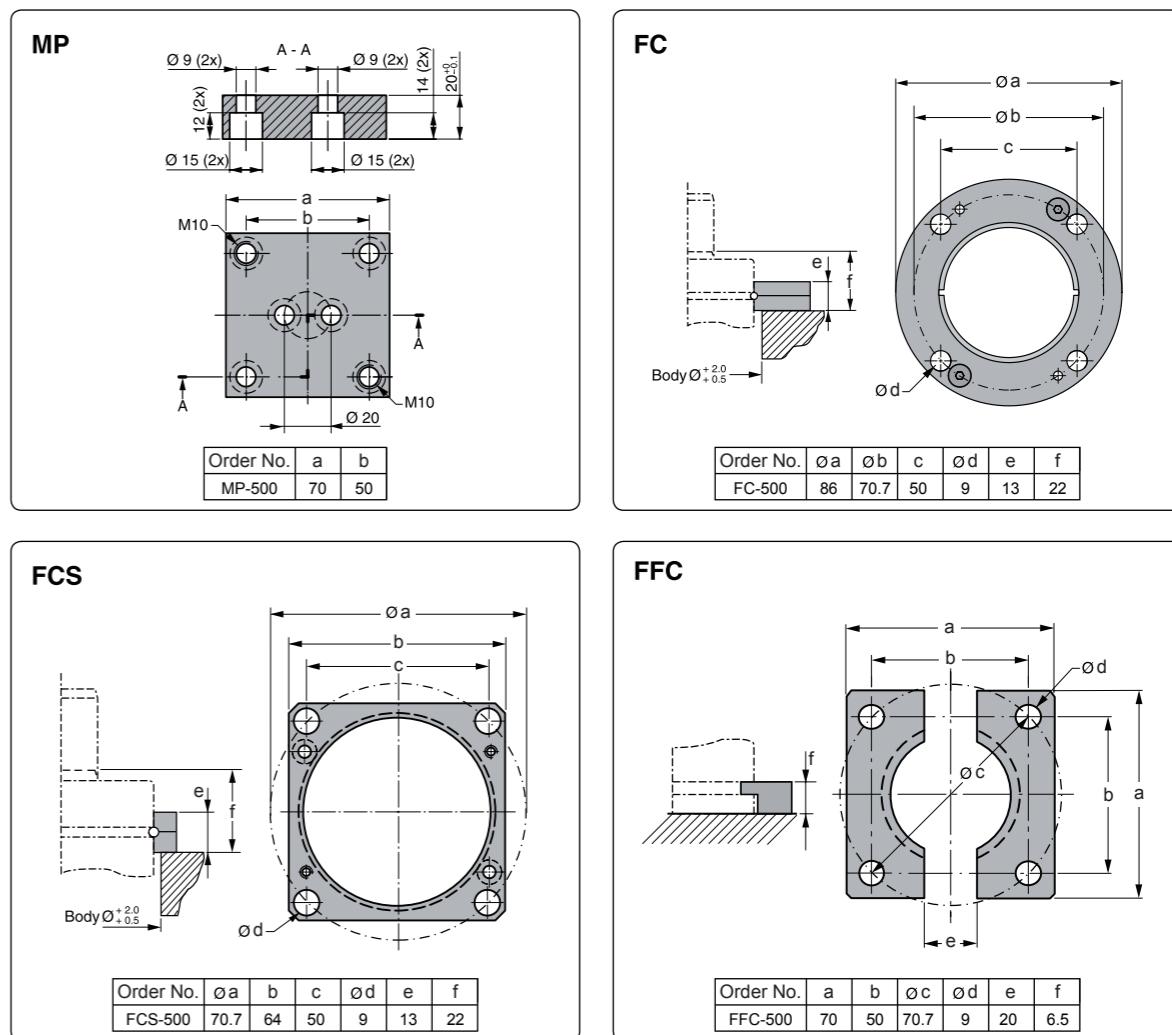
*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

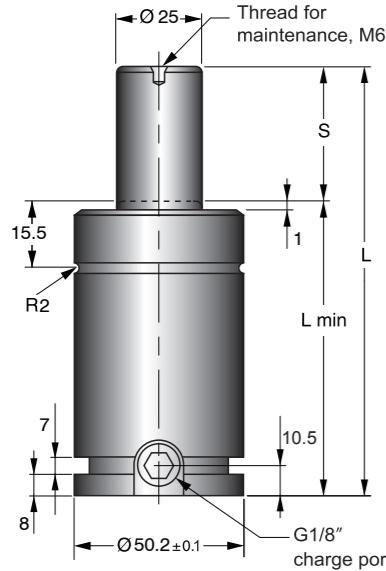


几种安装可能性 Mounting Possibilities

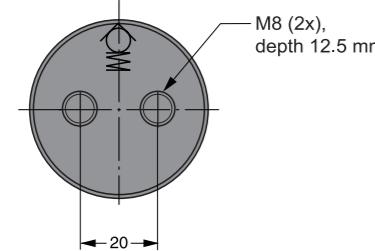


订购方法 Ordering method

GK 500 - 050 - P150 - FFC-500 20
 系列代码 Series
 充气压力 Charging Pressure
 订购数量 Quantity
 规格型号 Model
 安装附件 Mounts



这是一种高度短并可连接管路的氮气弹簧，其初始弹压力7400N。
GK750总高度L为50 mm + (2 × 行程)，这类弹簧比GTU750型短45mm，安装附件选择与GTU750相同。
This is a short height hoseable spring with an initial force of 7,400 N.
The GK750 has a total length of 50 mm + (2 × stroke).
This spring is 45 mm shorter than the GTU750.
Mounting options are the same as for the GTU750.



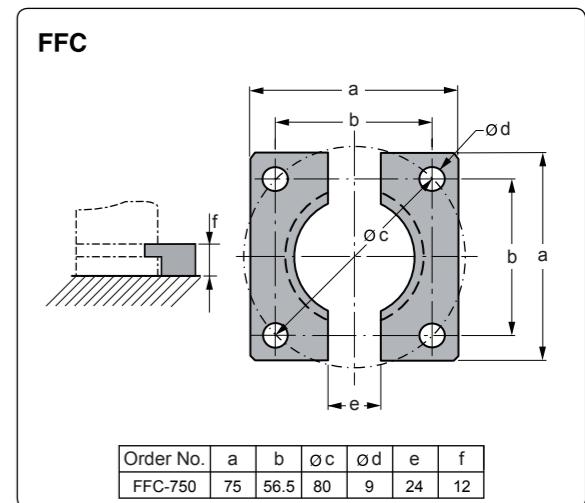
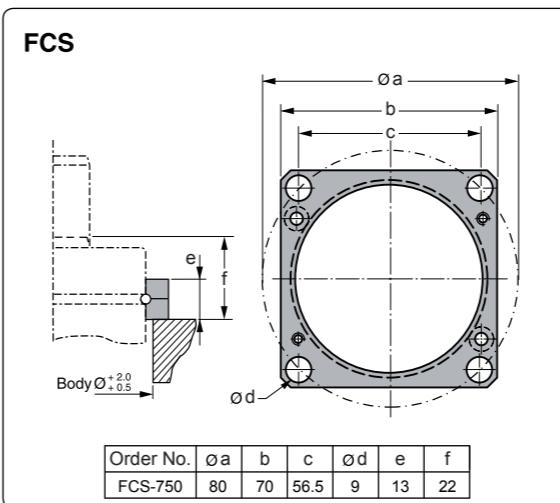
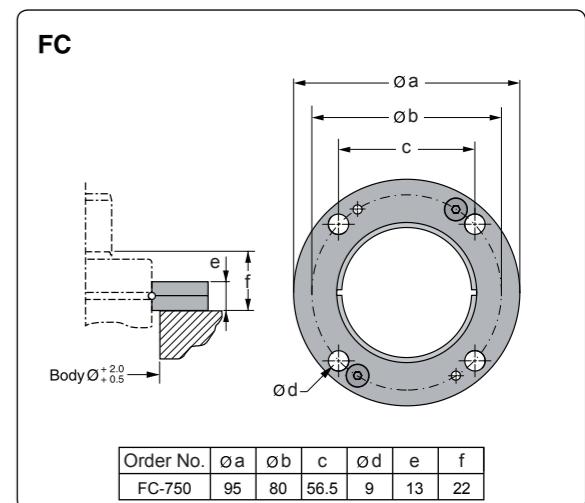
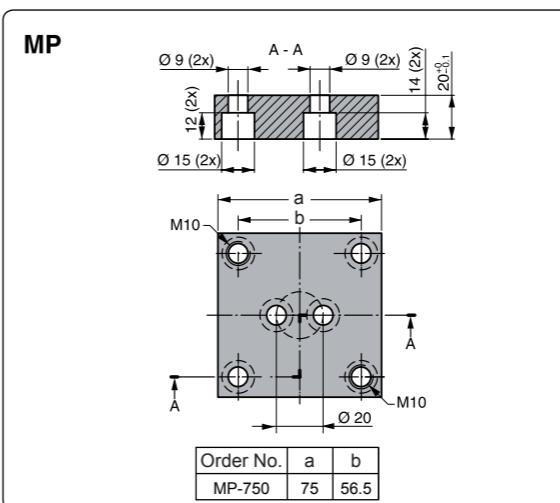
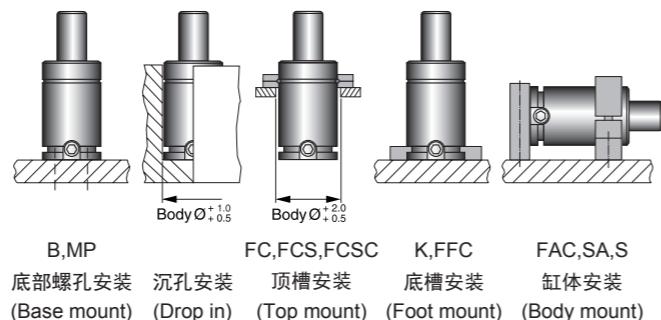
Order No.	行程 Stroke S	弹压力N在150bar/+20°C Initial Force Initial		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GK750-006	6	15000	62	56	7400
GK750-013	12.7	13000	75.4	62.7	
GK750-019	19	12000	88.1	69.05	
GK750-025	25	11000	100	75	
GK750-038	38.1	11000	126.2	88.1	
GK750-050	50	11000	150	100	
GK750-064	63.5	11000	177	113.5	
GK750-080	80	11000	210	130	
GK750-100	100	11000	250	150	
GK750-125	125	11000	300	175	

*=在全行程 at full stroke

基本参数 Basic information

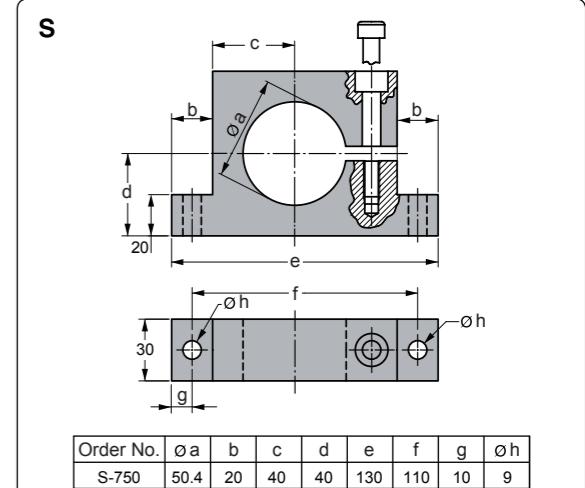
充气介质 ----- 氮气 Nitrogen
Pressure medium
最大充气压力 ----- 150 bar(at 20°C)
Max.charging pressure
最小充气压力 ----- 25 bar(at 20°C)
Min.charging pressure
工作环境温度 ----- 0~80°C
Operating temperature
单位温度弹压力增量 ----- ±0.3%/°C
Force increase by temperature
推荐每分钟工作频率 ----- 20-80spm(20°C)
Recommended working frequency
最大工作速度 ----- 96 m/min
Max.piston rod velocity

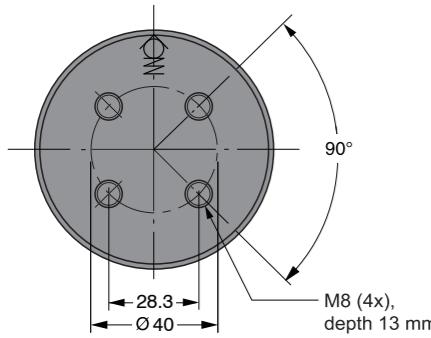
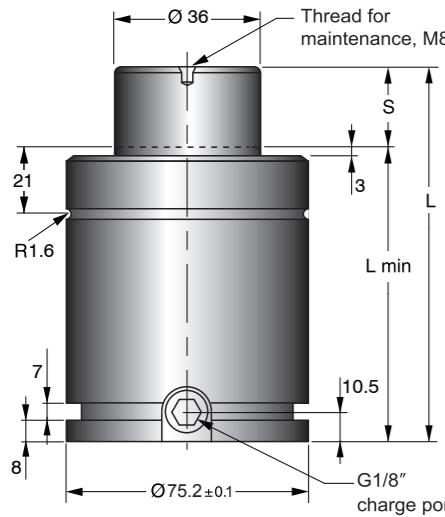
几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GK 750 - 050 - P150 - FFC-750 20
 系列代码 Series
 充气压力 Charging Pressure
 订购数量 Quantity
 规格型号 Model
 安装附件 Mounts





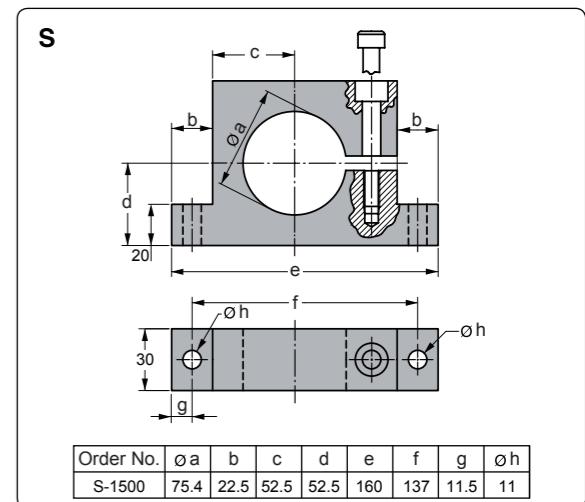
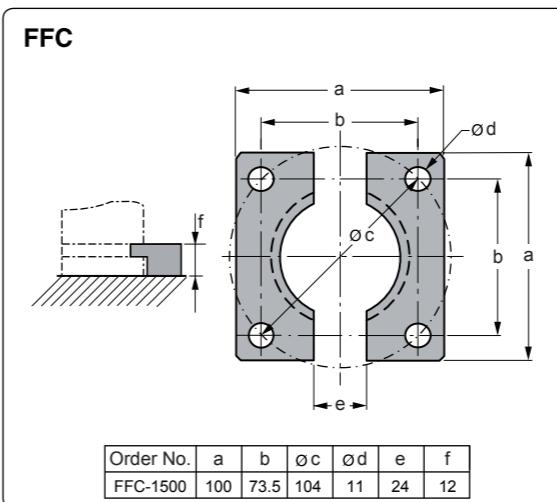
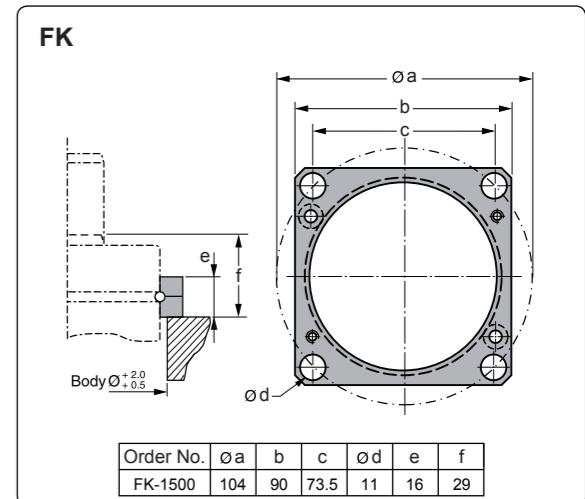
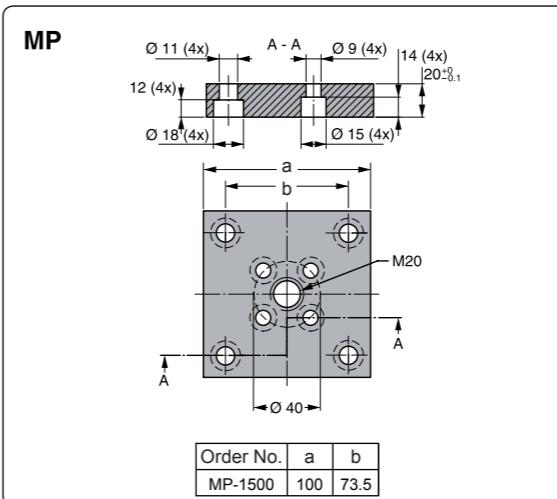
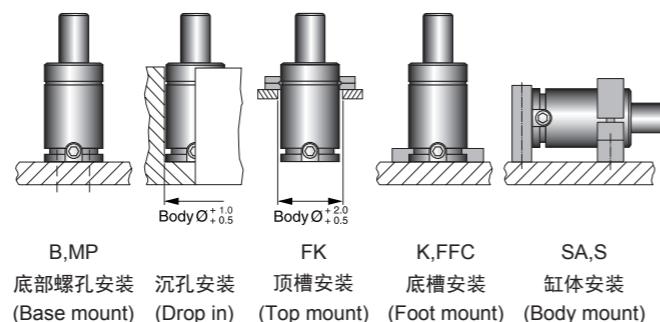
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GK1500-025	25	15000	24000	110	85
GK1500-038	38.1		23000	136.2	98.1
GK1500-050	50		23000	160	110
GK1500-064	63.5		23000	187	123.5
GK1500-080	80		23000	220	140
GK1500-100	100		23000	260	160

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 150 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities

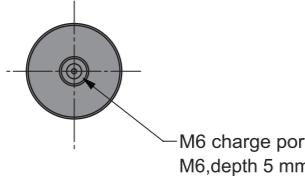
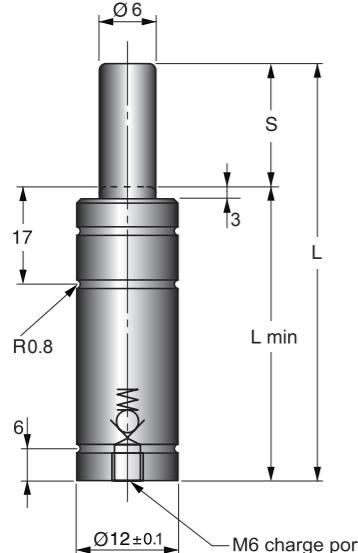


订购方法 Ordering method

GK 1500 - 050 - P150 - FK-1500 20
 系列代码 Series
 充气压力 Charging Pressure
 订购数量 Quantity
 规格型号 Model
 安装附件 Mounts



ISO



之所以命名GR系列，是因为GUNRI该管是滚压成形的。
因为是永久封闭，使这些弹簧不可维修。

GR系列系列氮气弹簧直径有Ø12, Ø15, 和 Ø19 mm。行程长度可达125mm。

GR系列是一种微型的ISO国际标准的模具专用氮气弹簧，只作独立使用，很多情况下可以直接代替金属弹簧。

充气压强：可以根据用户要求按20-180Bar充气，如无特殊要求则按160Bar，此时初始弹压力等于公称弹压力：450N。

The GR series was named because the tube is Rollformed and therefore permanently closed, making these springs non-repairable.

GR series springs are available with Ø12, Ø15, and Ø19 mm tube diameters and with stroke lengths up to 125 mm.

GR series springs are ISO international standard and widely used gas spring. Normally, it is self-contained and could take place of regular metal springs.

The force could be determined by customer's need from 20 to 180Bar. If there is no special requirement, please charge 160Bar that equals to initial force 450N.

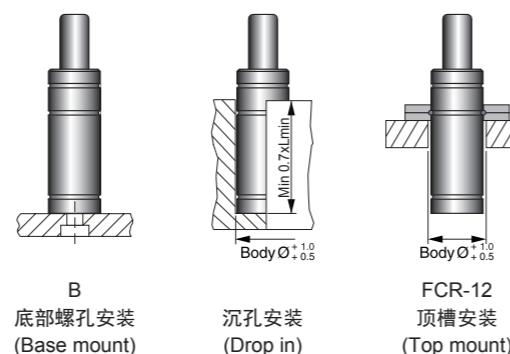
Order No.	行程 Stroke S	弹力N在+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GR45-007	450	597	56	49	
GR45-010		634	62	52	
GR45-013		657	67.4	54.7	
GR45-015		670	72	57	
GR45-019		689	80	61	
GR45-025		707	92	67	
GR45-038		730	118	80	
GR45-050		742	142	92	
GR45-064		789	172	108.5	
GR45-075		788	195	120	
GR45-080		827	205	125	
GR45-100		817	245	145	
GR45-125		810	295	170	

*=在全行程 at full stroke

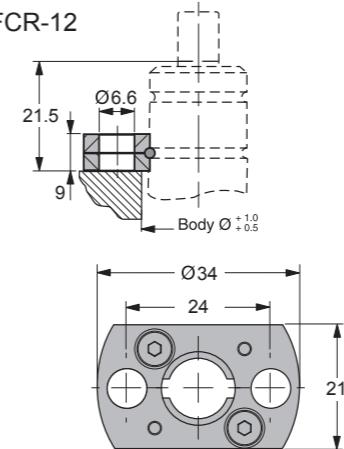
基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 20 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



FCR-12 Order No: FCR-12



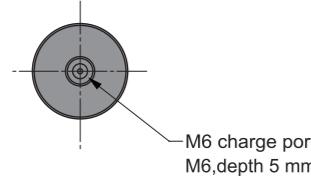
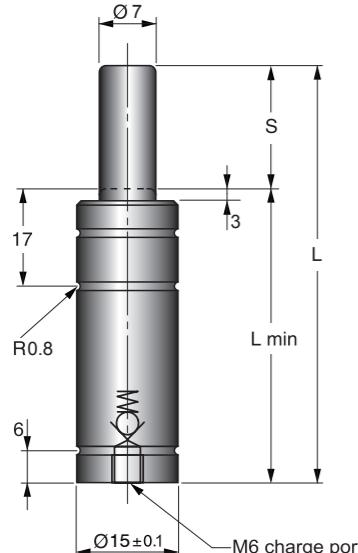
订购方法 Ordering method

GR 45 - 050 - PXXX - FCR-12 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	



ISO



之所以命名GR系列，是因为GUNRI该管是滚压成形的。
因为是永久封闭，使这些弹簧不可维修。

GR系列系列氮气弹簧直径有Ø12, Ø15, 和 Ø19 mm。行程长度可达125mm。

GR系列是一种微型的ISO国际标准的模具专用氮气弹簧，只作独立使用，很多情况下可以直接代替金属弹簧。

充气压强：可以根据用户要求按20-180Bar充气，如无特殊要求则按160Bar，此时初始弹压力等于公称弹压力：600N。

The GR series was named because the tube is Rollformed and therefore permanently closed, making these springs non-repairable.

GR series springs are available with Ø12, Ø15, and Ø19 mm tube diameters and with stroke lengths up to 125 mm.

GR series springs are ISO international standard and widely used gas spring. Normally, it is self-contained and could take place of regular metal springs.

The force could be determined by customer's need from 20 to 180Bar. If there is no special requirement, please charge 160Bar that equals to initial force 600N.

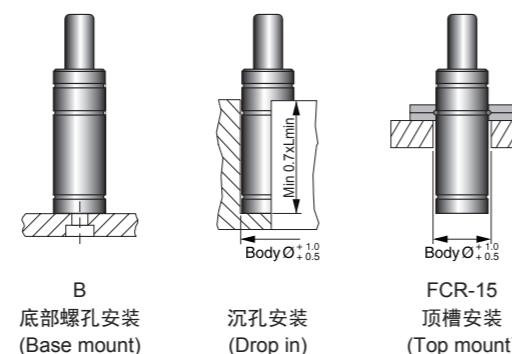
Order No.	行程 Stroke S	弹力N在+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GR60-007	600	865	56	49	
GR60-010		895	62	52	
GR60-013		914	68	55	
GR60-015		927	72	57	
GR60-019		943	80	61	
GR60-025		961	92	67	
GR60-038		1032	118.2	80.1	
GR60-050		1033	142	92	
GR60-064		1092	172	108.5	
GR60-075		1082	195	120	
GR60-080		1079	205	125	
GR60-100		1069	245	145	
GR60-125		1062	295	170	

*=在全行程 at full stroke

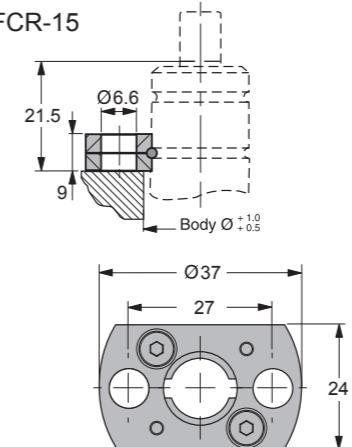
基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 20 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



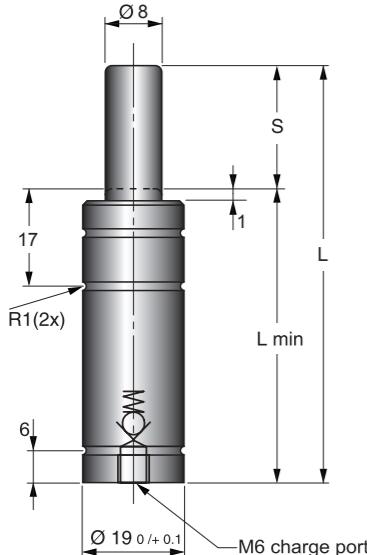
FCR-15 Order No: FCR-15



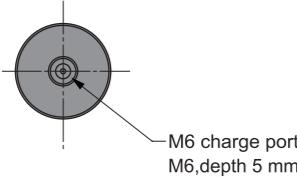
订购方法 Ordering method

GR 60 - 050 - PXXX - FCR-15 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity
规格型号 Model	安装附件 Mounts	



之所以命名GR系列，是因为GUNRI该管是滚压成形的。因为是永久封闭，使这些弹簧不可维修。
GR系列系列氮气弹簧直径有Ø12, Ø15, 和 Ø19 mm。行程长度可达125mm。
GR系列是一种微型的ISO国际标准的模具专用氮气弹簧，只作独立使用，很多情况下可以直接代替金属弹簧。
充气压强：可以根据用户要求按20-180Bar充气，如无特殊要求则按150Bar，此时初始弹压力等于公称弹压力：750N。
The GR series was named because the tube is Rollformed and therefore permanently closed, making these springs non-repairable.
GR series springs are available with Ø12, Ø15, and Ø19 mm tube diameters and with stroke lengths up to 125 mm.
GR series springs are ISO international standard and widely used gas spring. Normally, it is self-contained and could take place of regular metal springs.
The force could be determined by customer's need from 20 to 180Bar. If there is no special requirement, please charge 150Bar that equals to initial force 750N.



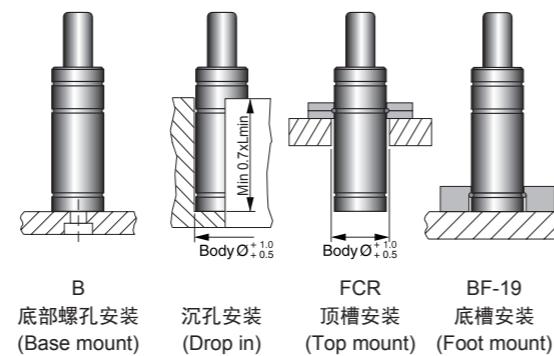
Order No.	行程 Stroke S	弹压力N在+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GR75-007	750	1600	56	49	
GR75-010		1400	62	52	
GR75-012		1330	66	54	
GR75-015		1300	72	57	
GR75-025		1300	92	67	
GR75-038		1200	118.2	80.1	
GR75-050		1200	142	92	
GR75-064		1200	172	108.5	
GR75-080		1200	205	125	
GR75-100		1200	245	145	
GR75-125		1200	295	170	

*=在全行程 at full stroke

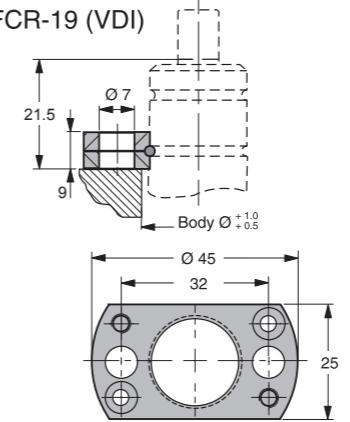
基本参数 Basic information

充气介质 ----- 氮气 Nitrogen
Pressure medium
最大充气压力 ----- 180 bar(at 20°C)
Max.charging pressure
最小充气压力 ----- 25 bar(at 20°C)
Min.charging pressure
工作环境温度 ----- 0~80°C
Operating temperature
单位温度弹压力增量 ----- ±0.3%/°C
Force increase by temperature
推荐每分钟工作频率 ----- 20-80 spm(20°C)
Recommended working frequency
最大工作速度 ----- 96 m/min
Max.piston rod velocity

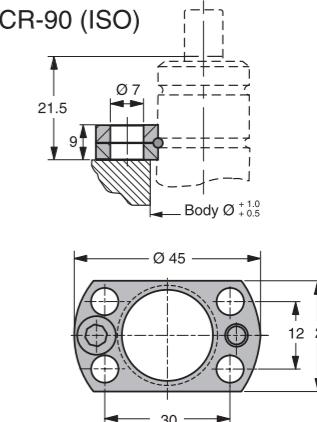
几种安装可能性 Mounting Possibilities



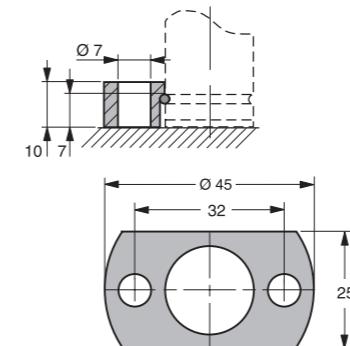
FCR-19
Order No: FCR-19 (VDI)



FCR-90
Order No: FCR-90 (ISO)

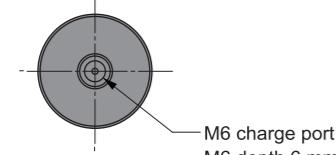
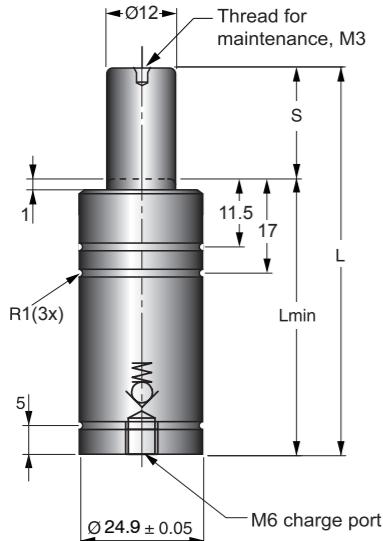


BF-19
Order No: BF-19



订购方法 Ordering method

GR 75 - 050 - PXXX - FCR-19 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



GM170系列是一种微型的ISO国际标准的模具专用氮气弹簧，弹簧主体和底座的设计符合ISO 11901和VDI 3003中的ISO尺寸，很多情况下可以直接代替金属弹簧。

充气压强：可以根据用户要求按20-180Bar充气，如无特殊要求则按150Bar，此时初始弹压力等于公称弹压力：1700N。

底部M6螺孔用于充气，也可用于安装使用。

GM170 series springs are ISO international standard and widely used gas spring. The body of the spring and the mount are designed to meet the ISO-dimension found in ISO 11901 as well as in VDI 3003. Normally, it is self-contained and could take place of regular metal springs.

The force could be determined by customer's need from 20 to 180Bar. If there is no special requirement, please charge 150Bar that equals to initial force 1700N.

The M6 thread in the base of spring is used for charging and is also amounting option.

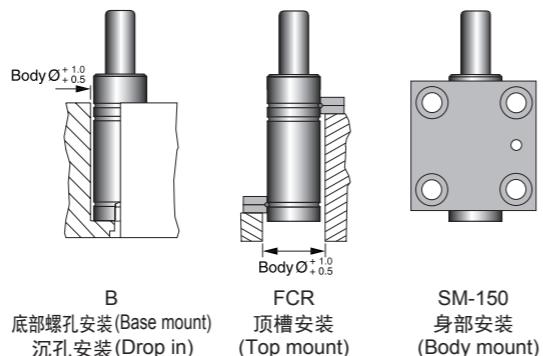
Order No.	行程 Stroke S	弹压力N在+20°C		L± 0.25	Lmin
		初始力 Initial	终始力* End force*		
GM170-010	10	1700	3060	62	52
GM170-013	12.7		3070	67.4	54.7
GM170-015	15		3070	72	57
GM170-016	16		3070	74	58
GM170-025	25		3080	92	67
GM170-038	38.1		3090	118.2	80.1
GM170-050	50		3090	142	92
GM170-064	63.5		3020	172	108.5
GM170-080	80		3040	205	125
GM170-100	100		3050	245	145
GM170-125	125		3060	295	170

*=在全行程 at full stroke

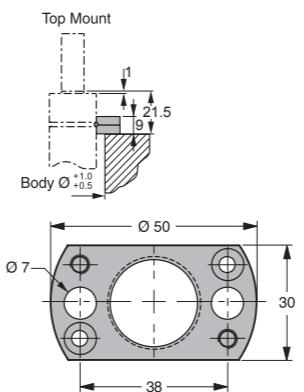
基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ± 0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

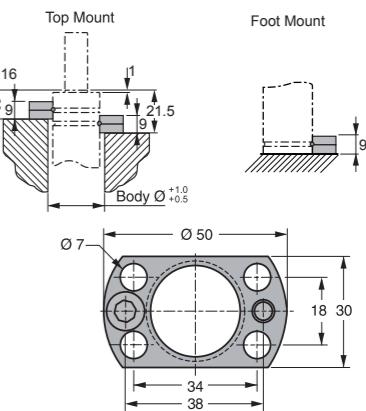
几种安装可能性 Mounting Possibilities



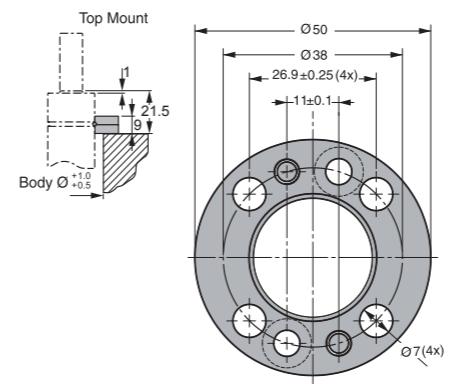
FCR-25 Order No: FCR-25(VDI)



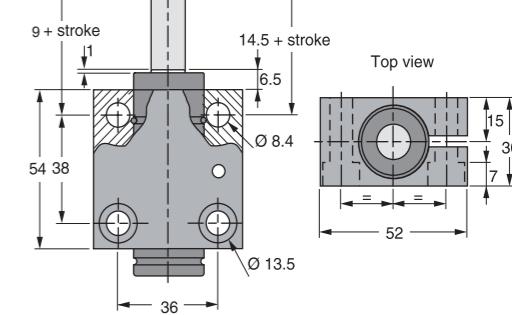
FCR-150 Order No: FCR-150



FC-150 Order No: FC-150

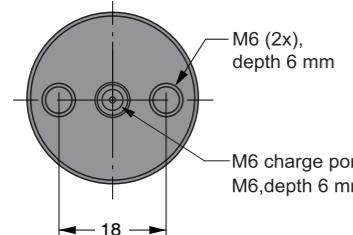
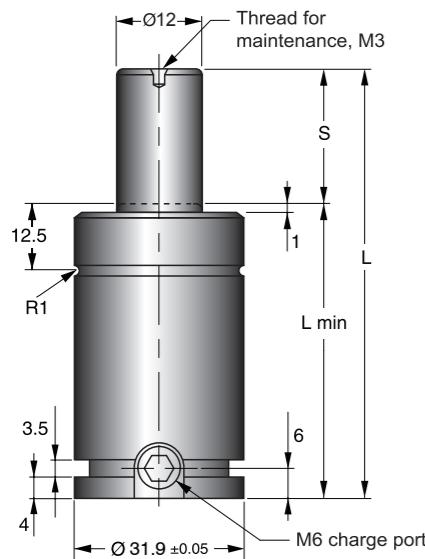


SM Order No: SM-150



订购方法 Ordering method

GM 170 - 050 - PXXX - FCR-150 20
 系列代码 Series 充气压力 Charging Pressure 订购数量 Quantity
 规格型号 Model 安装附件 Mounts



GMC170弹簧基于GM170弹簧，使用相同的活塞杆和内部组件。GMC170系列是一种微型的ISO国际标准的模具专用氮气弹簧，弹簧主体和底座的设计符合ISO 11901和VDI 3003中的ISO尺寸，很多情况下可以直接代替金属弹簧。

充气压强：可以根据用户要求按20-180Bar充气，如无特殊要求则按150Bar，此时初始弹压力等于公称弹压力：1700N。

此系列气弹簧在缸侧面有一个充气口，也可以使用这个充气口，用于微型管路连接系统。

缸体上部有一个C形槽，缸体下部有一个U形槽，它们同缸体底部二个M6螺孔一起，提供了各种安装可能性。

The GMC170 spring is based on the GM170 spring, using the same pistonrod and internal components. GMC170 series springs are ISO international standard and widely used gas spring. The body of the spring and the mount are designed to meet the ISO-dimension found in ISO 11901 as well as in VDI 3003. Normally, it is self-contained and could take place of regular metal springs.

The force could be determined by customer's need from 20 to 180Bar. If there is no special requirement, please charge 150Bar that equals to initial force 1700N.

There is a side port for gas charging that can also be used to connect to a gas link system.

An upper C-groove, lower U-groove together with two M6 threaded holes allow various mounting possibilities using our standard mounts.

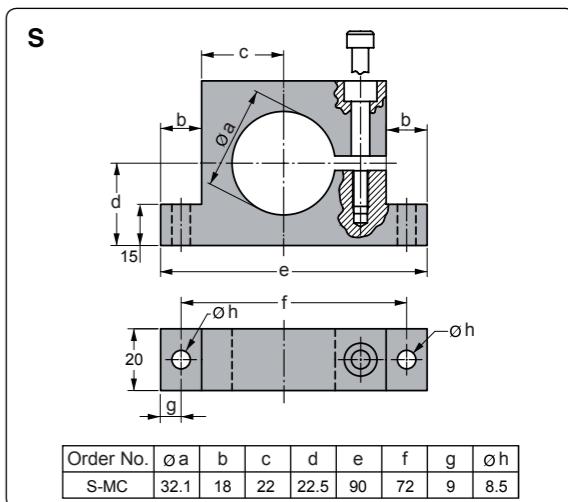
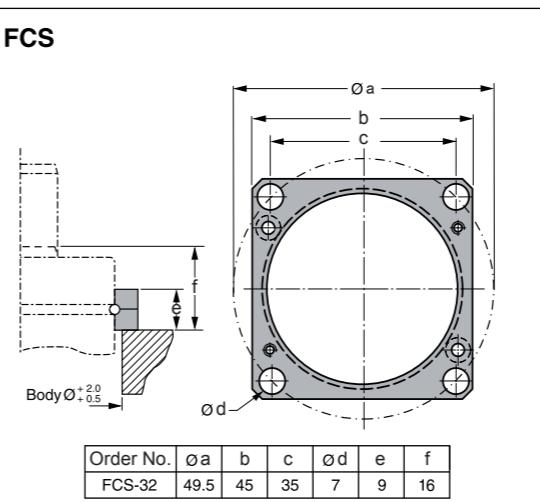
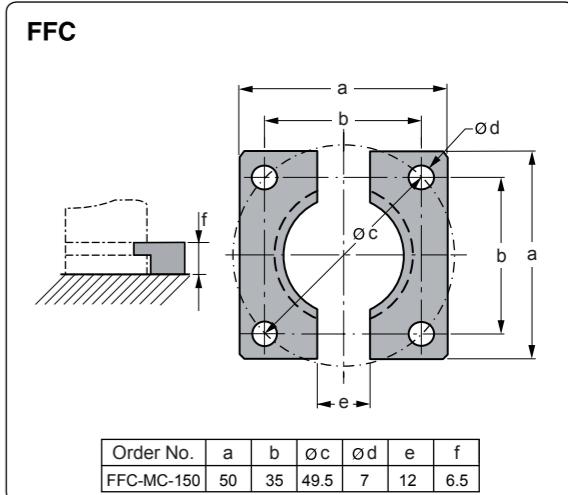
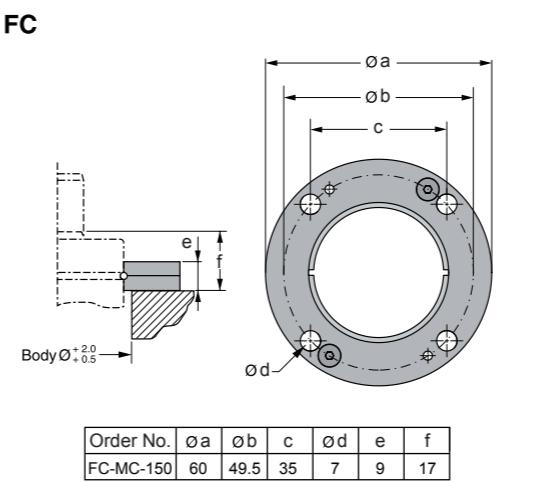
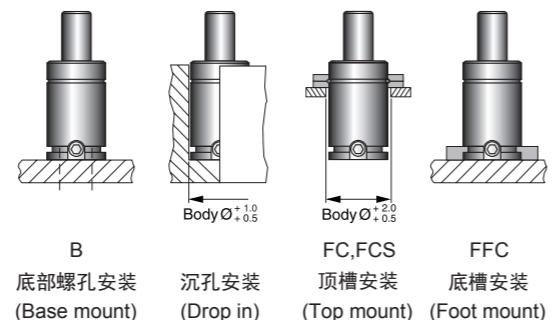
Order No.	行程 Stroke S	弹压力N在+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GMC170-010	1700	3060	70	60	
GMC170-013		3070	75.4	62.7	
GMC170-016		3070	82	66	
GMC170-025		3080	100	75	
GMC170-038		3090	126.2	88.1	
GMC170-050		3090	150	100	
GMC170-064		3020	177	113.5	
GMC170-080		3040	210	130	
GMC170-100		3050	250	150	
GMC170-125		3060	300	175	

*=在全行程 at full stroke

基本参数 Basic information

- 充气介质 ----- 氮气 Nitrogen
- Pressure medium
- 最大充气压力 ----- 180 bar(at 20°C)
- Max.charging pressure
- 最小充气压力 ----- 25 bar(at 20°C)
- Min.charging pressure
- 工作环境温度 ----- 0~80°C
- Operating temperature
- 单位温度弹压力增量 ----- ±0.3%/°C
- Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80 spm(20°C)
- Recommended working frequency
- 最大工作速度 ----- 96 m/min
- Max.piston rod velocity

几种安装可能性 Mounting Possibilities



订购方法 Ordering method

GMC 170 - 050 - PXXX - FCS-32 20

系列代码 Series	充气压力 Charging Pressure	订购数量 Quantity	安装附件 Mounts
规格型号 Model			

K

K型挡块用于将氮气弹簧垂直固定于工具，一般使用2-4个。如果只使用两个，则还必须使用L型固定板来固定气弹簧。注意：当K型挡块和L型固定板同时使用时，因为L型固定板会挡住氮气弹簧充气口，氮气弹簧不能配置连管系统。警告：K型挡块只能用于垂直安装氮气弹簧。

The K-lug is used to clamp the gas spring vertically upright to the tool. The gas spring can be clamped down using 2, 3 or 4 K-lugs.

If only 2 lugs are used, then locking plate L must also be used to fix the gas spring.

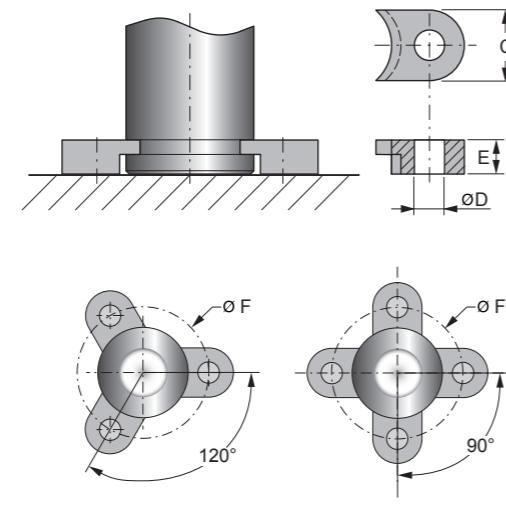
Note: When using locking plate L together with K-lugs, the spring cannot be hosed together as the L-plate will cover the gas charge port of the gas spring.

Important! The K-lugs are only to be used to mount the spring vertically upright.

Spring size	Order No.	C	ØD	E	Ø F
GX500	K-250	20	7	7	56.6
GX750	K-500	25	9	7	70.7
GX1000	K-750	30	13.5	14	80
GX1500	KX-1500	30	13.5	14	92
GX2400	K-1500	30	13.5	14	104
GX4200	K-3000	40	17.5	14	130
GX6600	K-5000	50	17.5	14	155
GX9500	K-7500	50	21.5	14	195
GX20000	K-10000	58	21.5	15	240

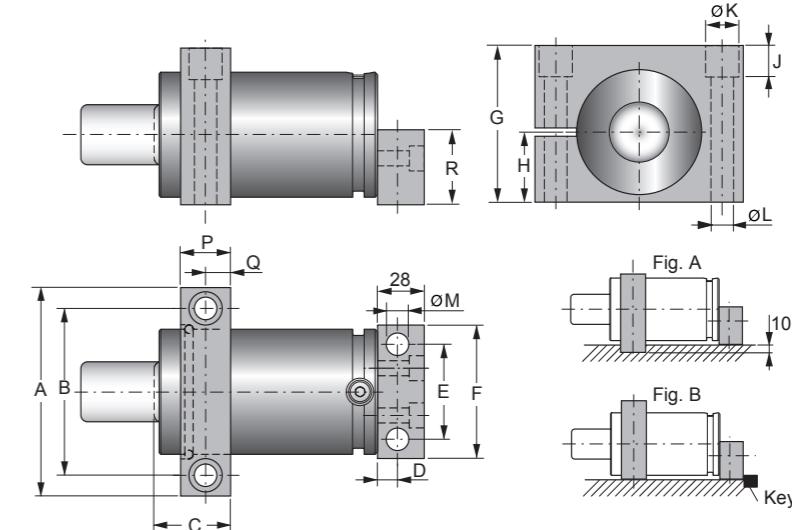
注意：订购GX系列弹簧的K形挡块时，必须使用尺寸小于弹簧的挡块。例如，GX2400系列弹簧需要K-1500型挡块。

Note: When ordering K-lugs for GX springs, a lug of smaller size than the spring must be used. For example, an GX2400 spring requires lug K-1500.



Screw size	Torque (Nm)
M6	10-17
M8	25-40
M12	85-136
M16	200-333
M20	390-649

HM



HM (水平安装)用于安装GTU750-3000型弹簧。此底座符合FORD WDX35-62标准。前固定法兰可旋转180°，使其可安装在10 mm键槽中。如果前固定法兰未安装在键槽中，建议使用键块挡住底面(见图A和B)。固定法兰配有关于固定的螺丝。

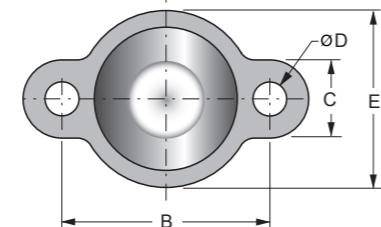
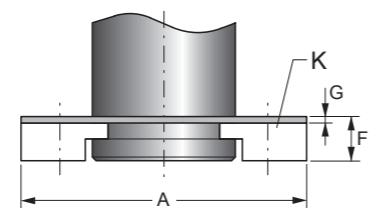
HM (Horizontal Mount) is a mount for GTU750-3000 springs. This mount meets FORD WDX35-62-standard. The front support can be rotated 180° allowing it to be mounted in a 10 mm key groove. If the front support is not mounted in a key groove, we recommend that the rear mount is backed up using a key (see Fig. A and B). The support is supplied complete with screws for attaching the mount to the spring.

L

使用2个K型挡块垂直固定氮气体弹簧时，必须同时使用L型固定板，以确保弹簧径向固定。

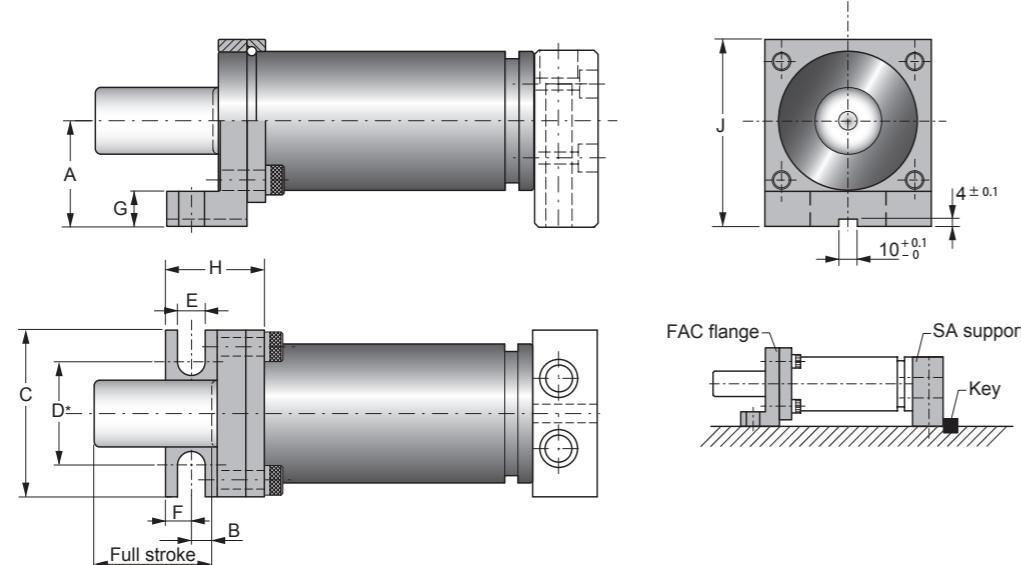
When fixing gas springs vertically using 2 K-lugs, locking plate L must be used at the same time to ensure that the spring will be fixed radially.

Order No.	A	B	C	ØD	E	F	G
L-250	76.6	56.6	20	7	48	9.5	2.5
L-500	95.8	70.7	25	9	56	9.5	2.5
L-750	110	80	30	13	61	16.5	2.5
L-1500	134	104	30	13	86	16.5	2.5
LX-1500	122	92	30	13.5	74	16.5	2.5
L-3000	170	130	40	17	106	16.5	2.5
L-5000	205	155	50	17	131	16.5	2.5
L-7500	245	195	50	21	170	16.5	2.5



Order No.	A	B	C	D	E	F	G	H	J	ØK	ØL	ØM	P	Q	R
HM-250	74	54	29.5	12	40	60	54	23.9	16	15	9	9	20	10	38
HM-750	90	68	43	13	44	65	70	30	25	18	11	11	30	15	45
HM-1500	125	100	45	12	57	80	94	42	32	20	13.5	13.5	30	15	45
HM-3000	140	115	48	15	70	95	115	52.5	33	20	13.5	13.5	30	15	45

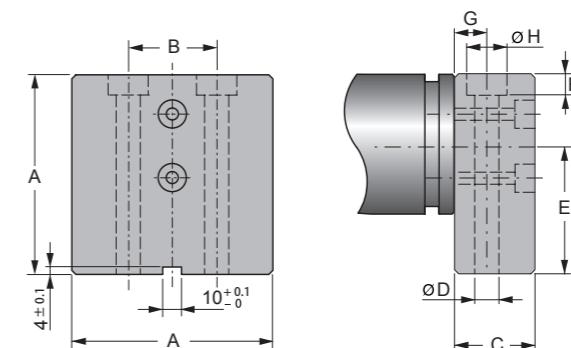
FAC



FAC为90°角的2件式法兰，适用于GTU750-5000。法兰只能与SA固定板或任何其他固定板同时使用固定弹簧的底部。建议用键块支撑SA安装座，见上图。

The FAC is a 90° angled, 2-piece flange for GTU750-5000. The flange is only to be used together with the SA support or any other support that supports the bottom of the spring. It is recommended to back the SA mount with a key, see figure above.

SA



SA支架可使用B安装选项安装GTU系列弹簧，通常与FAC法兰一起使用。SA支架配安装螺丝。建议使用键块配合SA安装，见上图。

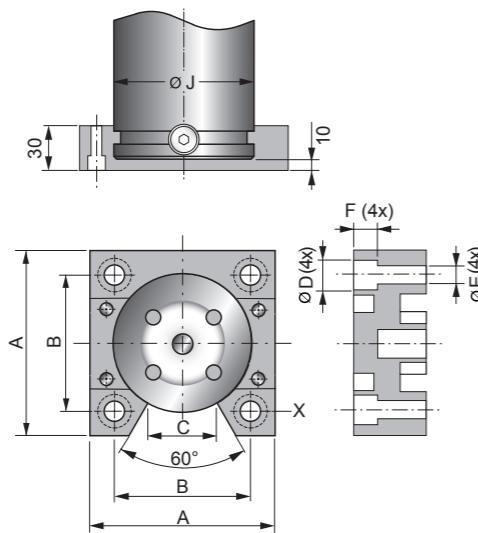
The SA support can be fitted using the B mount option on GTU springs and is normally used together with the FAC flange. The SA support is supplied complete with screws needed to mount the support to the spring. It is recommended to back the SA mount with a key.

Order No.	A	B	C	D*	E	F	G	H	J
FAC-750	38	8	65	33	12	11	13	45.5	70
FAC-1500	57	11	90	37	15	14	19	53.5	101
FAC-3000	66.5	11	110	63	15	14	19	57.5	121
FAC-5000	79	11	140	88	18	14	19	59.5	149

*安装时建议的中心距离 *Recommended center to center distance for installation.

Order No.	A	B	C	ØD	E	F	G	ØH
SA-750	60	32	30	11.5	38	11	11	18
SA-1500	90	38	35	14.5	57	13	14	20.5
SA-3000	110	63.5	40	14.5	66.5	13	14	20.5
SA-5000	130	88.9	50	17.5	79	16	14	25

RM/RMX



RM支座是一个可拆卸的方形支座，可用于安装在GTU和GX系列弹簧上。

RM底座包含在Ford W-DX35-80北美标准中。

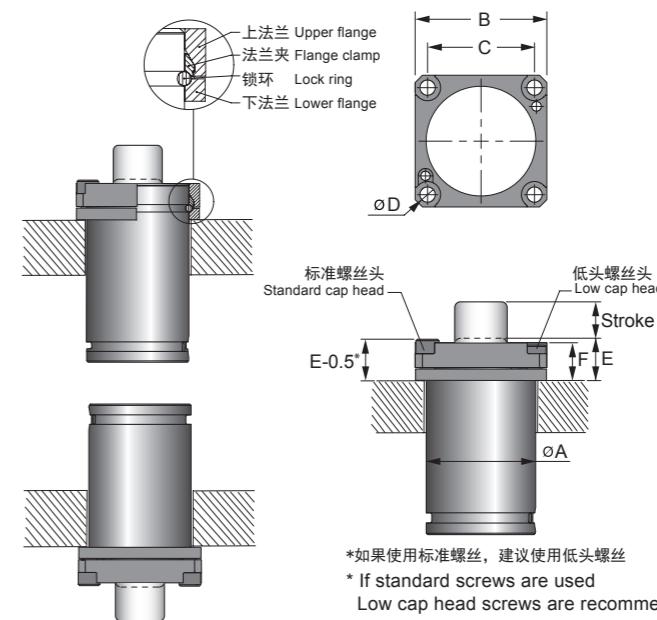
The RM mount is a removable square mount that can be used for mounting onto GTU and GX springs.

The RM mount is included in the Ford W-DX35-80 North America standard.

Order No.	A	B	C	ØD	ØE	F	ØJ
RM-750	80	56.5	21.1	18	11	11	50.2
RM-1500	100	73.5	33.7	18	11	11	75.2
RM-3000	120	92	43.2	20	13.5	13	95.2
RM-5000	140	109.5	55.7	20	13.5	13	102.2
RM-7500	190	138	70.7	26	18	17	150.2

Order No.	A	B	C	ØD	ØE	F	ØJ
RMX-750	70	50	21.2	15	9	11	45.2
RMX-1000	80	56.5	21.1	18	11	11	50.2
RMX-1500	100	73.5	33.7	18	11	11	63.2
RMX-2400	100	73.5	33.7	18	11	11	75.2

FCSC



*如果使用标准螺丝，建议使用低头螺丝

* If standard screws are used
Low cap head screws are recommended

FCSC夹紧法兰在氮气弹簧和底座之间提供非常可靠的无间隙连接。这种无间隙连接也可防止氮气弹簧旋转。

FCSC卡箍法兰特别适用于氮气弹簧，氮气弹簧通过软管连接在一起和/或用于高速、长行程的倒置装置。

FCSC夹紧法兰适用于尺寸从500到7500的氮气弹簧。

注意：如果使用低头螺丝安装 (4x)，则FCSC和FCS法兰完全可互换。使用低头螺丝确保螺丝顶部与法兰顶部齐平。如果使用普通杯头螺丝，螺丝顶部将高出法兰3 mm。

The FCSC Clamp Flange offer a very robust play-free connection between the gas spring and the mount. This play-free connection also prevents rotation of the gas spring.

The FCSC Clamp Flange is especially suitable for gas springs that will be hosed together and/or are used in high-speed, long-stroke upsidedown installations.

The FCSC Clamp Flange is available for gas springs sizes from 500 up to 7,500.

Note: The FCSC and FCS flanges are fully interchangeable if low head cap mounting screws (4x) are used. Using low head cap screws ensures the top of the screw is flush with the top of the flange. If normal head cap screws are used, the top of the screw will protrude from the top of the flange by 3 mm.

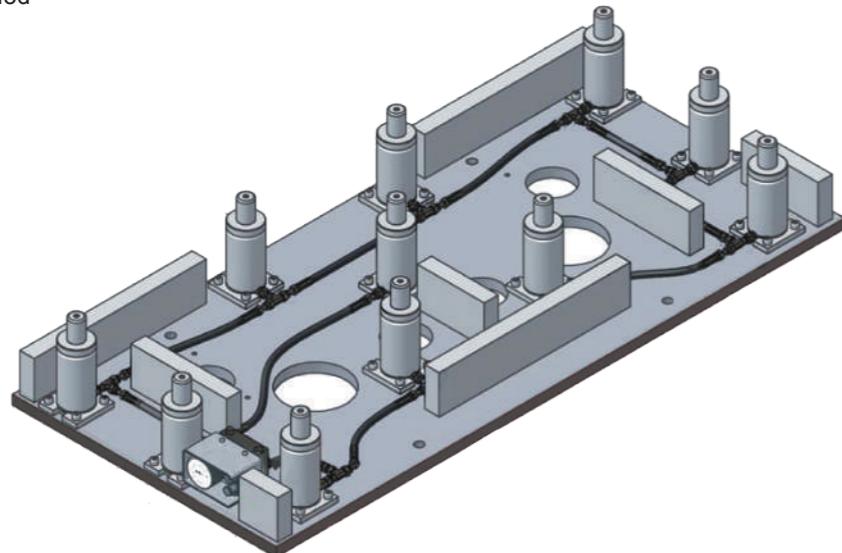
Order No.	Spring size	ØA	B	C	ØD	E*	F
FCSC-500	GX750, GTU500, GK500	45	64	50	9	23 / 22	18.4
FCSC-750	GCU1800, GX1000, GTU750, GK750	50	70	56.5	9	24 / 22	19.4
FCSCX-1500	GCU2900, GX1500	63	80	64	10.5	27	23.9
FCSC-1500	GX2400, GTU1500	75	90	73.5	10.5	29	26
FCSC-3000	GX4200, GTU3000	95	110	92	12.5	33	30
FCSC-5000	GCU11800, GX6600, GTU5000	120	130	109.5	12.5	33 / 36	32.4
FCSC-7500	GCU18300, GX9500, GTU7500	150	162	138	16.5	38 / 41	38

LINKED SYSTEMS INTRODUCTION**连管系统概述**

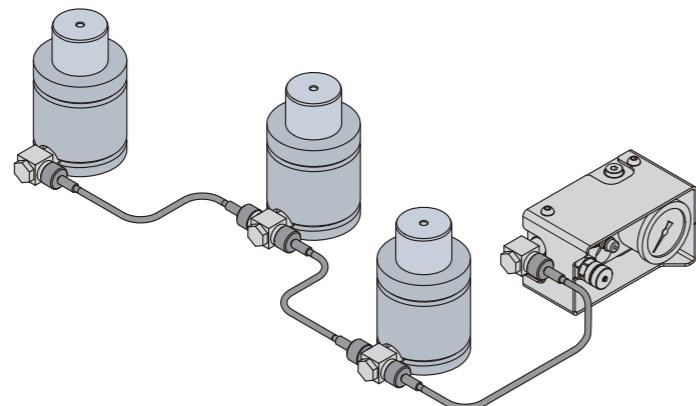
很多客户已经意识到连接氮气弹簧的优点，连管系统允许用户轻松监控、控制和调整模具外部的压力；同时我们提供各种类型的接头、软管和控制面板，用户很容易的配置连管系统。

Many customers recognize that there are many benefits to connecting a gas spring to a hose system. Linked systems allow users to easily monitor, control and adjust pressure from outside the die. We also offer a variety of types of hoses, adapters and other components for customers to choose from.

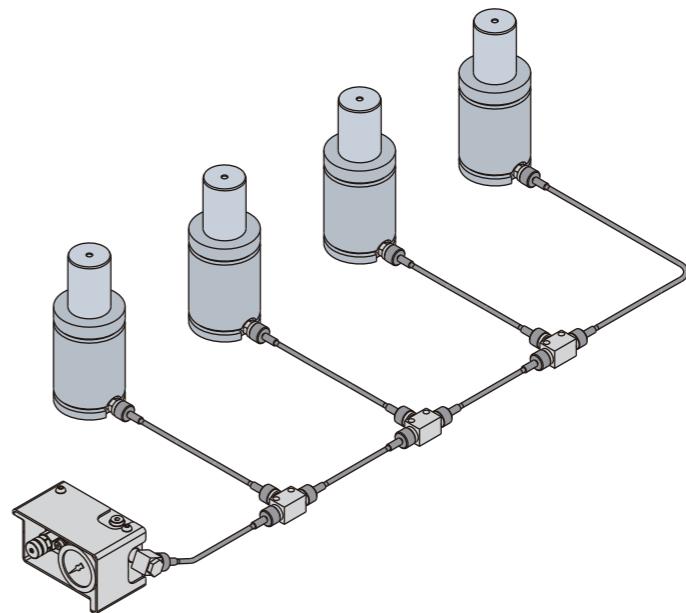
连接管展示
Installing method



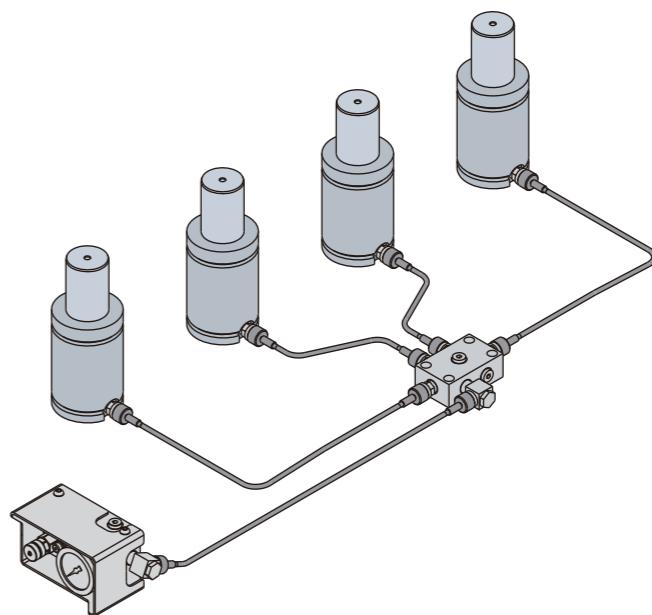
连管案例1
Example 1



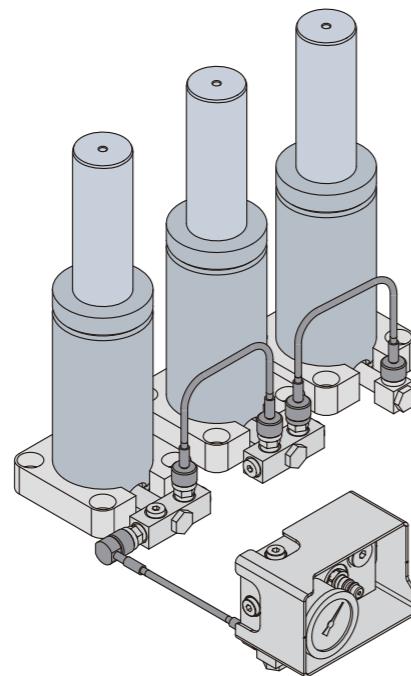
连管案例2
Example 2



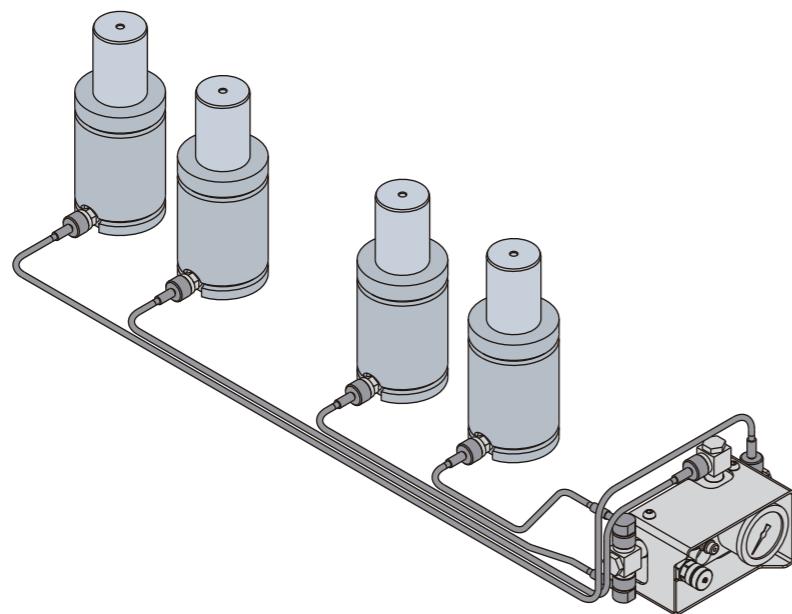
连管案例3
Example 3



连管案例4
Example 4



连管案例5
Example 5



LINKED SYSTEMS INTRODUCTION GUIDELINES

连管系统安装注意事项

安全性与最佳使用注意事项 For safety and optimum performance life

- 1、安装连管之前，取出氮气弹簧充气口内的阀芯。
- 2、确保连管系统任何位置都没有干涉，保证氮气弹簧有润滑油润滑。
- 3、只能使用氮气，否则可能造成人身伤害，氮气弹簧或控制面板故障。
- 4、切勿超过氮气弹簧上标记的最大充气压力。一般最大充气压力为150bar/2175psi。
- 5、确认所有的控制表上的阀门都处于关闭状态。
- 6、所有软管连接的氮气弹簧必须是同一型号的氮气弹簧。
- 7、不建议使用无法控制氮气弹簧自身转动的法兰，有安全风险。
- 8、最大充气压力达到180bar/2610psi的氮气弹簧，不能使用带有防爆阀的控制面板。

Safety Guidelines

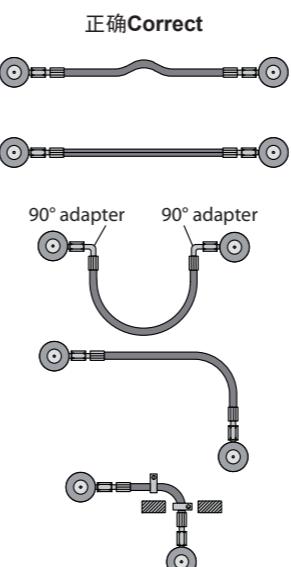
For safety and optimum performance life:

- 1:Before connecting gas springs to a hosed system, remove the inlet valve from each spring.
- 2:Position the control valve in the tool where it will be protected from mechanical damage, and on a higher level than the gas springs to minimize loss of lubrication oil when discharging the gas.
- 3:Use only nitrogen (N_2) gas. The use of other types of gas can result in personal injury or failure of the gas spring/control panel.
- 4:Never exceed the maximum charging pressure marked on the gas spring. For most standard gas springs, the maximum charging pressure is 150 bar/2175 psi.
- 5:All valves on the control panel should be closed during operation.
- 6:All gas springs that are hosed together should be of the same size and model.
- 7:We do not recommend hosing gas springs mounted using FC or FSC flanges as there is a risk that the gas spring will rotate while in operation.
- 8:Do not use control panels fitted with rupture disks for gas springs with a maximum charging pressure of 180 bar/2610 psi.

软管安装注意事项 Hose Installation Guidelines

注意：不要超过软管压力和温度的最大值。软管和接头在装配前必须清洁干净。

Note: Never exceed the maximum values given for pressure and temperature for the hoses. Make sure that hoses and adapters are clean before assembling.



正确Correct

选择合适长度的软管
Choose a hose length that allows for a certain amount of play.

错误Incorrect

软管安装完成后软管不可扭曲
After assembly, the longitudinal marking on the hose must not be twisted.

选择适当角度的接头
Choose hose adapters that avoid sharp bends in the hose.

绝不要低于软管最小弯曲半径
Never go below the recommended minimum bend radius of the hose.

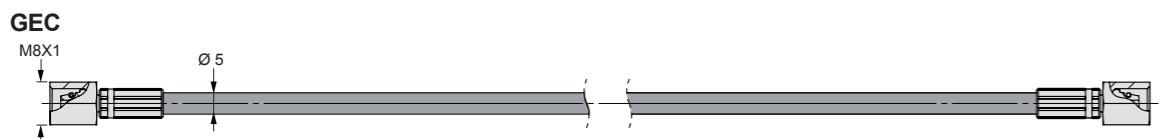
放置软管时避免机械损伤
Position the hose to avoid mechanical damage.

LINKED SYSTEMS

连管系统

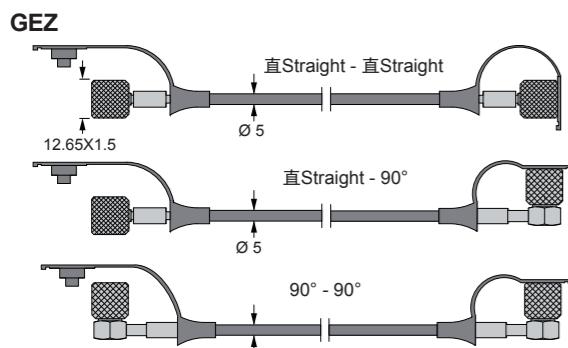
使用连管系统连接的氮气弹簧，具有压力一致、能够监控和调整压力的明显优势；钢锐提供三种连管系统，分别是GEC、GEZ、GEO各具优势的连管系统可供选择，高品质标准的同时且与国际连管系统完美匹配；钢锐同时提供连管系统设计、配件采购、上门安装等一站式服务。

Linked systems allow users to easily monitor, control and adjust pressure, GUNRI offers three separate systems for connecting gas springs including GEC, GEZ, GEO. They can be perfectly replaced with other companies'. We also provide one-stop services such as connection system design, parts procurement, and on-site installation.



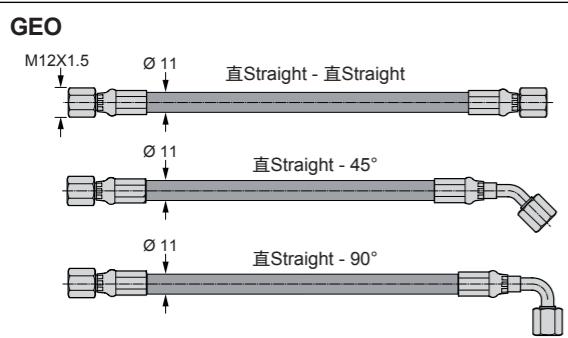
GEC连管系统是最紧凑的连管系统，它具有双重密封系统保证，通常用于M6充气口的氮气弹簧，通过转接头，此系统同样可以用于G 1/8"和G 1/4"充气口的氮气弹簧。

A combined system of hose and tube, the GEC is the most compact we offer. It features a dual seal system and is specially designed to allow gas springs with M6 charge ports to be connected to each other. can also be used for G 1/8" and G 1/4" charge ports via an adapter.



GEZ连管系统是最便捷的连管系统，通过O形圈表面密封，安装方便，无需使用工具，仅靠手指力量便可安装并密封，适用于模具空间小，不便使用工具时的最优选择。

The GEZ Hose system is useful for components with adapters with O-ring face seals that allow hoses to be attached easily, using only finger strength.



GEO连管系统是气体流量较大的连管系统，通常用于充气口为G 1/8"的氮气弹簧，由于连管系统较粗，建议气体流量较大或带压缩罐的使用该系统。

The GEO Hose system is used mainly for larger gas springs with G 1/8" ports or if compression tanks are used. This system is recommended when high gas flow is required .

GEC HOSE SYSTEM

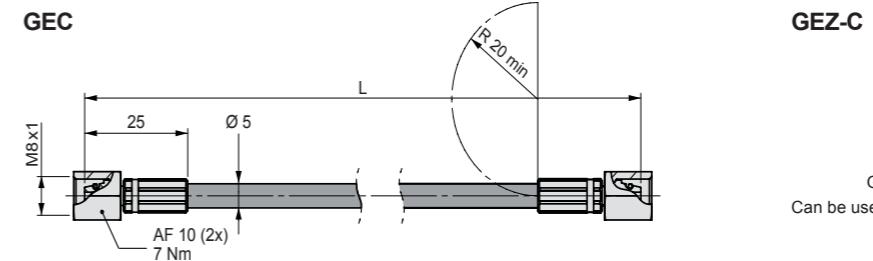
GEC连管系统

GEC连管系统具有（锥度和密封圈）双重密封方式，确保系统更加安全可靠、不泄漏；通过转接头，此系统同样可以用于G 1/8"和G 1/4"充气口的氮气弹簧；可根据用户需求，标准长度为100毫米以上的定制长度。

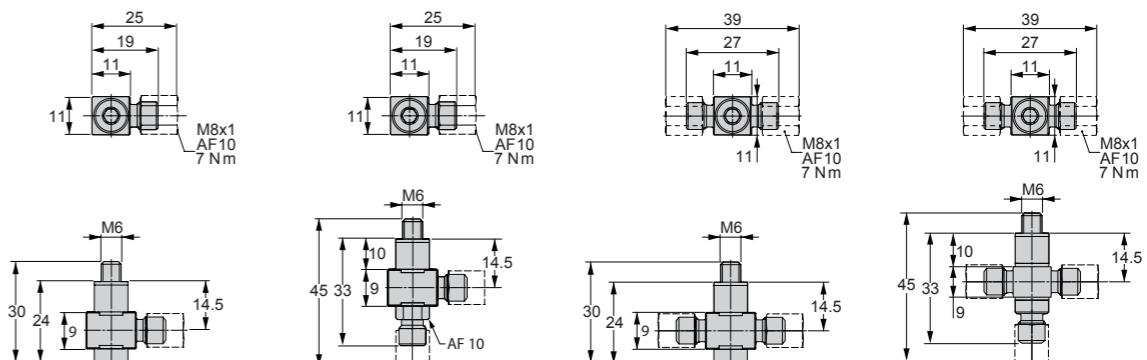
The GEC hose features a Dual Seal System to ensure double leak-proof joints as well as rotational protection. In addition, G 1/8" and G 1/4" ports can be connected to the GEC using an appropriate adapter. A wide range standard lengths is available with custom lengths from 100mm up.

外径OD	Ø5mm
内径ID	Ø2mm
最大工作压力Max. Working Pressure	475 bar
最小爆破压力Min. Burst Pressure	1900 bar
最小弯曲半径Min. Bend Radius	20mm
最小软管长度Min. Crimped Hose Length	100mm

Code No.	L (mm)
GEC-0100	100
GEC-0200	200
GEC-0300	300
GEC-0400	400
GEC-0630	630
GEC-0800	800
GEC-1000	1000
GEC-1500	1500
GEC-2000	2000
GEC-XXXX	XXXX*



GEZ-C软管固定夹(M5螺栓)
Can be used to secure hoses using an M5 screw

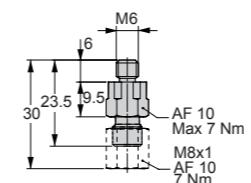
充气口接头
Charge Port Adapters

M6 弯通 Elbow
Code No.GEC-E

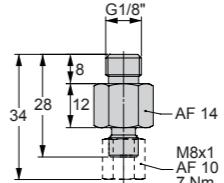
M6 三通 Run Tee
Code No.GEC-RT

M6 三通 Branch Tee
Code No.GEC-BT

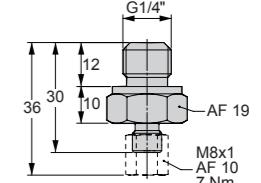
M6 四通 Cross
Code No.GEC-C



M6 直通 Straight
Code No.GEC-M6



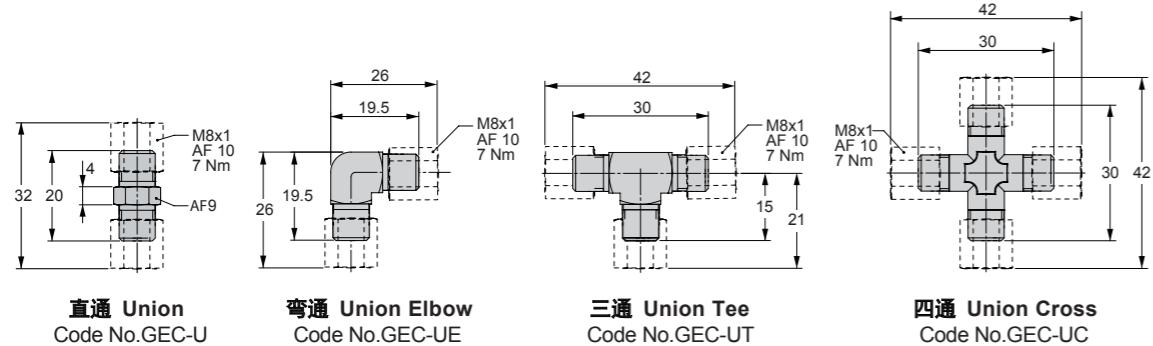
G1/8" 直通 Straight
Code No.GEC-G1/8



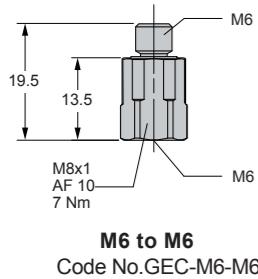
G1/4" 直通 Straight
Code No.GEC-G1/4

HOSE TO HOSE CONNECTORS

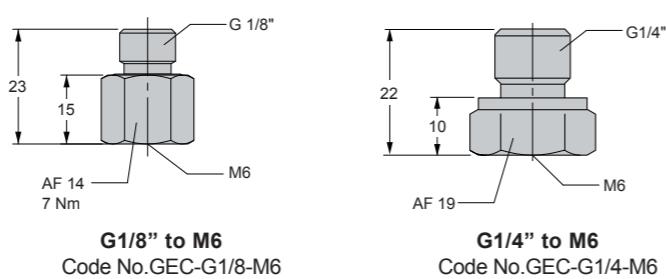
连管接头



加长接头 Long Adapter



转接头 Appropriate Adapter

GEC连接系统案例
GEC Linked Systems Example

GEZ HOSE SYSTEM

GEZ连管系统

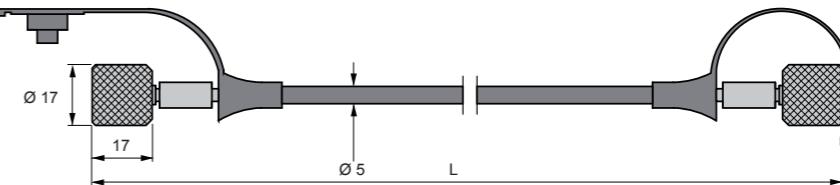
GEZ连管系统是一种非常紧凑和多功能的O型圈密封系统，允许用手拧紧连接，无需使用工具。同时G 1/8"和G 1/4"充气口的氮气弹簧可以通过转接头使用GEZ连管系统连接。不适用于压缩罐。可根据用户需求，标准长度为150毫米以上的定制长度。

A very compact and versatile O-ring sealed system that allows connections to be tightened by hand. In addition, G 1/8" and G 1/4" ports can be connected to the GEZ Hose System using an appropriate adapter. Not for use with compression tanks. A wide range of standard lengths is available with custom lengths from 150mm up.

外径 OD	Ø5mm
内径 ID	Ø2mm
最大工作压力 Max. Working Pressure	500 bar
最小爆破压力 Min. Burst Pressure	2000 bar
最小弯曲半径 Min. Bend Radius	20mm
最小软管长度 Min. Crimped Hose Length	150mm

直Straight-直Straight

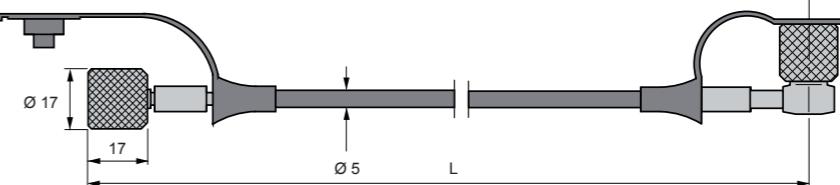
Code NO. GEZ-SS-XXXX



Code No.	L (mm)
GEZ-SS-0200	200
GEZ-SS-0300	300
GEZ-SS-0400	400
GEZ-SS-0630	630
GEZ-SS-0800	800
GEZ-SS-1000	1000
GEZ-SS-1500	1500
GEZ-SS-2000	2000
GEZ-SS-XXXX	XXXX*

直Straight-90°

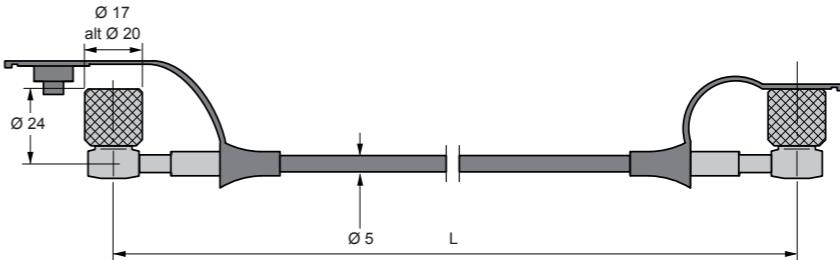
Code NO. GEZ-SE-XXXX



Code No.	L (mm)
GEZ-SE-0200	200
GEZ-SE-0300	300
GEZ-SE-0400	400
GEZ-SE-0630	630
GEZ-SE-0800	800
GEZ-SE-1000	1000
GEZ-SE-1500	1500
GEZ-SE-2000	2000
GEZ-SE-XXXX	XXXX*

90°-90°

Code NO. GEZ-EE-XXXX



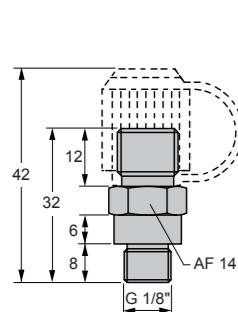
Code No.	L (mm)
GEE-EE-0200	200
GEE-EE-0300	300
GEE-EE-0400	400
GEE-EE-0630	630
GEE-EE-0800	800
GEE-EE-1000	1000
GEE-EE-1500	1500
GEE-EE-2000	2000
GEE-EE-XXXX	XXXX*

GEZ HOSE CHARGE PORT ADAPTERS**GEZ连管系统接头****充气口接头**

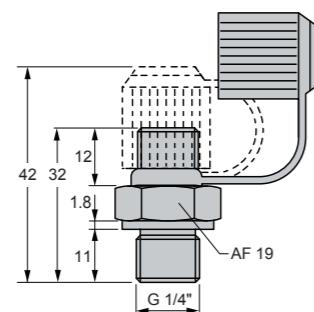
Charge Port Adapters

分为: G 1/8", G 1/4", and 7/16"三种, G 1/4"可应用于多种控制面板。

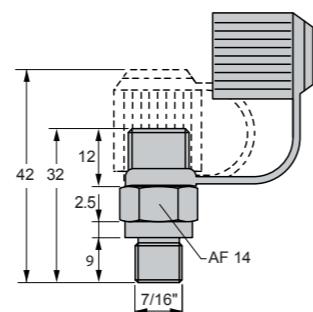
Hose adapters are available with three different threads: G 1/8", G 1/4", and 7/16". The G 1/4" adapter fits most control panels.



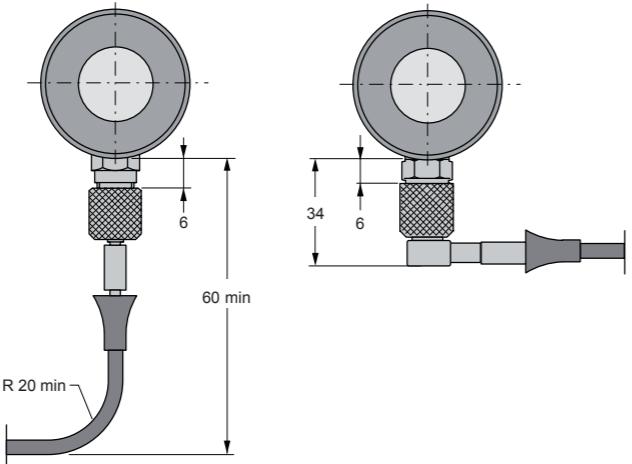
G 1/8" 接头Adapters
Code No.GEZ-G1/8



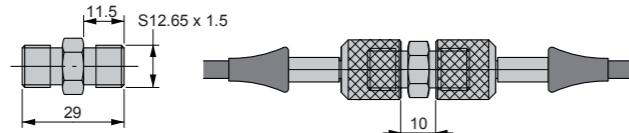
G 1/4" 接头Adapters
Code No.GEZ-G1/4



G 7/16" 接头Adapters
Code No.GEZ-G7/16

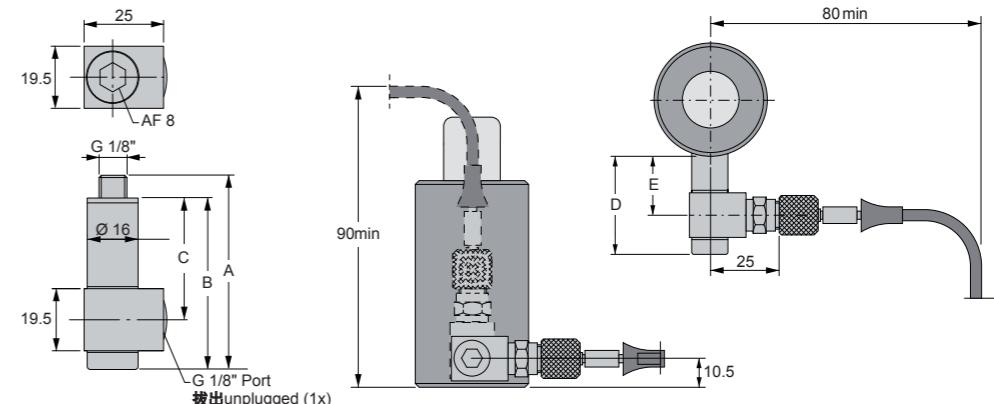
连接案例
Adapter example

连管接头
Hose-to-Hose Connector
Code No.GEZ-HH

**GEZ HOSE CHARGE PORT ADAPTERS****GEZ连管系统接头****单向连接**

Angle Adapter

Code No.GEZ-G1/8-A-XX

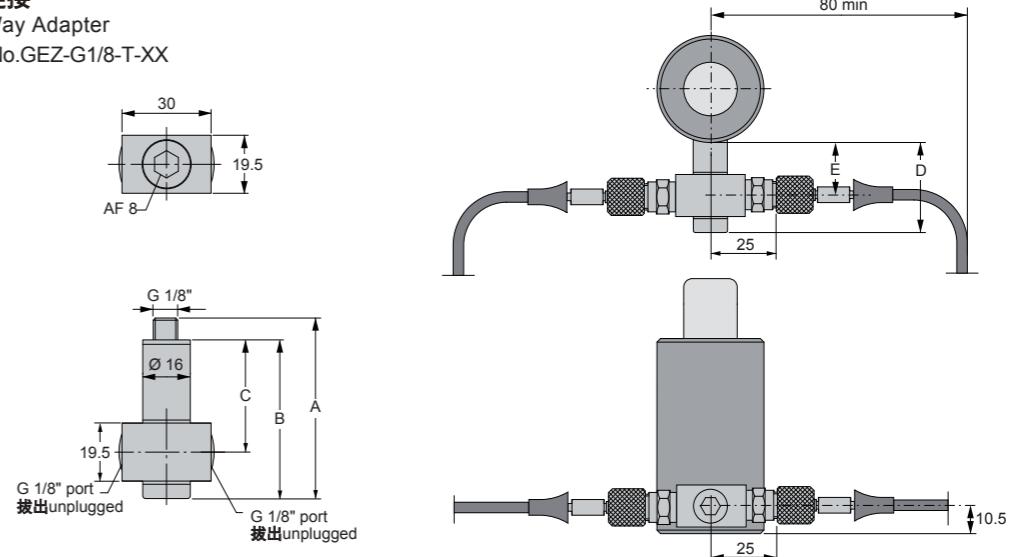


Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
GEZ-G1/8-A-01	40	32.5	17	26	11
GEZ-G1/8-A-02	54	46.5	31	40.5	25
GEZ-G1/8-A-03	61	53.5	38	47.5	32

双向连接

Two-Way Adapter

Code No.GEZ-G1/8-T-XX



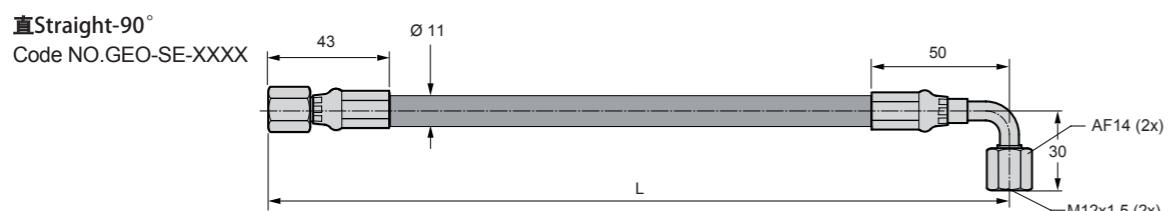
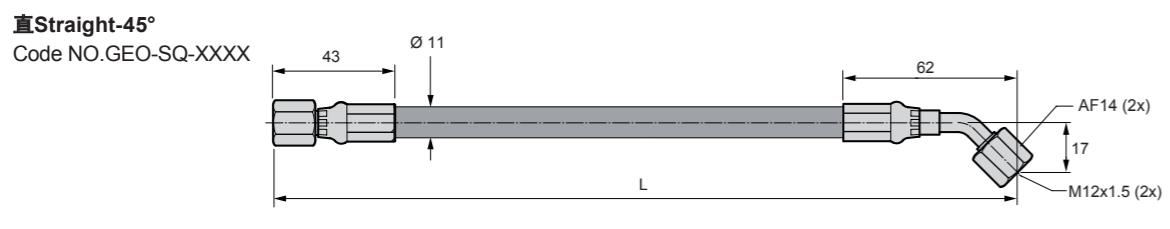
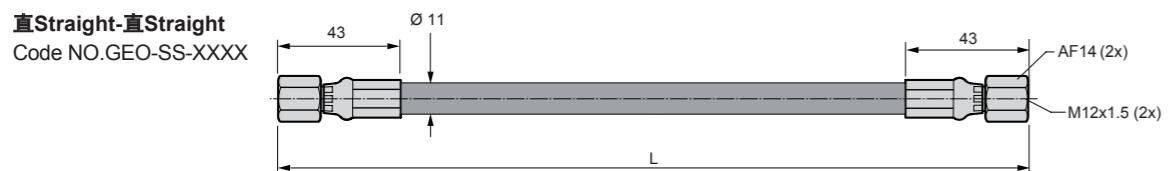
Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
GEZ-G1/8-T-01	40	32.5	17	26.5	11
GEZ-G1/8-T-02	54	46.5	31	40.5	25
GEZ-G1/8-T-03	61	53.5	38	47.5	32

GEO HOSE SYSTEM**GEO连管系统**

GEO连管系统我们最大的软管系统，建议与压缩罐一起使用。通过转接头，G 1/8"和G1/4"充气口的氮气弹簧可以应用于GEO连管系统。可根据用户需求，标准长度为120毫米以上的定制长度。

Our largest hose system, recommended for use with compression tanks. In addition, G 1/8" and G1/4" ports can be connected to the GEO Hose System using an appropriate adapter. A wide range of standard lengths is available with custom lengths from 120 mm up.

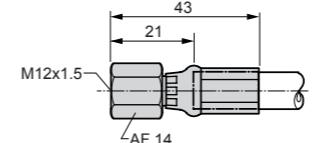
外径OD	Ø11mm
内径ID	Ø5mm
最大工作压力Max. Working Pressure	345 bar
最小爆破压力Min. Burst Pressure	1380 bar
最小弯曲半径Min. Bend Radius	40mm
最小软管长度Min. Crimped Hose Length	150mm



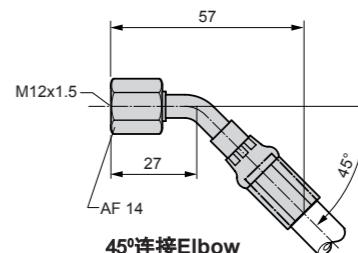
GEO-C软管固定夹(M6螺栓)
GEO-C Secure hoses using an M6 screw.

GEO HOSE SYSTEM**GEO连管系统****GEO连管扣压接头**

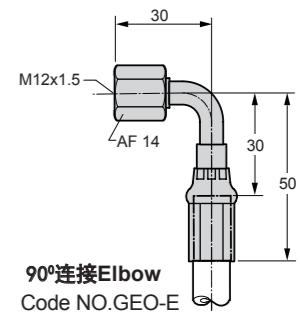
GEO Hose Connections for Crimping



直接Straight
Code NO.GEO-S



45°连接Elbow
Code NO.GEO-Q



90°连接Elbow
Code NO.GEO-E

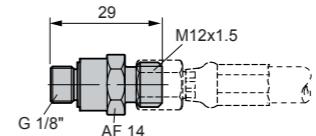
GEO 充气口接头

GEO Hose Adapters

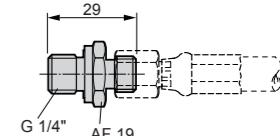
GEO软管系统有M12X1.5螺纹，用于连接软管和接头。G1/8"和G1/4"用于连接氮气弹簧、分配块和控制面板。

The GEO Hose system has M12X1.5 threads for connecting the hose and adapter. G1/8" and G1/4" are used to connect to gas springs, distribution blocks and control block.

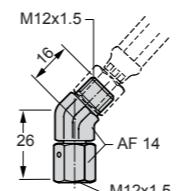
G1/8直接Straight
Code NO.GEO-G1/8



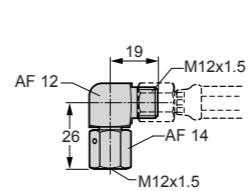
G1/4直接Straight
Code NO.GEO-G1/4



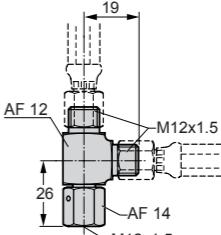
GEO管路-接头连接
GEO Adapter to Hose Connectors



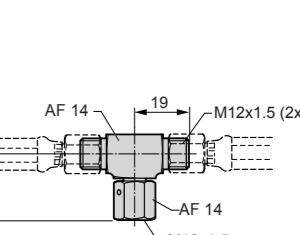
45°连接Elbow
Code NO.GEO-AQ



90°连接Elbow
Code NO.GEO-AE

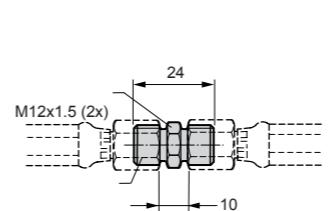


三通 Run Tee
Code NO.GEO-RT

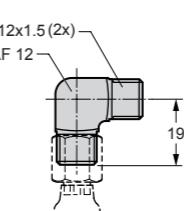


三通 Branch Tee
Code NO.GEO-BT

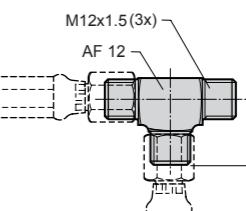
GEO管路-管路连接
GEO Hose to Hose Connectors



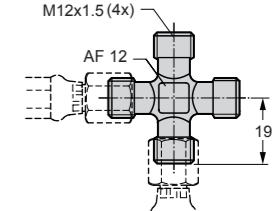
直通 Union
Code NO.GEO-U



弯通 Union Elbow
Code NO.GEO-UE



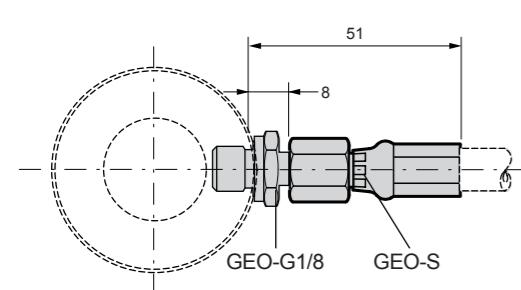
三通 Union Tee
Code NO.GEO-UT



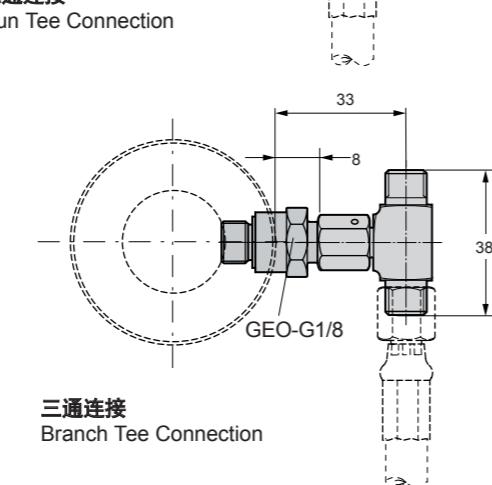
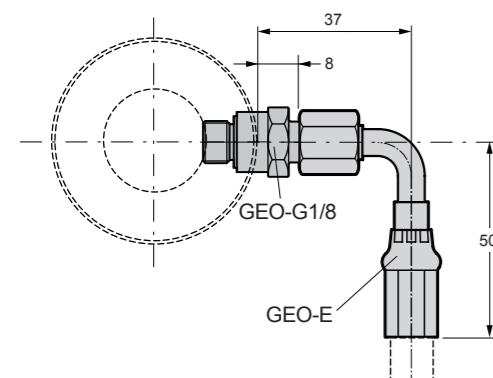
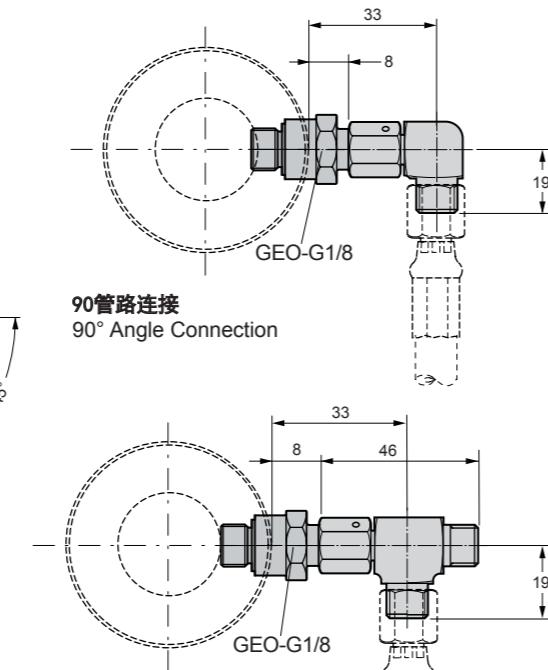
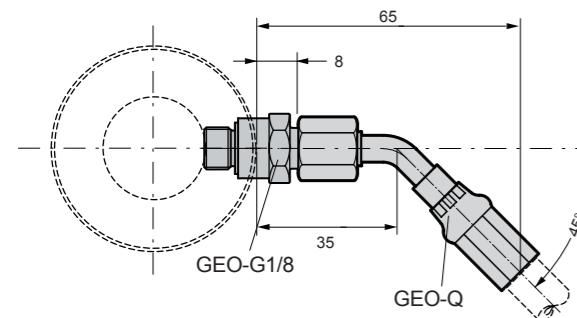
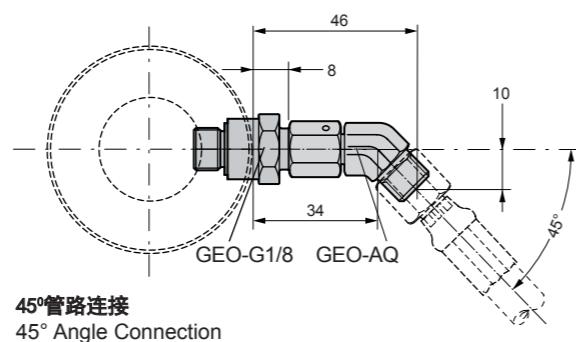
四通 Union Cross
Code NO.GEO-UC

INSTALLATION EXAMPLES GEO HOSE SYSTEM

GEO连管系统安装案例



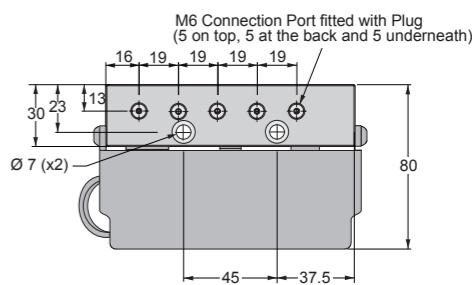
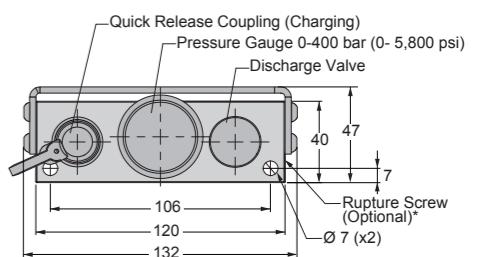
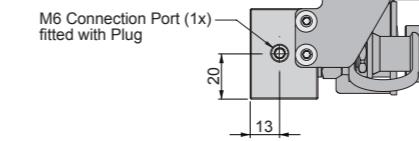
直管路连接
Straight Hose Connection



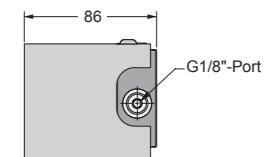
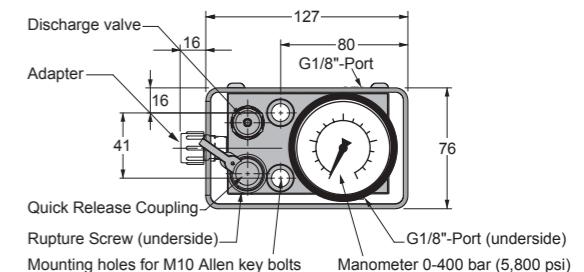
CONTROL BLOCK

控制面板

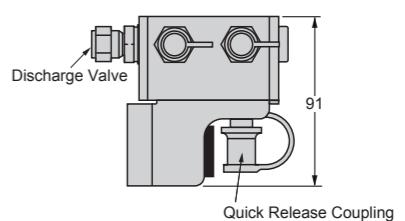
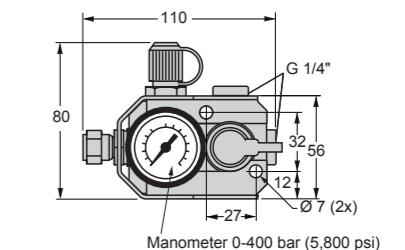
GEC-CP



GGM-CP



GEZ-CP

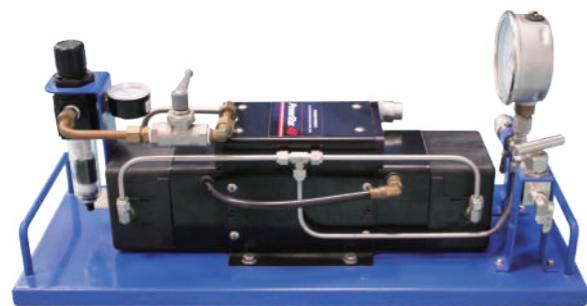


CHARGING EQUIPMENT

充气设备

GR-1100 系列氮气弹簧增压设备

GR-1100 Nitrogen Gas Booster Assembly



特点:

便携式增压设备可直接通过工厂压缩空气驱动，快速安全的实现从氮气瓶灌充到氮气弹簧或连管系统中。驱动气压不大于7 bar，预增气体压力大于28 bar，最大输出压力可高达372 bar。

主要参数配置:

1. 驱动部分：驱动路段配有低压调压阀等控制驱动气体，驱动气接口：3/8"NPT+Ø10快插接口；配备一根3米Ø10的进气软管。
2. 预增部分：预增进气端配备一根3米的高压软管（一端G5/8"活动螺母，一端1/4" NPT外螺纹），一端连接氮气瓶，一端与动力单元快插连接。
3. 高压输出部分：高压输出端配备有压力表，一根3米长的高压软管（两端1/4" NPT外螺纹）、针阀、卸荷阀及快插。
4. 外形尺寸：640长*260宽*300高，重量：18KG。

Features:

The GR-1100 nitrogen gas booster assembly gets the most from the nitrogen gas supply by safely and easily boosting nitrogen gas bottles with a minimum of 28 bar. Driven by plant air (less than 7 bar), the assembly provides pressures up to 372 bar to charge high pressure gas springs and manifold systems.

main parameter:

- 1: driving system: driving system Includes Low Pressure Regulating Valve , Driving Adapters: 3/8"NPT+Ø10 quick connector; A 3-meter charging hose.
- 2: Preloading system: A 3-meter high pressure hose, Both ends of the hose are connected to the nitrogen bottle and the power unit for quick connection (One end G5/8" movable nut, one end 1/4" NPT external thread)
- 3: High pressure output system: The high pressure output is equipped with a pressure gauge, a 3-meter high pressure hose(1/4" NPT external thread at both ends), Needle valve, Discharge valve, quick connector.
- 4:Size: Length: 640mm *Width: 260mm * High:300 , Weight: 18KG.

PRODUCT PRESENTATION

产品展示

