

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

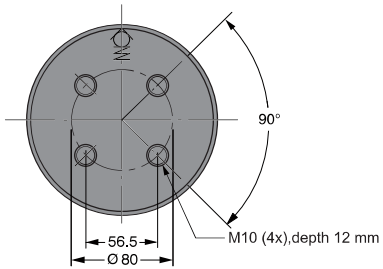
此系列气弹簧在缸侧面有一个充气口，也可以使用这个充气口，用于微型管路连接系统。缸体上部有一个C形槽，缸体下部有一个U形槽，它们同缸体底部四个M10螺孔一起，提供了各种安装可能性。

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

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

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

An upper C-groove, lower U-groove together with four M10 threaded holes allow various mounting possibilities using our standard mounts.



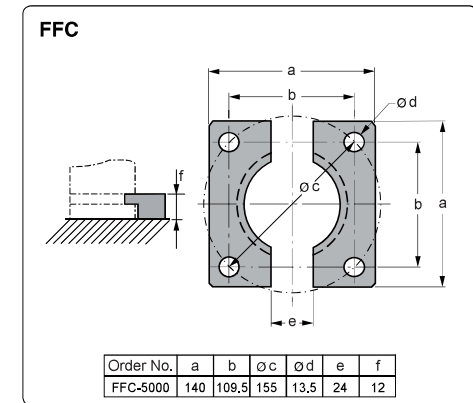
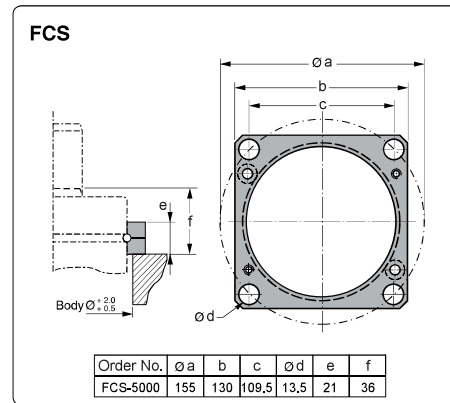
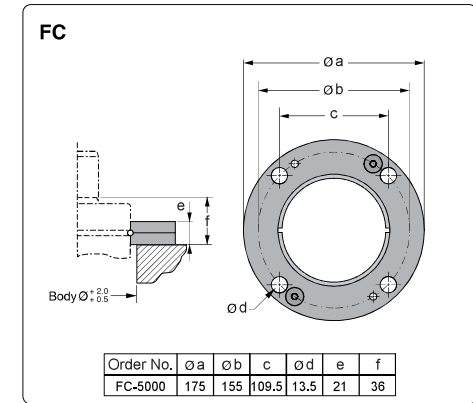
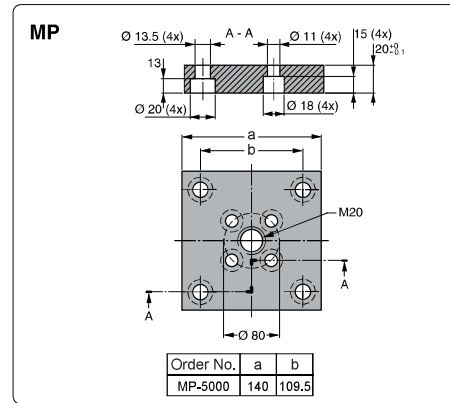
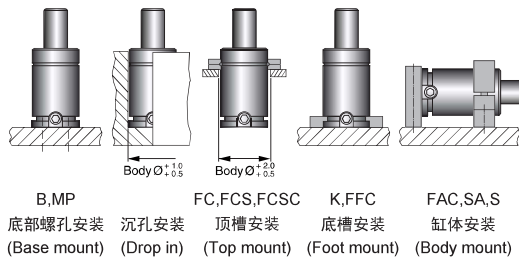
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GX6600-016	16	66300	89000	100	84
GX6600-019	19		91000	106	87
GX6600-025	25		93900	118	93
GX6600-032	32		96100	132	100
GX6600-038	38		98200	144	106
GX6600-050	50		100600	168	118
GX6600-063	63		102400	194	131
GX6600-075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

\*=在全行程 at full stroke

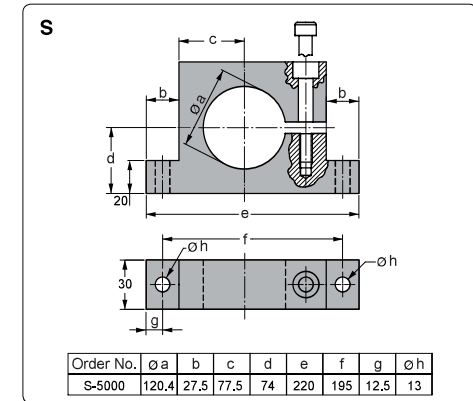
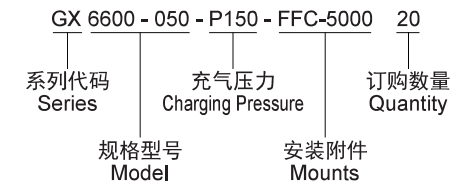
**基本参数 Basic information**

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

**几种安装可能性 Mounting Possibilities**



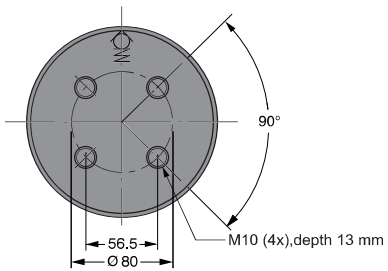
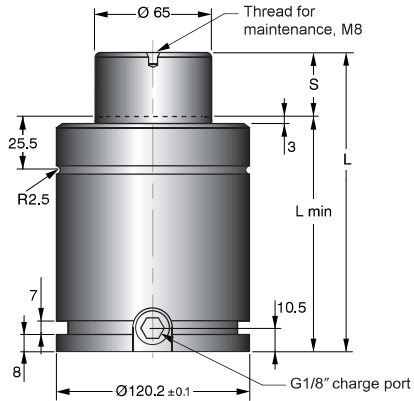
**订购方法 Ordering method**





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

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



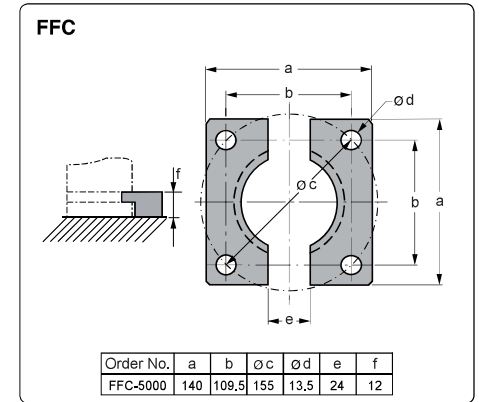
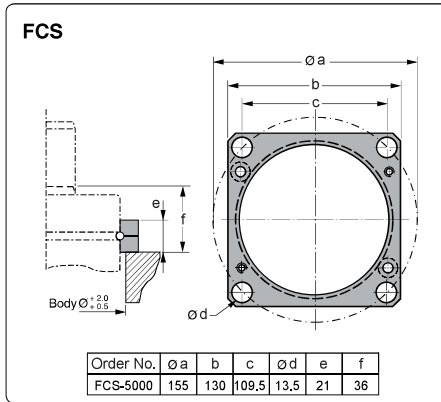
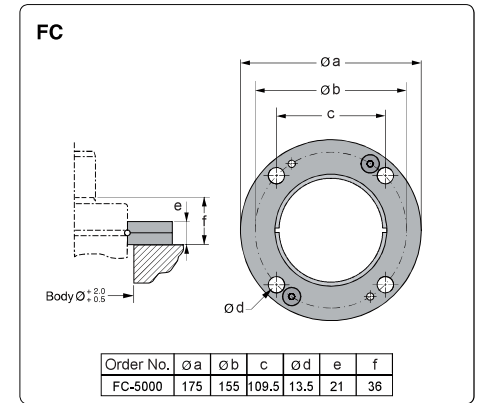
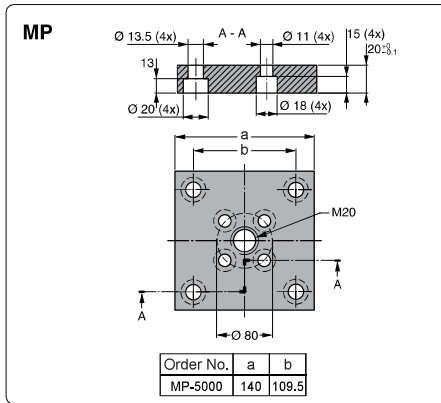
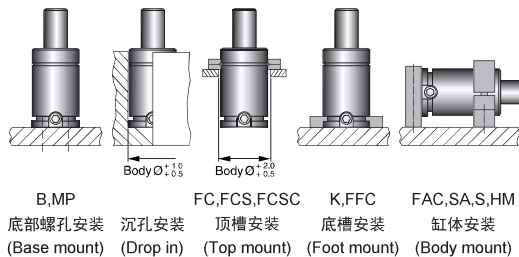
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GTU5000-025	25	50000	71000	190	165
GTU5000-038	38.1		75000	216.2	178.1
GTU5000-050	50		77000	240	190
GTU5000-064	63.5		80000	267	203.5
GTU5000-080	80		81000	300	220
GTU5000-100	100		82000	340	240
GTU5000-125	125		82000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

\*=在全行程 at full stroke

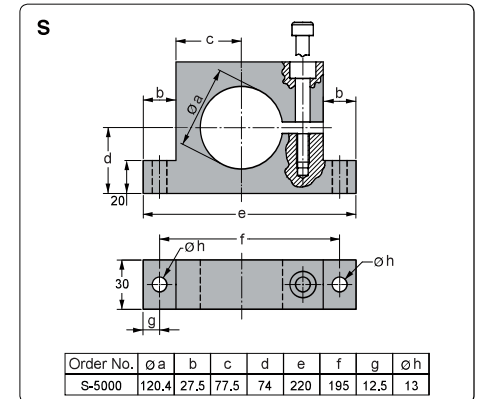
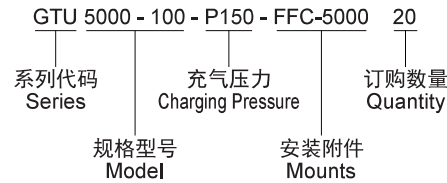
**基本参数 Basic information**

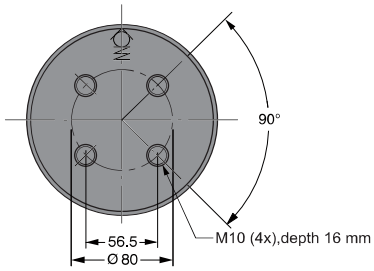
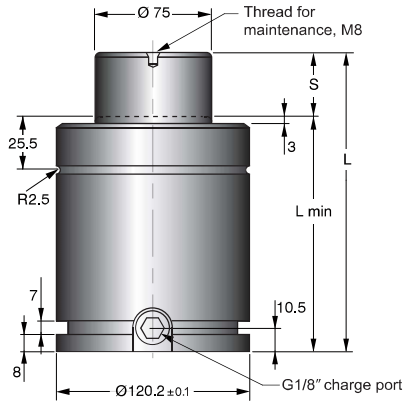
- 充气介质 ----- 氮气 Nitrogen  
Pressure medium
- 最大充气压力 ----- 150 bar (at 20°C)  
Max. charging pressure
- 最小充气压力 ----- 25 bar (at 20°C)  
Min. charging pressure
- 工作环境温度 ----- 0~80°C  
Operating temperature
- 单位温度弹压力增量 ----- ±0.3%/°C  
Force increase by temperature
- 推荐每分钟工作频率 ----- 20-80spm (20°C)  
Recommended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

**几种安装可能性 Mounting Possibilities**



**订购方法 Ordering method**





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

此系列气弹簧在缸侧面有一个充气口，也可以使用这个充气口，用于管路连接系统。

缸体上部有一个C形槽，缸体下部有一个U形槽，它们同缸体底部四个M10螺孔一起，提供了各种安装可能性。

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

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

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

An upper C-groove, lower U-groove together with four M10 threaded holes allow various mounting possibilities using our standard mounts.

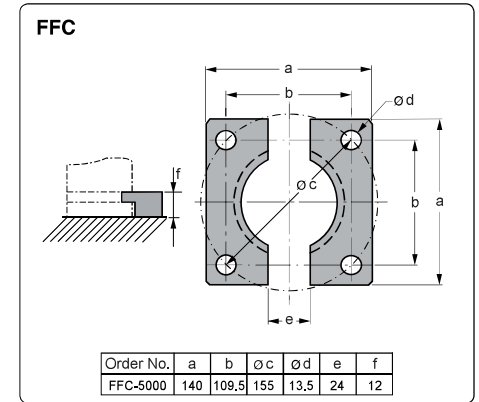
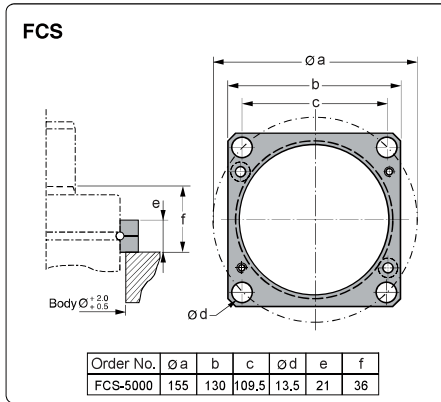
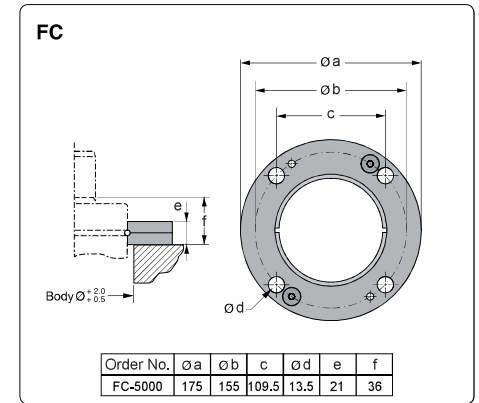
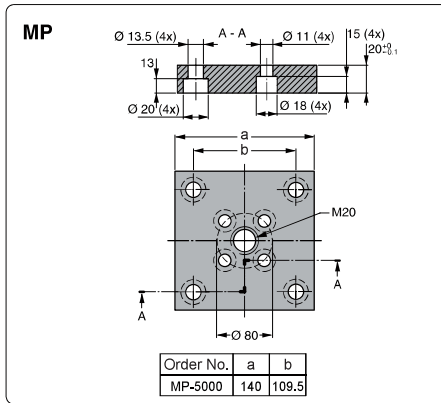
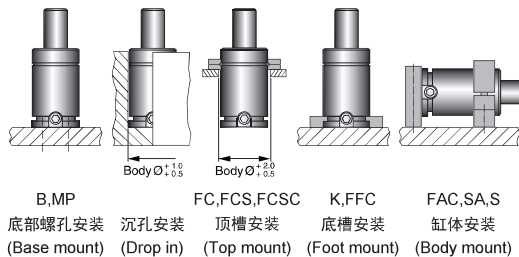
Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GXG6600-016	16	66300	89000	104	88
GXG6600-019	19		91000	110	91
GXG6600-025	25		93900	122	97
GXG6600-032	32		96100	136	104
GXG6600-038	38		98200	148	110
GXG6600-050	50		100600	172	122
GXG6600-063	63		102400	198	135
GXG6600-075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

\*=在全行程 at full stroke

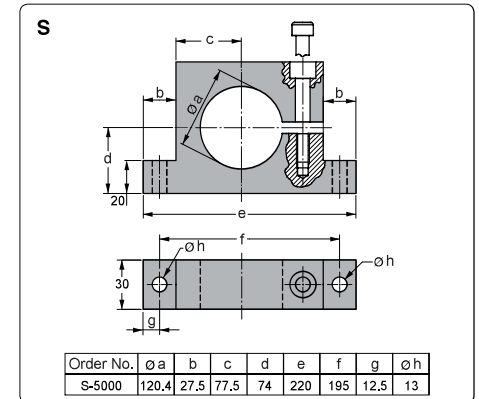
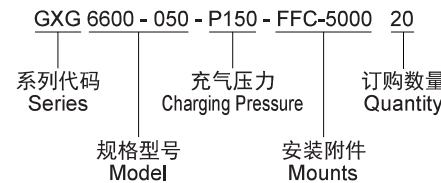
**基本参数 Basic information**

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

**几种安装可能性 Mounting Possibilities**



**订购方法 Ordering method**



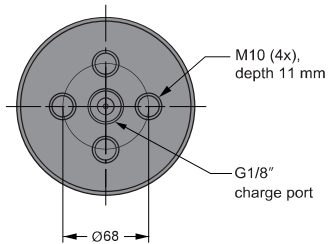
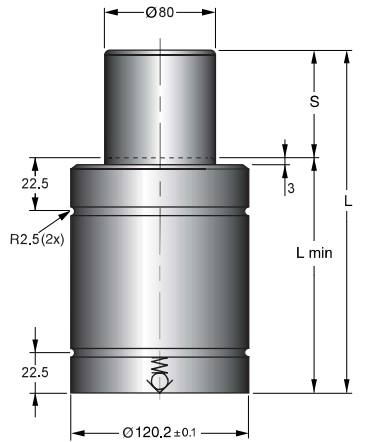


GCU是一种结构非常紧凑的活塞式氮气弹簧，在有效的空间中，能够提供非常大的弹压力，这种氮气弹簧最大频次数可达到100次/分。

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

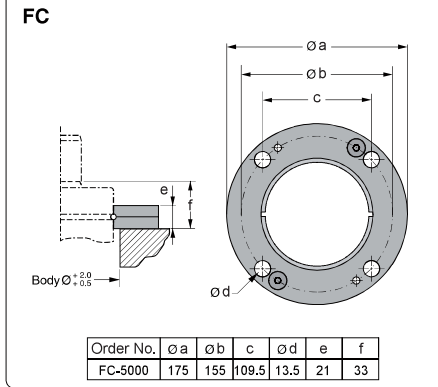
The GCU gas springs are a very compact Bore Sealed gas springs, offering impressive force in a compact body. The maximum frequency for the spring is 100 strokes/minute.

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

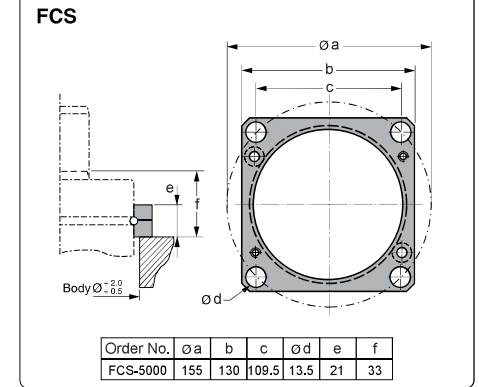


Order No.	行程 Stroke S	弹压力N在150bar/+20°C		L±0.25	Lmin
		初始力 Initial	终始力* End force*		
GCU11800-010	10	118000	150000	100	90
GCU11800-016	16		153000	126	110
GCU11800-025	25		160000	155	130
GCU11800-032	32		165000	187	155
GCU11800-040	40		160000	220	180
GCU11800-050	50		161000	260	210

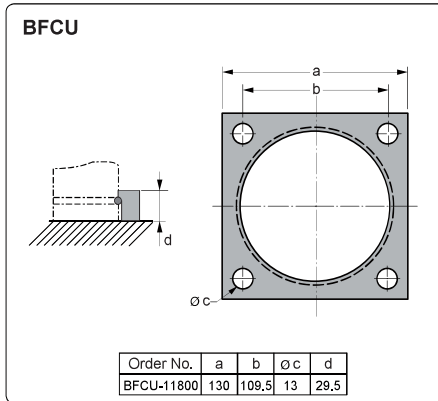
\*=在全行程 at full stroke



Order No.	Øa	Øb	c	Ød	e	f
FC-5000	175	155	109.5	13.5	21	33



Order No.	Øa	b	c	Ød	e	f
FCS-5000	155	130	109.5	13.5	21	33

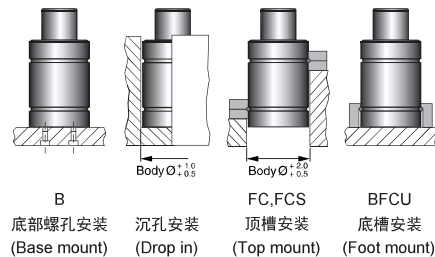


Order No.	a	b	Øc	d
BFCU-11800	130	109.5	13	29.5

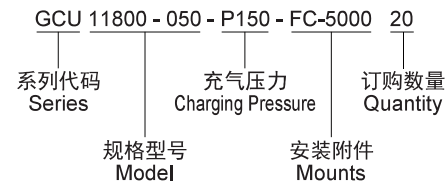
**基本参数 Basic information**

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

**几种安装可能性 Mounting Possibilities**



**订购方法 Ordering method**



# Nano technology series

Nitrogen gas springs for dies / *Cilindri all'azoto per stampi*



PATENTS PENDING

## 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.

IL PIÙ BASSO E PIÙ POTENTE DAL 2001: estremamente compatti con minimo ingombro in altezza, con forza fino a 3 volte quella dei corrispondenti modelli standard ISO 11901-1.

NOVITÀ: aggiornata con le nuove nano-tecnologie WIPERTECH e NANOTECH2. Disponibili i nuovi modelli SMLX120, con diametro 120 mm e forza iniziale di 9000 daN. Nuove corse disponibili per tutti i diametri.

PER LO STAMPISTA: cilindri con diametro ed altezza minori permettono la realizzazione di stampi più compatti, riducendo notevolmente tutti i vostri costi. PER L'UTILIZZATORE: cilindri con lunga durata ed elevati cicli di lavoro al minuto permettono la drastica riduzione dei costi di produzione, dei costi di manutenzione sugli stampi e dei fermi macchina.

AUTOLUBRIFICATI per milioni di cicli grazie alle nano-tecnologie (in corso di brevetto).

PROTETTI DA CONTAMINANTI con anello raschiastelo di protezione WIPERTECH.

CONSIGLIATI per tutti i progetti e applicazioni, grazie alla tecnologia più avanzata, alle dimensioni ridotte e alle forze elevate.

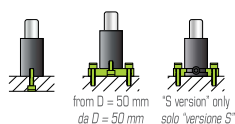
I NUOVI MODELLI SARANNO FORNITI SOLO AD ESAURIMENTO SCORTE DEI VECCHI.

### Fixing possibilities

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

### Fissaggi possibili

(vedi anche il nostro catalogo "Accessori per cilindri all'azoto per stampi")



### "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**

### VERSIONE "S"

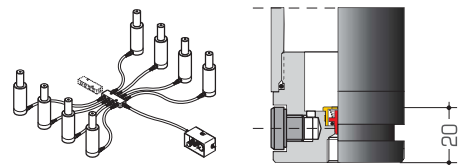
Da D = 50 mm, scanalatura di fissaggio e foro laterale G1/8, per collegamento a sistema.

» **Quote L e N: + 20 mm**

» Per ordinari, aggiungere una **-S**

Esempio: n° 8 SMLX50-50-**S**

### "S" VERSION



### SMLX

Piston rod **NANOTECH2**  
surface roughness Ra ~ 0.02 µm  
surface µ-hardness ~ 1200 HV

Stelo **NANOTECH2**  
rugosità superficiale Ra ~ 0.02 µm  
µ-durezza superficiale ~ 1200 HV

Wiper ring **WIPERTECH**

Anello raschiastelo **WIPERTECH**

Rod guide **NANOTECH2**  
(self-lubricating)

Fascia di guida **NANOTECH2**  
(autolubrificante)

Rod seal **NANOTECH2**  
(self-lubricating)

Guarnizione di tenuta **NANOTECH2**  
(autolubrificante)

Mechanical stop  
(single-piece body construction)

Fermo meccanico  
(costruzione "monolitica" del corpo)

Non-return valve

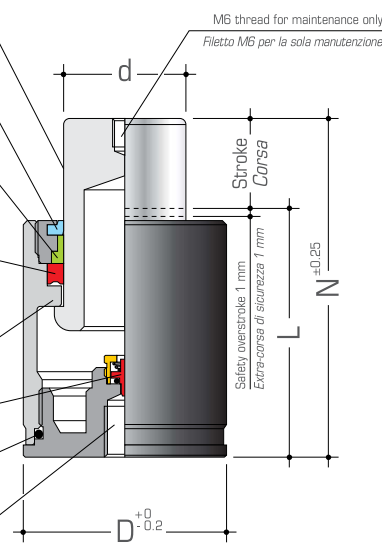
Valvola di non ritorno

O-ring seal

Guarnizione o-ring

Charging/discharging port  
(charge with nitrogen N<sub>2</sub> only)

Foro di caricamento/scaricamento  
(caricare solo con azoto N<sub>2</sub>)



### 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.











### NOTE TECNICHE

#### Importanti istruzioni d'uso e numero massimo di cicli/minuto alle pagine 10-17.

Per accessori e altri montaggi, consultare il catalogo "Accessori per cilindri all'azoto per stampi". Corse di lavoro diverse a richiesta.

I modelli SML sono sostituibili con i modelli SMLX.

MODEL MODELLO	MAX STROKE CORSA MAX	L	N	D	d	bar	daN	daN	GAS SPRING BASE BASE DEL CILINDRO
SMLX25-05	5	35	40	25	14	195	300	450	M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio
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	

MODEL MODELLO	MAX STROKE mm CORSA MAX mm	L mm	N mm	D mm	d mm	 bar	 daN	 daN	GAS SPRING BASE BASE DEL CILINDRO
SMLX32-05	5	35	40	32	18	196	500	750	 <p>M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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	 <p>M8 x 12 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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	 <p>M10 x 12 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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	 <p>M10 x 15 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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	 <p>M12 x 14 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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	 <p>M12 x 19 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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	 <p>M16 x 24 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p>
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 models!

• No threaded hole on the piston rod / *Sullo stelo non è presente il foro filettato*

# Nano technology series

Nitrogen gas springs for dies / *Cilindri all'azoto per stampi*



## 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.

Sostituisce la precedente serie C. Disponibile negli stessi diametri e stesse forze della serie SMLX, presenta un ingombro in altezza più elevato ma è disponibile con corse di lavoro più lunghe (a partire dal diametro 50 mm).

NOVITÀ: aggiornata con le nuove nano-tecnologie WIPERTECH e NANOTECH2.

AUTOLUBRIFICATI per milioni di cicli grazie alle nano-tecnologie (in corso di brevetto).

PROTETTI DA CONTAMINANTI con anello raschiastelo di protezione WIPERTECH.

CONSIGLIATI per applicazioni con corse di lavoro che non sono disponibili per le serie CSX e SMLX.

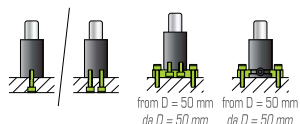
I NUOVI MODELLI SARANNO FORNITI SOLO AD ESAURIMENTO SCORTE DEI VECCHI.

### Fixing possibilities

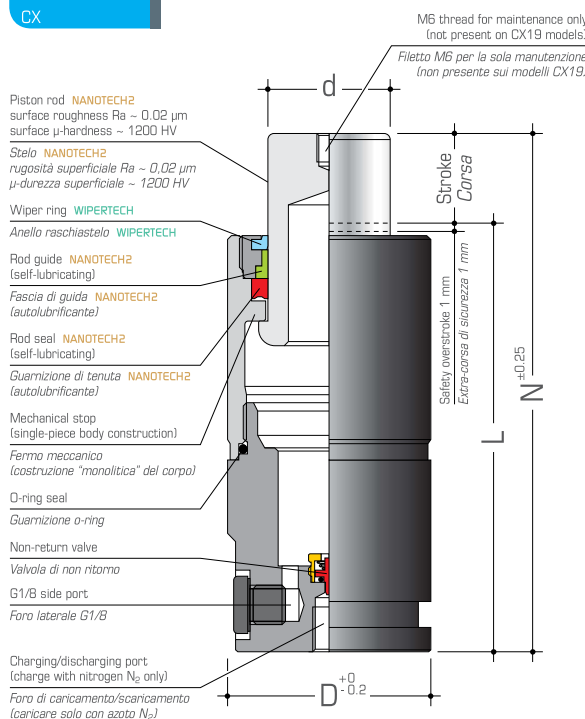
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

### Fissaggi possibili

(vedi anche il nostro catalogo "Accessori per cilindri all'azoto per stampi")



### CX



### 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.**

### ESEMPIO D'ORDINE

No. 8 CX38-50 750daN

N° 8 cilindri all'azoto serie CX, D = 38 mm, corsa = 50 mm, forza iniziale = 750 daN.

**ATTENZIONE: specificare la forza iniziale desiderata.**

### 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.**

### NOTE TECNICHE

**Importanti istruzioni d'uso e numero massimo di cicli/minuto alle pagine 10-17.**

Per accessori e altri montaggi, consultare il catalogo "Accessori per cilindri all'azoto per stampi".

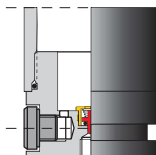
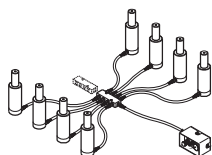
I modelli C sono sostituibili con i modelli CX.

**ATTENZIONE:**

**Diametro dello stelo d = 40 mm per i modelli CX63.**

**Diametro dello stelo d = 36 mm per i modelli C63.**

### Linkable / Collegabili








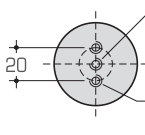

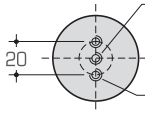
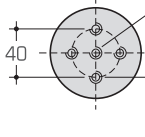
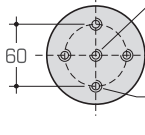
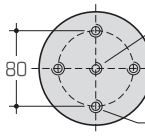


Ready with fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.

**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).**

Pronti, da D = 50 mm, con scanalatura di fissaggio e foro laterale G1/8, per collegamento a sistema.

**ATTENZIONE: assicurarsi di scaricare completamente il cilindro prima di collegarlo a sistema (vedi le istruzioni fornite assieme al set di carico e scarico COMPL).**

MODEL MODELLO	MAX STROKE mm CORSIA MAX mm	L mm	N mm	D mm	d mm	 bar	 daN	 daN	GAS SPRING BASE BASE DEL CILINDRO
CX19-10	10	70	80	19	10	191	150	190	 M8 x 14 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio
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 for fixing per il caricamento/scaricamento per il fissaggio
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 for fixing per il caricamento/scaricamento per il fissaggio
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 for fixing per il caricamento/scaricamento per il fissaggio
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 per il caricamento/scaricamento M8 x 12 (2x) for fixing per il fissaggio
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 per il caricamento/scaricamento M8 x 12 (2x) for fixing per il fissaggio
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 per il caricamento/scaricamento M8 x 12 (4x) for fixing per il fissaggio
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 per il caricamento/scaricamento M8 x 12 (4x) for fixing per il fissaggio
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 per il caricamento/scaricamento M10 x 15 (4x) for fixing per il fissaggio
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 / Senza foro laterale G1/8 e scanalatura

• Available on request / Disponibili a richiesta

 Attention: see note on page 26 /  Attenzione: vedere nota a pag. 26

# Nano technology series

Nitrogen gas springs for dies / Cilindri all'azoto per stampi



PATENTS PENDING

## 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.

Sostituisce la precedente serie CSM. Disponibile negli stessi diametri e stesse forze della serie SMLX, è – dopo di quest'ultima – la serie con ingombro in altezza più contenuto. Rispetto alla serie SMLX, è disponibile con corse di lavoro più lunghe (a partire dal diametro 50 mm).

NOVITÀ: aggiornata con le nuove nano-tecnologie WIPERTECH e NANOTECH2.

AUTOLUBRIFICATI per milioni di cicli grazie alle nano-tecnologie (in corso di brevetto).

PROTETTI DA CONTAMINANTI con anello raschiastelo di protezione WIPERTECH.

CONSIGLIATI per applicazioni con corse di lavoro che non sono disponibili per le serie CSX e SMLX.

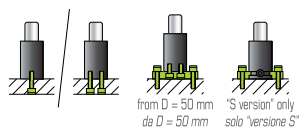
I NUOVI MODELLI SARANNO FORNITI SOLO AD ESAURIMENTO SCORTE DEI VECCHI.

### Fixing possibilities

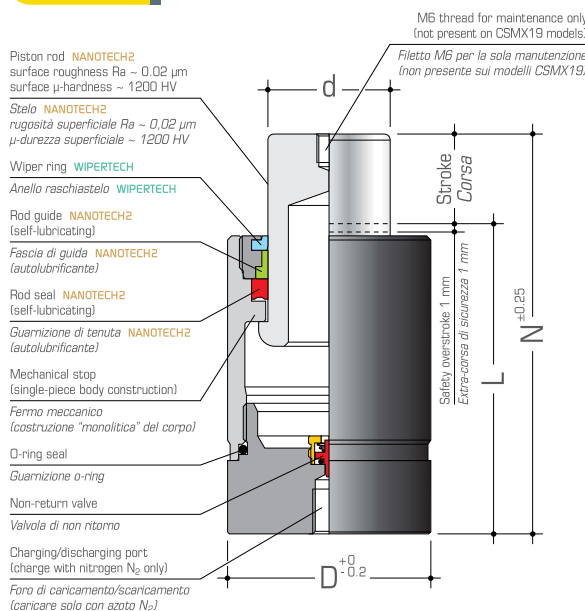
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

### Fissaggi possibili

(vedi anche il nostro catalogo "Accessori per cilindri all'azoto per stampi")



### CSMX



### HOW TO ORDER

### ESEMPIO D'ORDINE

No. 8 pcs. CSMX38-50 750daN

No. 8 CSMX38-50 750daN

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

N° 8 cilindri all'azoto serie CSMX, D = 38 mm, corsa = 50 mm, forza iniziale = 750 daN.

**ATTENTION: specify the required initial force.**

**ATTENZIONE: specificare la forza iniziale desiderata.**

### TECHNICAL NOTES

### NOTE TECNICHE

**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.

**Importanti istruzioni d'uso e numero massimo di cicli/minuto alle pagine 10-17.**

Per accessori e altri montaggi, consultare il catalogo "Accessori per cilindri all'azoto per stampi".

The CSM models are replaceable with the CSMX models.

I modelli CSM sono sostituibili con i modelli CSMX.

**ATTENTION:**

**Rod diameter d = 40 mm for the CSMX63 models.**

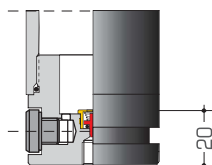
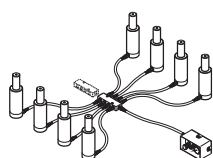
**Rod diameter d = 36 mm for the CSM63 models.**

**ATTENZIONE:**

**Diametro dello stelo d = 40 mm per i modelli CSMX63.**

**Diametro dello stelo d = 36 mm per i modelli CSM63.**

### "S" version



### "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**








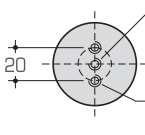

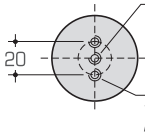
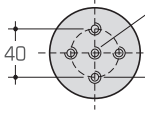
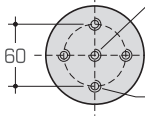
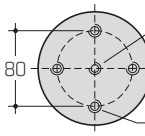
### VERSIONE "S"

Da D = 50 mm, scanalatura di fissaggio e foro laterale G1/8, per collegamento a sistema.

» **Quote L e N: + 20 mm**

» Per ordinarli, aggiungere una **-S**

Esempio: n° 8 CSMX50-50-**S**

MODEL MODELLO	MAX STROKE mm CORSA MAX mm	L mm	N mm	D mm	d mm	 bar	 daN	 daN	GAS SPRING BASE BASE DEL CILINDRO
CSMX19-10	10	50	60	19	10	191	150	200	 M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio
15	15	55	70						
25	25	65	90						
38	38	78	116						
50	50	90	140						
80	80	120	200						
CSMX25-10	10	50	60	25	14	195	300	440	 M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio
15	15	55	70						
25	25	65	90						
38	38	78	116						
50	50	90	140						
80	80	120	200						
CSMX32-10	10	55	65	32	18	196	500	710	 M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio
15	15	60	75						
25	25	70	95						
38	38	83	121						
50	50	95	145						
80	80	125	205						
CSMX38-10	10	55	65	38	22	197	750	1090	 M8 x 11 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio
15	15	60	75						
25	25	70	95						
38	38	83	121						
50	50	95	145						
80	80	125	205						
CSMX50-10	10	60	70	50	30	212	1500	2460	 M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (2x) for fixing per il fissaggio
25	25	75	100						
38	38	88	126						
50	50	100	150						
63	63	113	176						
80	80	130	210						
100	100	150	250						
125	125	190	315						
160	160	235	395						
200	200	275	475						
CSMX63-10	10	65	75	63	40 	159	2000	2900	 M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (2x) for fixing per il fissaggio
25	25	80	105						
38	38	93	131						
50	50	105	155						
63	63	118	181						
80	80	135	215						
100	100	160	260						
125	125	190	315						
160	160	235	395						
200	200	275	475						
CSMX75-10	10	65	75	75	45	189	3000	4800	 M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (4x) for fixing per il fissaggio
25	25	80	105						
38	38	93	131						
50	50	105	155						
63	63	118	181						
80	80	135	215						
100	100	155	255						
125	125	200	325						
160	160	250	410						
200	200	300	500						
CSMX95-25	25	90	115	95	58	189	5000	8500	 M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (4x) for fixing per il fissaggio
38	38	103	141						
50	50	115	165						
63	63	128	191						
80	80	155	235						
100	100	185	285						
125	125	220	345						
160	160	260	420						
200	200	310	510						
CSMX120-25	25	100	125	120	75	204	9000	14000	 M8 for charging/discharging per il caricamento/scaricamento M10 x 15 (4x) for fixing per il fissaggio
38	38	113	151						
50	50	125	175						
63	63	138	201						
80	80	160	240						
100	100	190	290						
125	125	225	350						
160	160	270	430						
200	200	320	520						

• Available on request / Disponibili a richiesta

 Attention: see note on page 28 /  Attenzione: vedere nota a pag. 28

# Standard series

Nitrogen gas springs for dies / Cilindri all'azoto per stampi



## 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.

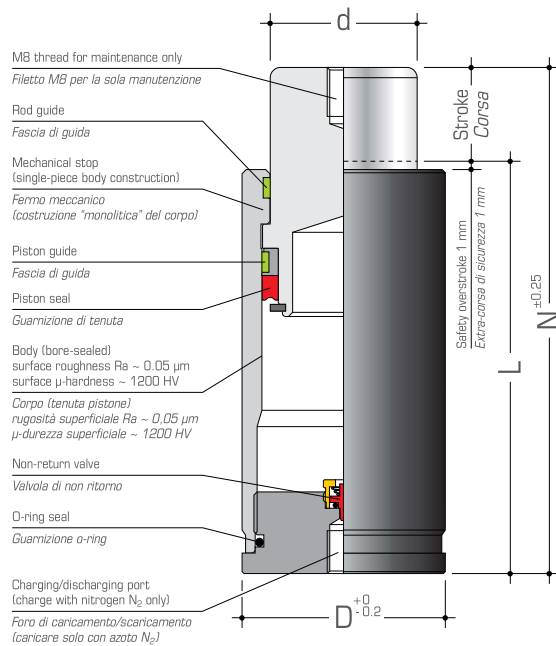
*Cilindri con tenuta di tipo pistone (tenuta della guarnizione sulle pareti interne del corpo del cilindro). Rimangono i cilindri più potenti per quanto riguarda il diametro 25 mm, che sviluppa una forza iniziale di 400 daN (si valuti comunque la possibilità di utilizzare i modelli MSML25, che a parità di diametro sviluppano una forza iniziale di 360 daN e sono dotati di una tecnologia più avanzata).*

*I cilindri della serie TOP devono essere lubrificati manualmente, non essendo autolubrificati.*

*I cilindri della serie TOP devono essere protetti da contaminanti, non potendo essere dotati di anello raschiastelo.*

*CONSIGLIATI per il solo diametro 25 mm qualora la forza iniziale di 360 daN sviluppata dai modelli MSML25 non sia sufficiente per l'applicazione. Per gli altri diametri, si consiglia l'utilizzo dei modelli CSX data la tecnologia più avanzata.*

### TOP 25/120

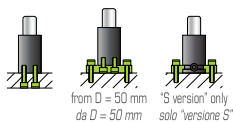


#### Fixing possibilities

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

#### Fissaggi possibili

(vedi anche il nostro catalogo "Accessori per cilindri all'azoto per stampi")



#### 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.

#### NOTE TECNICHE

#### Importanti istruzioni d'uso e numero massimo di cicli/minuto alle pagine 10-17.

Per accessori e altri montaggi, consultare il catalogo "Accessori per cilindri all'azoto per stampi".

#### "S" VERSION

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

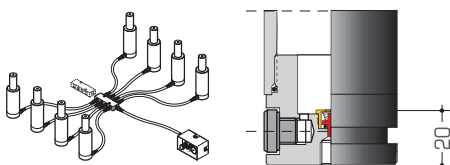
- » **L and N dimensions: + 20 mm**
- » Add an **-S** to order them
- Example: no. 8 pcs. TOP50-50-**S**




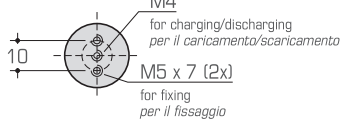
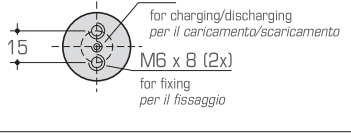




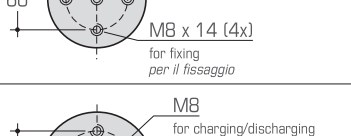
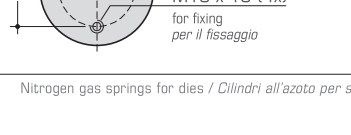
#### VERSIONE "S"

Da D = 50 mm, scanalatura di fissaggio e foro laterale G1/8, per collegamento a sistema.

- » **Quote L e N: + 20 mm**
- » Per ordinarli, aggiungere una **-S**
- Esempio: n° 8 TOP50-50-**S**

#### "S" version



MODEL MODELLO	MAX STROKE mm CORSA MAX mm	L mm	N mm	D mm	d mm	 bar	 daN	 daN	GAS SPRING BASE BASE DEL CILINDRO
TOP25-10	10	65	75	25	16	157	400	770	 <p>M4 for charging/discharging per il caricamento/scaricamento</p> <p>M5 x 7 (2x) for fixing per il fissaggio</p>
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	 <p>M4 for charging/discharging per il caricamento/scaricamento</p> <p>M6 x 8 (2x) for fixing per il fissaggio</p>
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	 <p>M8 for charging/discharging per il caricamento/scaricamento</p> <p>M6 x 10 (2x) for fixing per il fissaggio</p>
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	 <p>M8 for charging/discharging per il caricamento/scaricamento</p> <p>M8 x 12 (2x) for fixing per il fissaggio</p>
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	 <p>M8 for charging/discharging per il caricamento/scaricamento</p> <p>M8 x 12 (2x) for fixing per il fissaggio</p>
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	 <p>M8 for charging/discharging per il caricamento/scaricamento</p> <p>M8 x 12 (4x) for fixing per il fissaggio</p>
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	 <p>M8 for charging/discharging per il caricamento/scaricamento</p> <p>M8 x 14 (4x) for fixing per il fissaggio</p>
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	 <p>M8 for charging/discharging per il caricamento/scaricamento</p> <p>M10 x 16 (4x) for fixing per il fissaggio</p>
15	15	100	115					16000	
25	25	120	145					17000	
50	50	170	220					18000	