



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

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

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

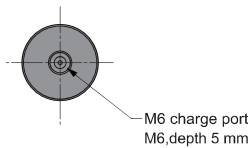
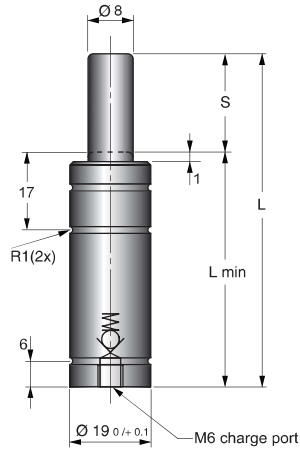
充气压强：可以根据用户要求按20-180Bar充气，如无特殊要求则按150Bar，此时初始弹压力等于公称弹压力：750N。

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

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

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

The force could be determined by customer's need from 20 to 180Bar.if there is no special requirement,please charge 150Bar that equals to initial force 750N.



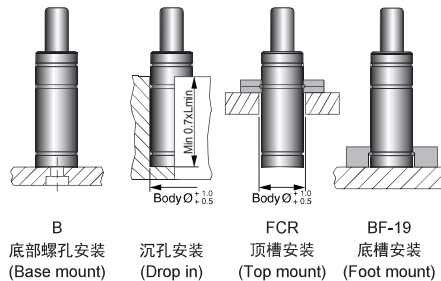
| Order No. | 行程 Stroke S | 弹压力N在+20°C | | L±0.25 | Lmin |
|-----------|-------------|-------------|-----------------|--------|-------|
| | | 初始力 Initial | 终始力* End force* | | |
| GR75-007 | 7 | 750 | 1600 | 56 | 49 |
| GR75-010 | 10 | | 1400 | 62 | 52 |
| GR75-012 | 12 | | 1330 | 66 | 54 |
| GR75-015 | 15 | | 1300 | 72 | 57 |
| GR75-025 | 25 | | 1300 | 92 | 67 |
| GR75-038 | 38.1 | | 1200 | 118.2 | 80.1 |
| GR75-050 | 50 | | 1200 | 142 | 92 |
| GR75-064 | 63.5 | | 1200 | 172 | 108.5 |
| GR75-080 | 80 | | 1200 | 205 | 125 |
| GR75-100 | 100 | | 1200 | 245 | 145 |
| GR75-125 | 125 | | 1200 | 295 | 170 |

*=在全行程 at full stroke

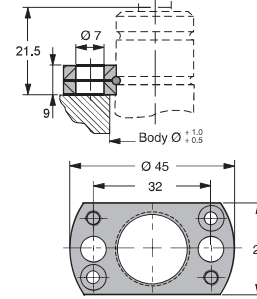
基本参数 Basic information

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

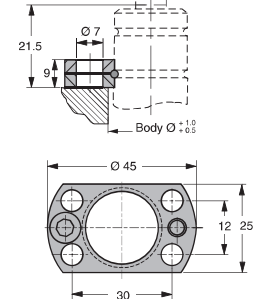
几种安装可能性 Mounting Possibilities



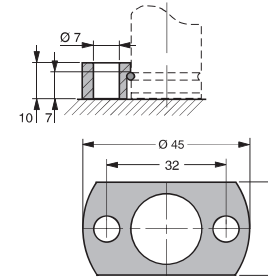
FCR-19
Order No: FCR-19 (VDI)



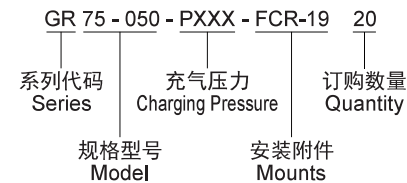
FCR-90
Order No: FCR-90 (ISO)

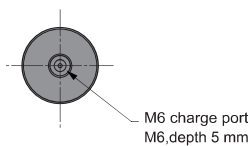
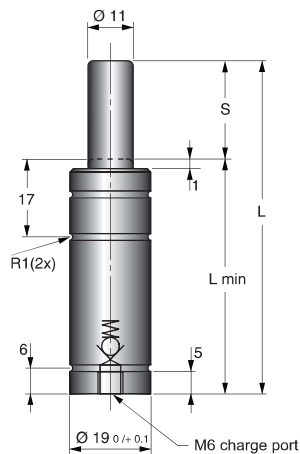


BF-19
Order No: BF-19



订购方法 Ordering method





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

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

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

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

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

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

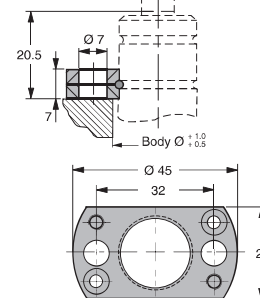
The GX170 has an upper ISO Standard C-groove and a lower C-groove, which together with a threaded bottom hole offer various mounting possibilities using our standard mounts.

| Order No. | 行程 Stroke S | 弹压力N在180bar/+20°C | | L±0.25 | Lmin |
|-----------|-------------------|-------------------|--------------------|--------|------|
| | | 初始力 Initial | 终始力* End force* | | |
| GX170-007 | 7 | 1700 | 2800 | 44 | 37 |
| GX170-010 | 10 | | | 50 | 40 |
| GX170-015 | 15 | | | 60 | 45 |
| GX170-019 | 19 | | | 68 | 49 |
| GX170-025 | 25 | | | 80 | 55 |
| GX170-038 | 38 | | | 106 | 68 |
| GX170-050 | 50 | | | 130 | 80 |
| GX170-063 | 63 | | | 156 | 93 |
| GX170-075 | 75 | | | 185 | 110 |
| GX170-080 | 80 | | | 195 | 115 |
| GX170-100 | 100 | | | 235 | 135 |
| GX170-125 | 125 | | | 285 | 160 |

*=在全行程 at full stroke

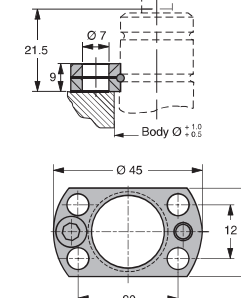
FCR-19

Order No: FCR-19 (VDI)



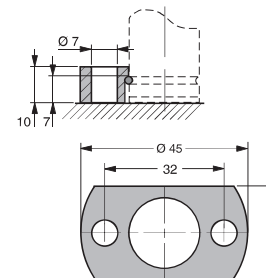
FCR-90

Order No: FCR-90 (ISO)



BF-19

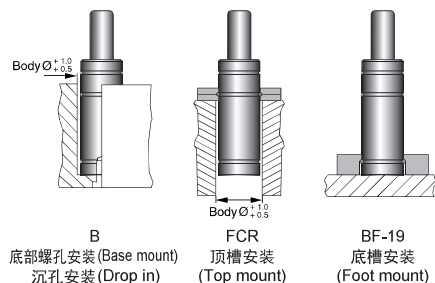
Order No: BF-19



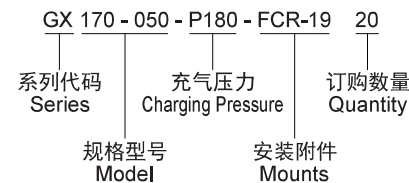
基本参数 Basic information

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

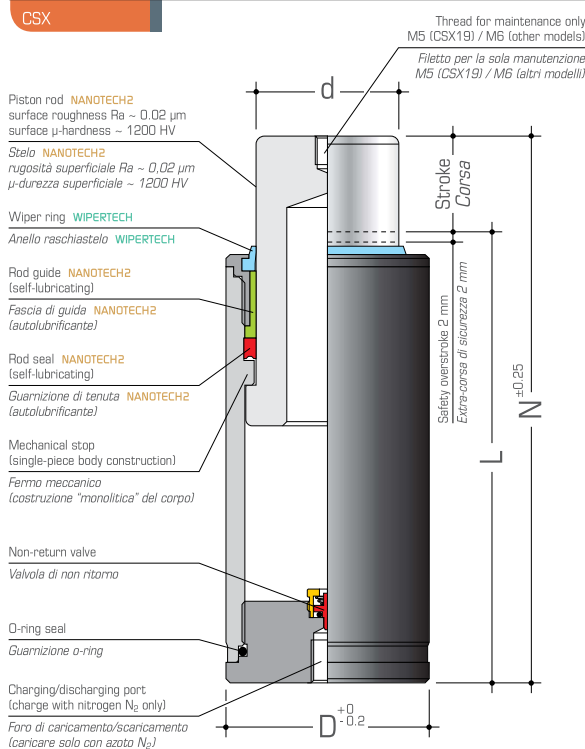


CSX

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.

I COMPATTOPOTENTI: a parità di diametro sviluppano generalmente la forza in assoluto più alta, fino al 50% in più rispetto ai modelli delle altre serie con nano-tecnologie e fino a 4 volte quella dei modelli standard ISO 11901-1.
NOVITÀ: aggiornata con le nuove nano-tecnologie WIPERTECH e NANOTECH2. Disponibili i nuovi modelli 2XCSX32, con diametro 32 mm e forza maggiorata, in aggiunta ai già presenti modelli CSX32. Nuove corse disponibili per tutti i diametri.
PER LO STAMPISTA: cilindri con diametro minore permettano 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 come prima scelta per tutti i progetti e applicazioni, grazie alla tecnologia più avanzata e alle forze in assoluto più alte.

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

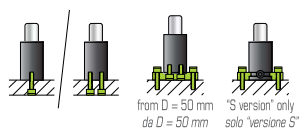


Fixing possibilities

(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")



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.

"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**

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.

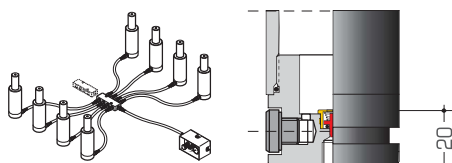
I modelli CS sono sostituibili con i modelli CSX.






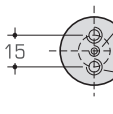
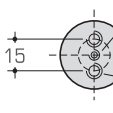
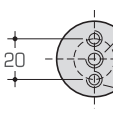
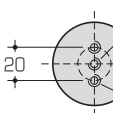
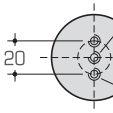
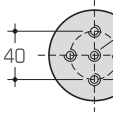
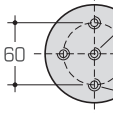
VERSIONE "S"

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 CSX50-50-**S**

"S" version



| 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 | |
|------------------|--------------------------------|---------|---------|---------|---------|---|---|---|---|---|
| CSX19-10 | 10 | 65 | 75 | 19 | 10 | 191 | 150 | 200 |  <p>M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p> | |
| 15 | 15 | 70 | 85 | | | | | 210 | | |
| 20 | 20 | 75 | 95 | | | | | 220 | | |
| 25 | 25 | 80 | 105 | | | | | 230 | | |
| 32 | 32 | 88 | 120 | | | | | 230 | | |
| 38 | 38 | 97 | 135 | | | | | 230 | | |
| 45 | 45 | 105 | 150 | | | | | 240 | | |
| 50 | 50 | 110 | 160 | | | | | 240 | | |
| 56 | 56 | 119 | 175 | | | | | 240 | | |
| 63 | 63 | 127 | 190 | | | | | 240 | | |
| 80 | 80 | 140 | 220 | 250 | | | | | | |
| CSX25-10 | 10 | 65 | 75 | 25 | 14 | 195 | 300 | 430 |  <p>M6 x 10 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p> | |
| 15 | 15 | 70 | 85 | | | | | 450 | | |
| 20 | 20 | 75 | 95 | | | | | 480 | | |
| 25 | 25 | 80 | 105 | | | | | 500 | | |
| 32 | 32 | 88 | 120 | | | | | 520 | | |
| 38 | 38 | 97 | 135 | | | | | 530 | | |
| 45 | 45 | 105 | 150 | | | | | 540 | | |
| 50 | 50 | 110 | 160 | | | | | 550 | | |
| 56 | 56 | 119 | 175 | | | | | 550 | | |
| 63 | 63 | 127 | 190 | | | | | 550 | | |
| 80 | 80 | 145 | 225 | 580 | | | | | | |
| CSX32-10 | 10 | 65 | 75 | 32 | 18 | 197 | 500 | 680 |  <p>M4 for charging/discharging per il caricamento/scaricamento M6 x 9 (2x) for fixing per il fissaggio</p> | |
| 15 | 15 | 70 | 85 | | | | | 770 | | |
| 20 | 20 | 75 | 95 | | | | | 800 | | |
| 25 | 25 | 80 | 105 | | | | | 840 | | |
| 32 | 32 | 88 | 120 | | | | | 870 | | |
| 38 | 38 | 97 | 135 | | | | | 870 | | |
| 45 | 45 | 105 | 150 | | | | | 890 | | |
| 50 | 50 | 110 | 160 | | | | | 900 | | |
| 56 | 56 | 119 | 175 | | | | | 910 | | |
| 63 | 63 | 132 | 195 | | | | | 910 | | |
| 80 | 80 | 150 | 230 | 920 | | | | | | |
| New model! | 2XCSX32-10 | 10 | 65 | 75 | 32 | 20 | 210 | 660 | 950 |  <p>M4 for charging/discharging per il caricamento/scaricamento M6 x 9 (2x) for fixing per il fissaggio</p> |
| | 15 | 15 | 70 | 85 | | | | | 1000 | |
| | 20 | 20 | 75 | 95 | | | | | 1050 | |
| | 25 | 25 | 80 | 105 | | | | | 1100 | |
| | 32 | 32 | 88 | 120 | | | | | 1150 | |
| | 38 | 38 | 97 | 135 | | | | | 1150 | |
| | 45 | 45 | 105 | 150 | | | | | 1160 | |
| | 50 | 50 | 110 | 160 | | | | | 1170 | |
| 56 | 56 | 119 | 175 | 1180 | | | | | | |
| 63 | 63 | 132 | 195 | 1190 | | | | | | |
| 80 | 80 | 150 | 230 | 1200 | | | | | | |
| CSX38-10 | 10 | 65 | 75 | 38 | 25 | 205 | 1000 | 1530 |  <p>M8 for charging/discharging per il caricamento/scaricamento M6 x 10 (2x) for fixing per il fissaggio</p> | |
| 15 | 15 | 70 | 85 | | | | | 1730 | | |
| 20 | 20 | 75 | 95 | | | | | 1880 | | |
| 25 | 25 | 80 | 105 | | | | | 2000 | | |
| 32 | 32 | 88 | 120 | | | | | 2080 | | |
| 38 | 38 | 97 | 135 | | | | | 2090 | | |
| 45 | 45 | 105 | 150 | | | | | 2100 | | |
| 50 | 50 | 110 | 160 | | | | | 2110 | | |
| 56 | 56 | 119 | 175 | | | | | 2130 | | |
| 63 | 63 | 142 | 205 | | | | | 2140 | | |
| 80 | 80 | 160 | 240 | 2150 | | | | | | |
| CSX50-10 | 10 | 80 | 90 | 50 | 35 | 209 | 2000 | 3000 |  <p>M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (2x) for fixing per il fissaggio</p> | |
| 15 | 15 | 100 | 115 | | | | | 3050 | | |
| 20 | 20 | 105 | 125 | | | | | 3100 | | |
| 25 | 25 | 110 | 135 | | | | | 3200 | | |
| 32 | 32 | 118 | 150 | | | | | 3500 | | |
| 38 | 38 | 127 | 165 | | | | | 3600 | | |
| 45 | 45 | 135 | 180 | | | | | 3700 | | |
| 50 | 50 | 140 | 190 | | | | | 3800 | | |
| 56 | 56 | 149 | 205 | | | | | 3900 | | |
| 63 | 63 | 157 | 220 | | | | | 4100 | | |
| 80 | 80 | 175 | 255 | 4400 | | | | | | |
| CSX63-10 | 10 | 85 | 95 | 63 | 45 | 189 | 3000 | 3900 |  <p>M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (2x) for fixing per il fissaggio</p> | |
| 15 | 15 | 100 | 115 | | | | | 4000 | | |
| 20 | 20 | 105 | 125 | | | | | 4200 | | |
| 25 | 25 | 110 | 135 | | | | | 4400 | | |
| 32 | 32 | 118 | 150 | | | | | 4600 | | |
| 38 | 38 | 127 | 165 | | | | | 4700 | | |
| 45 | 45 | 135 | 180 | | | | | 4900 | | |
| 50 | 50 | 140 | 190 | | | | | 5000 | | |
| 63 | 63 | 157 | 220 | | | | | 5200 | | |
| 80 | 80 | 175 | 255 | | | | | 5500 | | |
| CSX75-10 | 10 | 90 | 100 | 75 | 58 | 190 | 5000 | 6400 |  <p>M8 for charging/discharging per il caricamento/scaricamento M8 x 12 (4x) for fixing per il fissaggio</p> | |
| 15 | 15 | 110 | 125 | | | | | 6500 | | |
| 25 | 25 | 120 | 145 | | | | | 7000 | | |
| 38 | 38 | 137 | 175 | | | | | 7700 | | |
| 50 | 50 | 150 | 200 | | | | | 8100 | | |
| 63 | 63 | 177 | 240 | | | | | 8200 | | |
| 80 | 80 | 195 | 275 | 8500 | | | | | | |
| CSX95-10 | 10 | 100 | 110 | 95 | 75 | 182 | 8000 | 10900 |  <p>M8 for charging/discharging per il caricamento/scaricamento M8 x 14 (4x) for fixing per il fissaggio</p> | |
| 15 | 15 | 120 | 135 | | | | | 11100 | | |
| 25 | 25 | 130 | 155 | | | | | 11800 | | |
| 38 | 38 | 147 | 185 | | | | | 12600 | | |
| 50 | 50 | 165 | 215 | | | | | 12900 | | |
| 63 | 63 | 192 | 255 | | | | | 13200 | | |
| 80 | 80 | 210 | 290 | | | | | 13600 | | |
| 100 | 100 | 240 | 340 | | | | | 13900 | | |

Nano technology series

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

WIPERTECH

NANOTECH2



PATENTS PENDING

MSML

New model!

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.

Cilindri di dimensioni ridotte, disponibili nei diametri 16 mm, 19 mm e 25 mm, con le forze in assoluto più alte (anche rispetto alla serie CSX a parità di diametro).

NOVITÀ: nuova serie a catalogo, dotata delle nuove nano-tecnologie WIPERTECH e NANOTECH2.

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 applicazioni in cui sono richiesti diametri estremamente contenuti e forze elevate.

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")



MSML

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

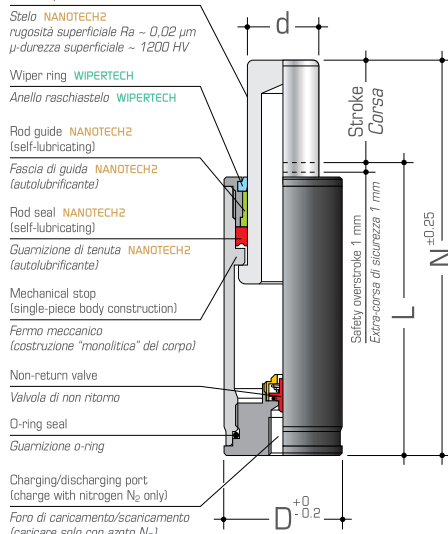
Valvola di non ritorno

O-ring seal

Guarnizione o-ring

Charging/discharging port
(charge with nitrogen N₂ only)

Foro di caricamento/scaricamento
(caricare solo con azoto N₂)



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".

| 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 |
|------------------|--------------------------------|---------|---------|---------|---------|--|--|--|--|
| MSML16-10 | 10 | 45 | 55 | 16 | 8 | 199 | 100 | 140 |  <p>M5 x 7 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p> |
| 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 |  <p>M5 x 7 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p> |
| 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 |  <p>M6 x 8 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio</p> |
| 15 | 15 | 50 | 65 | | | | | 600 | |
| 25 | 25 | 60 | 85 | | | | | 650 | |
| 38 | 38 | 73 | 111 | | | | | 700 | |

Nano technology series

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

WIPESTECH

NANOTECH2



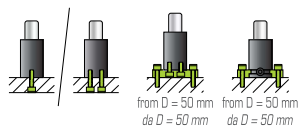
PATENTS PENDING

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")



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.

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 WIPESTECH and NANOTECH2 nano-technologies.

SELF-LUBRICATED for millions of working cycles thanks to the nano-technologies (patent pending).

PROTECTED AGAINST CONTAMINANTS with WIPESTECH 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).

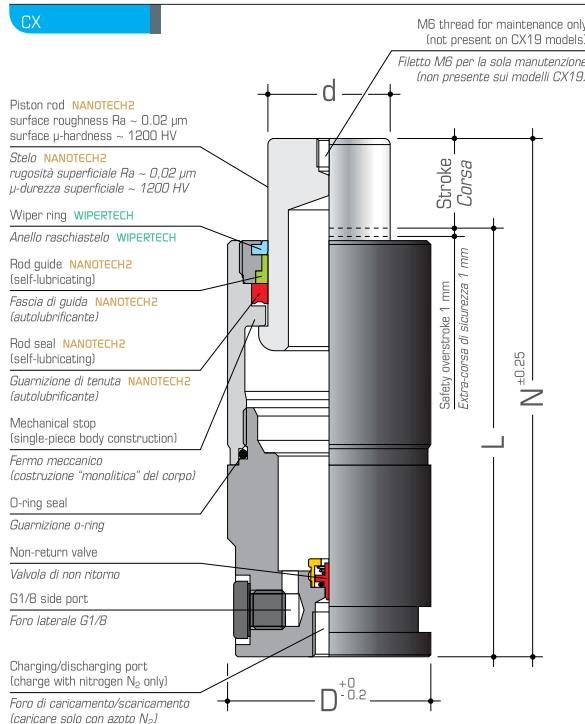
NOVITÀ: aggiornata con le nuove nano-tecnologie WIPESTECH e NANOTECH2.

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

PROTETTI DA CONTAMINANTI con anello raschiastelo di protezione WIPESTECH.

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.



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".

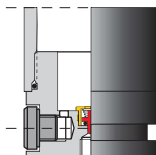
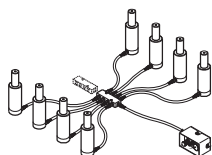
I modelli C sono sostituibili con i modelli CX.

ATTENZIONE:

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

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

Linkable / Collegabili








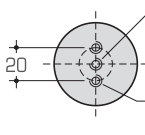

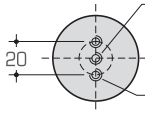
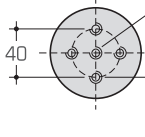
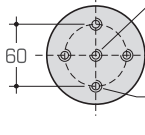
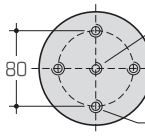


Ready with fixing groove and G1/8 side port, linkable to open system, from D = 50 mm.

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.

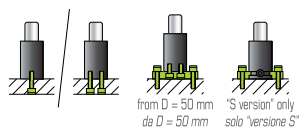
I NUOVI MODELLI SARANNO FORNITI SOLO AD ESAURIMENTO SCORTE DEI VECCHI.

Fixing possibilities

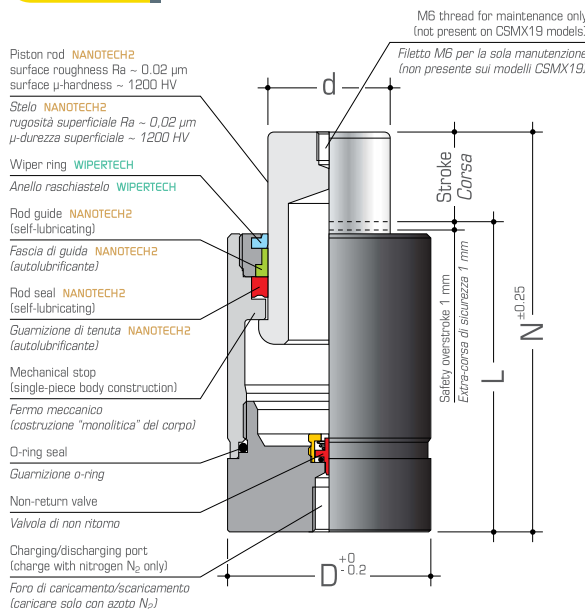
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

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 nitrogen gas springs series CSMX, D = 38 mm, stroke length = 50 mm, initial force = 750 daN.

ATTENTION: specify the required initial force.

No. 8 CSMX38-50 750daN

N° 8 cilindri all'azoto serie CSMX, 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 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.

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".

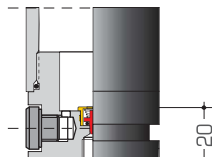
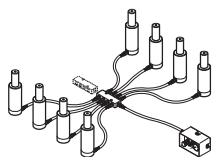
I modelli CSM sono sostituibili con i modelli CSMX.

⚠ 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**








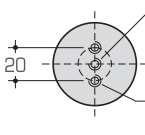

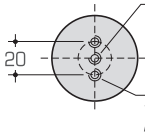
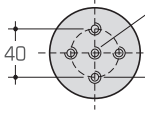
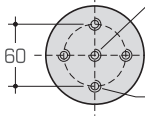
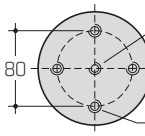
VERSIONE "S"

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 CORSIA 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 |  |
| 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 / Disponibili a richiesta

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

Nano technology series

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



MCSM

New model!

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.

Cilindri con forze ridotte, disponibili nei diametri 19 mm e 25 mm.

NOVITÀ: nuova serie a catalogo, dotata delle 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.

Fixing possibilities

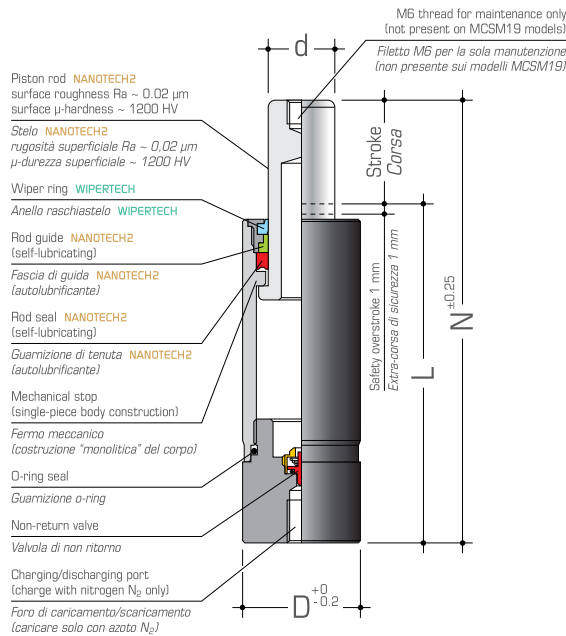
(see also our "Accessories for nitrogen gas springs for dies" catalogue)

Fissaggi possibili

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



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.

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".

| 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 |
|------------------|--------------------------------|---------|---------|---------|---------|-----|-----|-----|--|
| MCSM19-10 | 10 | 55 | 65 | 19 | 10 | 102 | 80 | 105 | M6 x 12 for charging/discharging for fixing per il caricamento/scaricamento per il fissaggio |
| 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 per il caricamento/scaricamento per il fissaggio |
| 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 | |