BORDIGNON

博迪龙 氮气弹簧

Nitrogen gas springs for press tools, dies and moulds

High performance line

冲压工具, 冲压模具用氮气弹簧

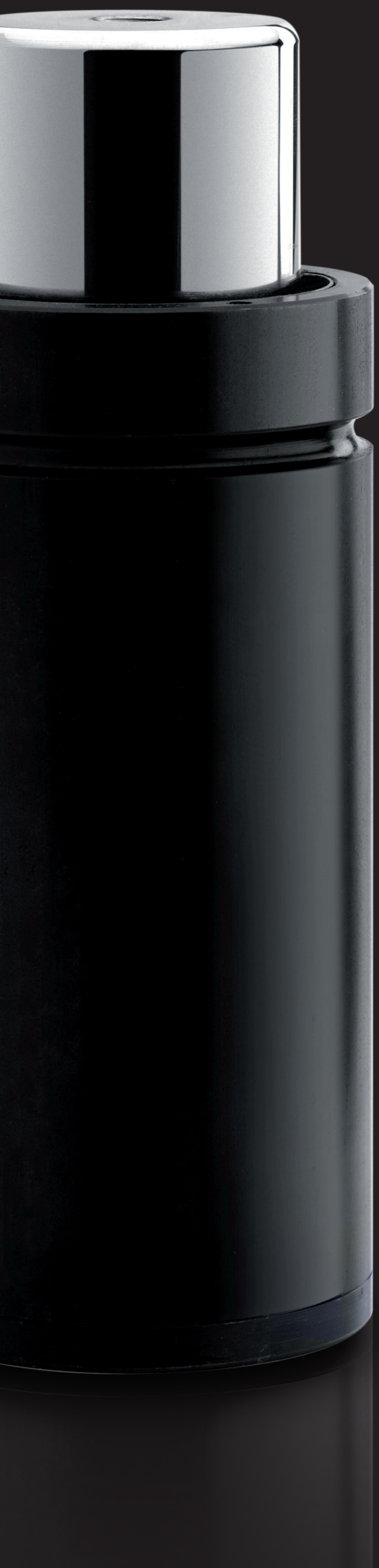
高性能产品线

True quality lives in time

品质恒久远

30 years

made in Italy 100% - no outsourcing



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WIPERTECH

NANOTECH2

30 years made in italy 100% - no outsourcing

60 YEARS of INNOVATION

Bordignon公司

Bordignon company

Active since 1958, Bordignon was the first company producing springs for molds and nitrogen gas springs to have obtained the UNI EN ISO 9002 (now UNI EN ISO 9001) certificate for the implementation of the Quality System to its production process, totally inside the company and controlled at every stage, from the acceptance of raw materials to the storage of the finished product.
Besides commitment to quality, the company adds the constant search for innovative solutions to provide specific answers to the most diverse use conditions.

自1958年成立以来，Bordignon作为第一家生产模具弹簧和氮气弹簧的公司，因在生产过程中，从原材料验收到成品储存的各个阶段严格控制并贯彻质量体系，而获得了UNI EN ISO 9002（现为UNI EN ISO9001）证书。
除了对质量的承诺外，我们还不断寻求创新解决方案，为多样化的使用场景提供具体方案。

Service and technological creativity:
Bordignon makes the difference

Taking care of the customer needs is the starting point for Bordignon research, which is aimed at offering customized nitrogen gas springs in a market characterized by standard solutions.
That's how dedicated products, perfect blends of nano-technologies and new materials synthesis, are designed to ensure safety and reliability over time, generating quality in the production processes in which they are involved.
Safety, research and development, production with no outsourcing, quality, big stock for quick delivery, have always been the points of strength of the Bordignon company.

服务和技术创新:
Bordignon与众不同

照顾客户需求是Bordignon研发的出发点，其目的是在以标准解决方案为特定的市场提供定制的氮气弹簧。
正是通过nano技术和新材料的完美融合的设计，才使得我们的产品在使用过程中保证质量的同时，确保了一如既往的安全性和可靠性。
安全、研发、无外发生产、质量、快速交货的大库存一直是Bordignon公司的优势所在。

质量认证

Certified quality

The Bordignon nitrogen gas springs are designed and built to guarantee the longest service life: they are the end result of many years of experience, research and innovative technology rewarded by the UNI EN ISO 9001 CERTIFICATION. More than 1000 nitrogen gas springs have been standardized and listed in this catalogue: they're in stock for immediate delivery, charged and ready for use.
Bordignon also produces tailor made nitrogen gas springs on request.

THE BORDIGNON NITROGEN GAS SPRINGS, IF PROPERLY USED, WILL LAST MORE THAN 200.000.000 mm OF TOTAL STROKE IN NORMAL WORKING CONDITIONS.

Bordignon氮气弹簧的设计和制造旨在确保最长的使用寿命：它们是多年经验、研究和创新技术的最终成果，并获得了UNI EN ISO 9001认证。1000多个氮气弹簧已经标准化，并已列入本目录：它们有库存，可立即交付、已充气并随时可用。
Bordignon还根据要求生产定制的氮气弹簧。

BORDIGNON氮气弹簧如果使用得当，在正常工况下，总工作行程可超过200,000,000 mm。

ITALCERT

CERTIFICATO N° 009SGQ07

CERTIFICATE N° 009SGQ07

Si certifica che il
this is to certify that

Sistema di Gestione per la Qualità
Quality Management System

messo in atto da
implemented by

BORDIGNON S.r.l.
Via Alessandro Volta, 2 – IT 36028 ROSSANO VENETO (VI)

nella Sede Operativa di
Operative Unit
Zona Industriale, 5 - IT 38055 GRIGNO (TN)

è conforme alla norma
is in compliance with the standard

UNI EN ISO 9001-2015 (ISO 9001-2015)

per i seguenti Processi
concerning the following kinds of Processes

Progettazione e fabbricazione di cilindri e serbatoi all'azoto, espulsori, cilindri all'azoto per manifold e manifold
Design and production of nitrogen gas springs and tanks, ejectors, nitrogen gas springs for manifold and manifold

Il presente Certificato è soggetto al rispetto delle condizioni stabilite dai Regolamenti per la certificazione in vigore applicabili.
This Certificate shall satisfy the requirements established in the Rules for the certification in force applicable.
In caso di discordanza tra le lingue utilizzate nella traduzione del contenuto del presente certificato, fare riferimento alla lingua italiana
In cases of discrepancy between the languages used in the translation of the content of the certificate, please refer to the italian language

L'AMMINISTRATORE DELEGATO
MANAGING DIRECTOR
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Seite 1

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TA - MU - BF/mf

München, den 20.10.99
Telefon: 089/ 5190-3357
Fax : 089/ 5190-3368

PRÜFBERICHT

TEST ORDERED BY:	**BORDIGNON SPA** **Rossano Veneto - ITALY** **on July 9 th 1999**
OBJECT OF THE TEST:	**LIFETIME OF ON OILLESS GAS SPRING** **„C 038-50"** **UP TO 300.000 MT. OF TOTAL STROKE**
PLACE OF THE TEST:	**TÜV AUTOMOTIVE GmbH** **Ridlerstraße 57** **D-80339 MUNICH**
TEST CONDITIONS:	**STROKE: 50MM.** **FREQUENCE: 0,63 Hz** **WITHOUT LUBRIFICATION**
TEST RESULT:	**THE CYLINDER WORKED WELL.** **AFTER 3.000.000 STROKES** **(= 300.000 MT.) IT WAS STILL CHARGED** **AND PERFORMING PERFECTLY.**

Betriebsfestigkeit
Dr.-Ing. A. Weiß

Der Sachverständige
A. Glas

Die auszugsweise Wiedergabe dieses Prüfberichtes und die Verwendung zu Werbezwecken bedürfen der schriftlichen Genehmigung der TÜV Automotive GmbH

TÜV Automotive GmbH • Unternehmensgruppe TÜV Süddeutschland • Geschäftsführer: Dr. - Ing. Michael Siedentop
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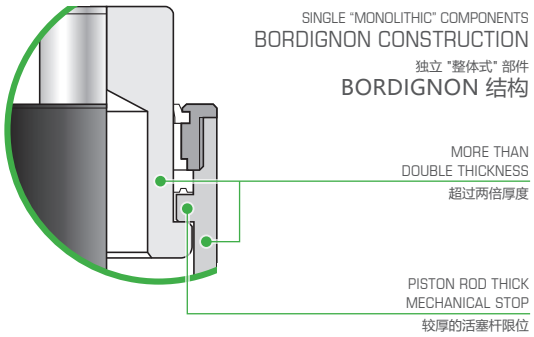
安全性&故障模式及影响分析。我们的优势

Safety & FMEA

Our points of strength

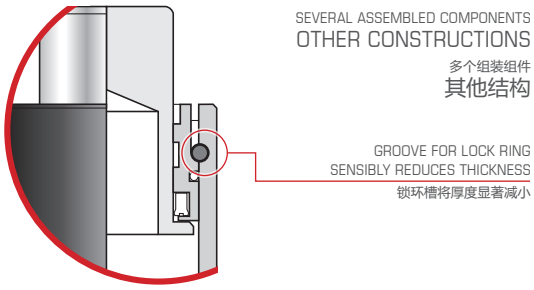
SAFETY

Bordignon nitrogen gas springs have always been built with single ("monolithic") thick mechanical components, in order to ensure product integrity and maximum user's safety even under the most extreme wrong use conditions (collisions, etc.). The piston rod is blocked by a thick mechanical stop inside the cylinder body.



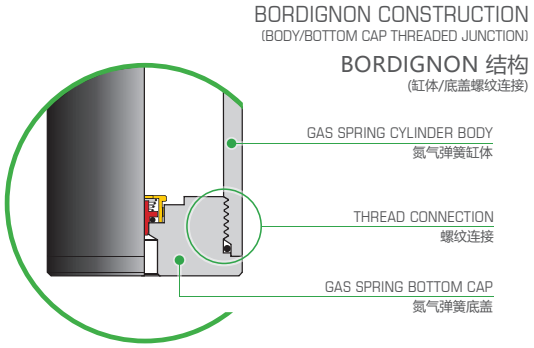
安全性

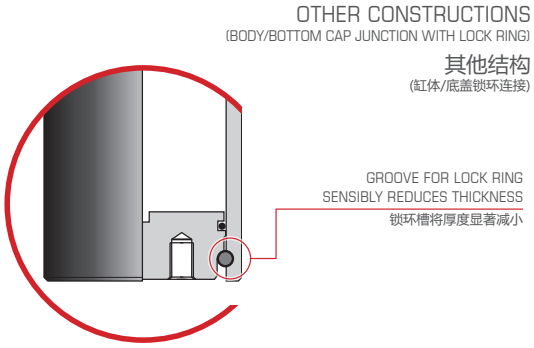
Bordignon氮气弹簧始终采用厚实独立的 ("整体式") 部件制造, 即使在最极端的不当使用条件下 (碰撞等), 也能确保产品的完整性并最大程度保证用户安全。活塞杆通过缸体内的较厚的机械止动块限位。



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

Bordignon氮气弹簧组件通过螺纹连接配合, 以实现最高的安全性。螺纹连接达到世界范围内高压设备的标准, 例如喷水切割喷嘴和超高压容器 (约10000bar)。



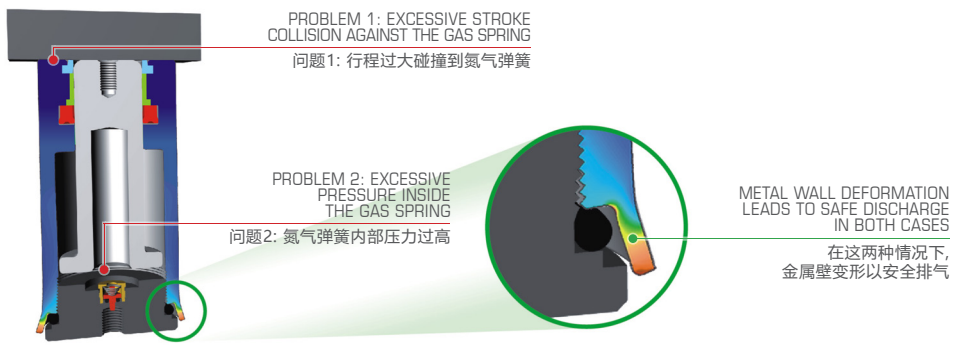


FMEA - FAILURE MODE AND EFFECT ANALYSIS

Bordignon nitrogen gas springs have always been built with a safety system for both internal over-pressure and over-stroke: the cylinder body metal wall is thinner at the bottom and gets deformed in such critical conditions, allowing a safe gas spring discharge.

FMEA - 故障模式及影响分析

Bordignon氮气弹簧始终配有内部超压和超行程安全系统: 气缸体金属壁底部较薄, 在极端工况下会变形, 从而使得氮气弹簧安全地排出气体。



有力道，紧凑且可靠。我们的优势

Power & compactness, reliability

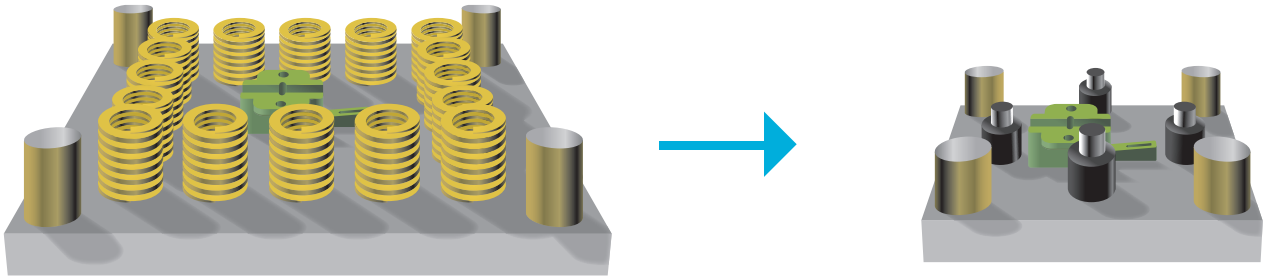
Our points of strength

POWER & COMPACTNESS

Bordignon produces various series of nitrogen gas springs, for every dimensional demand. Other than our ISO 11901 nitrogen gas spring line (Bordignon CISO series), we offer many other higher-performance models, with forces up to +300% higher and with much more compact dimensions.

力道与紧凑性

Bordignon生产各种系列的氮气弹簧，满足各种尺寸的需求。除了我们的ISO 11901氮气弹簧系列 (Bordignon CISO系列) 外，我们还提供许多其他更高性能的型号，其弹力高达+300%，尺寸更为紧凑。

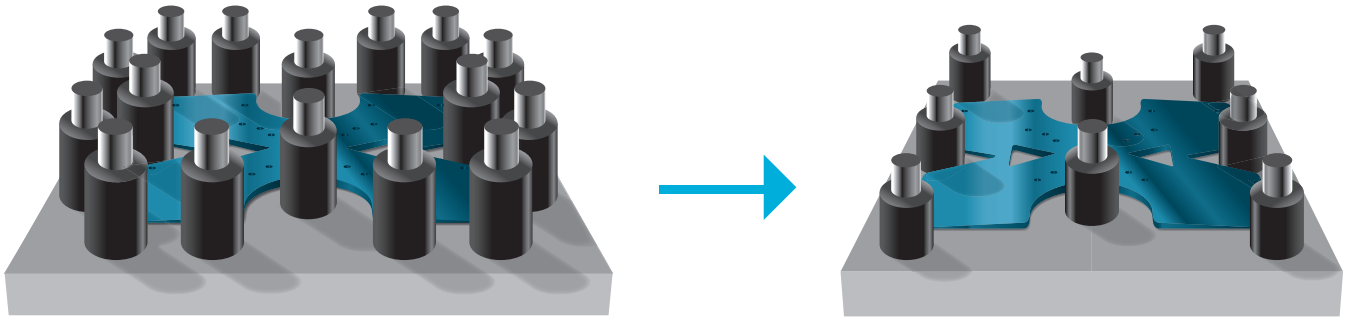


WIRE SPRINGS (LOW POWER)
线弹簧 (低弹力)

GAS SPRINGS (HIGH POWER)
氮气弹簧 (高弹力)

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

模具尺寸的减小意味着成本的降低和生产效率的提高，这对模具制造商和模具用户而言均有益处。



ISO 11901 GAS SPRINGS (BIG SIZE, LOW POWER)
ISO 11901氮气弹簧 (大尺寸，低弹力)

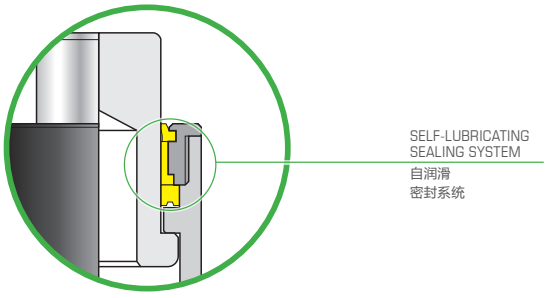
BORDIGNON HIGHER-POWER GAS SPRINGS (COMPACT SIZE, HIGH POWER)
BORDIGNON高弹力氮气弹簧 (紧凑尺寸，高弹力)

RELIABILITY

All Bordignon nitrogen gas springs (except for the TOP series) are self-lubricated, for millions of cycles, thanks to a solid lubricant (PATENT PENDING).

可靠性

受益于固体润滑剂 (专利申请中)，所有Bordignon氮气弹簧 (TOP系列除外) 均为自润滑型，可循环数百万次。



Nano技术, WIPERTECH和NANOTECH2技术

Nano technology

WIPERTECH and NANOTECH2

WIPERTECH

New technologies! / 新技术!

The nitrogen gas spring series CSX, SMLX, MSML, CX, CSMX, MICX and MCSM are now equipped with the **new WIPERTECH nano-technology**, which ensures (in comparison with the previous Bordignon models) an **improved protection against the liquid contaminants*** that are often present in press dies, thus increasing the potential service life of nitrogen gas springs in such conditions (aggressive environment). The advantage for the end user is a considerable reduction of production stops thanks to the improved service life of the nitrogen gas springs even in an aggressive environment.

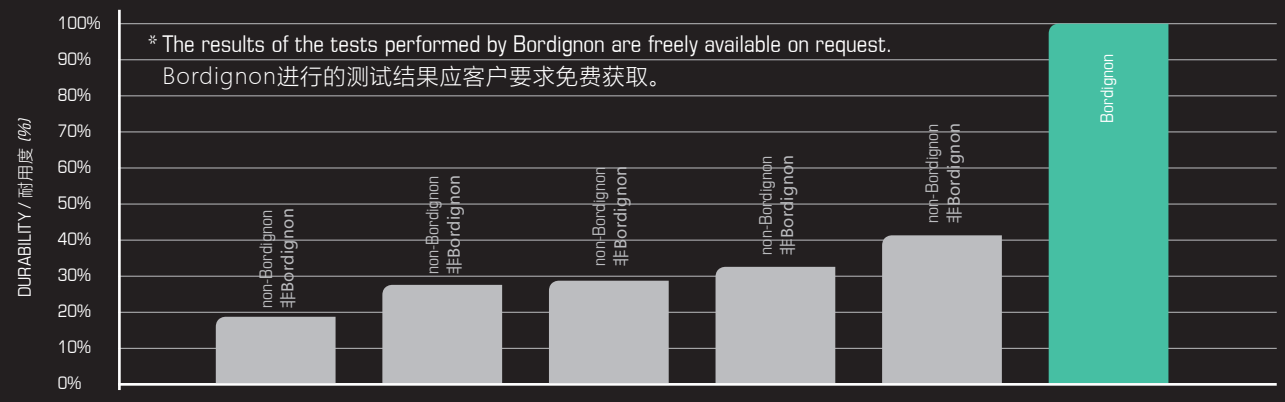
氮气弹簧系列CSX，SMLX，MSML，CX，CSMX，MICX和MCSM现在使用了**新的WIPERTECH　nano技术**，与以前的Bordignon型号相比，该技术可确保**更好地避免模具中经常出现的液体污染物**，从而提高了氮气弹簧在此种条件下（侵蚀性环境）的潜在使用寿命。对于终端用户来说，由于氮气弹簧的使用寿命得到了提高，即使在恶劣的环境中，也可以大幅减少生产停机次数。

The following graph shows a relative comparison between the service life of the Bordignon nitrogen gas springs equipped with the **new WIPERTECH nano-technology** and the service life of the other two most durable nitrogen gas springs on the market (according to the tests performed by Bordignon*). The data have been collected from tests that were performed by simulating an aggressive environment for the nitrogen gas springs. In all these comparison tests, the Bordignon gas spring and the corresponding "non-Bordignon" model have always been tested in the same identical use conditions: the result is that, **under the same use conditions with liquid contaminants, the service life of Bordignon nitrogen gas springs is from 2.5 up to 5 times longer** than the service life of the other gas springs*.

下图显示了配备了**新WIPERTECHnano技术**的Bordignon氮气弹簧的使用寿命与市场上其他两种最耐用的氮气弹簧的使用寿命之间的相对比较（根据Bordigon*进行的测试）。
这些数据是通过模拟氮气弹簧的侵蚀性环境而进行的试验收集的。在所有这些比较试验中，Bordignon氮气弹簧和相应的"非Bordigon"型号始终在相同的使用条件下进行试验：结果是，**在同样有液体污染物的使用条件下，　Bordignon氮气弹簧的使用寿命比其他氮气弹簧的寿命长2.5到5倍***。

DURABILITY UNDER THE SAME OPERATING CONDITIONS - WITH LIQUID CONTAMINANTS*
相同运行条件下的耐用度 - 有液体污染物*

[The graph shows reference values / 图表显示了参考值]



The performance and durability of Bordignon nitrogen gas springs have been upgraded to a higher level thanks to the introduction of the **new NANOTECH2 nanotechnologies**, now improved over the previous version and also extended to the gas spring series CSX, SMLX, MSML, CX, CSMX, MICX and MCSM. The **new NANOTECH2 nano-technologies** allow to increase the working speed / cycles per minute by 150% (more than double) in comparison with the previous Bordignon standard models, with no external lubrication. The advantage for the end user is a 60% time reduction for batch production / press use. The **new NANOTECH2 nano-technologies** also allow to increase – in a considerable way (even more than with the previous version) – the service life of nitrogen gas springs in case of a non-perpendicular-to-the-base piston rod working stroke. The advantage for both the die user and the die maker is a considerable reduction of production stops because of anomalies in the construction/setup and use of press dies.
The nitrogen gas springs with the **new NANOTECH2 nano-technologies** passed the durability test of 2 million working cycles with a piston rod eccentricity of 1° (1.76 mm / 100 mm)*. Eccentricity up to 1.3° (2.27 mm / 100 mm) was also tested. The tests were performed with working stroke lengths up to 80 mm*. The proper use of nitrogen gas springs, which allows to get a longer service life, is with a perpendicular-to-the-base piston rod working stroke and with the gas spring mounted according to the allowed fixing possibilities.

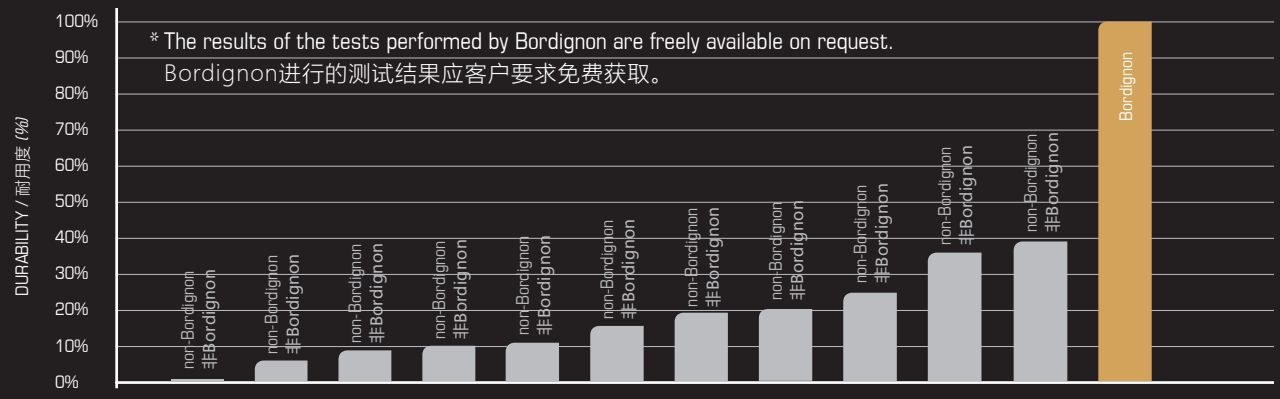
由于引入了**新的NANOTECH2技术**，Bordignon氮气弹簧的性能和耐用度已经提升到更高的水平，较以前的版本有所改进，还扩展到了氮气弹簧CSX, SMLX, MSML, CX, CSMX, MICX和MCSM系列。
与之前的Bordignon标准型号相比，**新的NANOTECH2技术**可以将每分钟的工作速度或循环数提高150%（两倍以上），且无需外部润滑。对于终端用户的好处是，在批量生产/循环压力使用中可节省60%的时间。新的NANOTECH2技术还能够大幅提高氮气弹簧在非垂直于模板方向的工况下的使用寿命（甚至高于此前版本）。对于模具用户和模具制造商来说，可以大幅减少由于模具的构造/设置和使用而出现异常造成的生产停机次数。
采用**新的NANOTECH2技术**的氮气弹簧通过了活塞杆偏心率为1°(1.76mm/100mm）*的200万次耐久性使用测试。同时还进行了偏心率高达1.3°（2.27mm/100mm）的测试。测试的工作行程长度达80 mm*。垂直于模板方向，并恰当的安装固定氮气弹簧，这样正确的使用方式可使氮气弹簧获得更长的使用寿命。

The following graph shows a relative comparison between the service life of the Bordignon nitrogen gas springs equipped with the **new NANOTECH2 nano-technologies** and the service life of the other six most durable nitrogen gas springs on the market (according to the tests performed by Bordignon*). The data have been collected from tests that were performed in several, different use conditions. In all these comparison tests, the Bordignon gas spring and the corresponding "non-Bordignon" model have always been tested in the same identical use conditions: the result is that, **under the same use conditions, the service life of Bordignon nitrogen gas springs is from 2.5 up to 10 times longer** than the service life of the other gas springs*.

下图显示了配备**新的NANOTECH2技术**的Bordignon氮气弹簧的使用寿命与市场上其他六种最耐用的氮气弹簧的寿命之间的比较（根据Bordigon*进行的测试）。这些数据是从几种不同使用条件下进行的测试中收集的。在所有这些对比试验中，Bordignon氮气弹簧和相对应的"非Bordigonn"型号始终在相同的使用条件下进行试验：结果是，**在相同的应用条件下，Bordignon氮气弹簧的使用寿命比其他氮气弹簧的使用年限长2.5到10倍*。**

DURABILITY UNDER THE SAME OPERATING CONDITIONS*
相同运行条件下的耐用度

[The graph shows reference values / 图表显示了参考值]



The following graphs instead show, in absolute terms, the service life of the Bordignon nitrogen gas springs equipped with the **new NANOTECH2 nano-technologies** in some specific tests performed at high speed or with a piston rod eccentricity of 1° (1.76 mm / 100 mm).

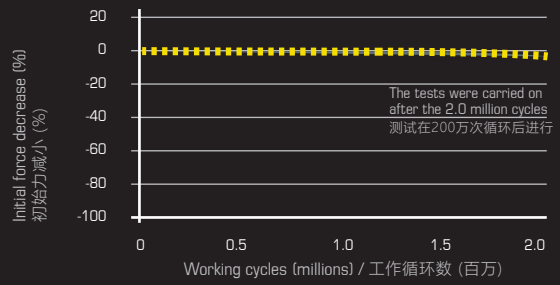
以下图表以绝对值显示了配**备新NANOTECH2技术**的Bordignon氮气弹簧在高速或活塞杆偏心率为1° (1.76 mm/100 mm) 的特定测试中的使用寿命。

HIGH SPEED TEST / 高速测试

Durability test result / 耐久度测试结果

MODEL 型号	STROKE 行程	WORKING SPEED 工作速度	INCLINATION 倾度
CSX 19-25	25 mm	250 cycles/minute 循环数/分钟	0°
SMLX 25-25	25 mm	250 cycles/minute 循环数/分钟	0°

[The graph shows reference values / 图表显示了参考值]

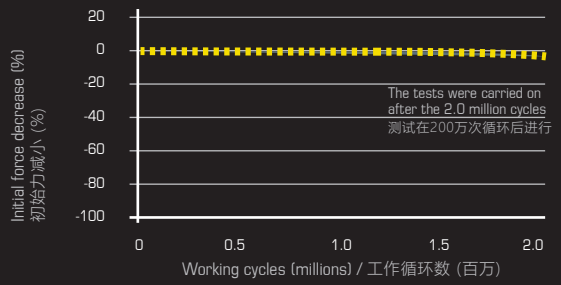


ECCENTRICITY TEST / 偏心率测试

Durability test result / 耐久度测试结果

MODEL 型号	STROKE 行程	WORKING SPEED 工作速度	INCLINATION 倾度
CSX 32-50	48 mm	50 cycles/minute 循环数/分钟	1° (1.76 mm / 100 mm)
SMLX 38-38	35 mm	70 cycles/minute 循环数/分钟	1° (1.76 mm / 100 mm)

[The graph shows reference values / 图表显示了参考值]



使用说明

Use instructions

no / 禁止

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

活塞杆上的螺纹孔仅用于运输和维修。
不可用来固定气缸。

No side forces. Work stroke always perpendicular to the base of the nitrogen gas spring.
无横向力。运作冲程始终垂直于气缸底部。

Avoid scratching and scoring on the piston rod.
避免刮划损伤活塞杆。

Do not make mechanical work on the nitrogen gas spring.
请勿对气缸执行机械加工。

Do not disassemble the nitrogen gas spring. Maintenance only by authorized people. The authorization is given only after a class held by Bordignon.
请勿拆卸气缸。维护只可由授权人员进行。只有在Bordignon完成课程培训后方能获得授权。

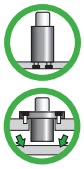
Max impact and max release speed: 1 m/s (TOP series: 0.5 m/s).
Maximum number of working cycles per minute: see product series tables in the catalogue (pages 12-17).
最大冲击和最大释放速度: 1 m/s (TOP系列: 0.5 m/s)。
每分钟最大工作循环数: 见目录中的产品系列表 (第12-17页)。

Do not freely release the piston rod.
The piston rod goes up together with the press.
If the screws used for the base-mounting are broken or deformed (stretched), find out the possible causes and eliminate them: there might have been free/uncontrolled releases of the piston rod.
请勿自由释放活塞杆。
应与压机一同上升。
如果用于底座紧固的螺丝损坏或变形 (被拉伸),请检查并消除可能的原因:可能由于活塞杆被自由/不受控释放

Protect against liquid or solid contaminants.
The nitrogen gas springs are protected against contaminants by scraper ring (except for the TOP series, EG series, CISO19 and CISO25 models).
Do not use chemical products with low flash point (petrol, solvents, alcohol, etc.).
Clean only with a dry cloth.
防止冲模乳液, 清洁剂, 水和灰尘的侵蚀。
气缸由刮垢环保护而免收污染。
请勿使用低闪点的化学品 (汽油, 溶剂, 酒精等)。
仅可用干布清洁。

The products in this catalogue are designed for the use in press tools, dies and moulds. We can not take any responsibility for any not proper or different use.
本目录中的产品均为冲模专用产品。如使用不当或用途相异,我们概不承担任何责任

yes / 可行



Always fasten the nitrogen gas spring at the base to a flat and clean support surface with high resistance screws.
Gas springs with more than one threaded hole at the base: the center hole is for charging/discharging only. Use all the other holes at the base for fixing.
Flanged gas springs (CF and CSMF series): fasten the flange to a flat and clean support surface with high resistance screws. A safety plate must be present under the gas spring.
请始终使用高强度螺丝在平坦干净的表面上将气缸固定于底座上。
底座带有多个螺纹孔的气缸: 中心孔仅用于充/放气。请使用底座上的所有其它孔眼进行紧固。使用法兰紧固:请用高强度螺丝将法兰固定在平坦干净的表面上。气缸下方必须有一块密封板。

Charge only with NITROGEN (N_2).
仅充装氮气(N_2)。

Hole for cylinder body Ø +1 mm. Draining hole for liquids.
用于Ø+1毫米气缸的孔眼。液体排放孔。

Lubricate the piston rod with grease with disulfide molybdenum (MoS_2).
请用二硫化钼润滑脂 (MoS_2) 润滑活塞杆。

Operating temperature: MIN 0°C (32°F) - MAX 80°C (176°F)
Do not heat.
操作温度:最低0°C(32°F) – 最高80°(176°F)
请勿加热。

Protect against solid contaminants with a metal bellow, liquid contaminants with a polymeric bellow.
Fasten the protection bellow to the die plate.
请用金属波纹管防护固体污染物,用聚合物波纹管防护液体污染物。应固定在模板上。

IMPORTANT: periodically check for use instructions updates on our website. Pass the nitrogen gas springs use instructions to the end-user of the product.
重要事项: 请定期检查我们网站上的使用说明更新。请将氮气弹簧使用说明送达至产品的终端用户。

信息

Information

- » Stroke available at 100%
- » You might adjust the initial force with the charging and discharging set (model COMPL)
- » Charging pressure: MIN 30 bar - MAX see table on catalogue
- » How to calculate the charging pressure (bar) for initial forces (daN) lower than $F_{initial\ in\ table}$:

$$\text{Charging pressure (bar)} = \frac{\text{F (daN)} \times \text{max charging pressure (bar)}}{F_{initial\ in\ table}}$$

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

$$F = F_{initial} + \frac{\text{intermediate stroke}}{\text{max stroke}} \times (F_{final} - F_{initial})$$

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

- » 100% 可用冲程
- » 带有充放套件(COMPL 型号)的可调节初始力
- » 充气压力:最小30 巴 – 最大值参阅目录列表
- » 小于F的初始力(daN)的充气压力(巴)计算 $F_{表中初始力}$:

$$\text{充气压力(巴)} = \frac{F\ (daN) \times \text{最大充气压力(巴)}}{F_{表中初始力}}$$

- » 中间冲程的力度计算(daN):

$$F = F_{初始力} + \frac{\text{中间冲程}}{\text{最大冲程}} \times (F_{最终} - F_{初始力})$$

- » 注:目录中标明的最终力度(冲程末端力)为静态条件下测得的参考值。使用过程中产生的实际最终力度可能会有所不同,因为它们取决于应用的具体参数,例如运作速度(每分钟循环次数)。

目录使用

Catalogue help

HOW TO ORDER

You order (example): **No. 8 CSX38-25**
You receive: 8 pieces CSX series nitrogen gas springs, ready for use, diameter Ø 38 mm, stroke 25 mm, initial force 1000daN (other specifications on CSX series page).
ATTENTION: whenever ordering CX, CSMX, CF, CSMF, CT and CSMT series gas springs, always specify the required initial force!
Examples: **No. 8 CSMX50-25 1500daN**
if you want CSMX50-25 gas springs charged at the standard initial force indicated in the catalogue.
No. 8 CSMX50-25 1000daN
if you want CSMX50-25 gas springs charged at a different initial force.
SPECIAL SOLUTIONS: different forces and strokes (not on catalogue) are available on request.

如何订购

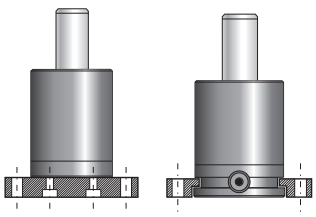
如订购(举例): **No. 8 CSX38-25**
将收到: 8 个 CSX系列即用型氮气弹簧,直径 Ø 38 毫米, 冲程 25 毫米, 初始力 1000 daN (其它规格请参阅 CSX 系列的页面)。
注意: 订购CX, CSMX, CF, CSMF, CT和CSMT系列氮气弹簧时, 请务必需指定所需的初始力!
例如: **8件CSMX50-25 1500daN**
如果您需要CSMX50-25氮气弹簧以目录中所示的标准初始力充气。
8件CSMX50-25 1000daN
如果您需要CSMX50-25氮气弹簧以不同的初始力充气。
特殊解决方案: 可根据要求提供不同的弹力和行程 (不在目录中)。

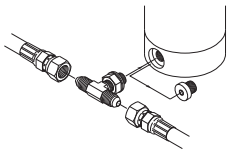
GAS SPRING ACCESSORIES

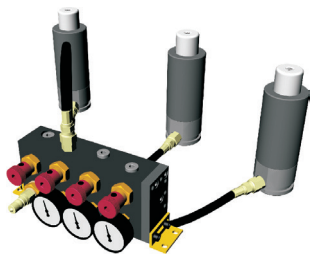
Accessories for fixing, charging/discharging, linking to open system, etc. can be found in our "Accessories for nitrogen gas springs for dies" catalogue.
ATTENTION: use Bordignon nitrogen gas springs with Bordignon accessories only.

氮气弹簧配件

固定, 充气/放气, 连接气路系统等的配件请参阅我们的"模具氮气弹簧附件"目录。
注意: 仅使用带有BORDIGNON配件的BORDIGNON氮气弹簧







2D & 3D TECHNICAL DRAWINGS

Download various 2D & 3D file formats from
www.bordignon.com

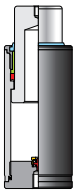
2D & 3D 技术图纸

各种2D和3D文件格式可从以下网站下载
www.bordignon.com

Nano technology series / Nano技术系列

Nitrogen gas springs for press tools, dies and moulds
冲压工具, 冲压模具用氮气弹簧。

CSX

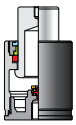


Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
19	150		•		•	•	•	•	•	•	•	•	•		•				
25	300		•		•	•	•	•	•	•	•	•	•		•				
32	500		•		•	•	•	•	•	•	•	•	•		•				
32	660		•		•	•	•	•	•	•	•	•	•		•				
38	1000		•		•	•	•	•	•	•	•	•	•		•				
50	2000		•		•	•	•	•	•	•	•	•	•		•				
63	3000		•		•	•	•	•	•	•	•		•		•				
75	5000		•		•		•		•		•		•		•				
95	8000		•		•		•		•		•		•		•	•			
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			625		415	310	250	195	160	135	125	110	95		75	60			

WIPERTECH NANOTECH2

COMPACT POWER 弹力比 | COMPACT HEIGHT 高度比 | TECHNOLOGY & PERFORMANCE 技术&性能比

SMLX

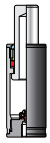


Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
25	300	•	•	•	•	•	•	•	•		•		•	•	•	•	•		
32	500	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
38	750	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
50	1500	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
63	2000	•	•		•	•	•	•	•		•		•	•	•	•	•		
75	3000	•	•		•	•	•	•	•		•		•	•	•	•	•		
95	5000	•	•		•	•	•	•	•		•		•	•	•	•	•		
120	9000				•	•	•	•	•		•		•	•	•	•	•		
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数		1250	625	480	415	310	250	195	160	135	125	110	95	80	75	60	50		

WIPERTECH NANOTECH2

COMPACT POWER 弹力比 | COMPACT HEIGHT 高度比 | TECHNOLOGY & PERFORMANCE 技术&性能比

MSML

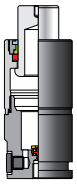


Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
16	100		•		•		•		•										
19	170		•		•		•		•										
25	360		•		•		•		•										
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			400		260		160		105										

WIPERTECH NANOTECH2

COMPACT POWER 弹力比 | COMPACT HEIGHT 高度比 | TECHNOLOGY & PERFORMANCE 技术&性能比

CX



Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
19	150		•		•		•		•		•				•				
25	300		•		•		•		•		•				•				
32	500		•		•		•		•		•				•				
38	750		•		•		•		•		•				•				
50	1500		•				•		•		•		•		•	•	•	•	•
63	2000		•				•		•		•		•		•	•	•	•	•
75	3000		•				•		•		•		•		•	•	•	•	•
95	5000						•		•		•		•		•	•	•	•	•
120	9000						•		•		•		•		•	•	•	•	•
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			625		415		250		160		125		95		75	60	50	35	30

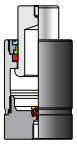
WIPERTECH NANOTECH2

COMPACT POWER 弹力比

COMPACT HEIGHT 高度比

TECHNOLOGY & PERFORMANCE 技术&性能比

CSMX



Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
19	150		•		•		•		•		•				•				
25	300		•		•		•		•		•				•				
32	500		•		•		•		•		•				•				
38	750		•		•		•		•		•				•				
50	1500		•				•		•		•		•		•	•	•	•	•
63	2000		•				•		•		•		•		•	•	•	•	•
75	3000		•				•		•		•		•		•	•	•	•	•
95	5000						•		•		•		•		•	•	•	•	•
120	9000						•		•		•		•		•	•	•	•	•
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			625		415		250		160		125		95		75	60	50	35	30

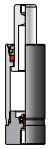
WIPERTECH NANOTECH2

COMPACT POWER 弹力比

COMPACT HEIGHT 高度比

TECHNOLOGY & PERFORMANCE 技术&性能比

MICX



Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
25	50		•		•		•		•		•				•				
25	100		•		•		•		•		•				•				
25	150		•		•		•		•		•				•				
25	200		•		•		•		•		•				•				
25	300		•		•		•		•		•				•				
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			625		415		250		160		125				75				

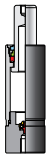
WIPERTECH NANOTECH2

COMPACT POWER 弹力比

COMPACT HEIGHT 高度比

TECHNOLOGY & PERFORMANCE 技术&性能比

MCSM



Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
19	80		•		•		•		•		•				•				
25	160		•		•		•		•		•				•				
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			625		415		250		160		125				75				

WIPERTECH NANOTECH2

COMPACT POWER 弹力比

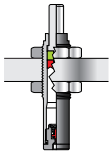
COMPACT HEIGHT 高度比

TECHNOLOGY & PERFORMANCE 技术&性能比

STANDARD series / 标准系列

Nitrogen gas springs for press tools, dies and moulds
冲压工具, 冲压模具用氮气弹簧。

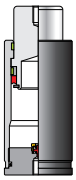
TOP



Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
12	50		•		•														
14	75		•		•														
16	100		•		•														
20	200		•		•														
Maximum number of cycles per minute with lubrication 有润滑时每分钟的最大循环数			250		165														

COMPACT POWER 弹力比 | COMPACT HEIGHT 高度比 | TECHNOLOGY & PERFORMANCE 技术&性能比

TOP

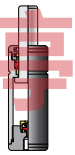


Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
25	400		•		•		•				•								
32	700		•		•		•				•								
38	1000		•		•		•				•								
50	2000		•		•		•				•								
63	3000		•		•		•				•								
75	4000		•		•		•				•								
95	7000		•		•		•				•								
120	10000		•		•		•				•								
Maximum number of cycles per minute with lubrication 有润滑时每分钟的最大循环数			250		165		100				50								

COMPACT POWER 弹力比 | COMPACT HEIGHT 高度比 | TECHNOLOGY & PERFORMANCE 技术&性能比

VDI 3003

CYDL



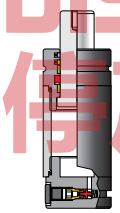
Ø mm	daN	STROKE mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
19	90				•		•		•		•		•		•				
25	200				•		•		•		•		•		•	•	•		
Maximum number of cycles per minute with lubrication					335		200		130		100		80		65	50	40		
Maximum number of cycles per minute without lubrication					200		120		80		60		50		40	30	25		

COMPACT POWER | COMPACT HEIGHT | TECHNOLOGY & PERFORMANCE

ISO 11901-1

CISO

DISCONTINUED 停产



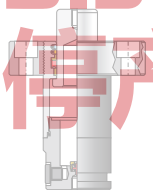
Ø mm	Ø daN	STROKE mm 5	10	13	16	20	25	32	38	45	50	56	63	75	80	100	125	160	200
19	100		•		•		•		•		•		•		•				
25	200		•		•		•		•		•		•		•				
32	150		•		•		•				•				•				
38	250		•		•		•		•		•		•	•	•				
45	500						•				•				•				
50	750			•			•		•		•		•	•	•	•	•	•	
75	1500			•			•		•		•		•	•	•	•	•	•	
95	3000			•			•		•		•		•	•	•	•	•	•	
120	5000			•			•		•		•		•	•	•	•	•	•	
150	7500			•			•		•		•		•	•	•	•	•	•	

Maximum number of cycles per minute with lubrication			500	385	315		200		130		100		80	70	65	50	40	30	
Maximum number of cycles per minute without lubrication			300	230	190		120		80		60		50	40	40	30	25	20	

COMPACT POWER　COMPACT HEIGHT　TECHNOLOGY & PERFORMANCE

CF

DISCONTINUED 停产

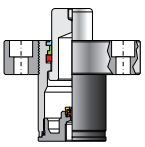


Ø mm	Ø daN	STROKE mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
50	1500		•				•		•		•		•		•	•	•	•	•
63	2000		•				•		•		•		•		•	•	•	•	•
75	3000		•				•		•		•		•		•	•	•	•	•
95	5000						•		•		•		•		•	•	•	•	•
120	9000						•		•		•		•		•	•	•	•	•

Maximum number of cycles per minute with lubrication			500				200		130		100		80		65	50	40	30	25
Maximum number of cycles per minute without lubrication			300				120		80		60		50		40	30	25	20	15

COMPACT POWER　COMPACT HEIGHT　TECHNOLOGY & PERFORMANCE

CSMF



Ø mm	Ø daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
50	1500		•				•		•		•		•		•	•	•	•	•
63	2000		•				•		•		•		•		•	•	•	•	•
75	3000		•				•		•		•		•		•	•	•	•	•
95	5000						•		•		•		•		•	•	•	•	•
120	9000						•		•		•		•		•	•	•	•	•

Maximum number of cycles per minute with lubrication 有润滑时每分钟的最大循环数			500				200		130		100		80		65	50	40	30	25
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			300				120		80		60		50		40	30	25	20	15

WIPERTECH

COMPACT POWER 弹力比　COMPACT HEIGHT 高度比　TECHNOLOGY & PERFORMANCE 技术&性能比

STANDARD series / 标准系列

Nitrogen gas springs for press tools, dies and moulds
冲压工具, 冲压模具用氮气弹簧。

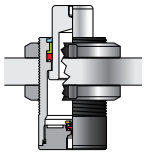
CT

DISCONTINUED
停产

Ø mm	daN	STROKE mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200
38	750		•		•		•		•		•				•				
Maximum number of cycles per minute with lubrication			500		335		200		130		100				65				
Maximum number of cycles per minute without lubrication			300		200		120		80		60				40				

CSMT

COMPACT POWER
COMPACT HEIGHT
TECHNOLOGY & PERFORMANCE

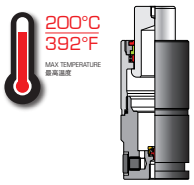


Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200	250
38	750		•		•		•		•		•				•					
50	1500		•				•		•		•		•		•	•				
Maximum number of cycles per minute with lubrication 有润滑时每分钟的最大循环数			500		335		200		130		100		80		65	50				
Maximum number of cycles per minute without lubrication 无润滑时每分钟的最大循环数			300		200		120		80		60		50		40	30				

CHT

WIPERTECH

COMPACT POWER 弹力比
COMPACT HEIGHT 高度比
TECHNOLOGY & PERFORMANCE 技术&性能比

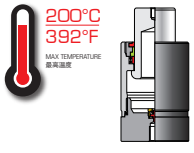


Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200	250
19	100		•		•		•		•		•				•					
25	200		•		•		•		•		•				•		•			
32	350		•		•		•		•		•				•		•	•		
38	500		•		•		•		•		•				•		•	•	•	
50	1000		•				•		•		•		•		•	•	•	•	•	•
63	1500		•				•		•		•		•		•	•	•	•	•	
75	2500		•				•		•		•		•		•	•	•	•	•	
95	4000						•		•		•		•		•	•	•			
120	6500						•		•		•		•		•					

Maximum number of cycles per minute with lubrication
有润滑时每分钟的最大循环数

The maximum number of cycles per minute depends on the specific application, which has to be approved by our technical office
每分钟的最大循环次数取决于具体应用，该应用必须得到我们技术部门的批准

CSMHT



Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200	250
19	100		•		•		•		•		•				•					
25	200		•		•		•		•		•				•		•			
32	350		•		•		•		•		•				•		•	•		
38	500		•		•		•		•		•				•		•	•	•	
50	1000		•				•		•		•		•		•	•	•	•	•	•
63	1500		•				•		•		•		•		•	•	•	•	•	
75	2500		•				•		•		•		•		•	•	•	•	•	
95	4000						•		•		•		•		•	•	•			
120	6500						•		•		•		•		•					

Maximum number of cycles per minute with lubrication
有润滑时每分钟的最大循环数

The maximum number of cycles per minute depends on the specific application, which has to be approved by our technical office
每分钟的最大循环次数取决于具体应用，该应用必须得到我们技术部门的批准

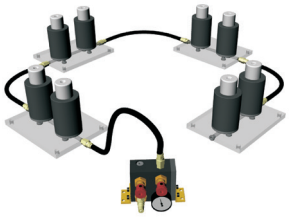
CRAL

Ø mm	daN	STROKE / 行程 mm 5	10	13	15	20	25	32	38	45	50	56	63	75	80	100	125	160	200	250
50	1000		•				•		•		•		•		•	•				
63	1500		•				•		•		•		•		•	•				
75	2500		•				•		•		•		•		•	•				
95	4000						•		•		•		•		•	•				
120	6500						•		•		•		•		•	•				

Maximum number of cycles per minute with lubrication
有润滑时每分钟的最大循环数

The maximum number of cycles per minute depends on the specific application, which has to be approved by our technical office
每分钟的最大循环次数取决于具体应用，该应用必须得到我们技术部门的批准

OV

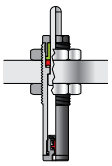


Maximum number of cycles per minute: refer to the original series from which the corresponding OV-type series is derived (for example: for the CSXOV series, see the CSX series)

每分钟最大循环数：适用于OV系列相应的派生类型(例如：对于CSXOV系列，请参阅CSX系列)

WIPERTECH NANOTECH2

EG

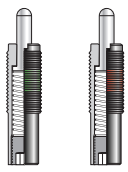


Ø mm	daN	STROKE / 行程 mm 10	20	30	40	50	60	70	80	100
16	42	•	•	•	•	•	•	•	•	•
24	170	•	•	•	•	•	•	•	•	•

Maximum number of cycles per minute without lubrication
无润滑时每分钟的最大循环数

500	250	160	125	100	80	70	60	50

EM



Ø mm	daN	STROKE / 行程 mm 10	15	20	30	40	50
12	2	•					
12	4	•					
16	4	•	•	•	•	•	•
16	8	•	•	•	•	•	•
24	10		•				
24	20		•				

冲压工具, 冲压模具用氮气弹簧

Nitrogen gas springs for press tools, dies and moulds

Production program / 产品线

NITROGEN GAS SPRINGS FOR PRESS TOOLS, DIES AND MOULDS:

» 7 series of self-contained gas springs with WIPERTECH and NANOTECH2 technologies: CSX, SMLX, MSML, CX, CSMX, MICX, MCSM;
» 3 other series of self-contained gas springs: TOP, CISO, CVDI;
» linkable gas springs for open system connection;
» gas springs without valve for connection to plate (OV);
» gas springs for MANIFOLD systems;
» high temperature gas springs (up to 200°C / 392°F);
» slow-return gas springs on request;
» timed gas springs on request;
» special gas springs on request;
» lifters charged with nitrogen (EG).

» lifters with wire spring (EM).

冲压工具、冲压模具用氮气弹簧

» 采用WIPERTECH和NANOTECH2技术的7种一体式的氮气弹簧系列: CSX, SMLX, MSML, CX, CSMX, MICX, MCSM;
» 另外3种一体式的氮气弹簧系列：TOP, CISO, CVDI;
» 用于气路系统连接的可串联的氮气弹簧;
» 无阀式氮气弹簧 (OV);
» 用于歧管系统的氮气弹簧;
» 高温氮气弹簧 (高达 200°C / 392°F);
» 按需定制的慢回式氮气弹簧;
» 按需定制的定时氮气弹簧;
» 按需定制的特殊氮气弹簧;
» 氮气式的顶出器 (EG)。

» 线弹簧式顶出器 (EM)。

30 years made in italy 100% - no outsourcing

60 YEARS of INNOVATION

Nano technology series/Nano技术系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

PATENTS PENDING
专利申请中

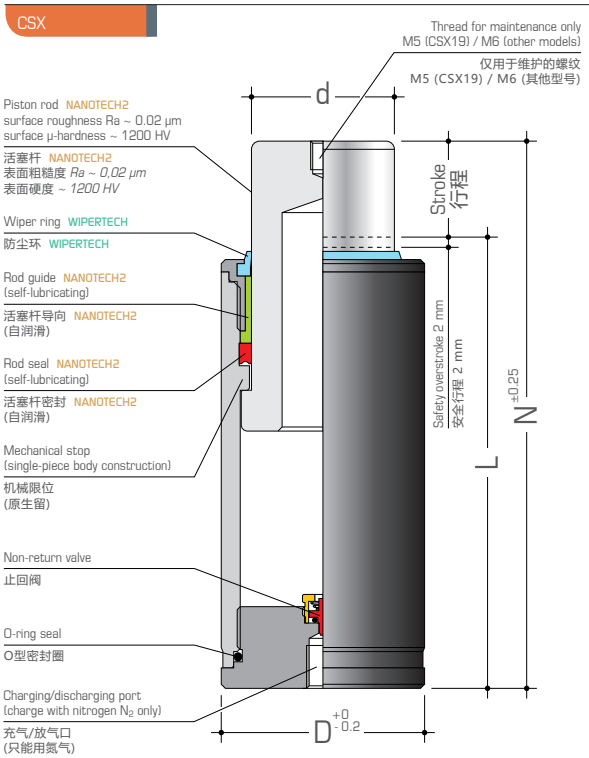
CSX

THE COMPACT POWER: as a rule, the CSX models generate the highest available force, up to +50% in comparison with the other nano-technology series and up to 4 times the force of ISO 11901-1 standard models (diameter being the same).
WHAT'S NEW: upgraded with the new WIPERTECH and NANOTECH2 nano-technologies. New 2XCSX32 models with diameter 32 mm and increased force are available in addition to the CSX32 models. New stroke lengths available for all diameters.
FOR THE DIE MAKER: gas springs with reduced diameters allow to manufacture more compact press dies, cutting all your costs in a drastic way.
FOR THE DIE USER: gas springs with a long service life and high working cycles per minute allow to drastically cut the production costs, die maintenance costs and production stops.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.
RECOMMENDED as the first choice for all projects and applications, thanks to the most advanced technology and the highest available forces.

THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

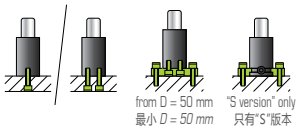
紧凑型弹力: 通常, CXS型号产生的可用弹力最高, 与其他nano技术系列相比高出50%, 是ISO11901-1标准型号（直径相同）的4倍。
新功能: 升级了新的WIPERTECH和NANOTECH2技术。除CSX32型号外, 还提供了直径32mm, 弹力更大的新2XCSX32型号。新的行程长度适用于所有直径。
对于模具制造商: 直径减小的氮气弹簧可以制造更紧凑的模具, 大幅减低所有成本。
对于模具用户: 使用寿命长, 每分钟工作周期高的氮气弹簧可以大幅降低生产成本, 模具维护成本和停机。
自润滑: 得益于nano技术（专利申请中）, 可实现数百万个工作循环。
使用WIPERTECH保护: 防尘环可防止污染物进入。
凭借最先进的技术和最强大的弹力, 成为所有项目和应用工程的首选。
新型号只有在旧型号缺货时才能供应。

CSX



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue. Different stroke lengths on request.

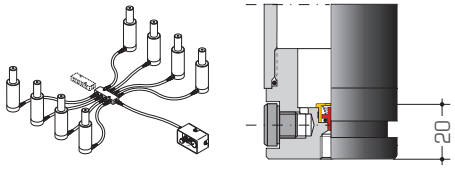
The CS models are replaceable with the CSX models.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。
根据要求改变行程长度。

CS型号可替换为CSX型号。

"S" version / "S" 版本



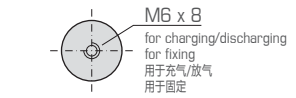
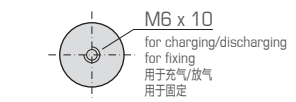
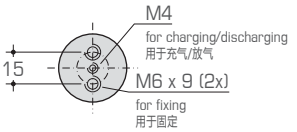
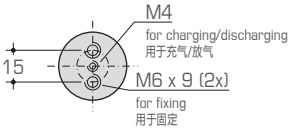
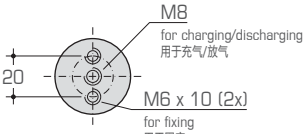
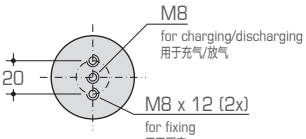
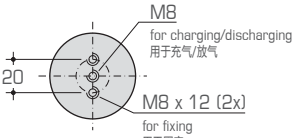
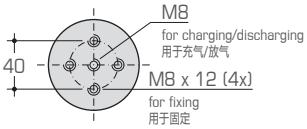
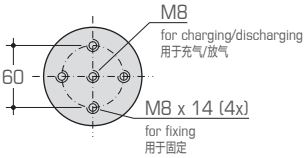
"S" VERSION

With fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.
» **L and N dimensions: + 20 mm**
» Add an -**S** to order them
Example: no. 8 pcs. CSX50-50-**S**

"S" 版本

带固定槽和G1/8侧端口, 可连接至气路系统, 最小D=50mm。
» **L和N尺寸: +20 mm**
» 添加一个-**S**以订购
示例: 8件CSX50-50-**S**

CSX New strokes! / 新的行程!

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
CSX19-10	10	65	75	19	10	191	150	200	
	15	70	85					210	
	20	75	95					220	
	25	80	105					230	
	32	88	120					230	
	38	97	135					230	
	45	105	150					240	
	50	110	160					240	
	56	119	175					240	
	63	127	190					240	
	80	140	220					250	
CSX25-10	10	65	75	25	14	195	300	430	
	15	70	85					450	
	20	75	95					480	
	25	80	105					500	
	32	88	120					520	
	38	97	135					530	
	45	105	150					540	
	50	110	160					550	
	56	119	175					550	
	63	127	190					550	
	80	145	225					580	
CSX32-10	10	65	75	32	18	197	500	680	
	15	70	85					770	
	20	75	95					800	
	25	80	105					840	
	32	88	120					870	
	38	97	135					870	
	45	105	150					890	
	50	110	160					900	
	56	119	175					910	
	63	132	195					910	
	80	150	230					920	
2XCSX32-10	10	65	75	32	20	210	660	950	
	15	70	85					1000	
	20	75	95					1050	
	25	80	105					1100	
	32	88	120					1150	
	38	97	135					1150	
	45	105	150					1160	
	50	110	160					1170	
	56	119	175					1180	
	63	132	195					1190	
	80	150	230					1200	
CSX38-10	10	65	75	38	25	205	1000	1530	
	15	70	85					1730	
	20	75	95					1880	
	25	80	105					2000	
	32	88	120					2080	
	38	97	135					2090	
	45	105	150					2100	
	50	110	160					2110	
	56	119	175					2130	
	63	142	205					2140	
	80	160	240					2150	
CSX50-10	10	80	90	50	35	209	2000	3000	
	15	100	115					3050	
	20	105	125					3100	
	25	110	135					3200	
	32	118	150					3500	
	38	127	165					3600	
	45	135	180					3700	
	50	140	190					3800	
	56	149	205					3900	
	63	157	220					4100	
	80	175	255					4400	
CSX63-10	10	85	95	63	45	189	3000	3900	
	15	100	115					4000	
	20	105	125					4200	
	25	110	135					4400	
	32	118	150					4600	
	38	127	165					4700	
	45	135	180					4900	
	50	140	190					5000	
	63	157	220					5200	
	80	175	255					5500	
CSX75-10	10	90	100	75	58	190	5000	6400	
	15	110	125					6500	
	25	120	145					7000	
	38	137	175					7700	
	50	150	200					8100	
	63	177	240					8200	
	80	195	275					8500	
CSX95-10	10	100	110	95	75	182	8000	10900	
	15	120	135					11100	
	25	130	155					11800	
	38	147	185					12600	
	50	165	215					12900	
	63	192	255					13200	
	80	210	290					13600	
	100	240	340					13900	

New model! 新型号

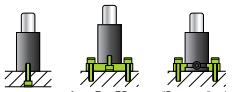
Nano technology series/Nano技术系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

PATENTS PENDING
专利申请中

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



"S" VERSION

With fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.

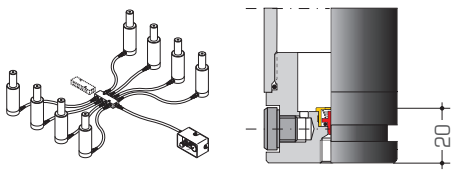
» **L and N dimensions: + 20 mm**
» Add an -**S** to order them
Example: no. 8 pcs. SMLX50-50-**S**

"S" 版本

带固定槽和G1/8侧端口, 可连接至气路系统, 最小D=50mm。

» **L和N尺寸: +20 mm**
» 添加一个-**S**以订购
示例: 8件SMLX50-50-**S**

"S" version / "S" 版本



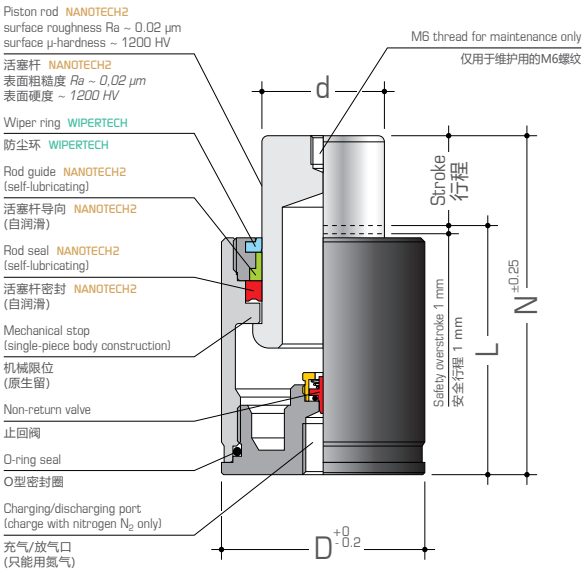
SMLX

THE SHORTEST AND MOST POWERFUL SINCE 2001: extremely compact with minimum height clearance and with forces up to 3 times the ones of ISO 11901-1 standard models (diameter being the same).
WHAT'S NEW: upgraded with the new WIPERTECH and NANOTECH2 nano-technologies. New SMLX120 models available, with diameter 120 mm and an initial force of 9000 daN. New stroke lengths available for all diameters.
FOR THE DIE MAKER: gas springs with reduced diameters and reduced lengths allow to manufacture more compact press dies, cutting all your costs in a drastic way.
FOR THE DIE USER: gas springs with a long service life and high working cycles per minute allow to drastically cut the production costs, die maintenance costs and production stops.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.
RECOMMENDED for all projects and applications, thanks to the most advanced technology, reduced dimensions and high forces.

THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

自2001年以来最短以及最强: 极为紧凑, 高度间隙最小, 弹力高达ISO 11901-1标准型号的3倍 (直径相同)。
新功能: 升级了新的WIPERTECH和NANOTECH2技术。新的SMLX120型号可用, 直径为120 mm, 初始力为9000 daN。新的行程长度适用于所有直径。
对于模具制造商: 直径减小、长度减小的氮气弹簧可以制造更紧凑的冲压模具, 大幅降低所有成本。
对于模具用户: 使用寿命长, 每分钟工作周期高的氮气弹簧可以大幅降低生产成本, 模具维护成本和停机。
自润滑: 得益于nano技术 (专利申请中), 可实现数百万个工作循环。
使用WIPERTECH保护: 防尘环可防止污染物进入。
得益于采用了最先进的技术, 尺寸减小, 作用力大, 因此推荐用于所有项目和应用工程。
新型号只有在旧型号缺货时才能供应。

SMLX



TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue. Different stroke lengths on request.

The SML models are replaceable with the SMLX models.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。
根据要求改变行程长度。

SML型号可替换为SMLX型号。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
SMLX25-05 •	5	35	40	25	14	195	300	450	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	40	50					540	
13	13	43	56					550	
15	15	45	60					580	
20	20	50	70					620	
25	25	55	80					650	
32	32	62	94					650	
38	38	68	106					660	
50	50	80	130					680	
63	63	93	156					680	
75	75	105	180					690	
80	80	110	190					690	
100	100	130	230					690	
125	125	155	280					690	

• No threaded hole on the piston rod / 活塞杆上无螺纹孔

SMLX25 models on page 22 / SMLX25型号在22页

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
SMLX32-05 •	5	35	40	32	18	196	500	750	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	40	50					790	
13	13	43	56					830	
15	15	45	60					850	
20	20	50	70					870	
25	25	55	80					880	
32	32	62	94					880	
38	38	68	106					890	
45	45	75	120					900	
50	50	80	130					900	
56	56	86	142					910	
63	63	93	156					930	
75	75	105	180					930	
80	80	110	190					930	
100	100	130	230					940	
125	125	155	280					940	
SMLX38-05 •	5	35	40	38	22	197	750	1050	M8 x 12 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	40	50					1200	
13	13	43	56					1250	
15	15	45	60					1270	
20	20	50	70					1280	
25	25	55	80					1350	
32	32	62	94					1370	
38	38	68	106					1370	
45	45	75	120					1400	
50	50	80	130					1410	
56	56	86	142					1420	
63	63	93	156					1430	
75	75	105	180					1440	
80	80	110	190					1440	
100	100	130	230					1440	
125	125	155	280					1450	
SMLX50-05 •	5	40	45	50	30	212	1500	2600	M10 x 12 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	45	55					2800	
13	13	48	61					2900	
15	15	50	65					3000	
20	20	55	75					3040	
25	25	60	85					3050	
32	32	67	99					3060	
38	38	73	111					3070	
45	45	80	125					3080	
50	50	85	135					3090	
56	56	91	147					3100	
63	63	98	161					3110	
75	75	110	185					3120	
80	80	120	200					3130	
100	100	135	235					3150	
125	125	160	285					3200	
SMLX63-05 •	5	40	45	63	40	159	2000	3000	M10 x 15 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	45	55					3600	
15	15	50	65					3800	
20	20	55	75					3850	
25	25	60	85					3880	
32	32	67	99					3890	
38	38	73	111					3900	
50	50	85	135					3910	
63	63	98	161					3930	
75	75	110	185					3950	
80	80	120	200					3980	
100	100	135	235					4000	
125	125	160	285					4020	
SMLX75-05 •	5	45	50	75	45	189	3000	4400	M12 x 14 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	50	60					5000	
15	15	55	70					5400	
20	20	60	80					5450	
25	25	65	90					5500	
32	32	72	104					5550	
38	38	77	115					5600	
50	50	90	140					5650	
63	63	103	166					5700	
75	75	115	190					5750	
80	80	125	205					5800	
100	100	145	245					5900	
125	125	170	295					6000	
SMLX95-05 •	5	55	60	95	58	189	5000	7200	M12 x 19 for charging/discharging for fixing 用于充气/放气 用于固定
10	10	60	70					8000	
15	15	65	80					8500	
20	20	70	90					8700	
25	25	75	100					8900	
32	32	82	114					9000	
38	38	88	126					9050	
50	50	100	150					9100	
63	63	113	176					9200	
75	75	125	200					9250	
80	80	130	210					9300	
100	100	150	250					9350	
125	125	175	300					9400	
SMLX120-15	15	75	90	120	75	204	9000	14000	M16 x 24 for charging/discharging for fixing 用于充气/放气 用于固定
20	20	80	100					14500	
25	25	85	110					15000	
32	32	92	124					15500	
38	38	98	136					15700	
50	50	110	160					16000	
63	63	123	186					16300	
75	75	135	210					16500	
80	80	140	220					16600	
100	100	160	260					16800	
125	125	185	310					16900	

New model! 新型号

• No threaded hole on the piston rod / 活塞杆上无螺纹孔

Nano technology series/Nano技术系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

PATENTS PENDING
专利申请中

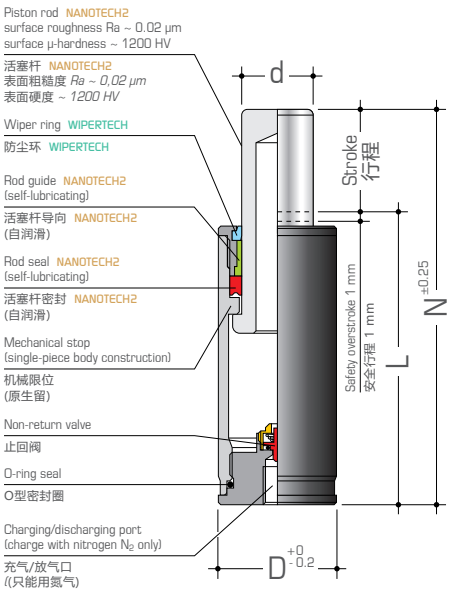
MSML

New model! / 新型号

Gas springs with compact dimensions (available diameters: 16 mm, 19 mm and 25 mm), with the highest available forces (even in comparison with the CSX series, diameter being the same).
WHAT'S NEW: new series in the catalogue, with the new WIPERTECH and NANOTECH2 nano-technologies.
FOR THE DIE MAKER: gas springs with reduced diameters and reduced lengths allow to manufacture more compact press dies, cutting all your costs in a drastic way.
FOR THE DIE USER: gas springs with a long service life and high working cycles per minute allow to drastically cut the production costs, die maintenance costs and production stops.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.
RECOMMENDED when smaller diameters and highest forces are required.

尺寸紧凑的氮气弹簧 (可用直径: 16 mm, 19 mm和25 mm), 拥有最高可用弹力 (即使与直径相同的CSX系列相比)。
新功能: 目录中的新系列, 采用新的WIPERTECH和NANOTECH2技术。
对于模具制造商: 直径减小, 长度减小的氮气弹簧可以制造更紧凑的冲压模具, 大幅降低所有成本。
对于模具用户: 使用寿命长, 每分钟工作周期高的氮气弹簧可以大幅降低生产成本, 模具维护成本和停机。
自润滑: 得益于nano技术 (专利申请中), 可实现数百万个工作循环。
使用WIPERTECH保护: 防尘环可防止污染物进入。
推荐在需要较小直径和最大力时使用。

MSML



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

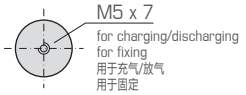
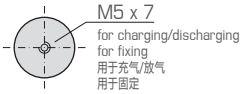
安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座	
MSML16-10	10	45	55	16	8	199	100	140		
15	15	50	65					150		
25	25	60	85					160		
38	38	73	111					170		
MSML19-10	10	45	55	19	10	216	170	240		
15	15	50	65					260		
25	25	60	85					280		
38	38	73	111					300		
MSML25-10	10	45	55	25	15	204	360	550		
15	15	50	65					600		
25	25	60	85					650		
38	38	73	111					700		

Nano technology series/Nano技术系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

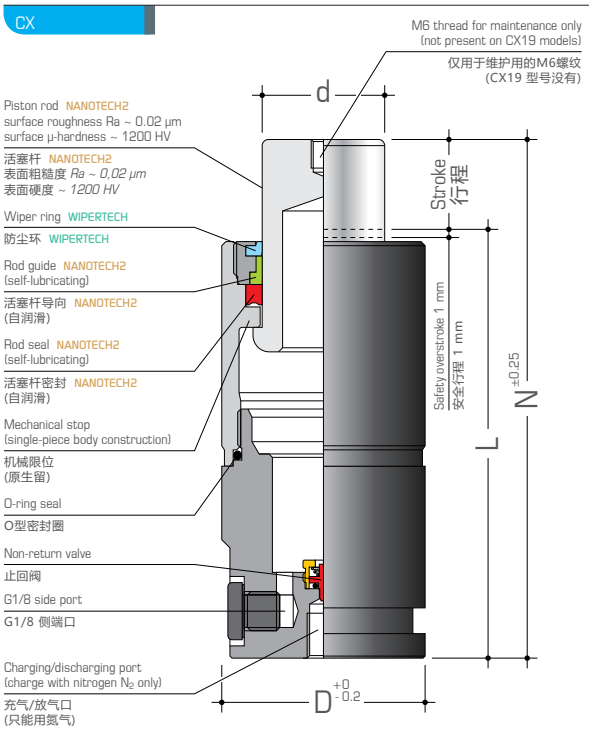
CX

CX series replaces the previous C series. Available with the same diameters and forces as the SMLX series, the CX gas springs have a less compact length but longer stroke lengths are available (starting from diameter 50 mm).
WHAT'S NEW: upgraded with the new WIPERTECH and NANOTECH2 nano-technologies.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.
RECOMMENDED when the required stroke lengths are not available for CSX and SMLX series.

THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

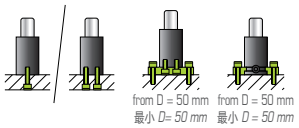
CX系列取代了以前的C系列。与SMLX系列具有相同的直径和弹力。CX系列氮气弹簧相对较长，但同时也拥有更长的行程 (从直径50 mm开始)。
新功能: 升级采用新的WIPERTECH和NANOTECH2技术。
自润滑: 得益于nano技术 (专利申请中), 可实现数百万个工作循环。
使用WIPERTECH保护: 防尘环可防止污染物进入。
当CSX和SMLX系列没有所需的行程长度时, 建议使用。
新型号只有在旧型号缺货时才会供应。

CX



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



HOW TO ORDER

No. 8 pcs. CX38-50 750daN

No. 8 nitrogen gas springs series CX, D = 38 mm, stroke length = 50 mm, initial force = 750 daN.
ATTENTION: specify the required initial force.

如何订购

8件CX38-50 750daN

8件氮气弹簧CX系列, D = 38 mm, 行程长度 = 50 mm, 初始力 = 750 daN.
注意: 需指定所需的初始力。

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

The C models are replaceable with the CX models.
⚠ ATTENTION:
Rod diameter d = 40 mm for the CX63 models.
Rod diameter d = 36 mm for the C63 models.

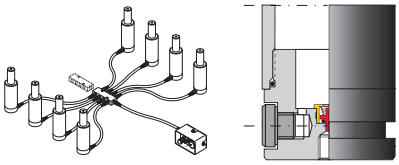
技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。

C型号可替换为CX型号。

⚠ 注意:
CX63型号的杆直径d=40mm。
C63型号的杆d=36mm。

Linkable / 可串接



Ready with fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.
ATTENTION: make sure to fully discharge the gas spring before connecting it to open system (see the instructions supplied together with the charging and discharging set COMPL).

带有固定槽和G1/8侧端口, 可连接至气路系统最小D=50 mm。
注意: 在将氮气弹簧连接到气路系统之前, 请确保将其完全放气 (请参阅充气放气组件COMPL随附的说明)。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
CX19-10 •	10	70	80	19	10	191	150	190	M8 x 14 for charging/discharging 用于充气/放气 for fixing 用于固定
15 •	15	75	90					200	
25 •	25	85	110					220	
38 •	38	98	136					220	
50 •	50	110	160					240	
80 •	80	140	220					250	
CX25-10 •	10	70	80	25	14	195	300	380	M8 x 11 for charging/discharging 用于充气/放气 for fixing 用于固定
15 •	15	75	90					400	
25 •	25	85	110					440	
38 •	38	98	136					490	
50 •	50	110	160					500	
80 •	80	140	220					540	
CX32-10 •	10	60	70	32	18	196	500	700	M8 x 8 for charging/discharging 用于充气/放气 for fixing 用于固定
15 •	15	65	80					720	
25 •	25	75	100					770	
38 •	38	88	126					790	
50 •	50	100	150					800	
80 •	80	130	210					800	
CX38-10 •	10	65	75	38	22	197	750	980	M8 x 9 for charging/discharging 用于充气/放气 for fixing 用于固定
15 •	15	70	85					1060	
25 •	25	80	105					1100	
38 •	38	93	131					1150	
50 •	50	105	155					1200	
80 •	80	140	220					1250	
CX50-10	10	95	105	50	30	212	1500	1900	M8 for charging/discharging 用于充气/放气 20 M8 x 12 (2x) for fixing 用于固定
25	25	110	135					2150	
38	38	123	161					2250	
50	50	135	185					2320	
63	63	148	211					2430	
80	80	165	245					2430	
100	100	195	295					2500	
125 •	125	220	345					2520	
160 •	160	255	415					2550	
200 •	200	295	495					2600	
CX63-10	10	95	105	63	40 ⚠	159	2000	2900	M8 for charging/discharging 用于充气/放气 20 M8 x 12 (2x) for fixing 用于固定
25	25	110	135					3300	
38	38	123	161					3400	
50	50	135	185					3500	
63	63	148	211					3550	
80	80	165	245					3600	
100	100	185	285					3650	
125 •	125	220	345					3700	
160 •	160	255	415					3750	
200 •	200	295	495					3800	
CX75-10	10	105	115	75	45	189	3000	4200	M8 for charging/discharging 用于充气/放气 40 M8 x 12 (4x) for fixing 用于固定
25	25	120	145					4700	
38	38	133	171					5000	
50	50	145	195					5100	
63	63	158	221					5200	
80	80	175	255					5300	
100	100	200	300					5400	
125 •	125	225	350					5500	
160 •	160	265	425					5600	
200 •	200	310	510					5800	
CX95-25	25	130	155	95	58	189	5000	7800	M8 for charging/discharging 用于充气/放气 60 M8 x 12 (4x) for fixing 用于固定
38	38	143	181					8100	
50	50	155	205					8300	
63	63	168	231					8500	
80	80	190	270					8600	
100	100	210	310					8700	
125 •	125	245	370					8900	
160 •	160	280	440					9000	
200 •	200	330	530					9100	
CX120-25	25	140	165	120	75	204	9000	12600	M8 for charging/discharging 用于充气/放气 80 M10 x 15 (4x) for fixing 用于固定
38	38	153	191					13400	
50	50	165	215					13900	
63	63	178	241					14400	
80	80	195	275					14800	
100	100	215	315					15200	
125 •	125	250	375					15300	
160 •	160	290	450					16500	
200 •	200	340	540					16800	

• Without G1/8 side hole and groove / 无G1/8侧孔和槽
• Available on request / 按您所需
⚠ Attention: see note on page 26 / ⚠ 注意：请查看26页的备注

Nano technology series/Nano技术系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

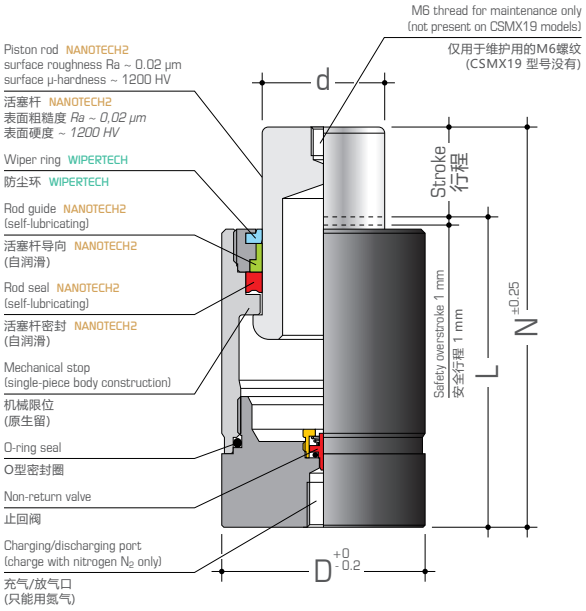
PATENTS PENDING
专利申请中

CSMX

CSMX series replaces the previous CSM series. Available with the same diameters and forces as the SMLX series, the CSMX gas springs are the second-shortest as far as overall length. Longer stroke lengths are available in comparison with the SMLX series (starting from diameter 50 mm).
WHAT'S NEW: upgraded with the new WIPERTECH and NANOTECH2 nano-technologies.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.
RECOMMENDED when the required stroke lengths are not available for CSX and SMLX series.
THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

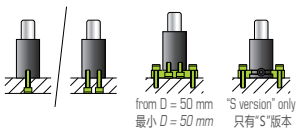
CSMX系列取代以前的CSM系列。CSMX氮气弹簧具有与SMLX系列相同的直径和弹力, 其总长度仅次于SMLX。与SMLX系列相比, 行程长度更长 (直径最小50毫米)。
新功能: 升级采用新的WIPERTECH和NANOTECH2技术。
自润滑: 得益于nano技术 (专利申请中), 可实现数百万个工作循环。
使用WIPERTECH密封环技术保护防止污染物进入。
当CSX和SMLX系列没有所需的行程长度时, 建议使用。
新型号只有在旧型号缺货时才会供应。

CSMX



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



HOW TO ORDER

No. 8 pcs. CSMX38-50 750daN

No. 8 nitrogen gas springs series CSMX, D = 38 mm, stroke length = 50 mm, initial force = 750 daN.
ATTENTION: specify the required initial force.

如何订购

8件CSMX38-50 750daN

8件氮气弹簧CSMX系列, D = 38 mm, 行程长度 = 50 mm, 初始力 = 750 daN.
注意: 需指定所需的初始力。

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

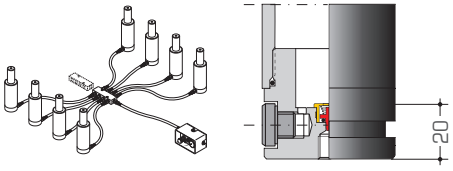
The CSM models are replaceable with the CSMX models.
⚠ ATTENTION:
Rod diameter d = 40 mm for the CSMX63 models.
Rod diameter d = 36 mm for the CSM63 models.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。

CSM型号可替换为CSMX型号。
⚠注意:
CSMX63型号的杆直径d=40mm。
CSM63型号的杆d=36mm。

"S" version / "S" 版本

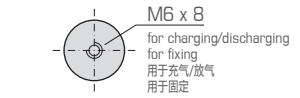
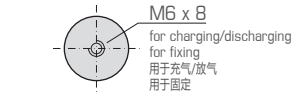
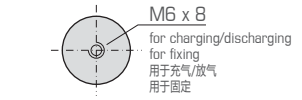
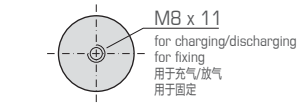
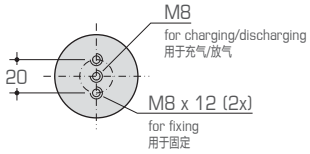
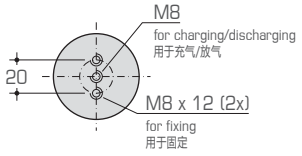
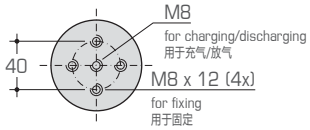
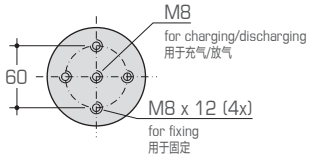
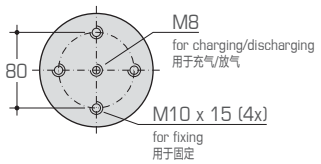


"S" VERSION

With fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.
» **L and N dimensions: + 20 mm**
» Add an **-S** to order them
Example: no. 8 pcs. CSMX50-50-**S**

"S" 版本

带固定槽和G1/8侧端口, 可连接至气路系统, 最小D=50mm。
» **L和N尺寸: +20 mm**
» 添加一个**-S**以订购
示例: 8件CSMX50-50-**S**

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
CSMX19-10	10	50	60	19	10	191	150	200	
15	15	55	70					210	
25	25	65	90					240	
38	38	78	116					240	
50	50	90	140					250	
80	80	120	200					250	
CSMX25-10	10	50	60	25	14	195	300	440	
15	15	55	70					510	
25	25	65	90					520	
38	38	78	116					550	
50	50	90	140					560	
80	80	120	200					580	
CSMX32-10	10	55	65	32	18	196	500	710	
15	15	60	75					720	
25	25	70	95					760	
38	38	83	121					800	
50	50	95	145					820	
80	80	125	205					830	
CSMX38-10	10	55	65	38	22	197	750	1090	
15	15	60	75					1130	
25	25	70	95					1180	
38	38	83	121					1230	
50	50	95	145					1240	
80	80	125	205					1280	
CSMX50-10	10	60	70	50	30	212	1500	2460	
25	25	75	100					2460	
38	38	88	126					2510	
50	50	100	150					2590	
63	63	113	176					2590	
80	80	130	210					2590	
100	100	150	250					2650	
125 •	125	190	315					2670	
160 •	160	235	395					2680	
200 •	200	275	475					2690	
CSMX63-10	10	65	75	63	40 ⚠	159	2000	2900	
25	25	80	105					3270	
38	38	93	131					3430	
50	50	105	155					3490	
63	63	118	181					3500	
80	80	135	215					3500	
100	100	160	260					3580	
125 •	125	190	315					3580	
160 •	160	235	395					3690	
200 •	200	275	475					3750	
CSMX75-10	10	65	75	75	45	189	3000	4800	
25	25	80	105					5200	
38	38	93	131					5300	
50	50	105	155					5400	
63	63	118	181					5500	
80	80	135	215					5600	
100	100	155	255					5700	
125 •	125	200	325					5800	
160 •	160	250	410					5900	
200 •	200	300	500					6000	
CSMX95-25	25	90	115	95	58	189	5000	8500	
38	38	103	141					8700	
50	50	115	165					8800	
63	63	128	191					8900	
80	80	155	235					9000	
100	100	185	285					9100	
125 •	125	220	345					9200	
160 •	160	260	420					9300	
200 •	200	310	510					9400	
CSMX120-25	25	100	125	120	75	204	9000	14000	
38	38	113	151					15000	
50	50	125	175					15400	
63	63	138	201					15500	
80	80	160	240					15600	
100	100	190	290					15700	
125 •	125	225	350					15800	
160 •	160	270	430					17800	
200 •	200	320	520					18000	

• Available on request / 按您所需

⚠ Attention: see note on page 28 / ⚠ 注意：请查看28页的备注

Nano technology series/Nano技术系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

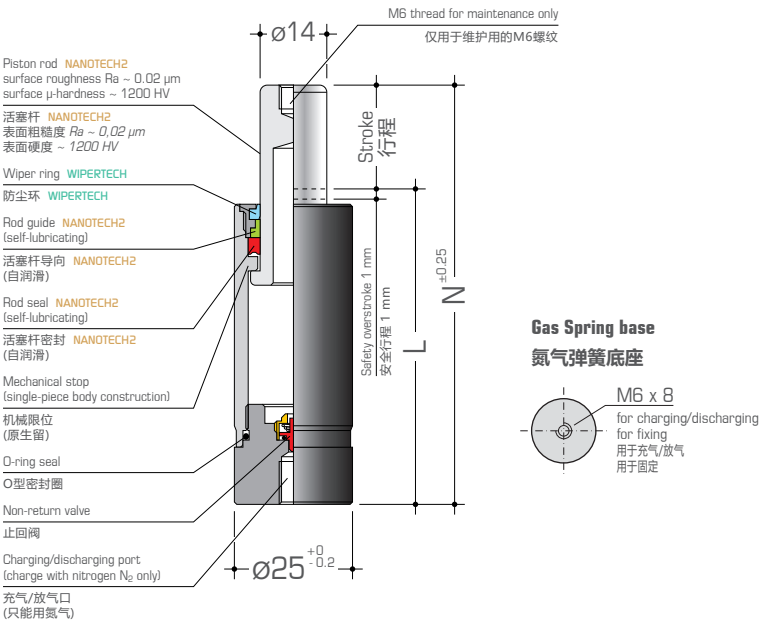
PATENTS PENDING
专利申请中

MICX

MICX series replaces the previous MIC series.
Diameter 25 mm, ready-to-use gas springs, charged at five different standard initial forces: 50 daN, 100 daN, 150 daN, 200 daN and 300 daN.
WHAT'S NEW: upgraded with the new WIPERTECH and NANOTECH2 nano-technologies.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.
THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

MICX系列取代了先前的MIC系列。
直径25 mm, 即用型氮气弹簧, 以五种不同的标准初始力充气: 50 daN, 100 daN, 150 daN, 200 daN和300 daN。
新功能: 升级采用新的WIPERTECH和NANOTECH2技术。
自润滑: 得益于nano技术 (专利申请中), 可实现数百万个工作循环。
使用WIPERTECH密封环技术保护防止污染物进入。
新型号只有在旧型号缺货时才会供应。

MICX



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

HOW TO ORDER / 如何订购

No. 8 pcs. MICX25-50-F150

No. 8 nitrogen gas springs series MICX, D = 25 mm, stroke length = 50 mm, initial force = 150 daN.

8件MICX25-50-F150

8件氮气弹簧MICX系列, D = 25 mm, 行程长度 = 50 mm, 初始力 = 150 daN.

TECHNICAL NOTES / 技术说明

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

The MIC models are replaceable with the MICX models.

(*) Final force (force at full stroke) = Initial force × R

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。

MIC型号可替换为MICX型号。

(*) 最终力 (全行程力) = 初始力 × R

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	...F50 bar	...F50 daN	...F100 bar	...F100 daN	...F150 bar	...F150 daN	...F200 bar	...F200 daN	...F300 bar	...F300 daN	R (*)
MICX25-10- ...	10	50	60											1.5
15- ...	15	55	70											1.7
25- ...	25	65	90	32	50	65	100	97	150	130	200	195	300	1.7
38- ...	38	78	116											1.8
50- ...	50	90	140											1.9
80- ...	80	120	200											1.9

MCSM

New model! / 新型号

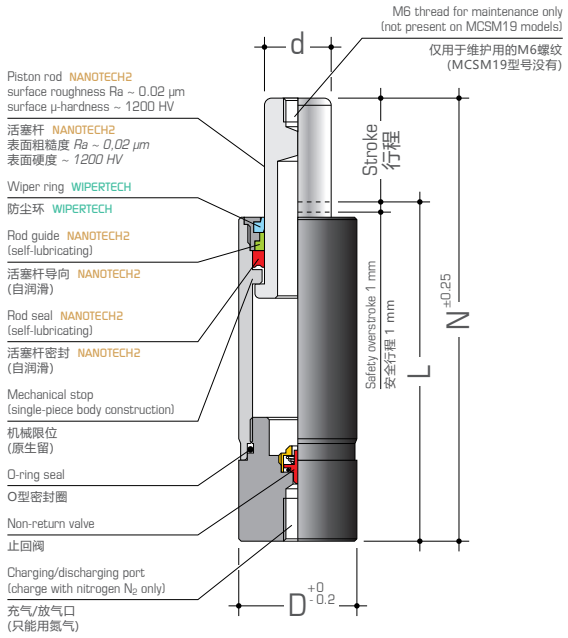
Gas springs with low forces (available diameters: 19 mm and 25 mm).
WHAT'S NEW: new series in the catalogue, with the new WIPERTECH and NANOTECH2 nano-technologies.
SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).
PROTECTED AGAINST CONTAMINANTS with WIPERTECH protective wiper ring.

低作用力的氮气弹簧 (可用直径: 19 mm和25 mm)。
新功能: 目录中的新系列, 采用新的WIPERTECH和NANOTECH2技术。
自润滑: 得益于nano技术 (专利申请中), 可实现数百万个工作循环。
使用WIPERTECH密封环技术保护防止污染物进入。

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

MCSM



TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件, 请参阅"模具氮气弹簧附件"目录。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
MCSM19-10	10	55	65	19	10	102	80	105	M6 x 12 for charging/discharging for fixing 用于充气/放气 用于固定
15	15	60	75					110	
25	25	70	95					115	
38	38	83	121					120	
50	50	95	145					130	
80	80	125	205					140	
MCSM25-10	10	55	65	25	14	104	160	230	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
15	15	60	75					240	
25	25	70	95					260	
38	38	83	121					280	
50	50	95	145					290	
80	80	125	205					300	

Standard series / 标准系列

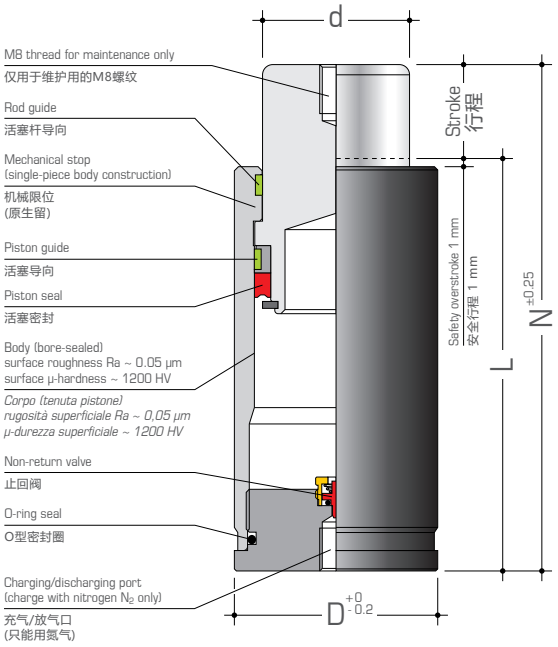
Nitrogen gas springs for press tools, dies and moulds / 冲压工具，冲压模具用氮气弹簧。

TOP

Gas springs with bore seal design.
The TOP25 models are still the most powerful gas springs with diameter 25 mm, generating an initial force of 400 daN (when possible, the use of MSML25 models is recommended, since they feature a more advanced technology and generate an initial force of 360 daN).
TOP series gas springs must be manually lubricated, as they are not self-lubricated.
TOP series gas springs must be protected against contaminants, as they cannot be provided with a wiper ring.
RECOMMENDED only for diameter 25 mm, in case the initial force of 360 daN generated by the MSML25 models is not enough for the specific application. For the other diameters, the use of CSX models is recommended because of the more advanced technology.

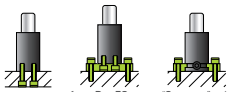
带油封设计的氮气弹簧。
TOP25型号仍然是最强大的氮气弹簧，直径为25 mm，产生的初始力为400 daN（如果可能，推荐使用MSML25型号，因为它们具有更先进的技术，并能够产生360 daN的初始力）。
TOP系列氮气弹簧必须手动添加润滑，因为它们不是自润滑的。
TOP系列氮气弹簧必须防止受到污染，因为它们无法配备密封防尘环。
为了防MSML25型号产生的360 daN初始力不足以满足特定应用，仅建议直径25 mm采用该型号。对于其他直径，建议使用CSX型号，因为其技术更为先进。

TOP 25/120



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



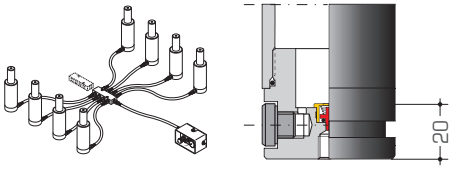
TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件，请参阅"模具氮气弹簧附件"目录。

"S" version / "S" 版本

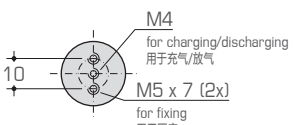
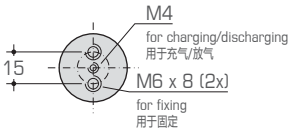
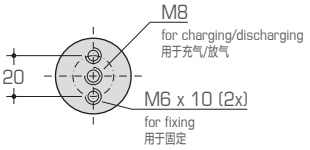
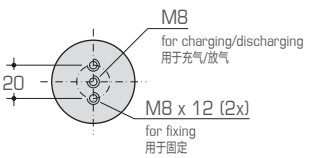
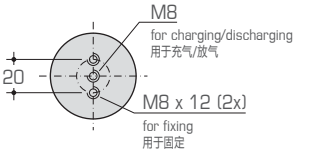
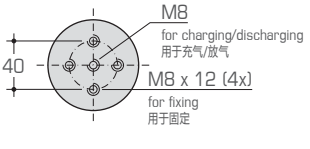
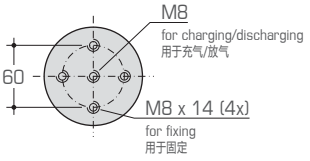
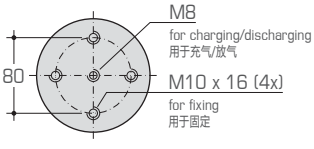


"S" VERSION

With fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.
» **L and N dimensions: + 20 mm**
» Add an -**S** to order them
Example: no. 8 pcs. TOP50-50-**S**

"S" 版本

带固定槽和G1/8侧端口，可连接至气路系统，最小D=50mm。
» **L和N尺寸: +20 mm**
» 添加一个**-S**以订购
示例: 8件TOP50-50-**S**

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
TOP25-10	10	65	75	25	16	157	400	770	
15	15	75	90					790	
25	25	95	120					800	
50	50	145	195					810	
TOP32-10	10	65	75	32	20	154	700	1500	
15	15	75	90					1520	
25	25	95	120					1530	
50	50	145	195					1540	
TOP38-10	10	65	75	38	24	162	1000	1870	
15	15	75	90					1880	
25	25	95	120					1930	
50	50	145	195					2000	
TOP50-10	10	70	80	50	36	159	2000	3750	
15	15	80	95					3850	
25	25	100	125					3900	
50	50	150	200					3950	
TOP63-10	10	75	85	63	46	153	3000	5300	
15	15	85	100					5650	
25	25	105	130					5690	
50	50	155	205					5790	
TOP75-10	10	75	85	75	56	142	4000	6900	
15	15	85	100					7100	
25	25	105	130					7100	
50	50	155	205					7300	
TOP95-10	10	80	90	95	70	154	7000	10800	
15	15	90	105					11700	
25	25	110	135					11800	
50	50	160	210					11900	
TOP120-10	10	90	100	120	90	141	10000	15000	
15	15	100	115					16000	
25	25	120	145					17000	
50	50	170	220					18000	

Standard series / 标准系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具，冲压模具用氮气弹簧。

TOP

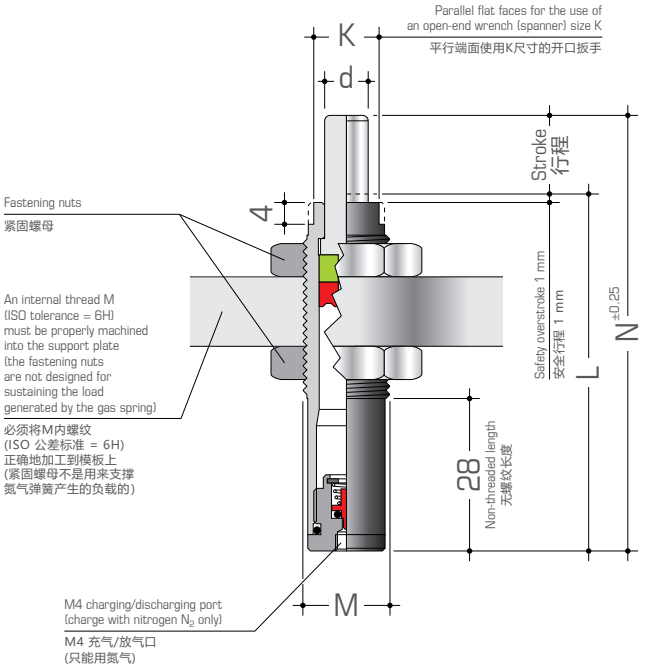
Threaded-body, compact gas springs with bore seal design.
TOP series gas springs must be manually lubricated, as they are not self-lubricated.
TOP series gas springs must be protected against contaminants, as they cannot be provided with a wiper ring.

螺纹式缸体，带有油封设计的紧凑型氮气弹簧。
TOP系列氮气弹簧必须手动润滑，因为它们不是自润滑的。
TOP系列氮气弹簧必须防止受到污染，因为它们不能配备密封防尘环。

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

TOP 12/20



TECHNICAL NOTES

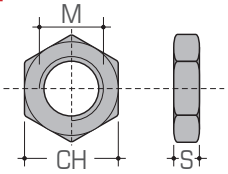
Important use instructions and maximum number of cycles per minute on pages 10-17.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	M	d mm	K mm	bar	daN	daN
TOP12-10	10	55	65	M12 x 1.25	5	9	150	50	80
15	15	65	80						90
TOP14-10	10	55	65	M14 x 1.5	6	11	150	75	130
15	15	65	80						140
TOP16-10	10	55	65	M16 x 1.5	8	13	127	100	170
15	15	65	80						180
TOP20-10	10	55	65	M20 x 1.5	10	17	151	200	420
15	15	65	80						430

Fastening nuts / 紧固螺母

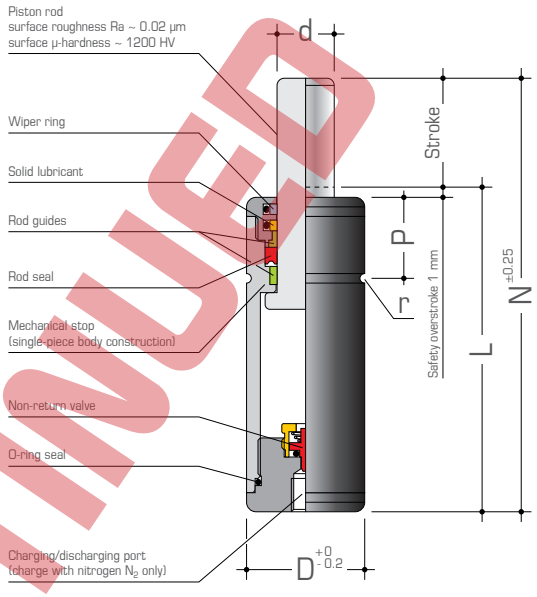


MODEL 型号	M	S mm	CH mm
TOP-D-12	M12 x 1.25	7	19
14	M14 x 1.5	8	22
16	M16 x 1.5	8	24
20	M20 x 1.5	9	30

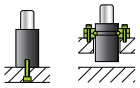
CVDI

The CVDI nitrogen gas springs are in accordance with the VDI 3003 standard.

CVDI 19/25



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)



TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

MODEL	MAX STROKE mm	L mm	N mm	D mm	d mm	P mm	r mm	bar	daN	daN	GAS SPRING BASE
CVDI19-15	15	57	72	19	8	17	1	180	90	120	 M6 x 7 for charging/discharging for fixing 用于充气/放气 用于固定
25	25	67	92							125	
38	38	80	118							125	
50	50	92	142							130	
63	63	108	171							130	
80	80	125	205							130	
CVDI25-15	15	57	72	25	12	17	1	177	200	320	 M6 x 7 for charging/discharging for fixing 用于充气/放气 用于固定
25	25	67	92							330	
38	38	80	118							335	
50	50	92	142							335	
63	63	108	171							335	
80	80	125	205							340	
100	100	145	245							340	
125	125	170	295							340	

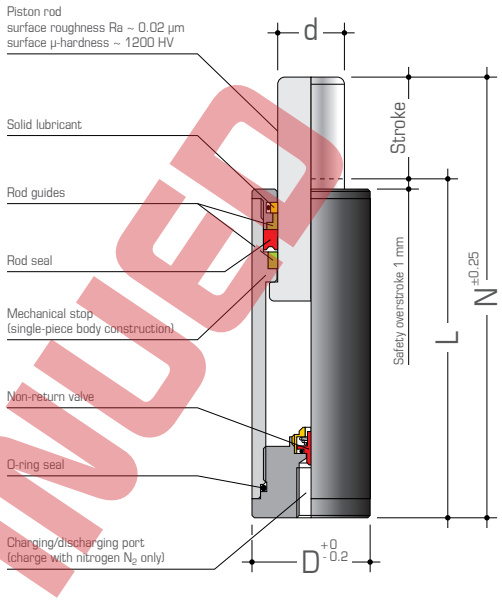
Standard series

Nitrogen gas springs for press tools, dies and moulds

CISO 19/25

The CISO series gas springs are in accordance with the ISO 11901:1995 standard, which starts from ø 32 mm. This CISO series includes the ø 19 mm and ø 25 mm also. Flanges are in accordance with the ISO standard too, and can be found in the "Accessories for nitrogen gas springs for dies" catalogue.

CISO 19 / 25



Fixing possibilities

(see also our "Accessories for nitrogen gas springs for dies" catalogue)

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.

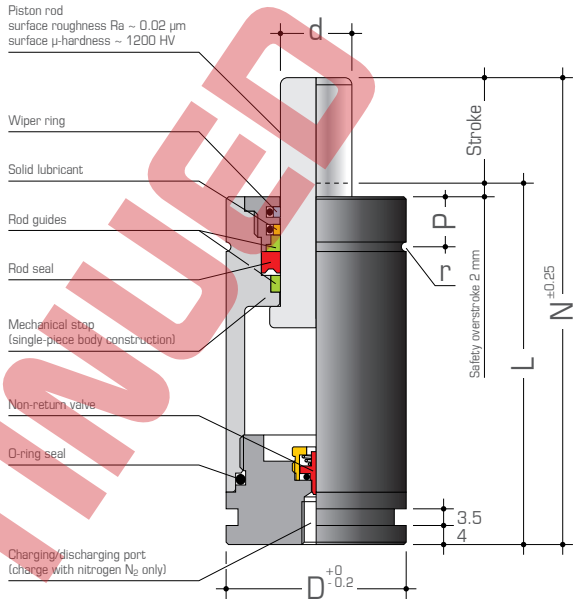
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

MODEL	MAX STROKE mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE
CISO19-10 •	10	55	65	19	10	128	100	135	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
16 •	16	61	77					140	
25 •	25	70	95					150	
38 •	38	83	121					170	
50 •	50	95	145					170	
63 •	63	108	171					180	
80 •	80	125	205					185	
CISO25-10 •	10	55	65	25	14	129	200	300	M6 x 10 for charging/discharging for fixing 用于充气/放气 用于固定
16 •	16	61	77					330	
25 •	25	70	95					360	
38 •	38	83	121					410	
50 •	50	95	145					420	
63 •	63	108	171					440	
80 •	80	125	205					440	

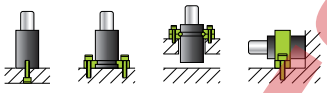
• Without scraper ring

CISO 32/38

CISO 32 / 38



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)



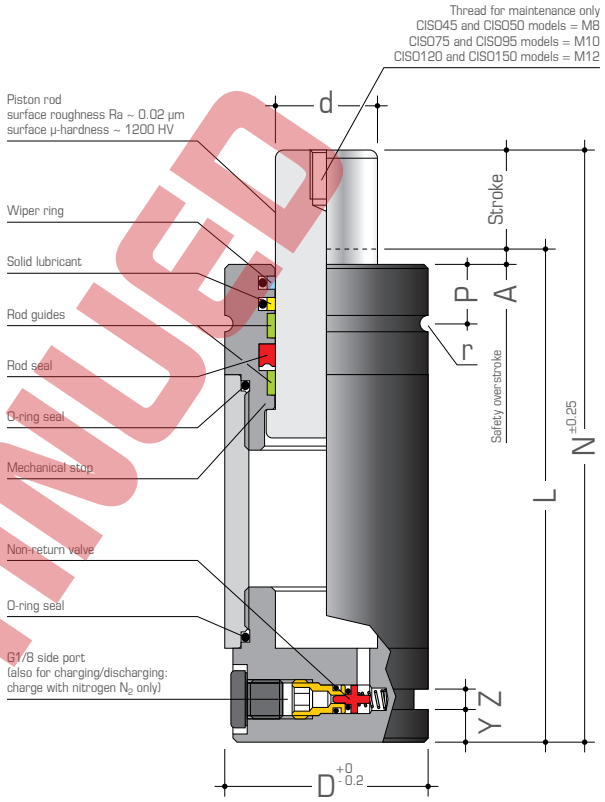
TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

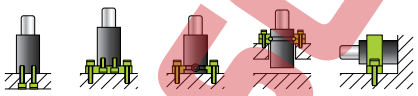
MODEL	MAX STROKE mm	L mm	N mm	D mm	d mm	P mm	r mm	bar	daN	daN	GAS SPRING BASE
CISO32-10	10	60	70	32	11.5	10.5	1	145	150	185	M6 x 9 for charging/discharging for fixing 用于充气/放气 用于固定
16	16	66	82							190	
25	25	75	100							190	
50	50	100	150							195	
80	80	130	210							195	
CISO38-10	10	60	70	38	15	10.5	1	142	250	320	M6 x 9 for charging/discharging for fixing 用于充气/放气 用于固定
13	13	63	76							320	
16	16	66	82							320	
25	25	75	100							330	
38	38	88	126							330	
50	50	100	150							340	
63	63	113	176							345	
75	75	126	201							345	
80	80	130	210							350	

CISO 45/150

CISO 45 / 150



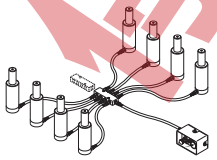
Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)



TECHNICAL NOTES

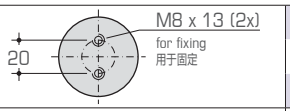
Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

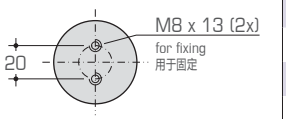
Linkable

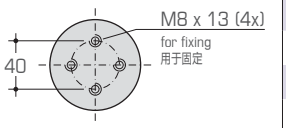


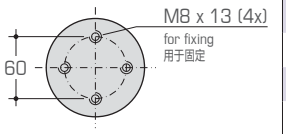
Ready with fixing groove and G1/8 side port, linkable to open system, from D = 45 mm.
ATTENTION: make sure to fully discharge the gas spring before connecting it to open system (see the instructions supplied together with the charging and discharging set COMPL).

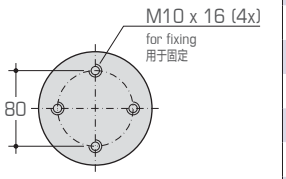
MODEL	MAX STROKE mm	L mm	N mm	D mm	d mm	P mm	A mm	r mm	Z mm	Y mm	bar	daN	daN	GAS SPRING BASE
CISO45-25	25	110	135										650	
50	50	135	185	45	20	14.5	2	1	3.5	4	159	500	680	
80	80	165	245										720	
CISO50-13	13	107	120										1090	
25	25	120	145										1100	
38	38	133	171										1110	
50	50	145	195										1150	
63	63	159	222	50	25	14.5	3	2	5	8	153	750	1190	
75	75	170	245										1200	
80	80	175	255										1210	
100	100	195	295										1220	
125 •	125	220	345										1230	
160 •	160	255	415										1240	
CISO75-13	13	121	134										2050	
25	25	135	160										2070	
38	38	147	185										2100	
50	50	160	210										2150	
63	63	173	236										2200	
75	75	184	259	75	36	18	3	2.5	5	8	148	1500	2220	
80	80	190	270										2250	
100	100	210	310										2280	
125 •	125	235	360										2340	
160 •	160	270	430										2390	
CISO95-13	13	131	144										4200	
25	25	145	170										4250	
38	38	157	195										4300	
50	50	170	220										4350	
63	63	183	246										4400	
75	75	194	269	95	50	21	3	2.5	5	8	153	3000	4500	
80	80	200	280										4700	
100	100	220	320										4700	
125 •	125	245	370										4700	
160 •	160	280	440										4700	
CISO120-13	13	151	164										6300	
25	25	165	190										6400	
38	38	177	215										6600	
50	50	190	240										7000	
63	63	203	266										7300	
75	75	214	289	120	65	22.5	3	2.5	5	8	151	5000	7400	
80	80	220	300										7500	
100	100	240	340										7600	
125 •	125	265	390										7700	
160 •	160	300	460										7800	
CISO150-13	13	168	181										10100	
25	25	180	205										10300	
38	38	193	231										10500	
50	50	205	255										10700	
63	63	219	282										10900	
75	75	230	305	150	80	24.5	3	2.5	5	8	150	7500	11100	
80	80	235	315										11300	
100	100	255	355										11500	
125 •	125	280	405										11700	
160 •	160	315	475										12000	

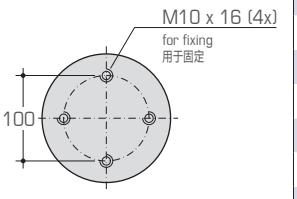












• Available on request

Standard series

Nitrogen gas springs for press tools, dies and moulds

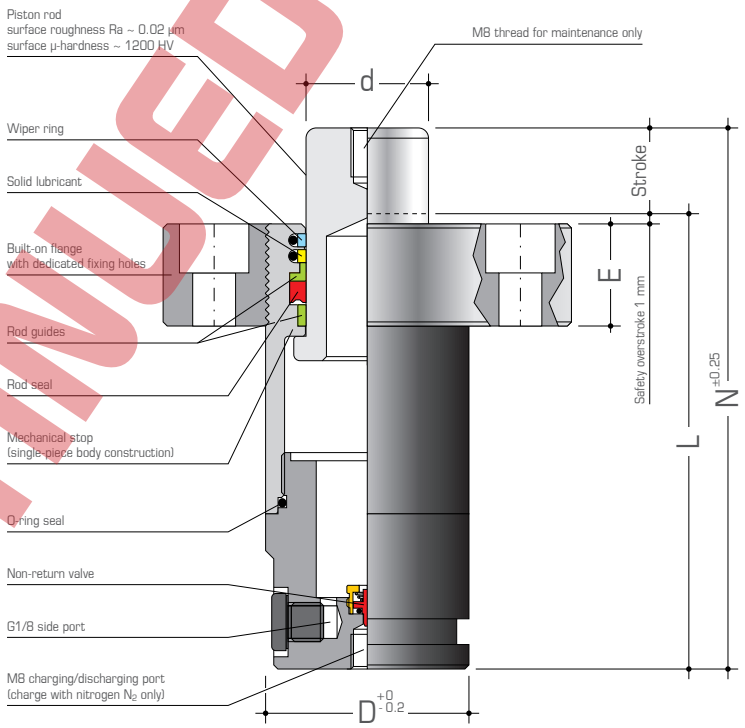
Replaced by CSMF series (check technical specifications).
If the side port for linking to open system is needed,
see CSMF series - "S version" (check technical specifications).

CF

Nitrogen gas springs with fixing flange, threaded on the cylinder body to ensure a higher safety level compared with flanges fixed with lock ring. With increased initial force, linkable to open system.

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

CF



HOW TO ORDER

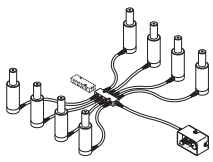
No. 8 pcs. CF50-80 1500daN

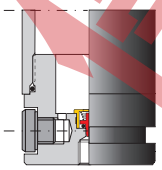
No. 8 nitrogen gas springs series CF with built-on flange, D = 50 mm, stroke length = 80 mm, initial force = 1500 daN.
ATTENTION: specify the required initial force.

TECHNICAL NOTES

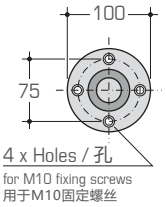
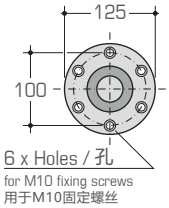
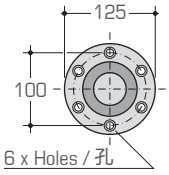
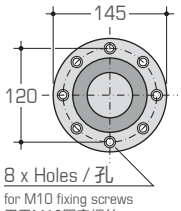
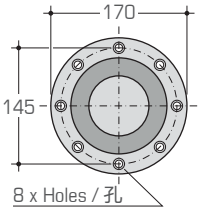
Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories, see the "Accessories for nitrogen gas springs for dies" catalogue.

Linkable





Ready with G1/8 side port, linkable to open system.
ATTENTION: make sure to fully discharge the gas spring before connecting it to open system (see the instructions supplied together with the charging and discharging set COMPL).

MODEL	MAX STROKE mm	L mm	N mm	D mm	d mm	E mm	bar	daN	daN	FLANGES
CF50-10 •	10	95	105	50	30	25	212	1500	2400	
25 •	25	110	135							
38 •	38	123	161							
50 •	50	135	185							
63 •	63	148	211							
80 •	80	165	245							
100 •	100	195	295							
125 •	125	220	345							
160 •	160	255	415							
200 •	200	295	495							
CF63-10 •	10	95	105	63	36	25	196	2000	3200	
25 •	25	110	135							
38 •	38	123	161							
50 •	50	135	185							
63 •	63	148	211							
80 •	80	165	245							
100 •	100	185	285							
125 •	125	220	345							
160 •	160	255	415							
200 •	200	295	495							
CF75-10 •	10	105	115	75	45	25	189	3000	4800	
25 •	25	120	145							
38 •	38	133	171							
50 •	50	145	195							
63 •	63	158	221							
80 •	80	175	255							
100 •	100	200	300							
125 •	125	225	350							
160 •	160	265	425							
200 •	200	310	510							
CF95-25 •	25	130	155	95	58	25	189	5000	8000	
38 •	38	143	181							
50 •	50	155	205							
63 •	63	168	231							
80 •	80	190	270							
100 •	100	210	310							
125 •	125	245	370							
160 •	160	280	440							
200 •	200	330	530							
CF120-25 •	25	140	165	120	75	35	204	9000	14400	
38 •	38	153	191							
50 •	50	165	215							
63 •	63	178	241							
80 •	80	195	275							
100 •	100	215	315							
125 •	125	250	375							
160 •	160	290	450							
200 •	200	340	540							

• Available on request

Standard series / 标准系列

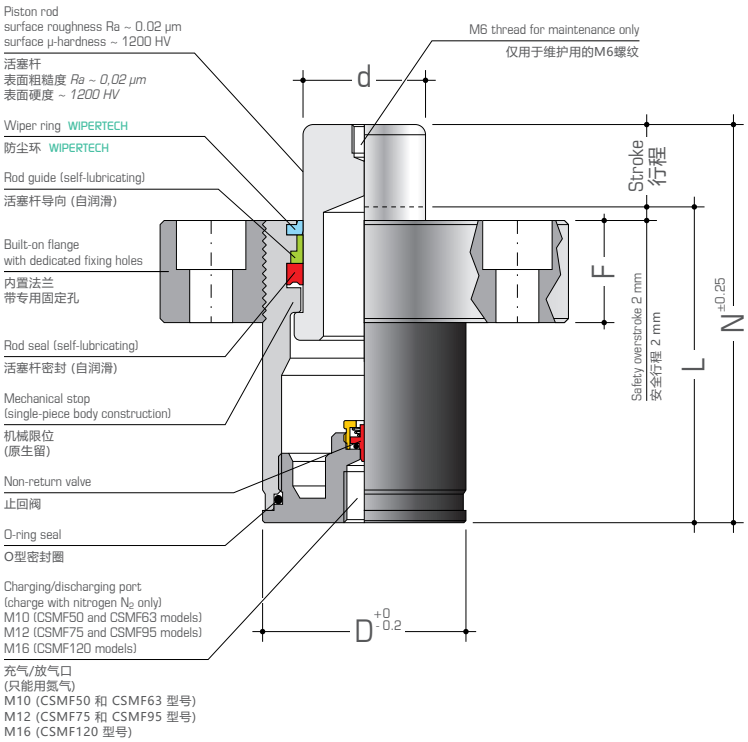
Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

CSMF

Compact nitrogen gas springs with fixing flange, threaded on the cylinder body to ensure a higher safety level compared with flanges fixed with lock ring.
WHAT'S NEW: upgraded with the new WIPERTECH nano-technology.
THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

紧凑型氮气弹簧，带有安装在气缸体上的固定法兰，以确保与使用锁环固定的法兰相比具有更高的安全级别。
新功能: 升级采用新的WIPERTECH nano技术。
新型号只有在旧型号缺货时才会供应。

CSMF



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

HOW TO ORDER

No. 8 pcs. CSMF50-80 1500daN

No. 8 nitrogen gas springs series CSMF with built-on flange, D = 50 mm, stroke length = 80 mm, initial force = 1500 daN.
ATTENTION: specify the required initial force.

如何订购

8件CSMF50-80 1500daN

8件氮气弹簧CSMF系列，内置法兰，
D = 50 mm,
行程长度 = 80 mm,
初始力 = 1500 daN.
注意: 需指定所需的初始力。

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories, see the "Accessories for nitrogen gas springs for dies" catalogue.

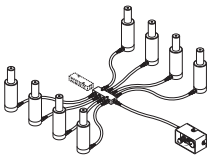
⚠ ATTENTION:
Rod diameter d = 40 mm for the CSMF63 models (previous version: d = 36 mm).

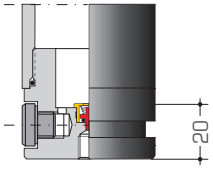
技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件，请参阅"模具氮气弹簧附件"目录。

⚠ 注意:
CSMF63型号的杆直径 d=40 mm (早期版本: d=36 mm)。

"S" version / "S" 版本



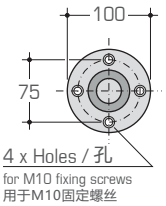
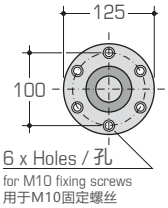
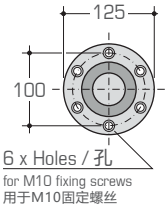
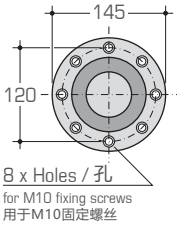
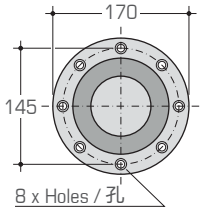


"S" VERSION

With G1/8 side port, linkable to open system.
» **L and N dimensions: + 20 mm**
» Add an **-S** to order them
Example: no. 8 pcs. CSMF50-80-**S**

"S" 版本

带固定槽和G1/8侧端口，可连接至气路系统，最小D=50mm。
» **L和N尺寸: +20 mm**
» 添加一个**-S**以订购
示例: 8件CSMF50-80-**S**

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	F mm	bar	daN	daN	FLANGES 法兰
CSMF50-10 •	10	60	70	50	30	24	212	1500	2460	
25 •	25	75	100						2460	
38 •	38	88	126						2510	
50 •	50	100	150						2590	
63 •	63	113	176						2590	
80 •	80	130	210						2590	
100 •	100	150	250						2650	
125 •	125	190	315						2670	
160 •	160	235	395						2680	
200 •	200	275	475						2690	
CSMF63-10 •	10	65	75	63	40 ⚠	24	159	2000	2900	
25 •	25	80	105						3270	
38 •	38	93	131						3430	
50 •	50	105	155						3490	
63 •	63	118	181						3500	
80 •	80	135	215						3500	
100 •	100	160	260						3580	
125 •	125	190	315						3580	
160 •	160	235	395						3690	
200 •	200	275	475						3750	
CSMF75-10 •	10	65	75	75	45	24	189	3000	4800	
25 •	25	80	105						5200	
38 •	38	93	131						5300	
50 •	50	105	155						5400	
63 •	63	118	181						5500	
80 •	80	135	215						5600	
100 •	100	155	255						5700	
125 •	125	200	325						5800	
160 •	160	250	410						5900	
200 •	200	300	500						6000	
CSMF95-25 •	25	90	115	95	58	24	189	5000	8500	
38 •	38	103	141						8700	
50 •	50	115	165						8800	
63 •	63	128	191						8900	
80 •	80	155	235						9000	
100 •	100	185	285						9100	
125 •	125	220	345						9200	
160 •	160	260	420						9300	
200 •	200	310	510						9400	
CSMF120-25 •	25	100	125	120	75	34	204	9000	14000	
38 •	38	113	151						15000	
50 •	50	125	175						15400	
63 •	63	138	201						15500	
80 •	80	160	240						15600	
100 •	100	190	290						15700	
125 •	125	225	350						15800	
160 •	160	270	430						17800	
200 •	200	320	520						18000	

• Available on request / 按您所需
⚠ Attention: see note on page 42 / ⚠ 注意: 请查看42页的备注

Standard series

Nitrogen gas springs for press tools, dies and moulds

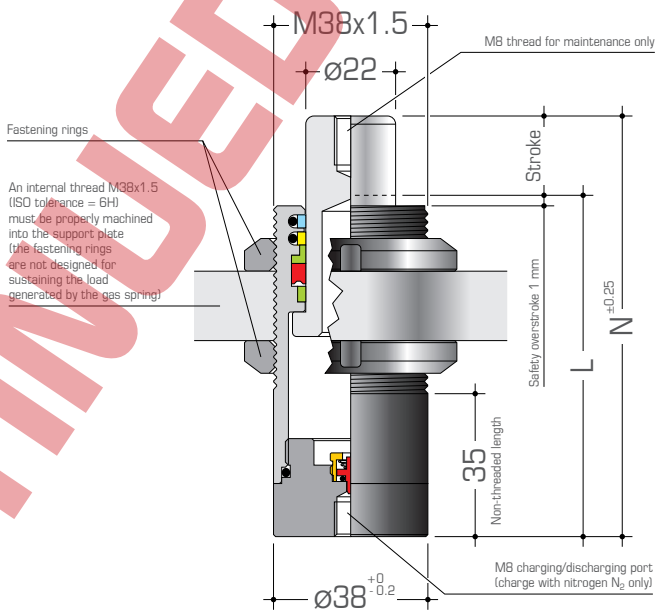
Replaced by CSMT series (check technical specifications).

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

CT

The CT series nitrogen gas springs have the threaded body to allow a different fixing.

CT38



HOW TO ORDER

No. 8 pcs. CT38-50 750daN

No. 8 nitrogen gas springs series CT with threaded body, D = 38 mm, stroke length = 50 mm, initial force = 750 daN.
ATTENTION: specify the required initial force.

- Available on request
- Two fastening rings are supplied with each gas spring

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories, see the "Accessories for nitrogen gas springs for dies" catalogue.

ATTENTION: the CT38 models correspond to the old C38...S models.

MODEL		MAX STROKE mm	L mm	N mm	bar	daN	daN
CT38-10	••	10	65	75	197	750	1200
15	••	15	70	85			
25	••	25	80	105			
38	••	38	93	131			
50	••	50	105	155			
80	••	80	140	220			

Standard series / 标准系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

PATENTS PENDING
专利申请中

CSMT

The CSMT series compact nitrogen gas springs have the threaded body to allow a different fixing.
WHAT'S NEW: upgraded with the new WIPERTECH nano-technology.
THE NEW MODELS WILL BE SUPPLIED ONLY WHEN THE OLD ONES ARE OUT OF STOCK.

CSMT系列紧凑型氮气弹簧带有外螺纹，可以进行不同位置的固定。
新功能：升级采用新的WIPERTECHnano技术。
新型号只有在旧型号缺货时才会供应。

TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories, see the "Accessories for nitrogen gas springs for dies" catalogue.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件，请参阅"模具氮气弹簧附件"目录。

HOW TO ORDER

No. 8 pcs. CSMT38-50 750daN

No. 8 nitrogen gas springs series CSMT with threaded body, D = 38 mm, stroke length = 50 mm, initial force = 750 daN.
ATTENTION: specify the required initial force.

如何订购

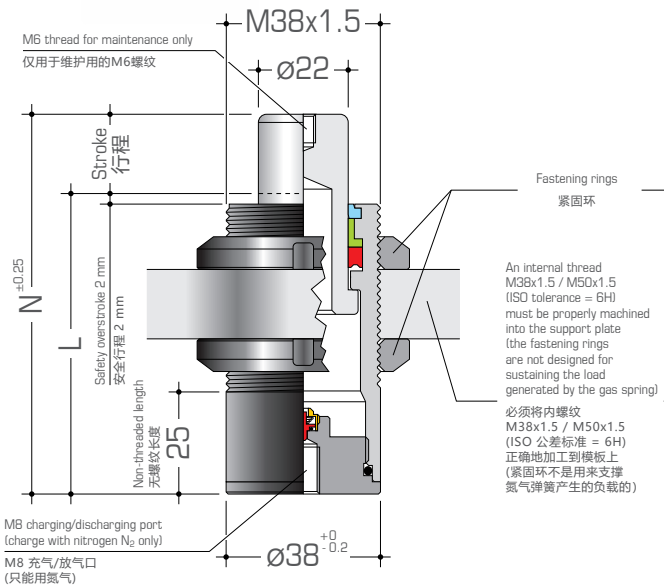
8件CSMT38-50 750daN

8件氮气弹簧CSMT系列，带螺纹主体，D = 38 mm，行程长度 = 50 mm，初始力 = 750 daN.
注意：需指定所需的初始力

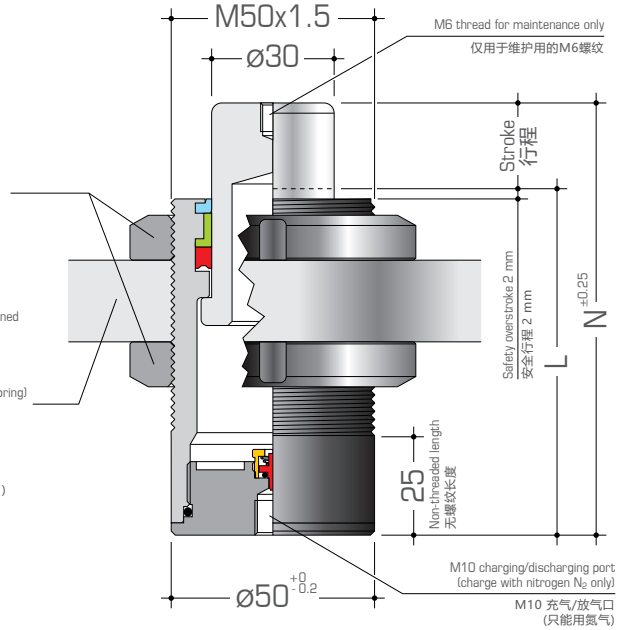
Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

CSMT 38



CSMT 50



MODEL 型号		MAX STROKE mm 最大行程 mm	L mm	N mm	bar	daN	daN
CSMT38-10	••	10	55	65	197	750	1090
15	••	15	60	75			1130
25	••	25	70	95			1180
38	••	38	83	121			1230
50	••	50	95	145			1240
80	••	80	125	205			1280

MODEL 型号		MAX STROKE mm 最大行程 mm	L mm	N mm	bar	daN	daN
CSMT50-10	••	10	60	70	212	1500	2460
25	••	25	75	100			2460
38	••	38	88	126			2510
50	••	50	100	150			2590
63	••	63	113	176			2590
80	••	80	130	210			2590
100	••	100	150	250			2650

- Available on request / 按您所需
- Two fastening rings are supplied with each gas spring / 每个氮气弹簧配有两个紧固环

Standard series / 标准系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

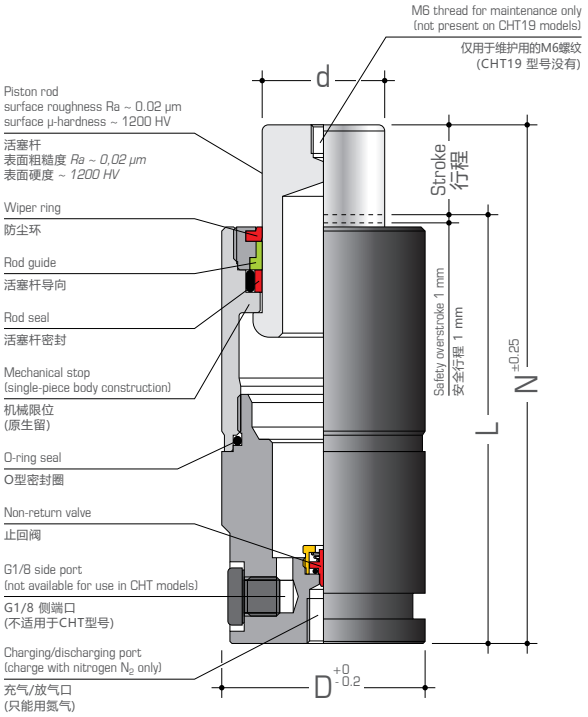
CHT

200°C
392°F
MAX TEMPERATURE
最高温度

CHT series has been developed to work up to 200°C (392°F), for the most demanding high temperature applications.
The piston rod has to be lubricated with grease "PLUB".

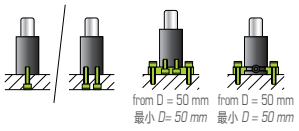
CHT系列已开发可在高达200°C (392°F) 温度下工作，适用于最高温度要求的应用。
活塞杆必须用润滑脂"PLUB"润滑。

CHT



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

⚠ **ATTENTION:**
Rod diameter d = 40 mm for the CHT63 models (previous version: d = 36 mm).

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件，请参阅"模具氮气弹簧附件"目录。

⚠ **注意：**
CHT63型号的杆直径 d=40 mm (早期版本: d=36 mm)。

HOW TO ORDER

IMPORTANT: it is necessary to contact our technical department in order to make sure that CHT gas springs are ok for the required application. Bordignon technical department will send you a dedicated form to be filled with the application data.
(*) The **maximum charging pressure** (bar) depends on the use conditions (declared actual operating temperature).
You will be informed about the maximum charging pressure if your application is approved by our technical department.

如何订购

重要提示: 请必须联系我们的技术部门，以确保CHT氮气弹簧适合所需的应用。Bordignon技术部门将向您发送一份专用表格用来填写应用数据。
(*) **最大充气压力** (bar) 取决于使用条件(声明的实际工作温度)。
如果您的应用得到我们技术部门的批准。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar (*)	daN	daN	GAS SPRING BASE 氮气弹簧底座
CHT19-10 • •	10	70	80	19	10	See note (*) on page 46 见46页备注 (*)	100	130	M8 x 14 for charging/discharging for fixing 用于充气/放气 用于固定
15 • •	15	75	90					135	
25 • •	25	85	110					140	
38 • •	38	98	136					145	
50 • •	50	110	160					155	
80 • •	80	140	220					165	
CHT25-10 • •	10	70	80	25	14	See note (*) on page 46 见46页备注 (*)	200	250	M8 x 11 for charging/discharging for fixing 用于充气/放气 用于固定
15 • •	15	75	90					270	
25 • •	25	85	110					290	
38 • •	38	98	136					320	
50 • •	50	110	160					330	
80 • •	80	140	220					350	
125 • •	125	185	310					370	
CHT32-10 • •	10	60	70	32	18	See note (*) on page 46 见46页备注 (*)	350	480	M8 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
15 • •	15	65	80					490	
25 • •	25	75	100					520	
38 • •	38	88	126					530	
50 • •	50	100	150					540	
80 • •	80	130	210					550	
125 • •	125	175	300					560	
160 • •	160	210	370					570	
CHT38-10 • •	10	65	75	38	22	See note (*) on page 46 见46页备注 (*)	500	650	M8 x 9 for charging/discharging for fixing 用于充气/放气 用于固定
15 • •	15	70	85					700	
25 • •	25	80	105					750	
38 • •	38	93	131					780	
50 • •	50	105	155					800	
80 • •	80	140	220					820	
125 • •	125	185	310					840	
160 • •	160	220	380					860	
200 • •	200	260	460					880	
CHT50-10 •	10	95	105	50	30	See note (*) on page 46 见46页备注 (*)	1000	1250	M8 for charging/discharging 用于充气/放气 20 M8 x 12 (2x) for fixing 用于固定
25 •	25	110	135					1400	
38 •	38	123	161					1500	
50 •	50	135	185					1550	
63 •	63	148	211					1600	
80 •	80	165	245					1650	
100 •	100	195	295					1700	
125 •	125	220	345					1720	
160 •	160	255	415					1730	
200 •	200	295	495					1750	
250 •	250	345	595					1770	
CHT63-10 •	10	95	105	63	40 ⚠	See note (*) on page 46 见46页备注 (*)	1500	2200	M8 for charging/discharging 用于充气/放气 20 M8 x 12 (2x) for fixing 用于固定
25 •	25	110	135					2400	
38 •	38	123	161					2500	
50 •	50	135	185					2600	
63 •	63	148	211					2650	
80 •	80	165	245					2700	
100 •	100	185	285					2750	
125 •	125	220	345					2800	
160 •	160	255	415					2850	
200 •	200	295	495					2900	
CHT75-10 •	10	105	115	75	45	See note (*) on page 46 见46页备注 (*)	2500	3400	M8 for charging/discharging 用于充气/放气 40 M8 x 12 (4x) for fixing 用于固定
25 •	25	120	145					3800	
38 •	38	133	171					4200	
50 •	50	145	195					4300	
63 •	63	158	221					4400	
80 •	80	175	255					4450	
100 •	100	200	300					4500	
125 •	125	225	350					4550	
160 •	160	265	425					4650	
200 •	200	310	510					4800	
CHT95-25 •	25	130	155	95	58	See note (*) on page 46 见46页备注 (*)	4000	6200	M8 for charging/discharging 用于充气/放气 60 M8 x 12 (4x) for fixing 用于固定
38 •	38	143	181					6500	
50 •	50	155	205					6700	
63 •	63	168	231					6800	
80 •	80	190	270					6900	
100 •	100	210	310					7000	
125 •	125	245	370					7150	
CHT120-25 •	25	140	165	120	75	See note (*) on page 46 见46页备注 (*)	6500	9100	M8 for charging/discharging 用于充气/放气 80 M10 x 15 (4x) for fixing 用于固定
38 •	38	153	191					9700	
50 •	50	165	215					10000	
63 •	63	178	241					10400	
80 •	80	195	275					10700	

• Without G1/8 side hole and groove / 无G1/8侧孔和槽
• Available on request / 按您所需
⚠ Attention: see note on page 46 / ⚠ 注意: 请查看46页的备注

Standard series / 标准系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具，冲压模具用氮气弹簧。

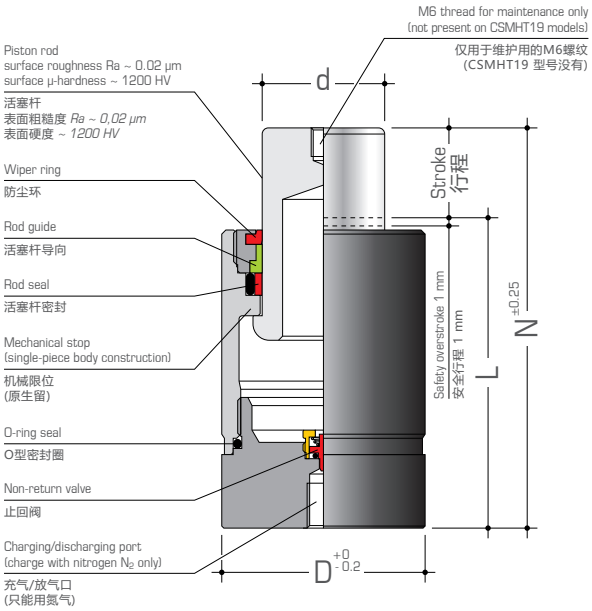
CSMHT

200°C
392°F
MAX TEMPERATURE
最高温度

CSMHT compact series has been developed to work up to 200°C (392°F), for the most demanding high temperature applications.
The piston rod has to be lubricated with grease "PLUB".

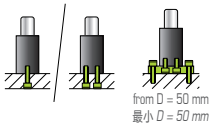
CSMHT紧凑型系列已开发可在高达200°C (392°F)温度下工作，适用于最高温度要求的应用。
活塞杆必须用润滑脂"PLUB"润滑。

CSMHT



Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)



TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.
For accessories and other mountings, see the "Accessories for nitrogen gas springs for dies" catalogue.

⚠ **ATTENTION:**
Rod diameter d = 40 mm for the CSMHT63 models (previous version: d = 36 mm).

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。
有关附件和其他安装件，请参阅"模具氮气弹簧附件"目录。

⚠ **注意：**
CSMHT63型号的杆直径 d=40 mm (早期版本：d=36 mm)。

HOW TO ORDER

IMPORTANT: it is necessary to contact our technical department in order to make sure that CSMHT gas springs are ok for the required application. Bordignon technical department will send you a dedicated form to be filled with the application data.
(*) The **maximum charging pressure** (bar) depends on the use conditions (declared actual operating temperature).
You will be informed about the maximum charging pressure if your application is approved by our technical department.

如何订购

重要提示：请必须联系我们的技术部门，以确保CSMHT氮气弹簧适合所需的应用。Bordignon技术部门将向您发送一份专用表格用来填写应用数据。
(*) **最大充气压力** (bar) 取决于使用条件(声明的实际工作温度)。
如果您的应用得到我们技术部门的批准。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar (*)	daN	daN	GAS SPRING BASE 氮气弹簧底座
CSMHT19-10 •	10	50	60	19	10	See note (*) on page 48 见48页备注 (*)	100	130	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
15 •	15	55	70					140	
25 •	25	65	90					150	
38 •	38	78	116					160	
50 •	50	90	140					165	
80 •	80	120	200					170	
CSMHT25-10 •	10	50	60	25	14	See note (*) on page 48 见48页备注 (*)	200	290	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
15 •	15	55	70					340	
25 •	25	65	90					350	
38 •	38	78	116					370	
50 •	50	90	140					380	
80 •	80	120	200					390	
125 •	125	165	290					400	
CSMHT32-10 •	10	55	65	32	18	See note (*) on page 48 见48页备注 (*)	350	490	M6 x 8 for charging/discharging for fixing 用于充气/放气 用于固定
15 •	15	60	75					500	
25 •	25	70	95					530	
38 •	38	83	121					550	
50 •	50	95	145					570	
80 •	80	125	205					580	
125 •	125	170	295					590	
160 •	160	205	365					600	
CSMHT38-10 •	10	55	65	38	22	See note (*) on page 48 见48页备注 (*)	500	720	M8 x 11 for charging/discharging for fixing 用于充气/放气 用于固定
15 •	15	60	75					750	
25 •	25	70	95					780	
38 •	38	83	121					820	
50 •	50	95	145					830	
80 •	80	125	205					850	
125 •	125	170	295					860	
160 •	160	205	365					870	
200 •	200	245	445					880	
CSMHT50-10 •	10	60	70	50	30	See note (*) on page 48 见48页备注 (*)	1000	1600	M8 for charging/discharging 用于充气/放气 20 M8 x 12 (2x) for fixing 用于固定
25 •	25	75	100					1630	
38 •	38	88	126					1670	
50 •	50	100	150					1690	
63 •	63	113	176					1700	
80 •	80	130	210					1710	
100 •	100	150	250					1720	
125 •	125	190	315					1730	
160 •	160	235	395					1740	
200 •	200	275	475					1750	
250 •	250	325	575					1760	
CSMHT63-10 •	10	65	75	63	40 ⚠	See note (*) on page 48 见48页备注 (*)	1500	2200	M8 for charging/discharging 用于充气/放气 20 M8 x 12 (2x) for fixing 用于固定
25 •	25	80	105					2400	
38 •	38	93	131					2500	
50 •	50	105	155					2550	
63 •	63	118	181					2600	
80 •	80	135	215					2650	
100 •	100	160	260					2700	
125 •	125	190	315					2750	
160 •	160	235	395					2800	
200 •	200	275	475					2900	
CSMHT75-10 •	10	65	75	75	45	See note (*) on page 48 见48页备注 (*)	2500	4000	M8 for charging/discharging 用于充气/放气 40 M8 x 12 (4x) for fixing 用于固定
25 •	25	80	105					4500	
38 •	38	93	131					4650	
50 •	50	105	155					4700	
63 •	63	118	181					4730	
80 •	80	135	215					4740	
100 •	100	155	255					4750	
125 •	125	200	325					4760	
160 •	160	250	410					4800	
200 •	200	300	500					4950	
CSMHT95-25 •	25	90	115	95	58	See note (*) on page 48 见48页备注 (*)	4000	6900	M8 for charging/discharging 用于充气/放气 60 M8 x 12 (4x) for fixing 用于固定
38 •	38	103	141					7050	
50 •	50	115	165					7150	
63 •	63	128	191					7180	
80 •	80	155	235					7200	
100 •	100	185	285					7250	
125 •	125	220	345					7400	
CSMHT120-25 •	25	100	125	120	75	See note (*) on page 48 见48页备注 (*)	6500	10300	M8 for charging/discharging 用于充气/放气 80 M10 x 15 (4x) for fixing 用于固定
38 •	38	113	151					10900	
50 •	50	125	175					11200	
63 •	63	138	201					11400	
80 •	80	160	240					11500	

• Available on request / 按您所需
⚠ Attention: see note on page 48 / ⚠ 注意: 请查看48页的备注

Standard series / 标准系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。

CRAL

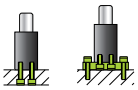
Slow-return self-contained gas springs, with adjustable length of the slow-down back stroke.

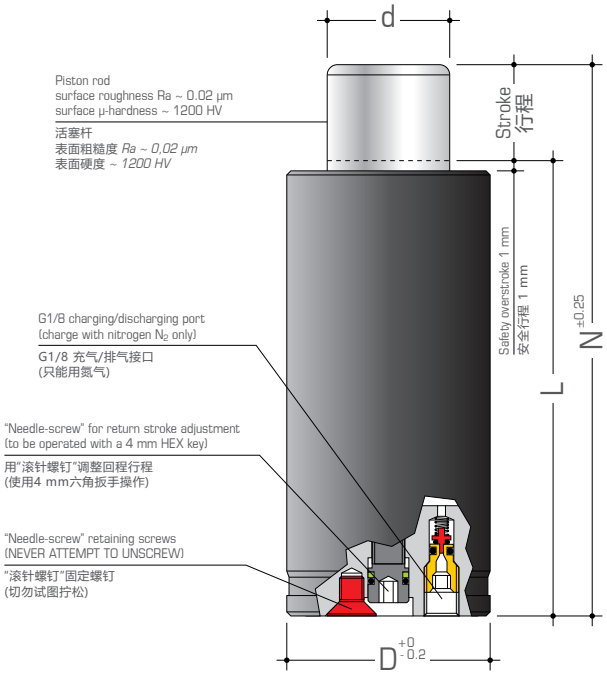
一体慢回式氮气弹簧, 具有可调节的慢速回程长度。

CRAL

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

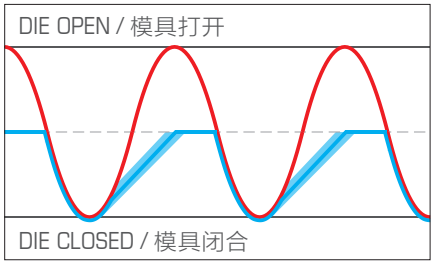
安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

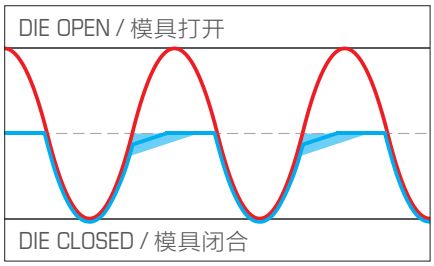


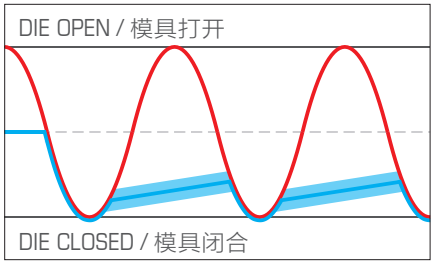


DIFFERENT CRAL TYPES / Working examples
不同CRAL类型 / 工况示例

PRESS
CRAL
Adjustable range (indicative)
可调范围 (目视可见)







TECHNICAL NOTES

Important use instructions and maximum number of cycles per minute on pages 10-17.

The slow-return stroke length can be adjusted with the "needle-screw" at the gas spring bottom.

USE INSTRUCTIONS FOR CRAL GAS SPRINGS ARE PROVIDED WITH THE PRODUCT.

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。

慢回程长度可通过氮气弹簧底部的"滚针螺钉"进行调整。

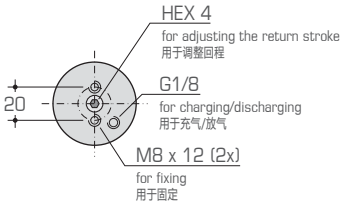
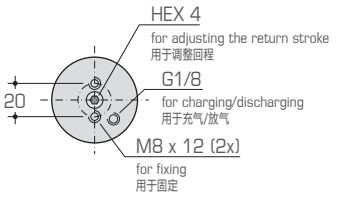
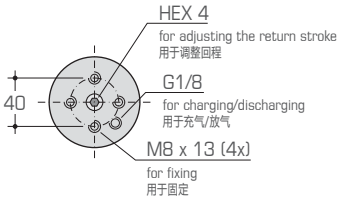
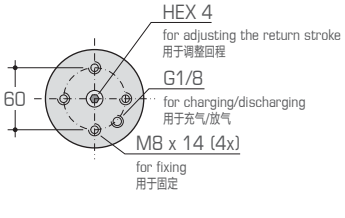
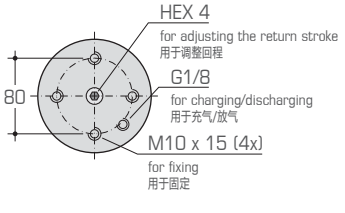
产品随附CRAL氮气弹簧使用说明。

HOW TO ORDER

IMPORTANT: it is necessary to contact our technical department in order to make sure that CRAL gas springs can be used in the required application. Bordignon technical department will send you a dedicated form to be filled with the application data.

如何订购

重要提示: 请必须联系我们的技术部门, 以确保CRAL氮气弹簧可以用于所需的应用。Bordignon技术部门将向您发送一份专用表格, 用来填写应用数据。

MODEL 型号	MAX STROKE mm 最大行程 mm	L mm	N mm	D mm	d mm	bar	daN	daN	GAS SPRING BASE 氮气弹簧底座
CRAL50-10 •	10	95	105	50	30	141	1000	1250	
25 •	25	110	135					1400	
38 •	38	123	161					1500	
50 •	50	135	185					1550	
63 •	63	148	211					1600	
80 •	80	165	245					1650	
100 •	100	195	295					1700	
CRAL63-10 •	10	95	105	63	36	147	1500	2200	
25 •	25	110	135					2400	
38 •	38	123	161					2500	
50 •	50	135	185					2600	
63 •	63	148	211					2650	
80 •	80	165	245					2700	
100 •	100	185	285					2750	
CRAL75-10 •	10	105	115	75	45	157	2500	3400	
25 •	25	120	145					3800	
38 •	38	133	171					4200	
50 •	50	145	195					4300	
63 •	63	158	221					4400	
80 •	80	175	255					4450	
100 •	100	200	300					4500	
CRAL95-25 •	25	130	155	95	58	151	4000	6200	
38 •	38	143	181					6500	
50 •	50	155	205					6700	
63 •	63	168	231					6800	
80 •	80	190	270					6900	
100 •	100	210	310					7000	
CRAL120-25 •	25	140	165	120	75	147	6500	9100	
38 •	38	153	191					9700	
50 •	50	165	215					10000	
63 •	63	178	241					10400	
80 •	80	195	275					10700	
100 •	100	215	315					10900	

• Available on request / 按您所需

OV

Valveless nitrogen gas springs,
for an alternative manifold connection:

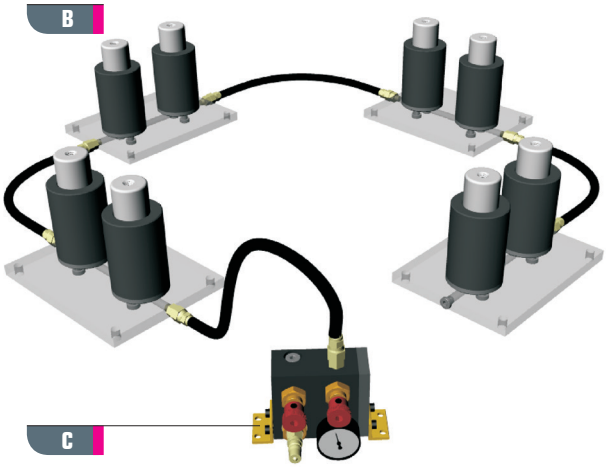
- use of standard gas springs, fast delivery!
- lower manufacturing and maintenance costs than traditional manifold plates and dedicated manifold gas springs;
- more compact plate dimensions;
- simple gas spring fixing with through-plate screws;
- OV gas springs available strokes, dimensions, and the other specifications not listed on page 53, are the same as the corresponding standard models (example: SMLXOV38-50 unlisted specifications as SMLX38-50).

无阀式氮气弹簧，
用于可更换歧管连接：

- 采用标准氮气弹簧，交货快捷！
- 与传统歧管排和专用歧管氮气弹簧相比，制造和维护成本更低；
- 更紧凑的模板尺寸；
- 用通孔螺栓简便地固定氮气弹簧；
- OV氮气弹簧可用行程，尺寸和第53页未列出的其他规格与相应的标准型号相同
(例如：SMLXOV38-50未列出的规格与SMLX38-50相同)。

A

B



C

USE EXAMPLES / TECHNICAL NOTES

A OV valveless gas springs fixed on a single low-thickness plate, without connection tubes.

B OV valveless gas springs fixed on smaller plates connected by tubes.

C For accessories see the "Accessories for nitrogen gas springs for dies" catalogue.

Important use instructions and maximum number of cycles per minute on pages 10-17.

使用示例 / 技术说明

A OV无阀式氮气弹簧固定在一块薄板上，无连接管。

B OV无阀式氮气弹簧固定在由管子连接的较小板上。

C 有关配件，请参阅"模具氮气弹簧配件"目录。

重要使用说明和每分钟最大循环次数见第10-17页。

How to order

8 CSMXOV50-10 1500daN
No. 8 valveless nitrogen gas springs CSMXOV ø 50 mm, stroke 10 mm,
max initial force 1500 daN, with OR 2021.

8 SMLXOV50-10
No. 8 valveless nitrogen gas springs SMLXOV ø 50 mm, stroke 10 mm, max initial force 1500 daN, with OR 114 and bonded seal 764 for special screw.

PRICE ON REQUEST

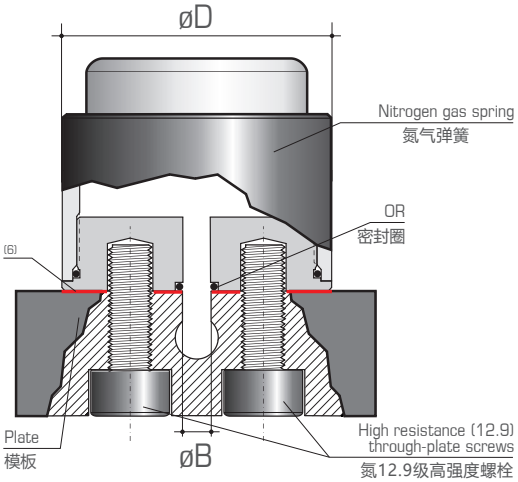
如何订购

8件CSMXOV50-10 1500daN
8件无阀式氮气弹簧CSMXOVø50 mm，
行程10 mm，最大初始力1500 daN，
带密封圈2021。

8件SMLXOV50-10
8件无阀式氮气弹簧SMLXOVø50 mm，
行程10 mm，最大初始力1500 daN，
带密封圈114和组合垫圈764，用于特殊螺钉。

按要求定价

MULTIPLE-THREAD GAS SPRING FIXING
多螺纹孔位固定的氮气弹簧

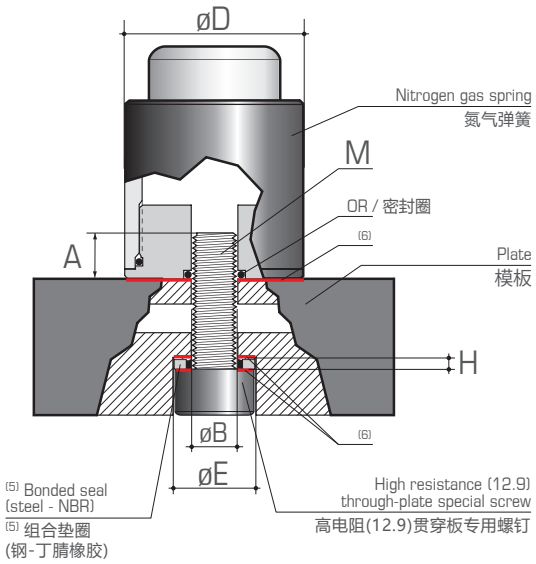


MODEL 型号	Ø B(3) (+0.1 +0) mm	Ø D(4) MIN mm	OR 90 Sh. A
CSXOV32- ... •	2.5	32	2015
2XCSXOV32- ... •	2.5	32	2015
CSXOV38- ... •	3	38	2021
50- ... •	3	50	2021
63- ... •	3	63	2021
75- ... •	4	75	3030
95- ... •	4	95	3030
CSMXOV50- ... •	3	50	2021
63- ... •	3	63	2021
75- ... •	4	75	3030
95- ... •	4	95	3030
120- ... •	4	120	3030

• One OR is supplied with each nitrogen gas spring / 每个氮气弹簧配有一个密封圈

Stroke lenghts availability and other specifications: see CSX, 2XCSX and CSMX standard series
可用行程和其他规格: 见CSX, 2XCSX和CSMX标准系列

SINGLE-THREAD GAS SPRING FIXING
单螺纹孔位固定的氮气弹簧



MODEL 型号	M(1)	A(2) (+1 +0) mm	Ø B(3) (+0.1 +0) mm	Ø D(4) MIN mm	Ø E(4) MIN mm	H mm	OR 90 Sh. A	BONDED SEAL(5)
CSMXOV19- ... •	M6	9	6	19	12	1.5	2031	898
SMLXOV25- ... •	M6	9	6	25	12	1.5	2031	898
32- ... •	M6	9	6	32	12	1.5	106	898
38- ... •	M8	12	8	38	15	1.5	2043	866
50- ... •	M10	15	10	50	18	2	114	708
63- ... •	M10	15	10	63	18	2	114	708
75- ... •	M12	18	12	75	21	2	2056	867
95- ... •	M12	18	12	95	21	2	2056	867
120- ... •	M16	24	16	120	27	2	2075	870

• One OR and one bonded seal is supplied with each nitrogen gas spring / 每个氮气弹簧配有一个密封圈和一个组合垫圈

Stroke lenghts availability and other specifications: see CSMX and SMLX standard series
可用行程和其他规格: 见CSMX和SMLX标准系列

TECHNICAL NOTES

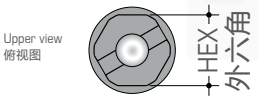
1) Special screw thread.
2) Special screw screwing depth inside the gas spring.
3) Plate hole diameter.
4) Minimum finished surface area diameters for seals/plate coupling.
5) Steel - NBR bonded seals.
6) RED LINES IN THE DRAWINGS SHOW THE SURFACES TO BE FINISHED (GRINDED) FOR SEALS/PLATE COUPLING.

技术说明

1) 特殊螺纹。
2) 氮气弹簧内的特殊螺栓拧入深度。
3) 板孔直径。
4) 密封件/模板配合面的最小表面光面直径。
5) 钢-丁腈橡胶组合垫圈。
6) 图纸中的红线表示用于密封件/模板配合面的待抛光表面。

Standard series / 标准系列

Nitrogen gas springs for press tools, dies and moulds / 冲压工具, 冲压模具用氮气弹簧。



EG

The EG lifters are charged with nitrogen gas.
The charging pressure can be from the minimum of 20 bar to the maximum of 150 bar, with the corresponding forces shown in the table. Any intermediate force can be requested with the order, thus receiving them charged and ready-to-use.

EG顶出器需充入氮气。
充气压力可以从最小20bar到最大150bar, 相应的弹力如表所示。在此区间内任何数值的弹力都可以应订单要求定制, 您将收到充好气可随即使用的顶出器。

HOW TO ORDER

No. 8 pcs. EG16-10 42daN

No. 8 nitrogen gas ejectors series EG
with threaded body M16 x 1.5
stroke length = 10 mm, initial force = 42 daN.

如何订购

8件EG16-10 42daN

8件EG系列氮气喷射器
螺纹M16 x 1.5
行程长度=10 mm, 初始力=42 daN.

TECHNICAL NOTES

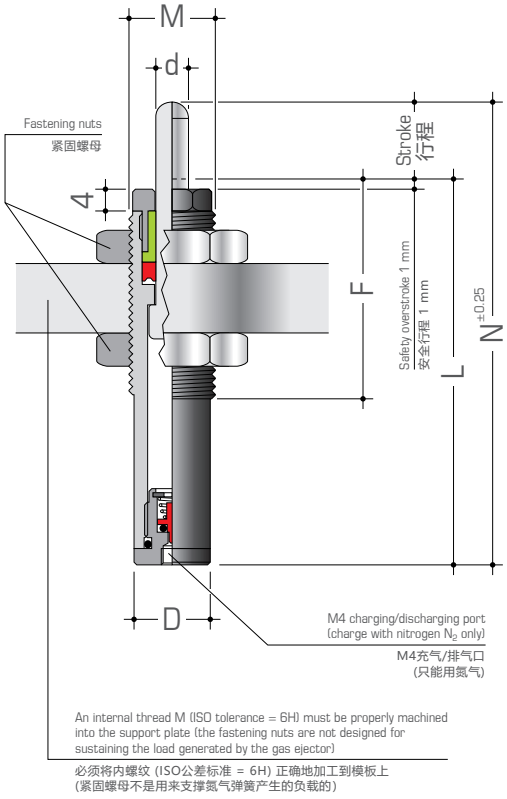
Important use instructions and maximum number of cycles per minute on pages 10-17.

(*) Final force (force at full stroke) = Initial force × R

技术说明

重要使用说明和每分钟最大循环次数见第10-17页。

(*) 最终力 (全行程力) = 初始力 × R

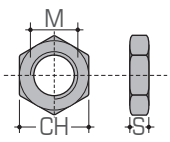


MODEL 型号	L mm	N mm	d mm	F mm	D mm	M	HEX mm	daN 20bar	daN 150bar	R (*)	
EG16-10	70	80	6	40	14	M16x1.5	13	6	42	1.1	
20	80	100								1.3	
30	90	120								1.3	
40	100	140								1.4	
50	110	160								1.5	
60	120	180								1.7	
70	130	200								1.8	
80	140	220								1.9	
100	160	260								2.0	
EG24-10	70	80	12	45	22	M24x1.5	19	23	170	1.2	
20	80	100								1.4	
30	90	120								1.5	
40	100	140								1.5	
50	110	160								1.6	
60	120	180								2.0	
70	130	200								2.0	
80	140	220								2.2	
100	160	260								2.4	

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

Fastening nuts / 紧固螺母



MODEL 型号	M mm	S mm	CH mm
EG-D-16	M16 x 1.5	8	24
EG-D-24	M24 x 1.5	10	36

Special key / 特制工具

MODEL 型号	FOR 为
EG-CH-16	EG16
EG-CH-24	EG24

Standard series / 标准系列

Ejectors for press tools, dies and moulds / 冲压工具、冲压模具用氮气弹簧。

EM

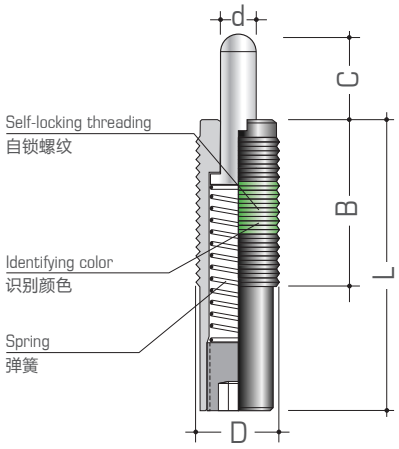
The EM are wire spring ejectors. They have lower force than EG lifters.

EM是线弹簧顶出器。他们的弹力比EG顶出器低。

Fixing possibilities
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

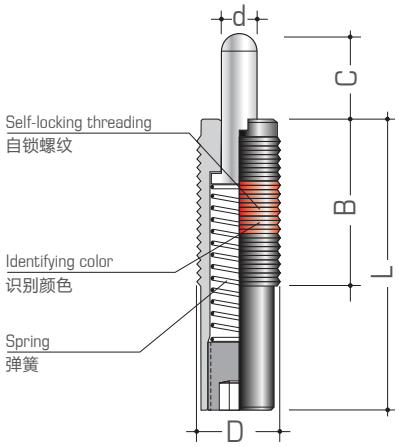
安装方式
(另请参见我们的《模具用氮气弹簧配件》目录)

LIGHT FORCE SERIES 轻型弹力系列



MODEL 型号	D	C mm	L mm	B mm	d mm	INITIAL FORCE 初始力 daN	FINAL FORCE 最终力 daN	
EM12-10G	M12x1.75	10	43	35	5.5	0.4	2	
EM16-10G	M16x2	10	60	35	7.5	1.3	4	
15G		15	60			1.0		
20G		20	80			1.3		
30G		30	125			1.8		
40G		40	150			1.3		
50G		50	150			1.3		
EM24-15G	M24x3	15	60	45	10	2.0	10	

HEAVY FORCE SERIES 重型弹力系列



MODEL 型号	D	C mm	L mm	B mm	d mm	INITIAL FORCE 初始力 daN	FINAL FORCE 最终力 daN	
EM12-10R	M12x1.75	10	43	35	5.5	0.7	4	
EM16-10R	M16x2	10	60	35	7.5	2.7	8	
15R		15	60			1.5		
20R		20	80			1.7		
30R		30	125			2.0		
40R		40	150			2.6		
50R		50	150			2.6		
EM24-15R	M24x3	15	60	45	10	4.0	20	

Special key / 特制工具

MODEL 型号	FOR 为
EG-CH-12	EM12
EG-CH-16	EM16
EG-CH-24	EM24

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