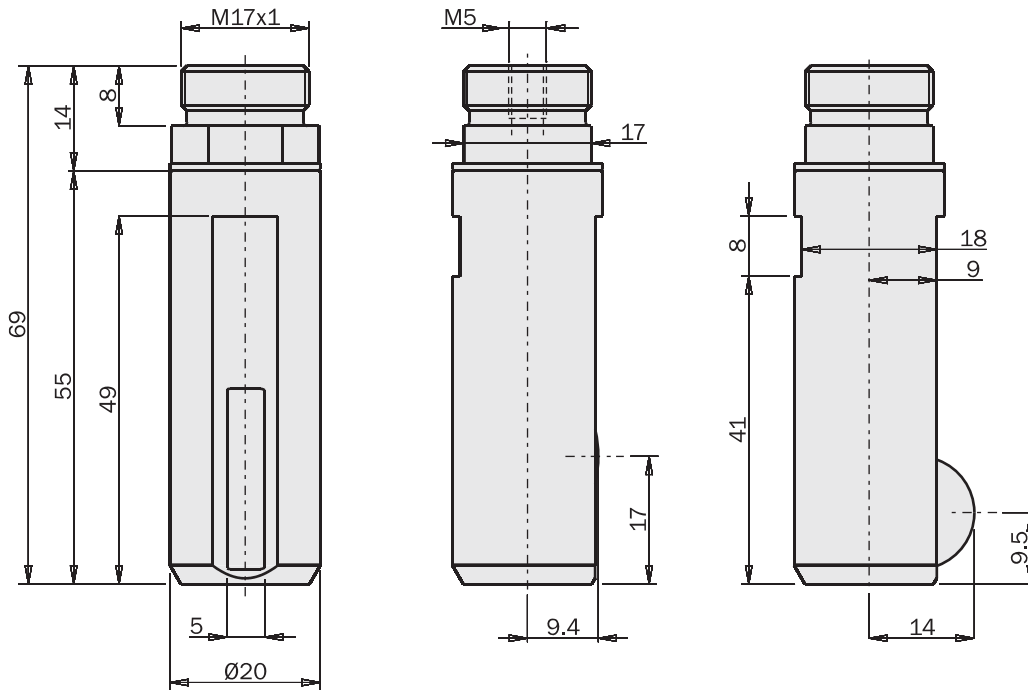


Pinza elastica mono-dito

- Azionamento a semplice effetto con ritorno elastico.
- Corpo da 20mm cravattabile.
- Vari accessori per il fissaggio.
- Modularità.

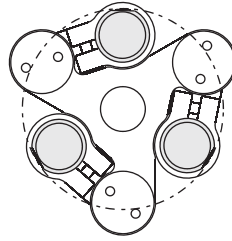
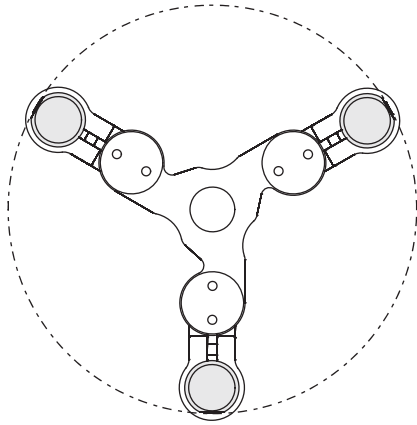
One finger elastic module

- Single acting with spring reset.
- Clampable Ø20mm body.
- Several mounting accessories.
- Modularity.

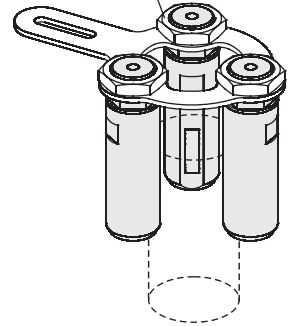


| | OFD20 |
|--|---|
| Fluido <i>Medium</i> | Aria compressa filtrata, lubrificata / non lubrificata <i>Filtered, lubricated / non lubricated compressed air</i> |
| Pressione di esercizio <i>Pressure range</i> | 3 ÷ 8 bar |
| Temperatura di esercizio <i>Temperature range</i> | 5° ÷ 60 °C. |
| Forza <i>Force</i> | 0 ÷ 145 N |
| Corsa a 6 bar <i>6 bar stroke</i> | 4.5 mm |
| Frequenza max funzionamento continuativo <i>Maximum working frequency</i> | 2 Hz |
| Consumo d'aria per ciclo <i>Cycle air consumption</i> | 3 cm ³ |
| Peso <i>Weight</i> | 40 g |

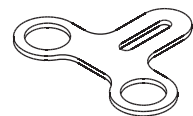
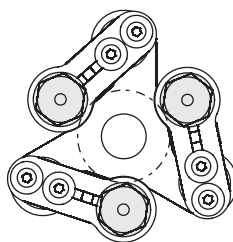
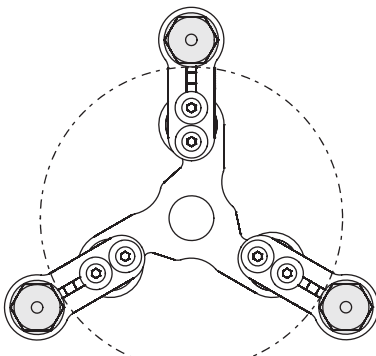
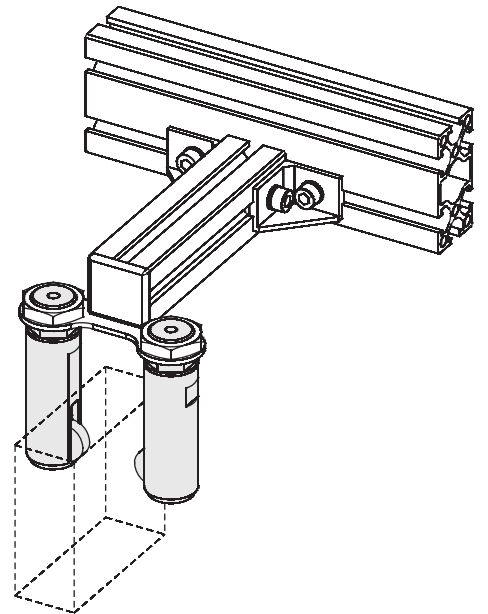
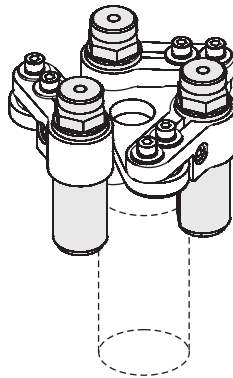
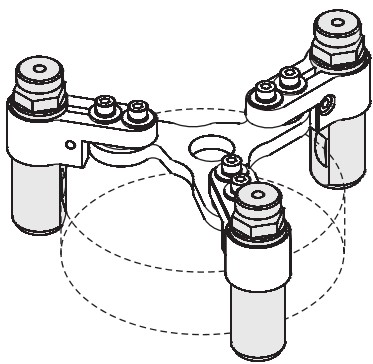
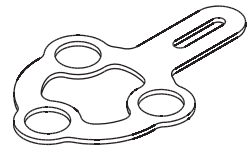
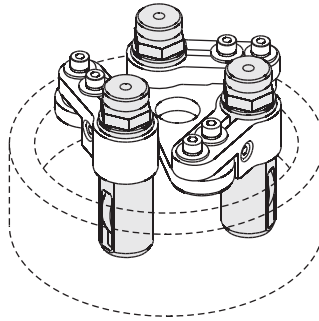
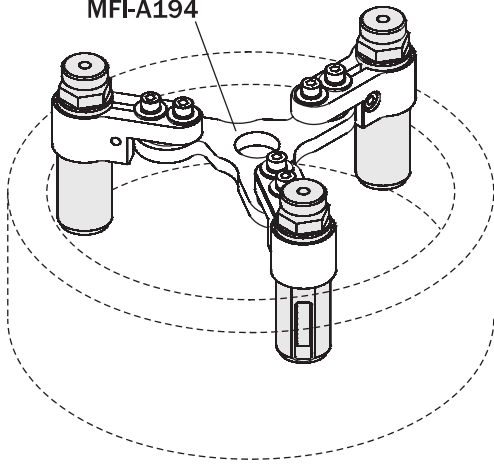
Esempi di utilizzo / Application examples



M17x1 DIN981 KM3



MFI-A194



Pinze pneumatiche mono-dito angolari per staffaggio, serie OF

- Azionamento a semplice effetto.
- Sensori magnetici opzionali.

One finger angular pneumatic grippers for clamping, series OF

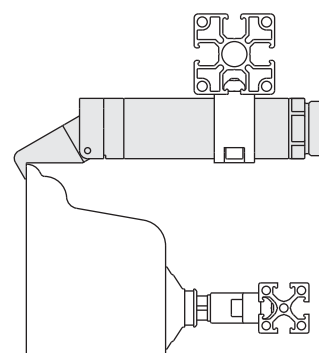
- Single acting.
- Optional magnetic sensors.

| | OFA14-35 | OFA20-35 OFA20-35S | OFA30-35 OFA30-35S | OFA50-35 OFA50-35S |
|---|--|-----------------------|-----------------------|-----------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | | |
| Corpo pinza Gripper body | Alluminio Aluminium | | | |
| Pressione di esercizio Pressure range | 2.5 ÷ 8 bar | | | |
| Temperatura di esercizio Temperature range | 5 ÷ 60 °C. | | | |
| Corsa Stroke | 35° | | | |
| Alesaggio Piston bore | Ø10 mm | Ø16 mm | Ø25 mm | Ø40 mm |
| Coppia di chiusura a 6 bar Closing torque at 6 bar | 26 Ncm | 100 Ncm | 430 Ncm | 1900 Ncm |
| Consumo d'aria per ciclo Cycle air consumption | 0.4 cm ³ | 1.24 cm ³ | 4.56 cm ³ | 43 cm ³ |
| Peso Weight | 25 g | 65 g 86 g | 206 g 272 g | 860 g 1060 g |

OFA...-35S



OFA...-35

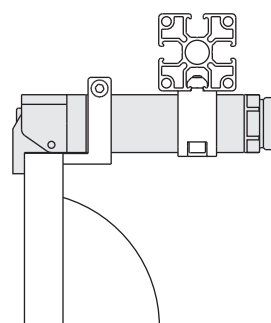


| | OFS14-90 | OFS20-90 OFS20-90S | OFS30-90 OFS30-90S |
|---|--|-----------------------|-----------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Corpo pinza Gripper body | Alluminio Aluminium | | |
| Pressione di esercizio Pressure range | 2.5 ÷ 8 bar | | |
| Temperatura di esercizio Temperature range | 5 ÷ 60 °C. | | |
| Corsa Stroke | 95° | | |
| Alesaggio Piston bore | Ø10 mm | Ø16 mm | Ø25 mm |
| Coppia di chiusura a 6 bar Closing torque at 6 bar | 19 Ncm | 70 Ncm | 300 Ncm |
| Consumo d'aria per ciclo Cycle air consumption | 1 cm ³ | 3.52 cm ³ | 12.9 cm ³ |
| Peso Weight | 23 g | 60 g 80 g | 185 g 245 g |

OFS...-90S



OFS...-90



Pinze pneumatiche mono-dito angolari per staffaggio, serie OF

- Azionamento a semplice effetto.
- Sensori magnetici opzionali.

One finger angular pneumatic grippers for clamping, series OF

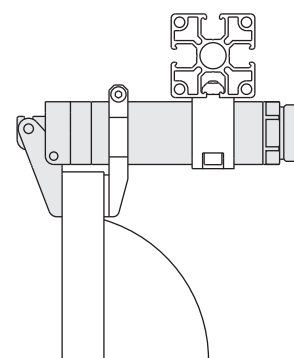
- Single acting.
- Optional magnetic sensors.

| | OFR14-95 | OFR20-95 OFR20-95S | OFR30-95 OFR30-95S | OFR50-95 OFR50-95S |
|---|--|-----------------------|-----------------------|-----------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | | |
| Corpo pinza Gripper body | Alluminio Aluminium | | | |
| Pressione di esercizio Pressure range | 2.5 ÷ 8 bar | | | |
| Temperatura di esercizio Temperature range | 5 ÷ 60 °C. | | | |
| Corsa Stroke | 95° | | | |
| Alesaggio Piston bore | Ø10 mm | Ø16 mm | Ø25 mm | Ø40 mm |
| Coppia di chiusura a 6 bar Closing torque at 6 bar | 19 Ncm | 70 Ncm | 300 Ncm | 1250 Ncm |
| Consumo d'aria per ciclo Cycle air consumption | 1 cm ³ | 3.52 cm ³ | 12.9 cm ³ | 80 cm ³ |
| Peso Weight | 25 g | 60 g 81 g | 193 g 257 g | 790 g 990 g |

OFR...-95S



OFR...-95

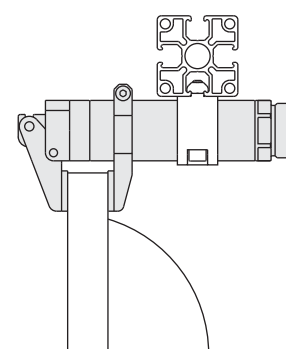


| | NEW OFR14-95G | NEW OFR20-95G OFR20-95SG | NEW OFR30-95G OFR30-95SG |
|---|--|---------------------------------------|---------------------------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Corpo pinza Gripper body | Alluminio Aluminium | | |
| Pressione di esercizio Pressure range | 2.5 ÷ 8 bar | | |
| Temperatura di esercizio Temperature range | 5 ÷ 60 °C. | | |
| Corsa Stroke | 95° | | |
| Alesaggio Piston bore | Ø10 mm | Ø16 mm | Ø25 mm |
| Coppia di chiusura a 6 bar Closing torque at 6 bar | 19 Ncm | 70 Ncm | 300 Ncm |
| Consumo d'aria per ciclo Cycle air consumption | 1 cm ³ | 3.52 cm ³ | 12.9 cm ³ |
| Peso Weight | 30 g | 80 g 100 g | 230 g 300 g |

OFR...-95SG

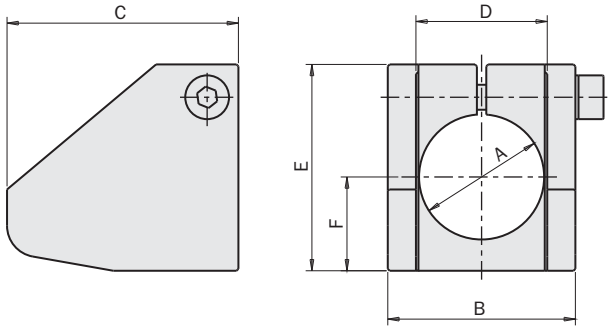


OFR...-95G



Guida pinza

(kit completo di viti)



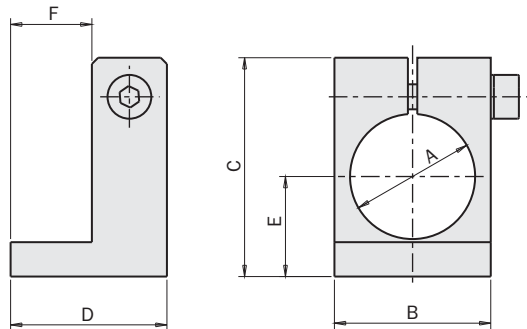
Gripper guide

(kit with screws)

| | MFI-A96 | MFI-A97 |
|---------------|---------|---------|
| A [mm] | Ø20 | Ø30 |
| B [mm] | 30 | 45 |
| C [mm] | 37 | 65 |
| D [mm] | 21 | 32 |
| E [mm] | 33 | 44 |
| F [mm] | 15 | 20 |
| Peso / Weight | 20 g | 60 g |

Riscontro per pinze OFS

(kit completo di viti)



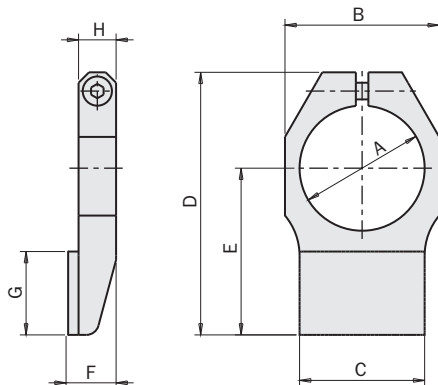
Stopper for OFS grippers

(kit with screws)

| | MFI-A271 | MFI-A98 | MFI-A99 |
|---------------|----------|---------|---------|
| A [mm] | Ø14 | Ø20 | Ø30 |
| B [mm] | 19 | 25 | 35 |
| C [mm] | 24 | 40 | 45 |
| D [mm] | 12 | 25 | 25 |
| E [mm] | 11 | 16 | 21 |
| F [mm] | 6 | 13 | 13 |
| Peso / Weight | 5 g | 14 g | 23 g |

Riscontro per pinze OFR

(kit completo di viti)

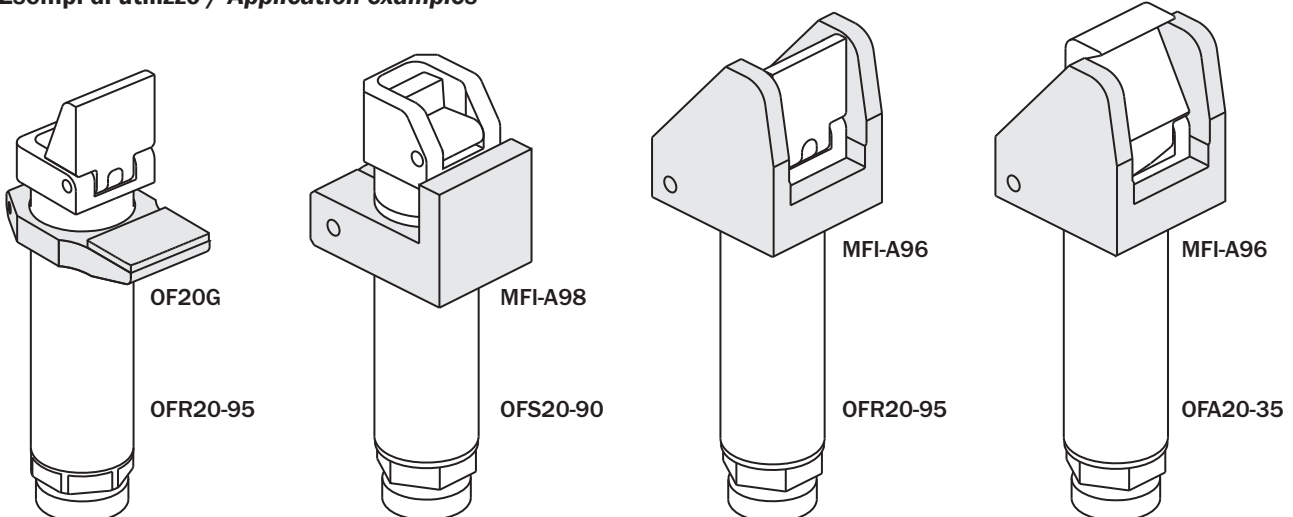


Stopper for OFR grippers

(kit with screws)

| | NEW OF14G | NEW OF20G | NEW OF30G |
|---------------|---------------------|---------------------|---------------------|
| A [mm] | Ø14 | Ø20 | Ø30 |
| B [mm] | 19 | 25 | 37 |
| C [mm] | 14 | 20 | 30 |
| D [mm] | 32 | 43.5 | 63 |
| E [mm] | 19 | 27.5 | 40 |
| F [mm] | 10 | 9.5 | 12 |
| G [mm] | 11 | 15 | 20 |
| H [mm] | 6 | 7 | 9 |
| Peso / Weight | 6 g | 12 g | 30 g |

Esempi di utilizzo / Application examples



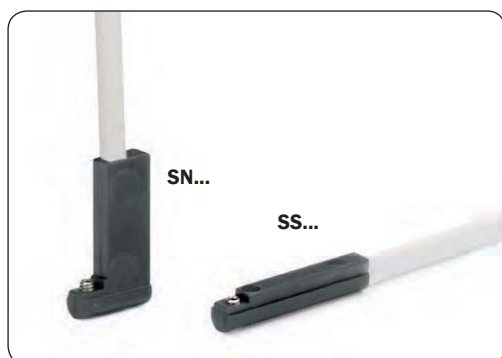
Sensori magnetici opzionali

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone. Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

I sensori utilizzabili sono:

| | | |
|-----------|-----|--|
| SN4N225-G | PNP | cavo 2.5m / 2.5m cable |
| SN4M225-G | NPN | cavo 2.5m / 2.5m cable |
| SN3N203-G | PNP | Connettore M8 / Snap M8 plug connector |
| SN3M203-G | NPN | Connettore M8 / Snap M8 plug connector |
| SS4N225-G | PNP | cavo 2.5m / 2.5m cable |
| SS4M225-G | NPN | cavo 2.5m / 2.5m cable |
| SS3N203-G | PNP | Connettore M8 / Snap M8 plug connector |
| SS3M203-G | NPN | Connettore M8 / Snap M8 plug connector |

Sono tutti dotati di un cavo piatto a tre fili e di un led.



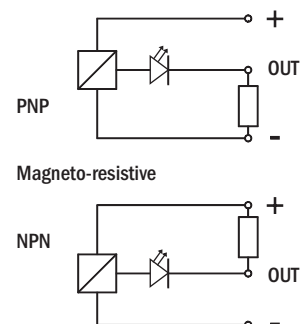
| OF... | SWP... |
|---------|---------|
| OF14... | SWP-014 |
| OF20... | SWP-020 |
| OF30... | SWP-030 |

Nelle versioni ...S i sensori sono annegati nelle apposite cave. Nelle altre versioni è necessaria una fascetta esterna (SWP-...).

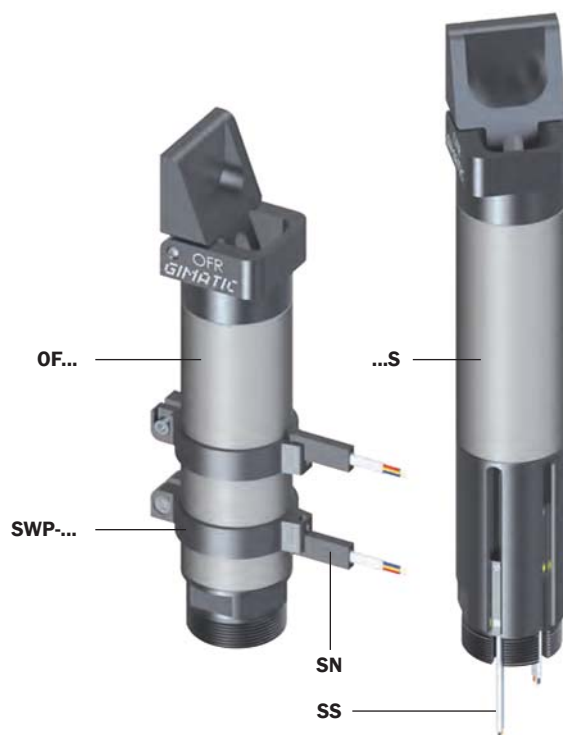
Optional magnetic sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston. The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:

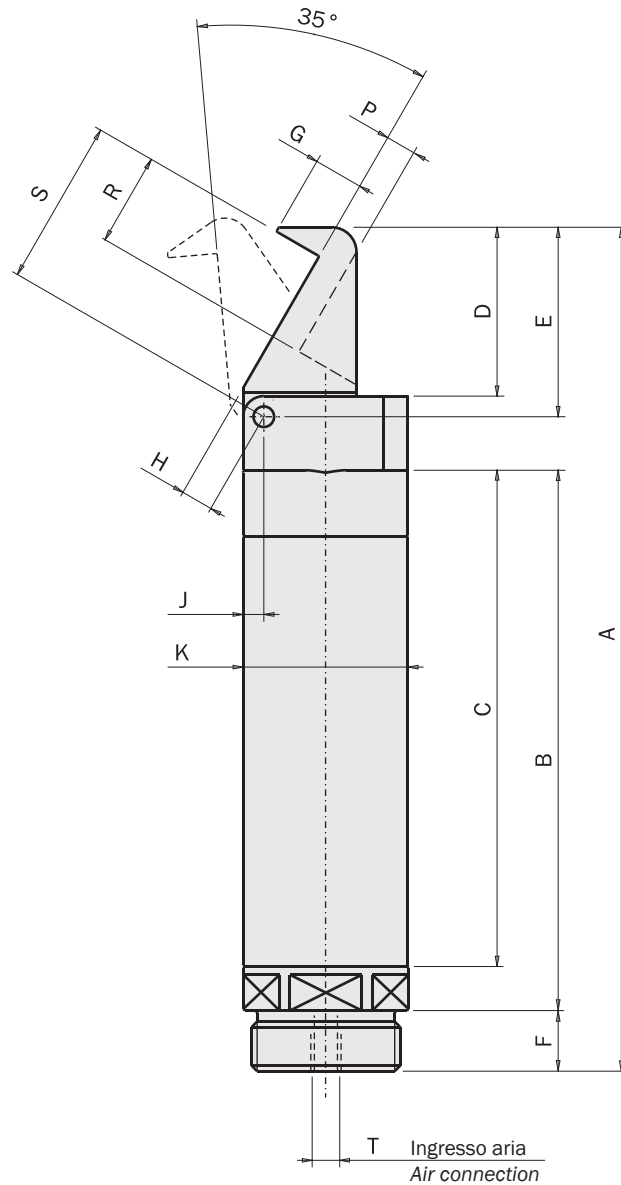
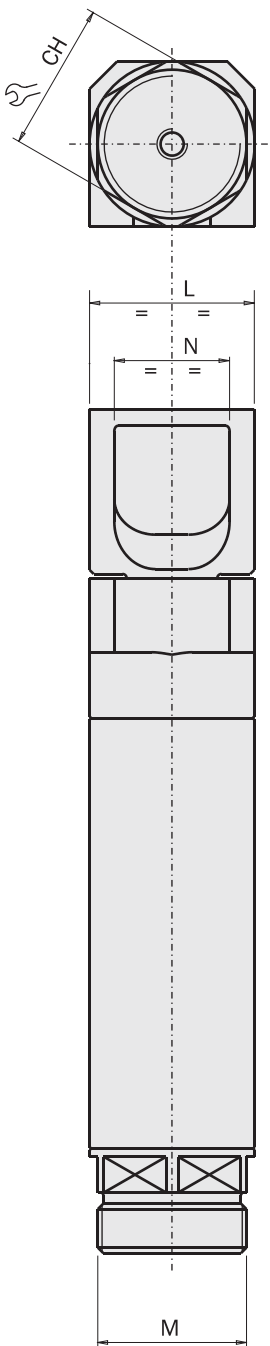


They are all provided with a 3-wire flat cable and a LED.



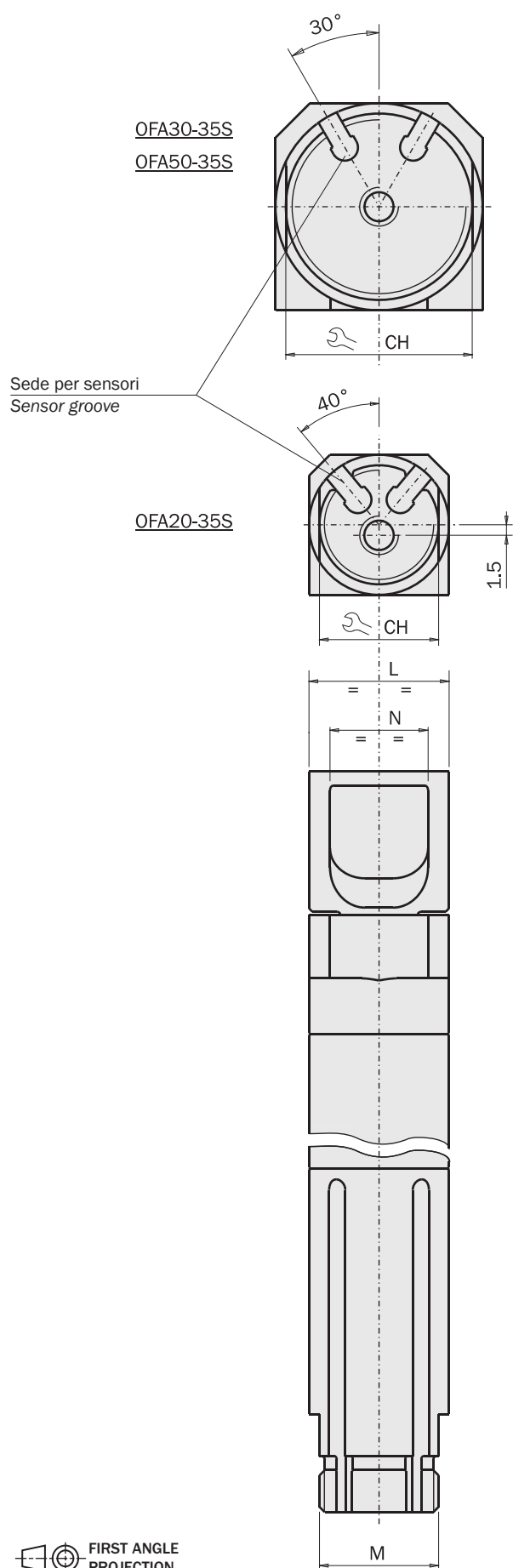
In the ...S versions, the sensors are embedded in their slots. In the other versions, an external bracket (SWP-...) is required.

| | OFA14-35 | OFA20-35 | OFA30-35 | OFA50-35 |
|----|----------|----------|----------|----------|
| A | 74 | 106 | 153 | 235.5 |
| B | 44 | 68.5 | 100 | 139 |
| C | 40 | 63.5 | 92 | 127 |
| D | 14 | 20.5 | 30 | 49.5 |
| E | 16 | 23 | 34 | 56 |
| F | 5.5 | 8 | 11 | 25 |
| G | 4.5 | 6 | 8 | 14 |
| H | 3.4 | 3.9 | 6 | 10 |
| J | 2 | 2.5 | 4 | 6.5 |
| K | Ø14 | Ø20 | Ø30 | Ø50 |
| L | 14 | 20 | 30 | 50 |
| M | M12x1 | M17x1 | M27x1 | M45x1.5 |
| N | 10 | 14 | 22 | 38 |
| P | 2 | 3 | 5 | 7 |
| R | 6 | 11.5 | 17 | 26 |
| S | 13.5 | 20.2 | 30.5 | 50 |
| T | M5 | M5 | M5 | G1/8" |
| CH | 12 | 17 | 27 | 46 |

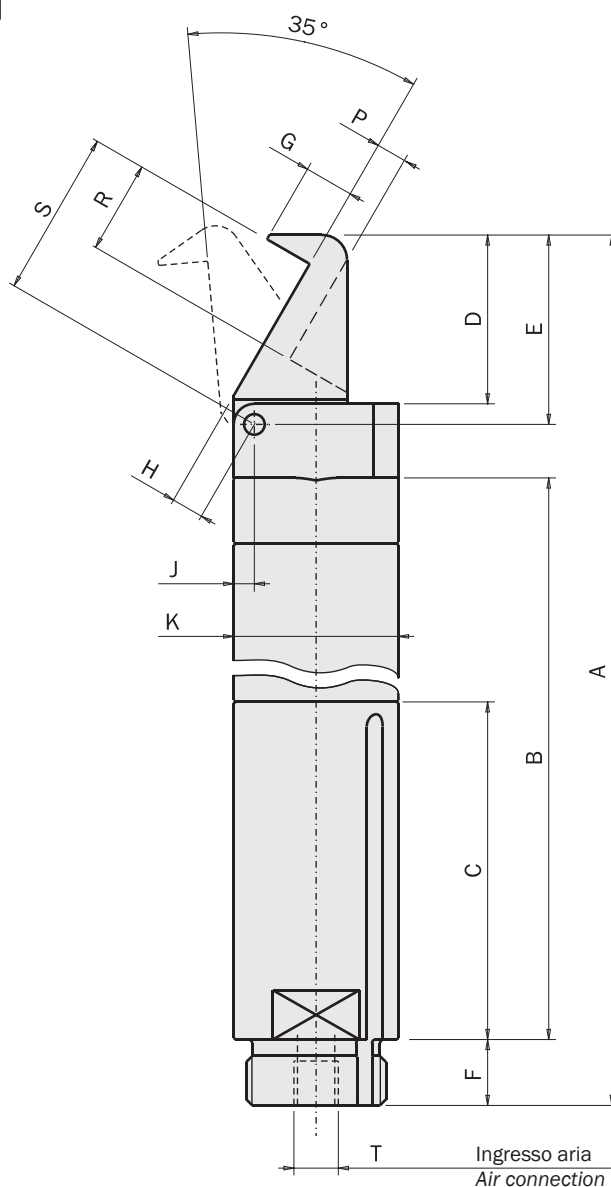


Dimensioni (mm) / Dimensions (mm)

OFA...S

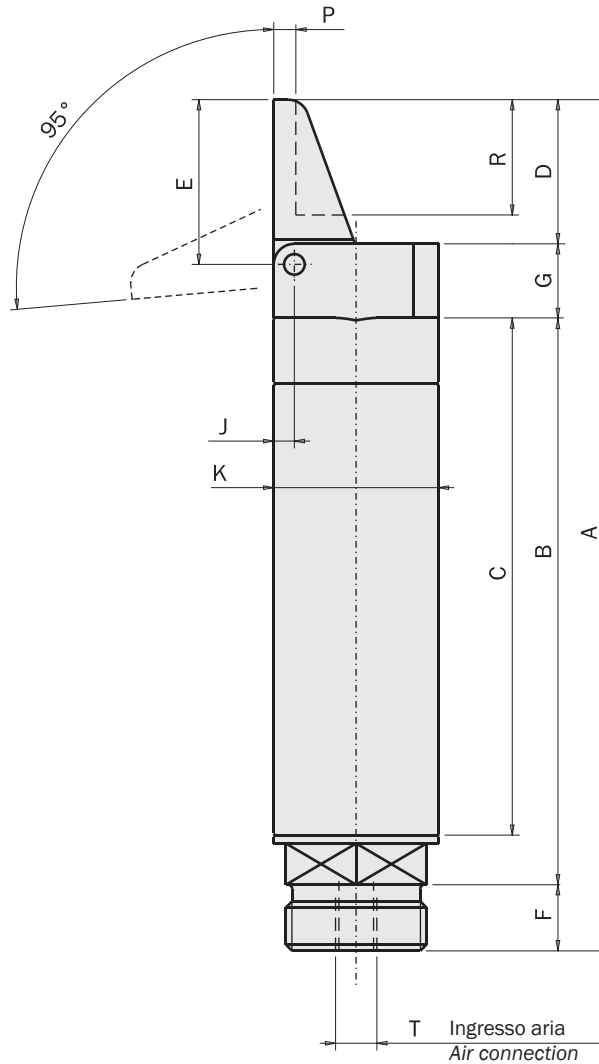
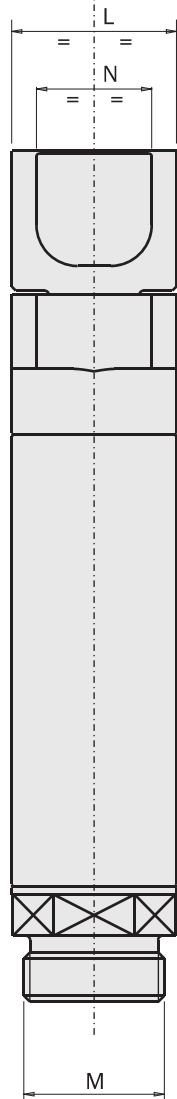
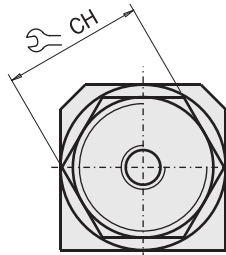


| | OFA20-35S | OFA30-35S | OFA50-35S |
|----|-----------|-----------|-----------|
| A | 136 | 189 | 280.5 |
| B | 98.8 | 136 | 184 |
| C | 41 | 53 | 57 |
| D | 20.5 | 30 | 49.5 |
| E | 23 | 34 | 56 |
| F | 8 | 11 | 25 |
| G | 6 | 8 | 14 |
| H | 3.9 | 6 | 10 |
| J | 2.5 | 4 | 6.5 |
| K | Ø20 | Ø30 | Ø50 |
| L | 20 | 30 | 50 |
| M | M17x1 | M27x1 | M45x1.5 |
| N | 14 | 22 | 38 |
| P | 3 | 5 | 7 |
| R | 11.5 | 17 | 26 |
| S | 20.2 | 30.5 | 50 |
| T | M5 | M5 | G1/8" |
| CH | 17 | 27 | 46 |



FIRST ANGLE PROJECTION

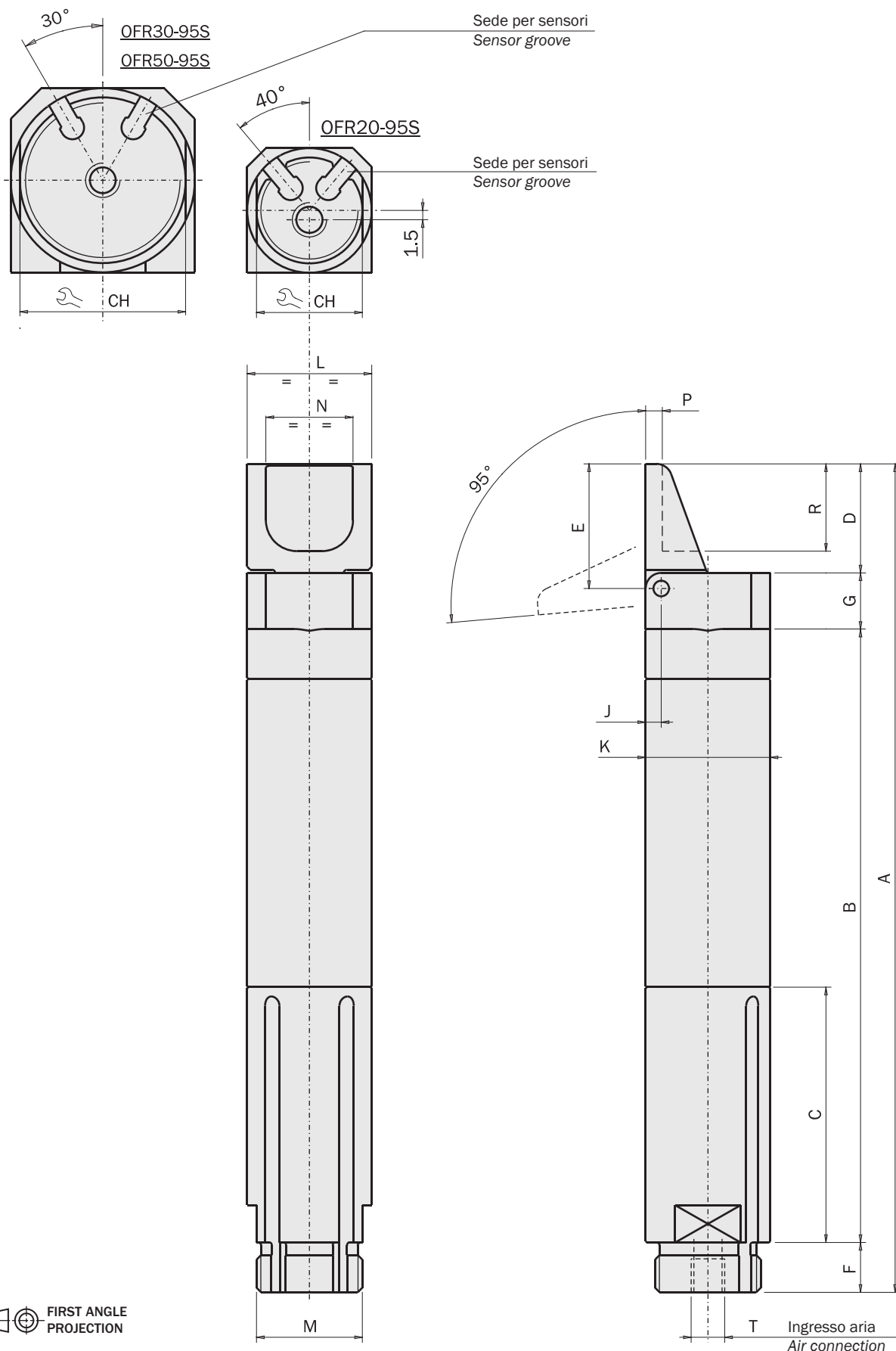
| | A | B | C | D | E | F | G | J | K | L | M | N | P | R | CH | T |
|----------|-------|------|------|------|----|-----|------|-----|-----|----|---------|----|---|----|----|-------|
| OFR14-95 | 72 | 41 | 40 | 12 | 14 | 5.5 | 10.5 | 2 | ∅14 | 14 | M12x1 | 10 | 2 | 9 | 12 | M5 |
| OFR20-95 | 103 | 68.5 | 62.5 | 17.5 | 20 | 8 | 9 | 2.5 | ∅20 | 20 | M17x1 | 14 | 3 | 14 | 17 | M5 |
| OFR30-95 | 148 | 100 | 92 | 25 | 29 | 11 | 12 | 4 | ∅30 | 30 | M27x1 | 22 | 5 | 21 | 27 | M5 |
| OFR50-95 | 227.5 | 139 | 114 | 41.5 | 48 | 25 | 12 | 6.5 | ∅50 | 50 | M45x1.5 | 38 | 7 | 34 | 46 | G1/8" |



Dimensioni (mm) / Dimensions (mm)

OFR...S

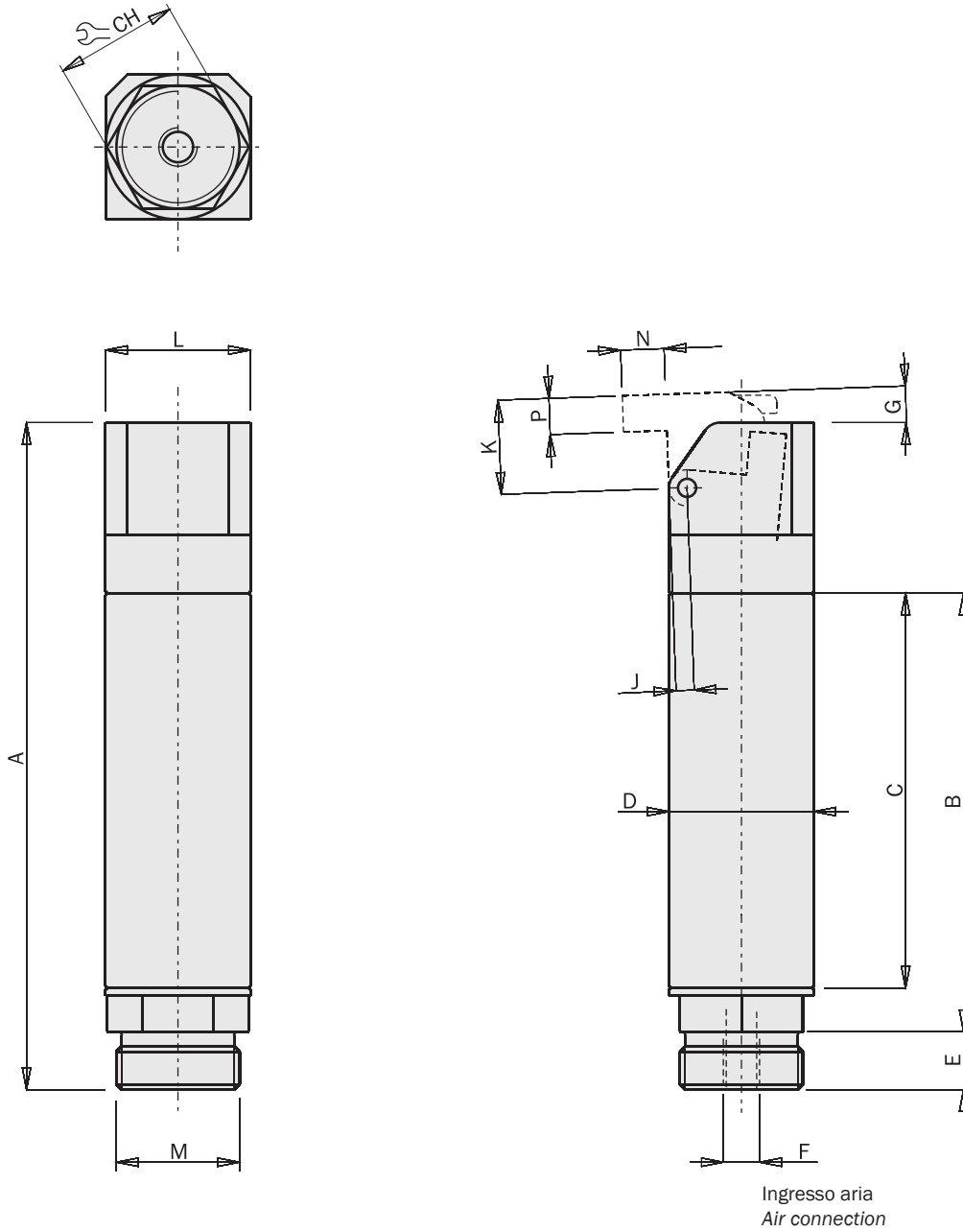
| | A | B | C | D | E | F | G | J | K | L | M | N | P | R | T | CH |
|-----------|-------|------|----|------|----|----|----|-----|-----|----|---------|----|---|----|-------|----|
| OFR20-95S | 133 | 98.5 | 41 | 17.5 | 20 | 8 | 9 | 2.5 | Ø20 | 20 | M17x1 | 14 | 3 | 14 | M5 | 17 |
| OFR30-95S | 184 | 136 | 53 | 25 | 29 | 11 | 12 | 4 | Ø30 | 30 | M27x1 | 22 | 5 | 21 | M5 | 27 |
| OFR50-95S | 272.5 | 184 | 57 | 41.5 | 48 | 25 | 22 | 6.5 | Ø50 | 50 | M45x1.5 | 38 | 7 | 34 | G1/8" | 46 |



FIRST ANGLE PROJECTION

09/2016

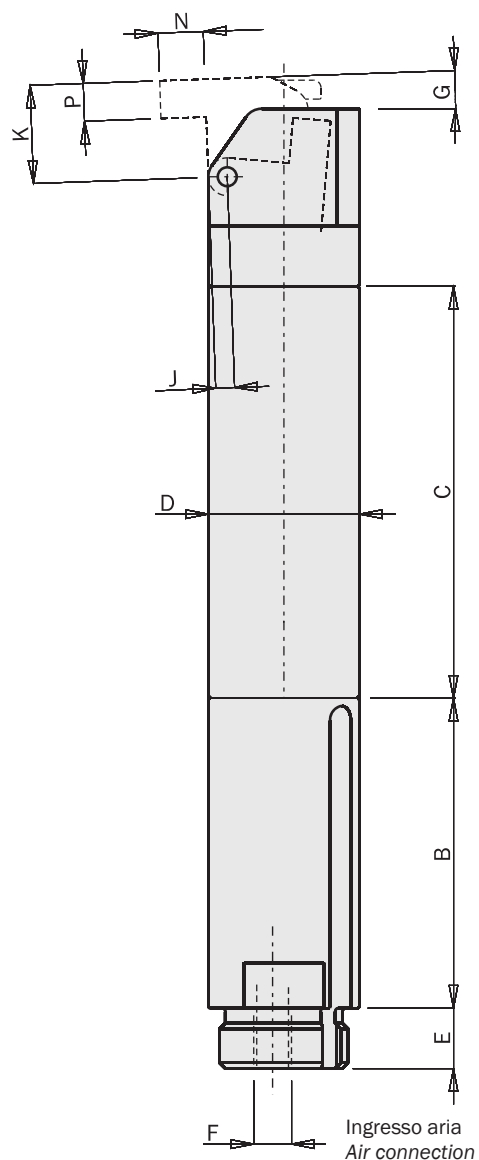
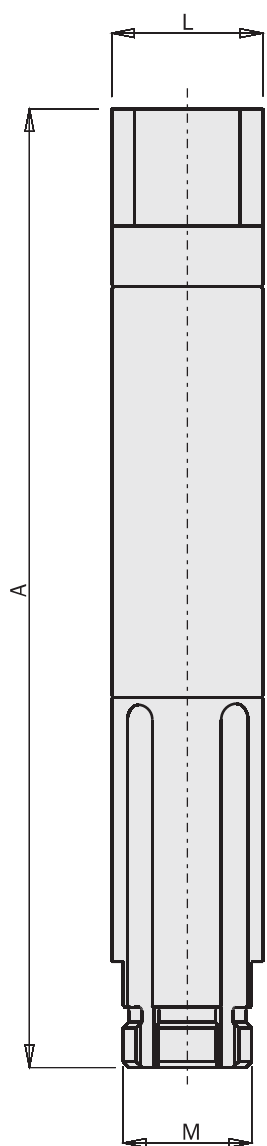
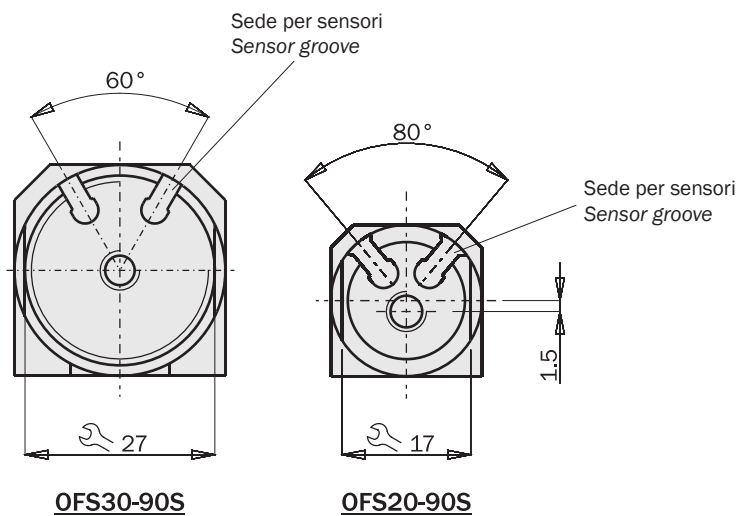
| | A | B | C | D | E | F | G | J | K | L | M | N | P | CH |
|----------|-------|------|------|-----|-----|----|----|-----|----|----|-------|----|---|----|
| OFS14-90 | 63 | 42 | 38 | ∅14 | 5.5 | M5 | 2° | 2 | 9 | 14 | M12x1 | 4 | 4 | 12 |
| OFS20-90 | 92 | 60.5 | 54.5 | ∅20 | 8 | M5 | 2° | 2.5 | 13 | 20 | M17x1 | 6 | 5 | 17 |
| OFS30-90 | 134.5 | 90 | 82 | ∅30 | 11 | M5 | 2° | 4 | 20 | 30 | M27x1 | 11 | 6 | 27 |



Dimensioni (mm) / Dimensions (mm)

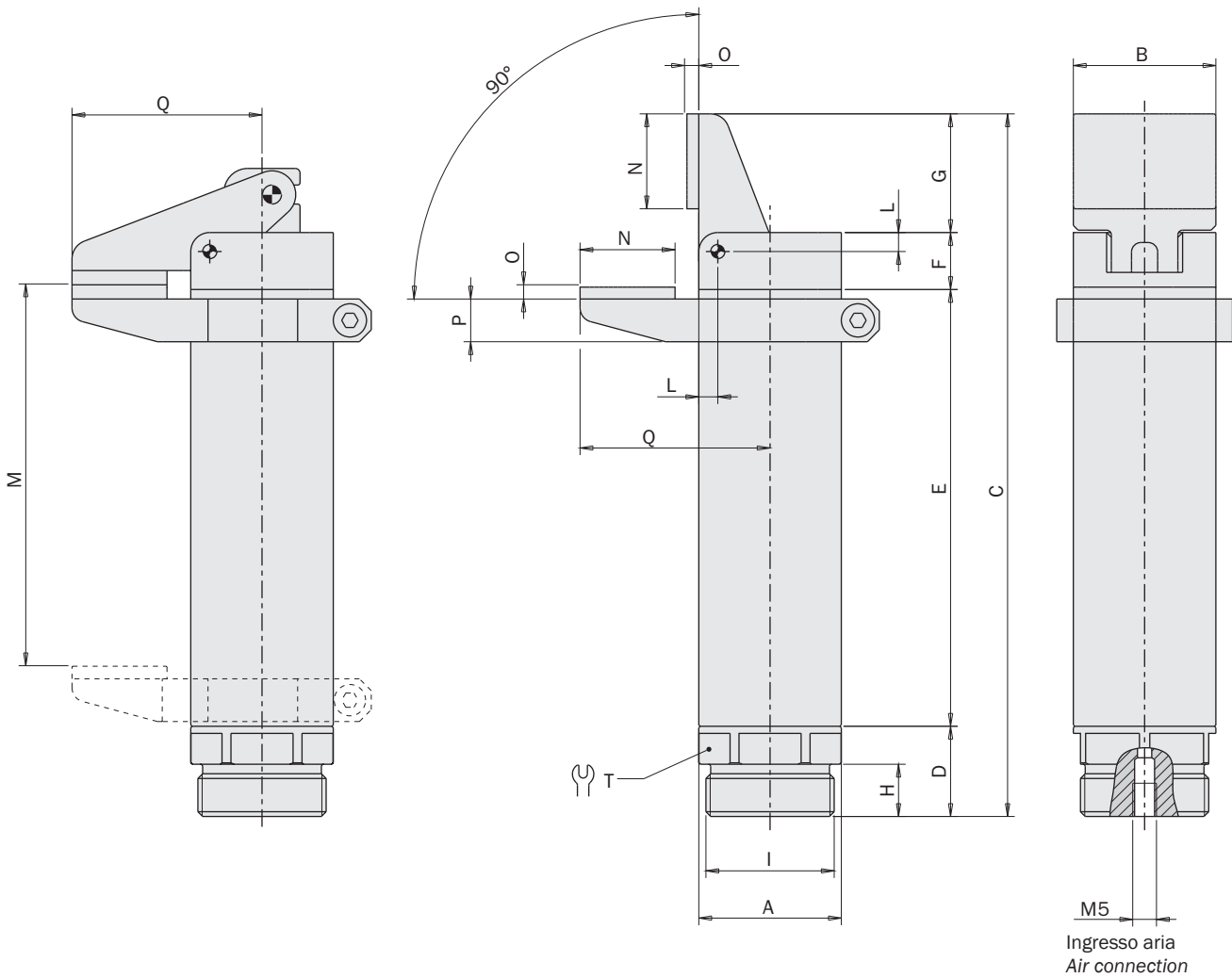
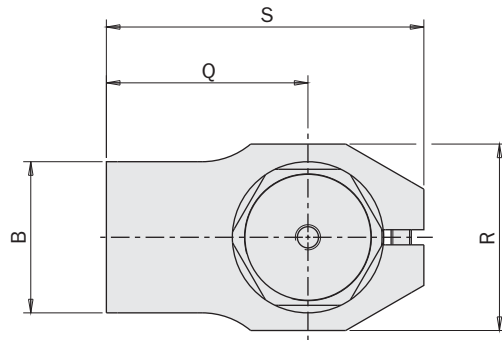
OFS...S

| | A | B | C | D | E | F | G | J | K | L | M | N | P |
|-----------|-------|----|------|-----|----|----|----|-----|----|----|-------|----|---|
| OFS20-90S | 122 | 41 | 49.5 | Ø20 | 8 | M5 | 2° | 2.5 | 13 | 20 | M17x1 | 6 | 5 |
| OFS30-90S | 170.5 | 53 | 73 | Ø30 | 11 | M5 | 2° | 4 | 20 | 30 | M27x1 | 11 | 6 |



FIRST ANGLE PROJECTION

| | A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T |
|-----------|-----|----|-----|-----|------|------|------|-----|-------|-----|----|----|-----|-----|------|----|------|----|
| OFR14-95G | Ø14 | 14 | 72 | 9.5 | 40 | 10.5 | 12 | 5.5 | M12x1 | 2 | 34 | 11 | 2.5 | 7.5 | 19 | 19 | 32 | 12 |
| OFR20-95G | Ø20 | 20 | 103 | 13 | 63.5 | 9 | 17.5 | 8 | M17x1 | 2.5 | 53 | 15 | 2.5 | 7 | 27.5 | 25 | 43.5 | 17 |
| OFR30-95G | Ø30 | 30 | 148 | 19 | 92 | 12 | 25 | 11 | M27x1 | 4 | 80 | 20 | 3 | 9 | 40 | 37 | 63 | 27 |

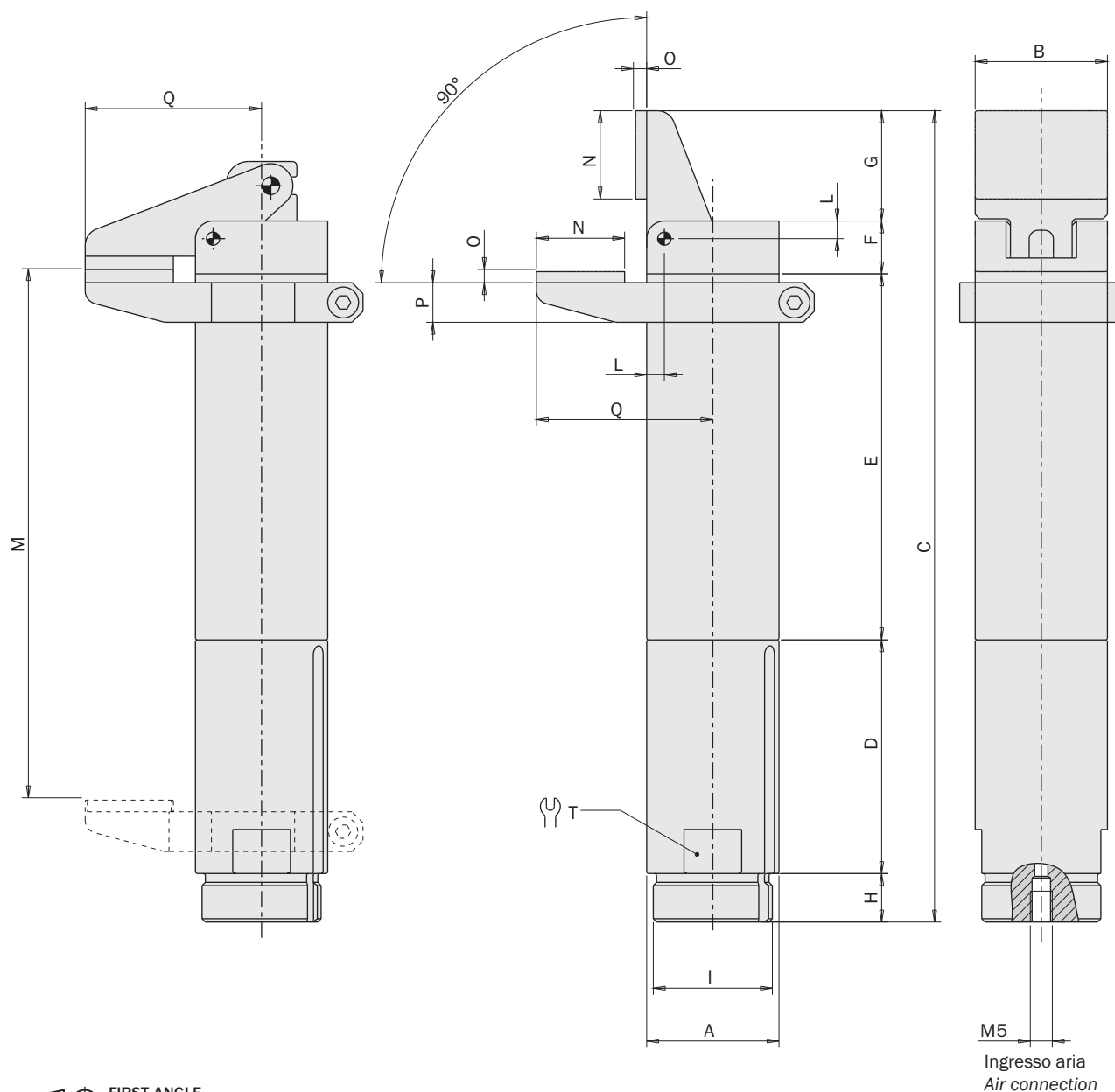
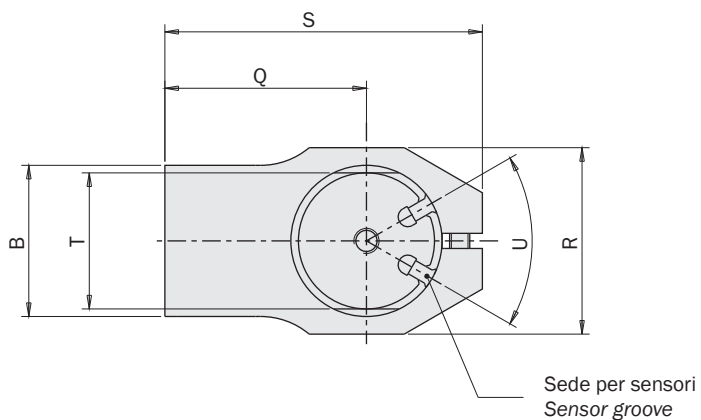


FIRST ANGLE PROJECTION

Dimensioni (mm) / Dimensions (mm)

OFR...-95SG

| | A | B | C | D | E | F | G | H | I | L | M | N | O | P | Q | R | S | T | U |
|------------|-----|----|-----|----|------|----|------|----|-------|-----|-----|----|-----|---|------|----|------|----|-----|
| OFR20-95SG | ∅20 | 20 | 133 | 41 | 57.5 | 9 | 17.5 | 8 | M17x1 | 2.5 | 88 | 15 | 2.5 | 7 | 27.5 | 25 | 43.5 | 17 | 60° |
| OFR30-95SG | ∅30 | 30 | 184 | 53 | 83 | 12 | 25 | 11 | M27x1 | 4 | 121 | 20 | 3 | 9 | 40 | 37 | 63 | 27 | 80° |



FIRST ANGLE PROJECTION

09/2016

Pinze pneumatiche mono-dito angolari per staffaggio, serie OFFP

- Azionamento a semplice effetto.
- Dito in plastica.
- Contatto morbido con pastiglie in HNBR oppure con O-Ring in NBR, Silicone, Viton.
- Vari accessori per il fissaggio.
- Sensori magnetici e relative staffe in opzione.

One finger angular pneumatic grippers for clamping, series OFFP

- Single acting.
- Plastic finger.
- Soft contact by HNBR pads or O-Rings in NBR, Silicone or Viton.
- Several mounting accessories.
- Magnetic sensors and relevant mounting brackets as option.

NEW

OFFP20



OFFP20P-20

OFFP20N-20

OFFP20S-20

OFFP20V-20

NEW

OFFP21



OFFP21P-20

OFFP21N-20

OFFP21S-20

OFFP21V-20

NEW

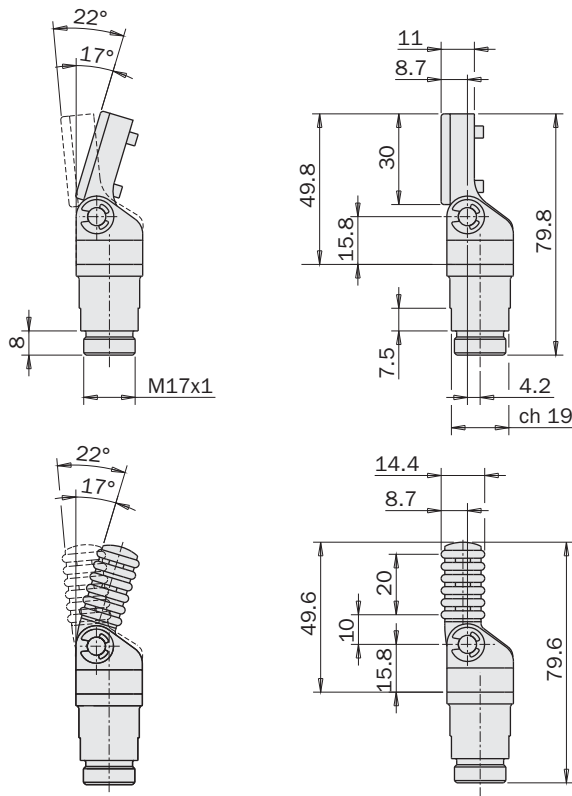
OFFP14



OFFP14P-25

| HNBR | OFFP20P-20 | OFFP21P-20 | OFFP14P-25 |
|---|--|----------------------|------------------------|
| NBR | OFFP20N-20 | OFFP21N-20 | |
| Silicone | OFFP20S-20 | OFFP21S-20 | |
| Viton | OFFP20V-20 | OFFP21V-20 | |
| Materiale del corpo Body construction | plastica (nylon) / alluminio plastic (nylon) / aluminium | | alluminio aluminium |
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C. | | |
| Corsa Stroke | 21° | 21° | 25° |
| Alesaggio Piston bore | 16 mm | 16 mm | 11 mm |
| Coppia di chiusura a 6 bar Closing torque at 6 bar | 100 Ncm | 100 Ncm | 40 Ncm |
| Consumo d'aria per ciclo Cycle air consumption | 1.08 cm ³ | 1.08 cm ³ | 0.4 cm ³ |
| Peso Weight | 40 g | 45 g | 17 g |

Dimensioni (mm) / Dimensions (mm)

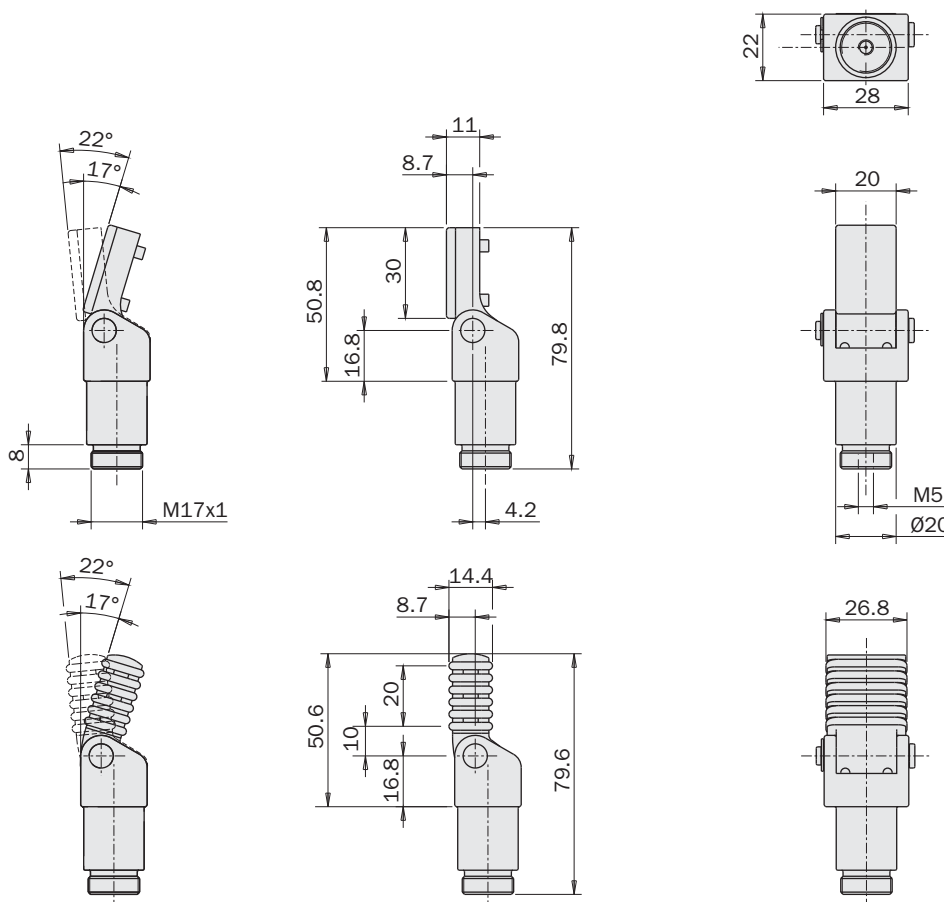


OFF20P-20

**OFF20N-20
OFF20S-20
OFF20V-20**

FIRST ANGLE PROJECTION

Dimensioni (mm) / Dimensions (mm)

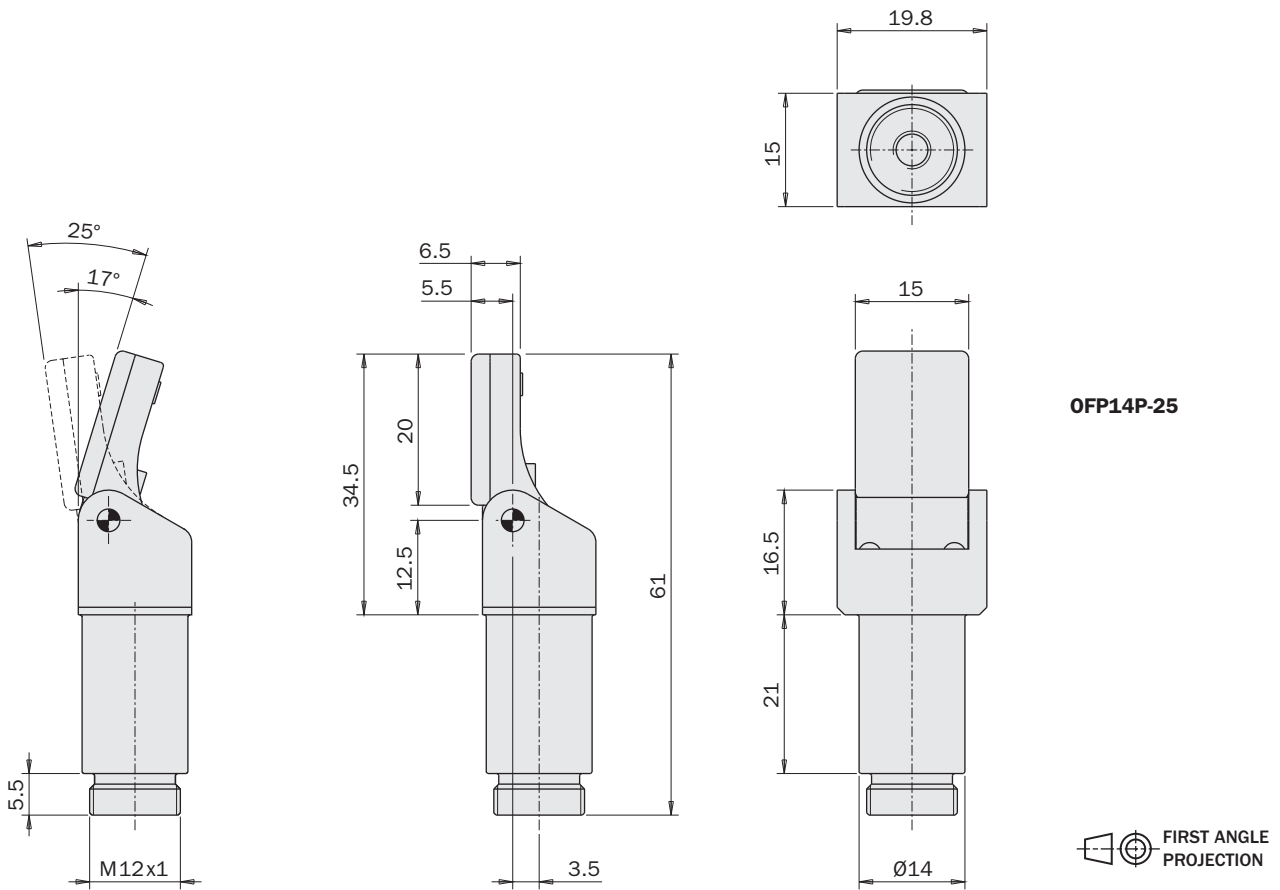


OFF21P-20

**OFF21N-20
OFF21S-20
OFF21V-20**

FIRST ANGLE PROJECTION

Dimensioni (mm) / Dimensions (mm)



O-Ring di ricambio
Spare O-Ring



| | KIT3-OFP20N | KIT3-OFP20S | KIT3-OFP20V |
|---|------------------------|------------------------|------------------------|
| Materiale Material | NBR | Silicone | Viton |
| Pinza Gripper | OFP20N-20 OFP21N-20 | OFP20S-20 OFP21S-20 | OFP20V-20 OFP21V-20 |
| Temperatura di esercizio Temperature range | 5° ÷ 100 °C. | 5° ÷ 200 °C. | 5° ÷ 200 °C. |

Pastiglia di ricambio
Spare pad



| | KIT3-OFP20P | KIT3-OFP14H | KIT3-OFP20H |
|---|------------------------|--------------|------------------------|
| Materiale Material | TPU | HNBR | HNBR |
| Pinza Gripper | OFP20S-20 OFP21S-20 | OFP14P-25 | OFP20P-20 OFP21P-20 |
| Temperatura di esercizio Temperature range | 5° ÷ 80 °C. | 5° ÷ 150 °C. | 5° ÷ 150 °C. |

Fissaggio

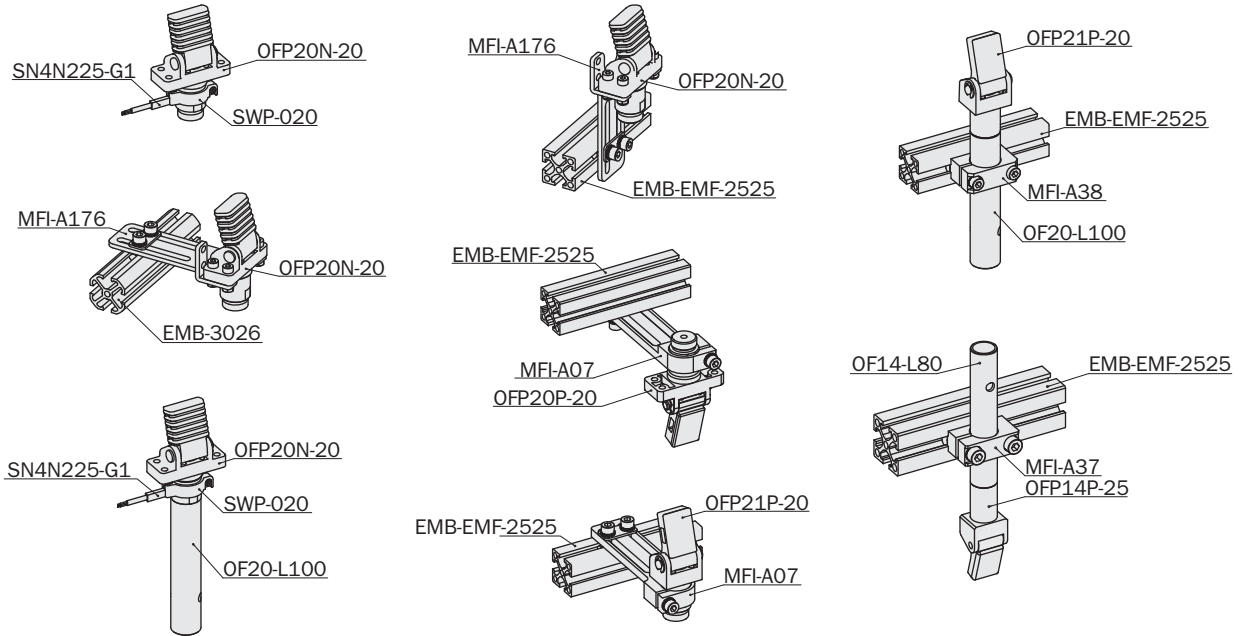
Le pinze OFP hanno il corpo in alluminio e possono essere incravattate con tutti gli accessori MFI con diametro di 14mm e 20mm.

MFI-A176 può essere usato con OFP20.

Fastening

The OFP grippers have an aluminum body and can be clamped with all MFI accessories with 14mm and 20mm diameter.

MFI-A176 can be used with OFP20.



Sensori

Il rilevamento della posizione di lavoro è affidato a uno o più sensori magnetici di prossimità (opzionali), che rilevano la posizione attraverso il magnete sul pistone. Quindi, per un corretto funzionamento, è da evitare l'impiego in presenza di forti campi magnetici od in prossimità di grosse masse di materiale ferromagnetico.

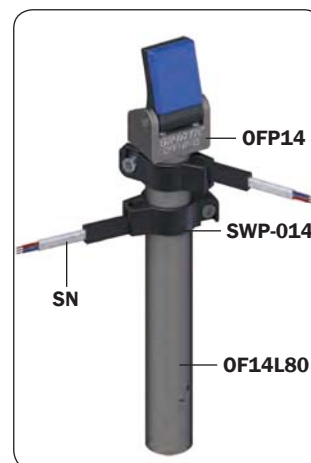
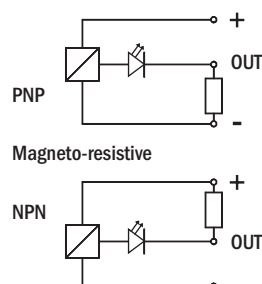
I sensori utilizzabili sono:

Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston. The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:

| | | |
|-----------|-----|--|
| SN4N225-G | PNP | Cavo 2.5m / 2.5m cable |
| SN4M225-G | NPN | Cavo 2.5m / 2.5m cable |
| SN3N203-G | PNP | Connettore M8 / Snap M8 plug connector |
| SN3M203-G | NPN | Connettore M8 / Snap M8 plug connector |

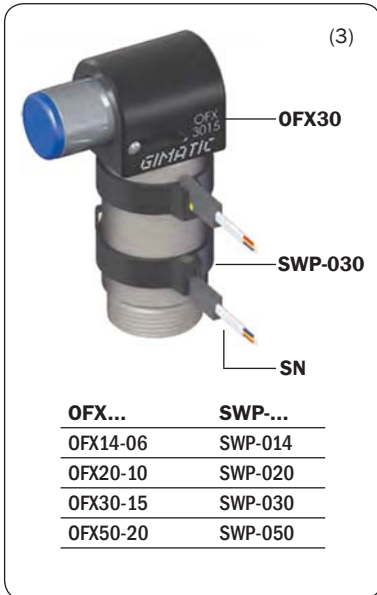


Pinze pneumatiche perpendicolari per staffaggio mono-dito, serie OFX

- Azionamento con pistone pneumatico a semplice effetto.
- Movimento lineare del dito perpendicolare al pistone.
- Dito con foro passante, per alimentare una ventosa (1).
- Pastiglia rimovibile (2) in gomma (HNBR) sul dito, per contatto morbido.
- Sensori e fascette opzionali (3).

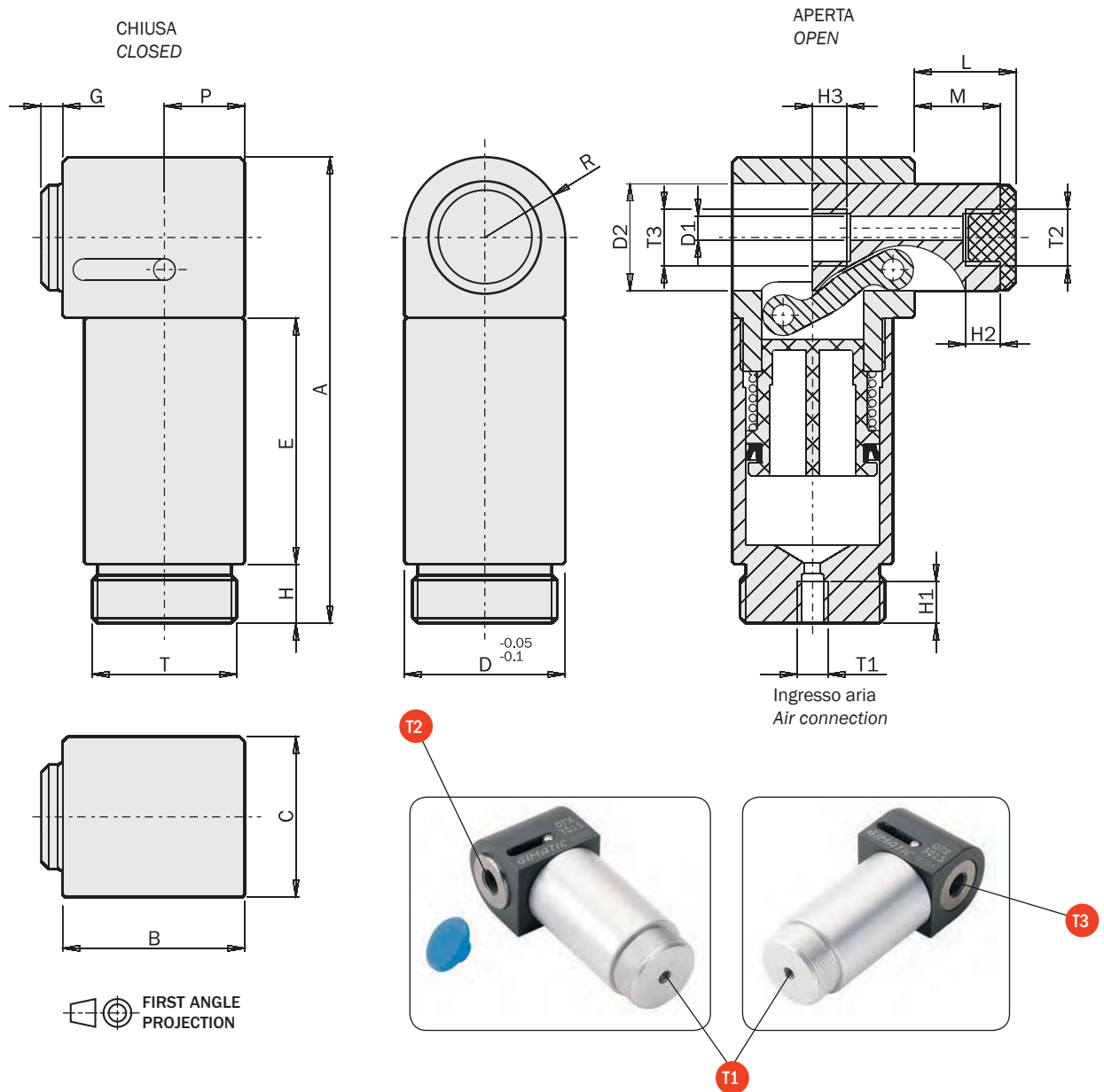
One finger, perpendicular acting, pneumatic grippers for clamping, series OFX

- Single-acting pneumatic piston drive.
- Finger linear motion, perpendicular to the piston.
- Finger with through hole, to provide vacuum to a cup (1).
- Removable HNBR rubber pad (2) on the finger, for a soft touch.
- Optional sensors and clamps (3).



| | OFX14-06 | OFX20-10 | OFX30-15 | OFX50-20 |
|---|--|---------------------|--------------------|--------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | | |
| Pressione di esercizio Pressure range | 2.5 ÷ 8 bar | | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C. | | | |
| Forza di serraggio in apertura a 6 bar Opening gripping force at 6 bar | 13 ÷ 63 N | 20 ÷ 115 N | 44 ÷ 230 N | 100 ÷ 900 N |
| Corsa totale Total stroke (±0.2 mm) | 6 mm | 10 mm | 15 mm | 20 mm |
| Frequenza max funzionamento continuativo Maximum working frequency | 1 Hz | 1 Hz | 1 Hz | 1 Hz |
| Consumo d'aria per ciclo Cycle air consumption | 0.5 cm ³ | 3.5 cm ³ | 15 cm ³ | 50 cm ³ |
| Peso Weight | 30 g | 65 g | 190 g | 740 g |

Dimensioni (mm) / Dimensions (mm)



| | OFX14-06 | OFX20-10 | OFX30-15 | OFX50-20 |
|----|----------|----------|----------|----------|
| A | 52 | 62.5 | 87 | 143 |
| B | 23 | 25 | 34 | 60 |
| C | 14 | 20 | 30 | 50 |
| D | Ø14 | Ø20 | Ø30 | Ø50 |
| D1 | Ø1.5 | Ø2.4 | Ø4.5 | Ø9 |
| D2 | Ø10 | Ø14 | Ø20 | Ø35 |
| E | 30 | 34.5 | 46 | 68 |
| G | 3.5 | 3.5 | 4 | 4 |
| H | 8 | 8 | 11 | 25 |
| H1 | 7 | 7 | 7 | 10 |
| H2 | 5 | 5 | 6 | 9 |
| H3 | 5 | 5 | 6 | 9 |
| L | 9.5 | 13.5 | 19 | 24 |
| M | 7 | 11 | 16 | 21 |
| P | 9 | 10 | 15 | 25 |
| R | R7 | R10 | R15 | R25 |
| T | M12x1 | M17x1 | M27x1 | M45x1.5 |
| T1 | M5 | M5 | M5 | G1/8" |
| T2 | M5 | M5 | G1/8" | G1/4" |
| T3 | M5 | M5 | G1/8" | G1/4" |

Cilindro pneumatico a corsa breve, con stelo antirotazione, foro passante e codolo

- Azionamento a doppio effetto.
- Due taglie disponibili.
- Foro passante per l'alimentazione di ventose (4).
- Tre cave con sfere per l'anti-rotazione dello stelo (1).
- Codolo standard per il montaggio con i prodotti MFI (2).
- Sensori magnetici opzionali (3).

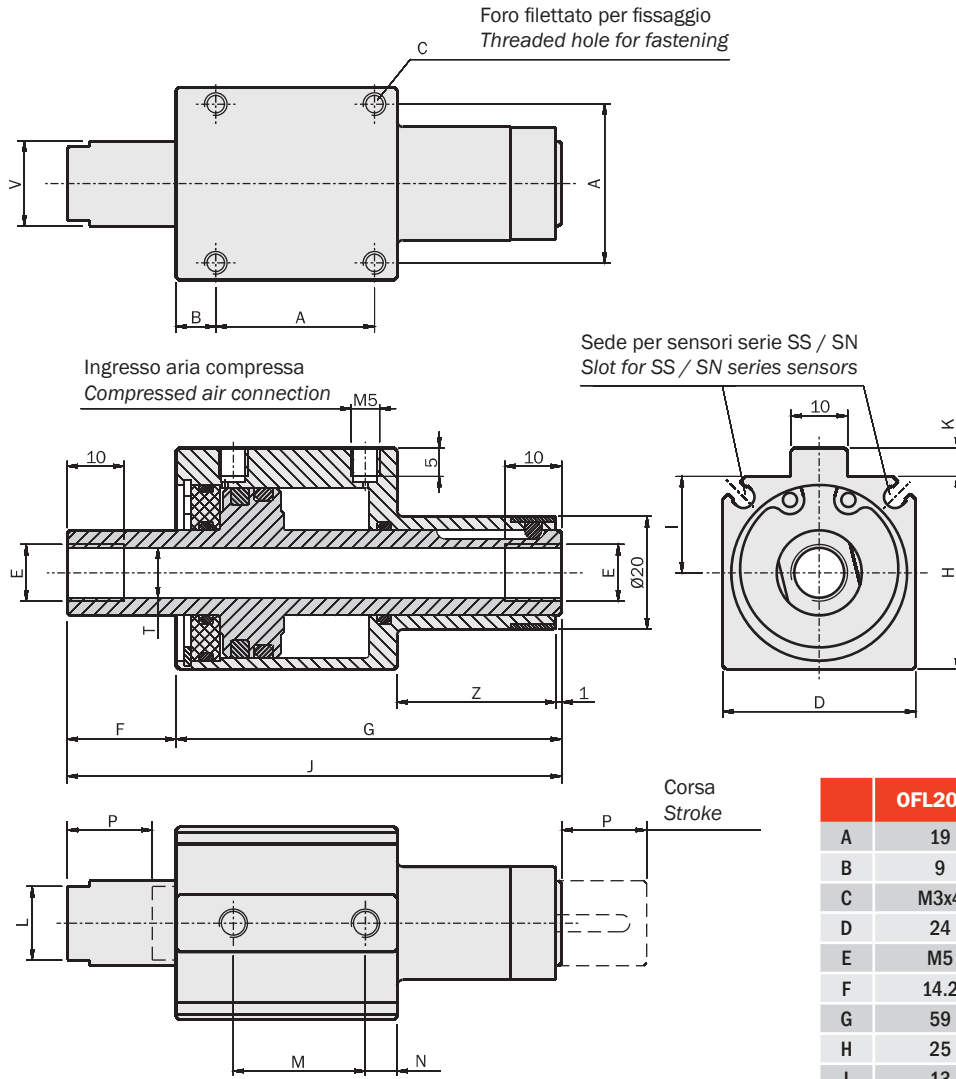
Short stroke pneumatic cylinder, with non-rotative through hole rod and mounting stud

- Double-effect.
- Two sizes available.
- Through hole for vacuum cup feeding (4).
- Three grooves with balls for non-rotative rod (1).
- Clampable stud for mounting by MFI products (2).
- Optional magnetic sensors (3).



| | OFL2010 | OFL3015 | OFL3030 |
|--|--|--------------------|--------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C. | | |
| Corsa Stroke | 10 mm | 15 mm | 30 mm |
| Alesaggio Piston bore | 20 mm | 30 mm | 30 mm |
| Forza di chiusura / apertura a 6 bar Closing / opening force at 6 bar | 130 N | 300 N | 300 N |
| Consumo d'aria per ciclo Cycle air consumption | 4.7 cm ³ | 16 cm ³ | 32 cm ³ |
| Tempo di azionamento minimo Minimum actuating time | 0.02 s | 0.06 s | 0.15 s |
| Peso Weight | 60 g | 110 g | 140 g |

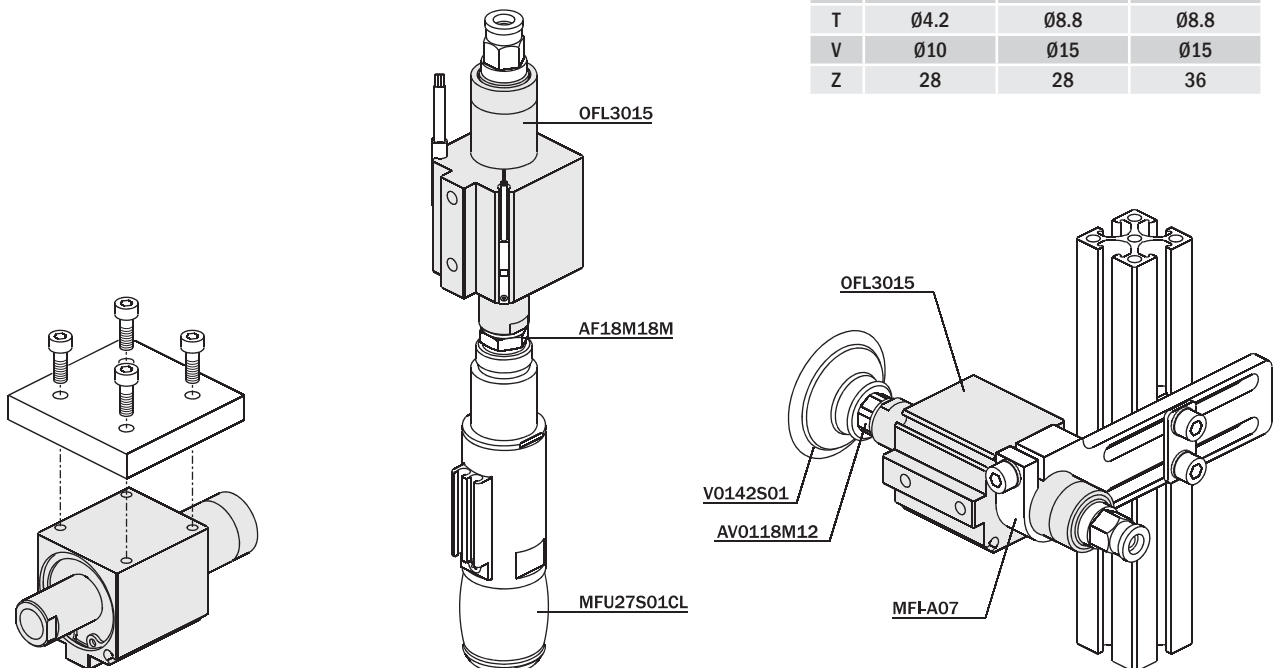
Dimensioni (mm) / Dimensions (mm)



FIRST ANGLE
PROJECTION

| | OFL2010 | OFL3015 | OFL3030 |
|---|---------|---------|---------|
| A | 19 | 28 | 28 |
| B | 9 | 7 | 7 |
| C | M3x4 | M4x6 | M4x6 |
| D | 24 | 34 | 34 |
| E | M5 | G1/8" | G1/8" |
| F | 14.2 | 19.2 | 34.2 |
| G | 59 | 68 | 91 |
| H | 25 | 34 | 34 |
| I | 13 | 17 | 17 |
| J | 74.2 | 87.2 | 125.2 |
| K | 4 | 5 | 5 |
| L | 8 | 13 | 13 |
| M | 16 | 23.3 | 38.3 |
| N | 5 | 5.6 | 5.6 |
| P | 10 | 15 | 30 |
| T | Ø4.2 | Ø8.8 | Ø8.8 |
| V | Ø10 | Ø15 | Ø15 |
| Z | 28 | 28 | 36 |

Esempi di utilizzo / Application examples

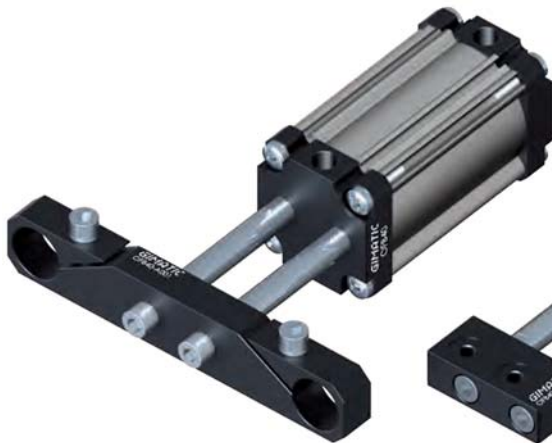


Cilindro guidato con steli gemellati

- Doppio effetto.
- Alesaggio: 40mm.
- Corsa: 30mm oppure 50mm.
- Vari accessori per il fissaggio (1).
- Sensori magnetici opzionali (2).

Guided cylinder with twin rods

- Double acting.
- Piston bore: 40mm.
- Stroke: 30mm or 50mm.
- Several mounting accessories (1).
- Optional magnetic sensors (2).



**OFB40-A30
OFB40-A50**



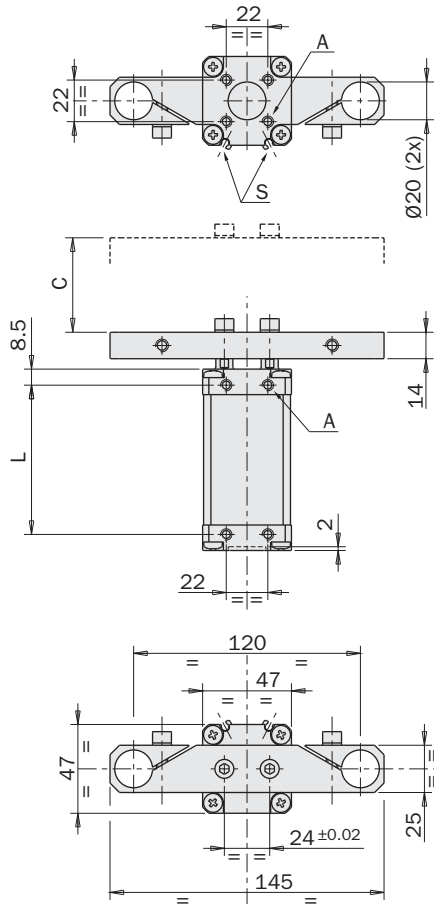
**OFB40-B30
OFB40-B50**



**OFB40-C30
OFB40-C50**

| | OFB40-A30 | OFB40-A50 | OFB40-B30 | OFB40-B50 | OFB40-C30 | OFB40-C50 |
|--|--|---------------------|--------------------|---------------------|--------------------|---------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | | | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | | | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C. | | | | | |
| Alesaggio Piston bore | Ø40 mm | | | | | |
| Forza di chiusura a 6 bar Retraction force at 6 bar | 660 N | | | | | |
| Forza di apertura a 6 bar Extension force at 6 bar | 754 N | | | | | |
| Corsa Stroke (±0.3 mm) | 30 mm | 50 mm | 30 mm | 50 mm | 30 mm | 50 mm |
| Consumo d'aria per ciclo Cycle air consumption | 71 cm ³ | 118 cm ³ | 71 cm ³ | 118 cm ³ | 71 cm ³ | 118 cm ³ |
| Peso Weight | 475 g | 520 g | 395 g | 445 g | 405 g | 455 g |

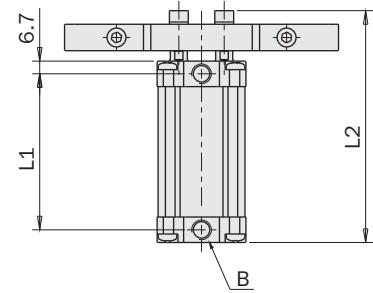
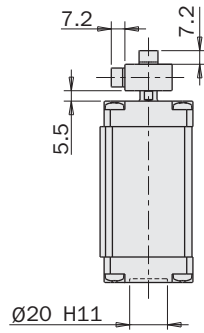
Dimensioni (mm) / Dimensions (mm)



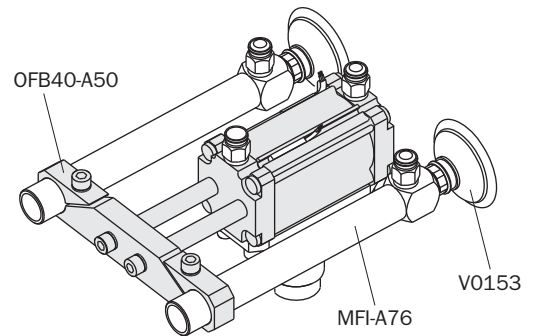
- A** Fori di fissaggio
Fastening holes
- B** Connessione per raccordo aria
Air connection port
- C** Corsa
Stroke
- S** Cava per sensore magnetico
Magnetic sensor slot

| | OFB40-A30 | OFB40-A50 |
|----|-----------|-----------|
| A | M5x10 | M5x10 |
| B | 1/8 | 1/8 |
| C | 30 | 50 |
| L | 59 | 79 |
| L1 | 62.6 | 82.6 |
| L2 | 102.7 | 122.7 |

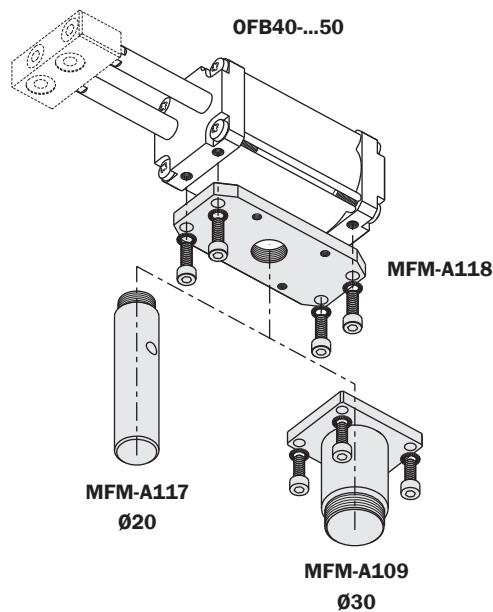
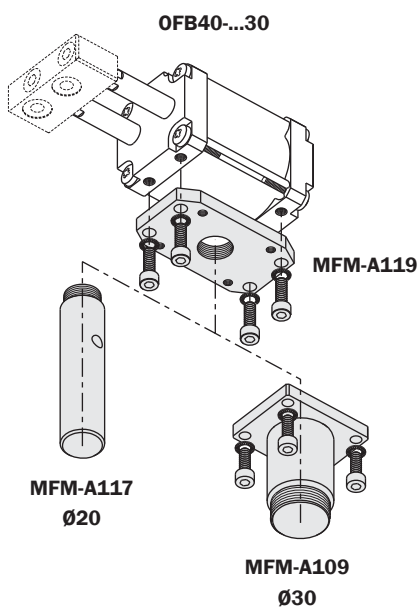
FIRST ANGLE PROJECTION



Esempi di utilizzo / Application examples



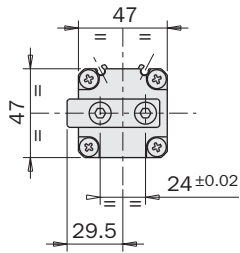
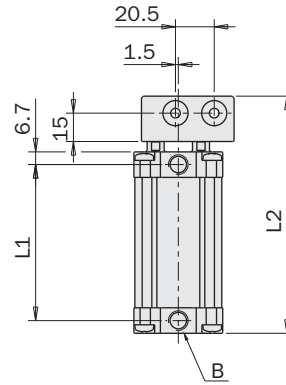
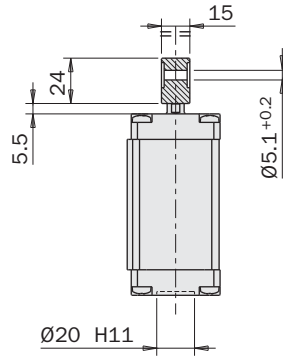
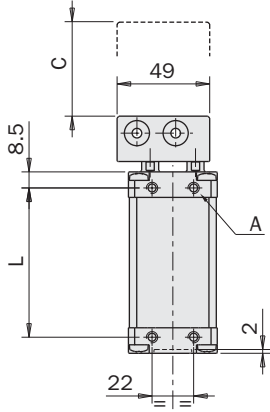
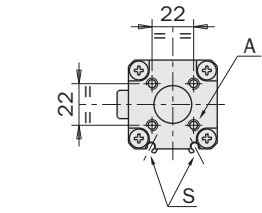
Fissaggio del cilindro / Cylinder mounting



Dimensioni (mm) / Dimensions (mm)

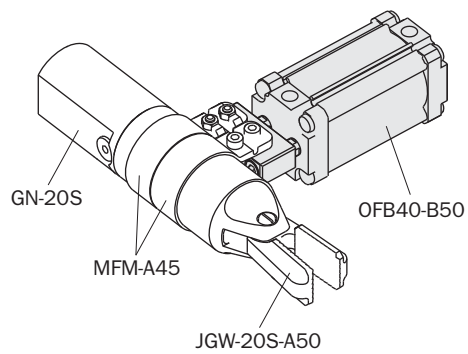
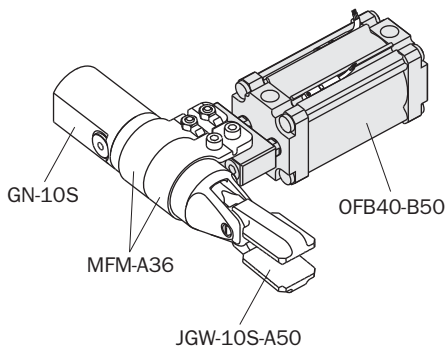
| | OFB40-B30 | OFB40-B50 |
|----|-----------|-----------|
| A | M5x10 | M5x10 |
| B | 1/8 | 1/8 |
| C | 30 | 50 |
| L | 59 | 79 |
| L1 | 62.6 | 82.6 |
| L2 | 105.5 | 125.5 |

FIRST ANGLE PROJECTION

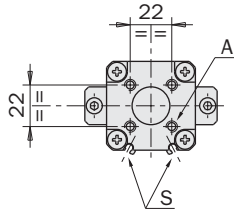


- A** Fori di fissaggio
Fastening holes
- B** Connessione per raccordo aria
Air connection port
- C** Corsa
Stroke
- S** Cava per sensore magnetico
Magnetic sensor slot

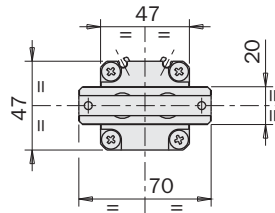
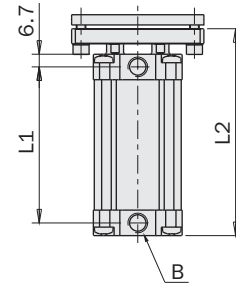
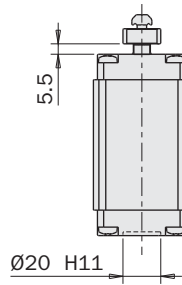
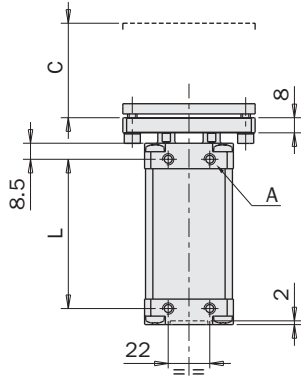
Esempi di utilizzo / Application examples



Dimensioni (mm) / Dimensions (mm)

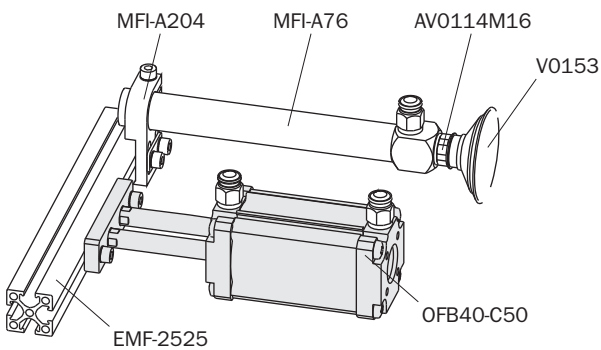
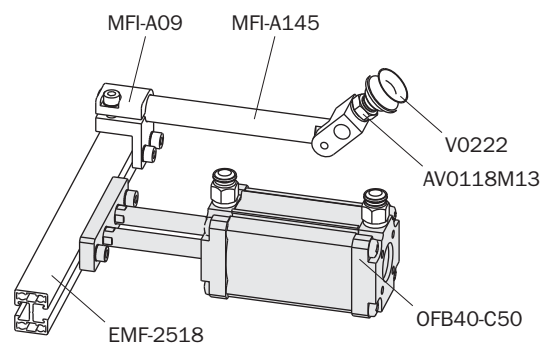
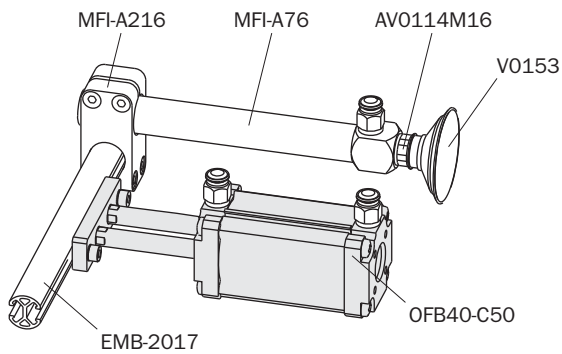


| | OFB40-C30 | OFB40-C50 |
|----|-----------|-----------|
| A | M5x10 | M5x10 |
| B | 1/8 | 1/8 |
| C | 30 | 50 |
| L | 59 | 79 |
| L1 | 62.6 | 82.6 |
| L2 | 89.5 | 109.5 |



- A** Fori di fissaggio
Fastening holes
- B** Connessione per raccordo aria
Air connection port
- C** Corsa
Stroke
- S** Cava per sensore magnetico
Magnetic sensor slot

Esempi di utilizzo / Application examples

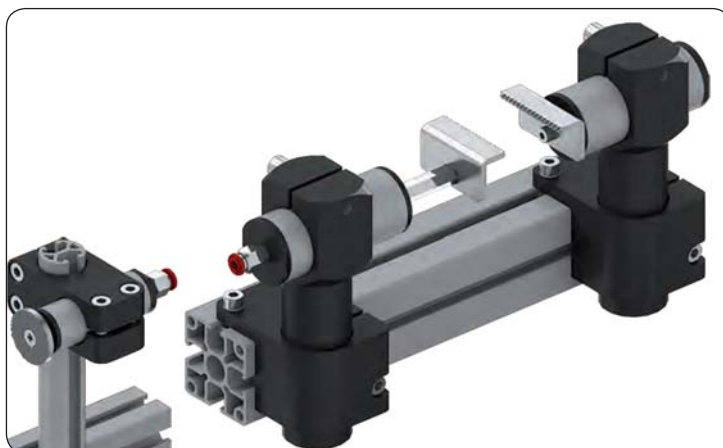
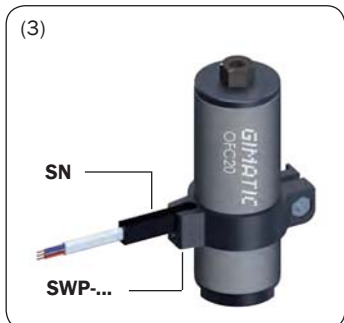


Mini cilindri universali a semplice effetto, antirotazione

- Alesaggio: 10mm, 16mm, 25mm.
- Corsa: 10mm, 20mm, 30mm.
- Vari accessori MFl... per il fissaggio a cravatta sul diametro esterno (1).
- Vari accessori da montare sullo stelo (2).
- Sensori e fascette opzionali (3).

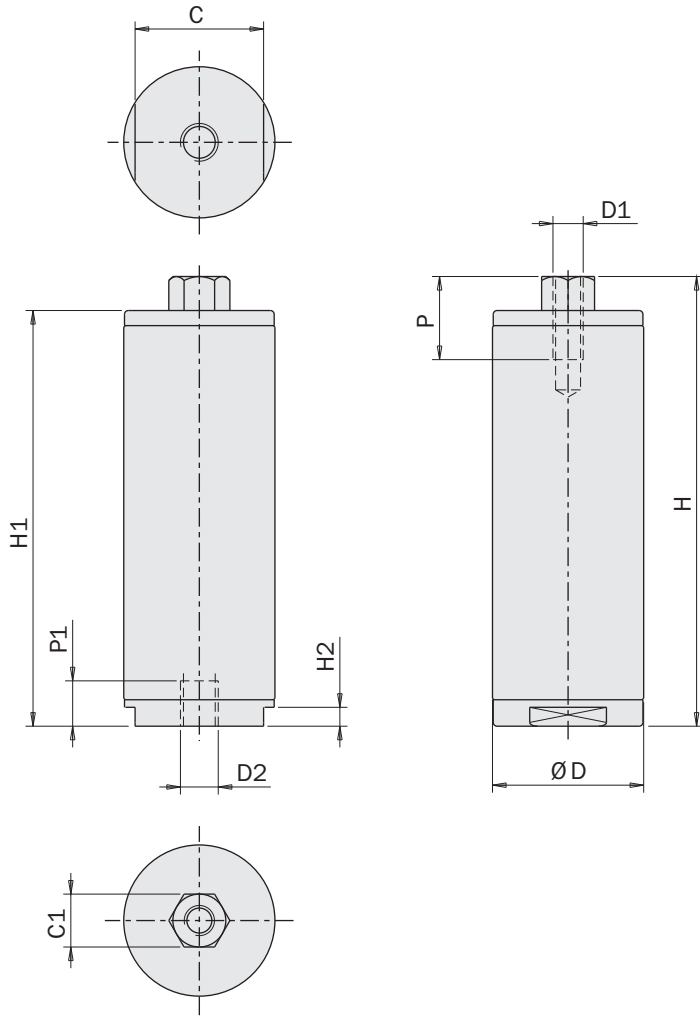
General purpose, single-acting, anti-rotation mini cylinders

- Piston bore: 10mm, 16mm, 25mm.
- Stroke: 10mm, 20mm, 30mm.
- Several accessories MFl... for the clamp mounting on the external diameter (1).
- Several accessories to be mounted on the rod (2).
- Optional sensors and clamps (3).



| | OFC14-10 | OFC20-20 | OFC30-30 |
|---|--|-------------------|--------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C. | | |
| Corsa Stroke | 10 mm | 20 mm | 30 mm |
| Alesaggio Piston bore | Ø10 mm | Ø16 mm | Ø25 mm |
| Forza di chiusura a 0 bar Closing force at 0 bar | 4 N | 8 N | 23 N |
| Forza di apertura a 6 bar Opening force at 6 bar | 43 N | 113 N | 271 N |
| Consumo d'aria per ciclo Cycle air consumption | 1 cm ³ | 4 cm ³ | 15 cm ³ |
| Peso Weight | 20 g | 40 g | 85 g |

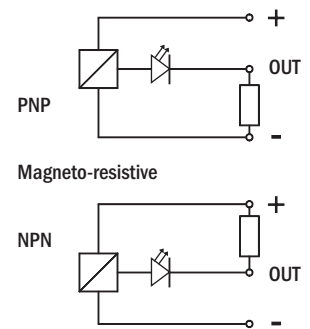
Dimensioni (mm) / Dimensions (mm)



| | OFC14-10 | OFC20-20 | OFC30-30 |
|----|----------|----------|----------|
| C | 12 | 17 | 27 |
| C1 | 5.5 | 7 | 7 |
| D | Ø14 | Ø20 | Ø30 |
| D1 | M3 | M4 | M4 |
| D2 | M5 | M5 | M5 |
| H | 50 | 59.5 | 75 |
| H1 | 45.5 | 55 | 70.5 |
| H2 | 2.5 | 2.5 | 2.5 |
| P | 7 | 9 | 9 |
| P1 | 6 | 6 | 6 |



| OFC | SWP-... |
|----------|---------|
| OFC14-10 | SWP-014 |
| OFC20-20 | SWP-020 |
| OFC30-30 | SWP-030 |



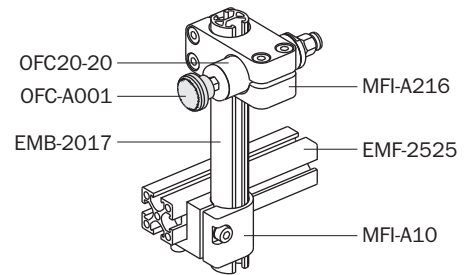
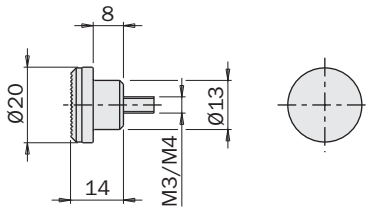
| SN... | | |
|-----------|-----|--|
| SN4N225-G | PNP | cavo 2.5m / 2.5m cable |
| SN4M225-G | NPN | cavo 2.5m / 2.5m cable |
| SN3N203-G | PNP | Connettore M8 / Snap M8 plug connector |
| SN3M203-G | NPN | Connettore M8 / Snap M8 plug connector |

Kit opzionali / *Optional kits*

| | OFC-A001 | OFC-A002 | OFC-A003 | OFC-A004 | OFC-A005 | OFC5 |
|----------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OFC14-10 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| OFC20-20 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| OFC30-30 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Peso / <i>Weight</i> | 15 g | 25 g | 15 g | 25 g | 35 g | 40 g |

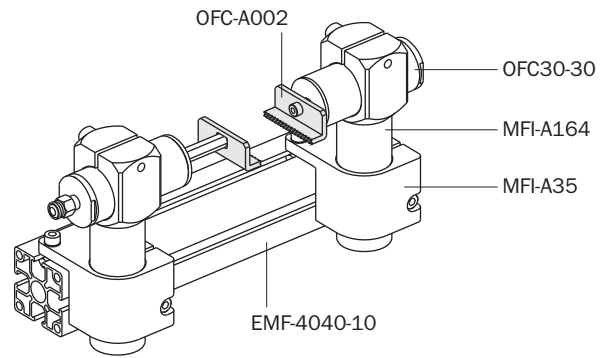
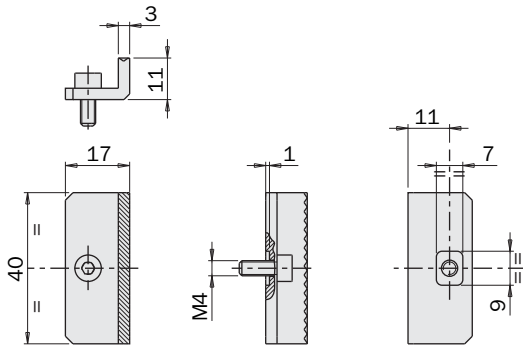
OFC-A001

Bottone con gommino in TPU
Button with TPU rubber pad



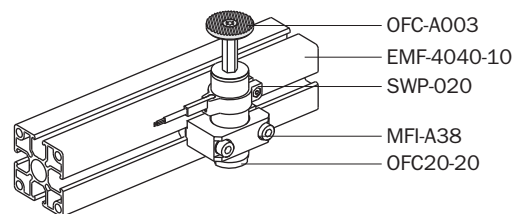
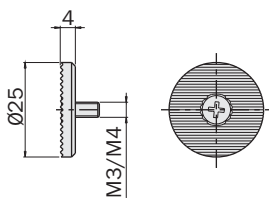
OFC-A002

Artiglio in acciaio
Steel claw



OFC-A003

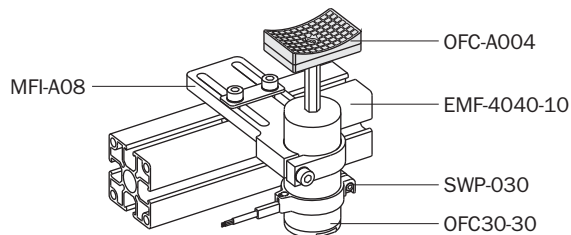
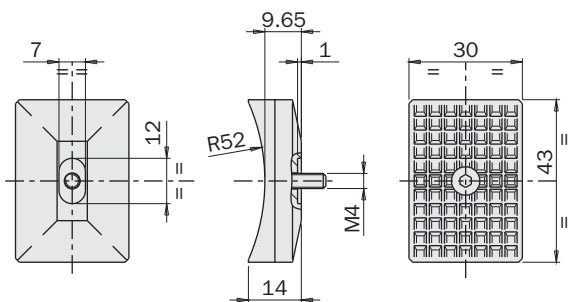
Bottone in acciaio
Steel button



Kit opzionali / Optional kits

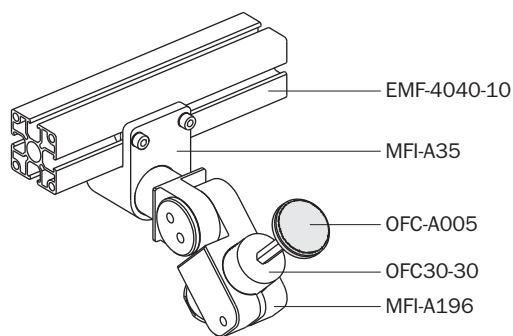
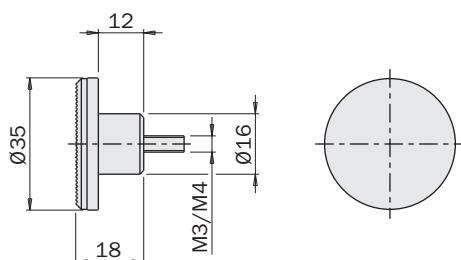
OFC-A004

Spintore concavo con gommino in TPU
Concave pusher with TPU rubber pad



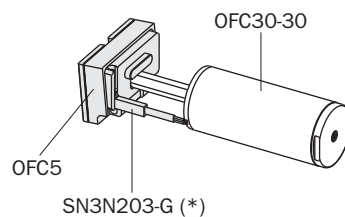
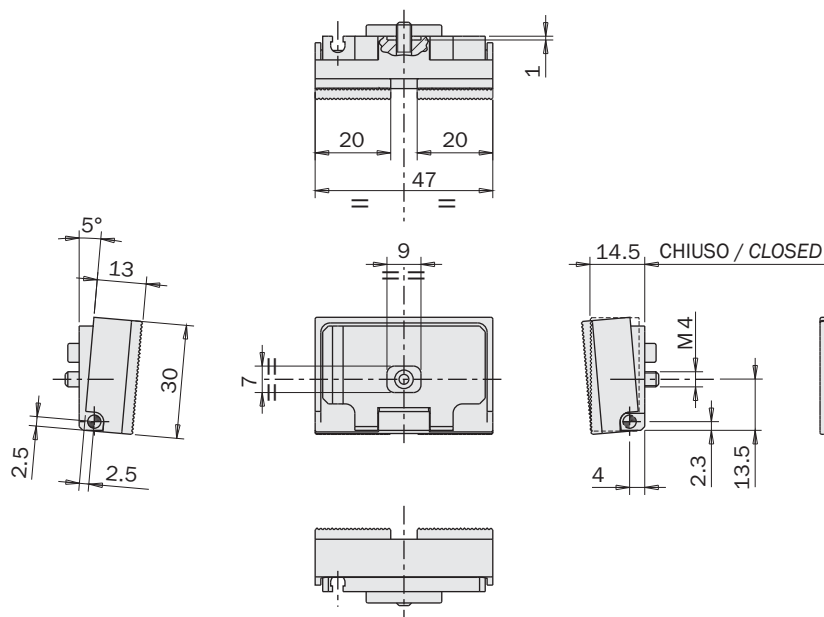
OFC-A005

Bottone con gommino in TPU
Button with TPU rubber pad



OFC5

Spintore a interruttore con gommino in TPU e sensore
Switch pusher with TPU rubber pad and sensor



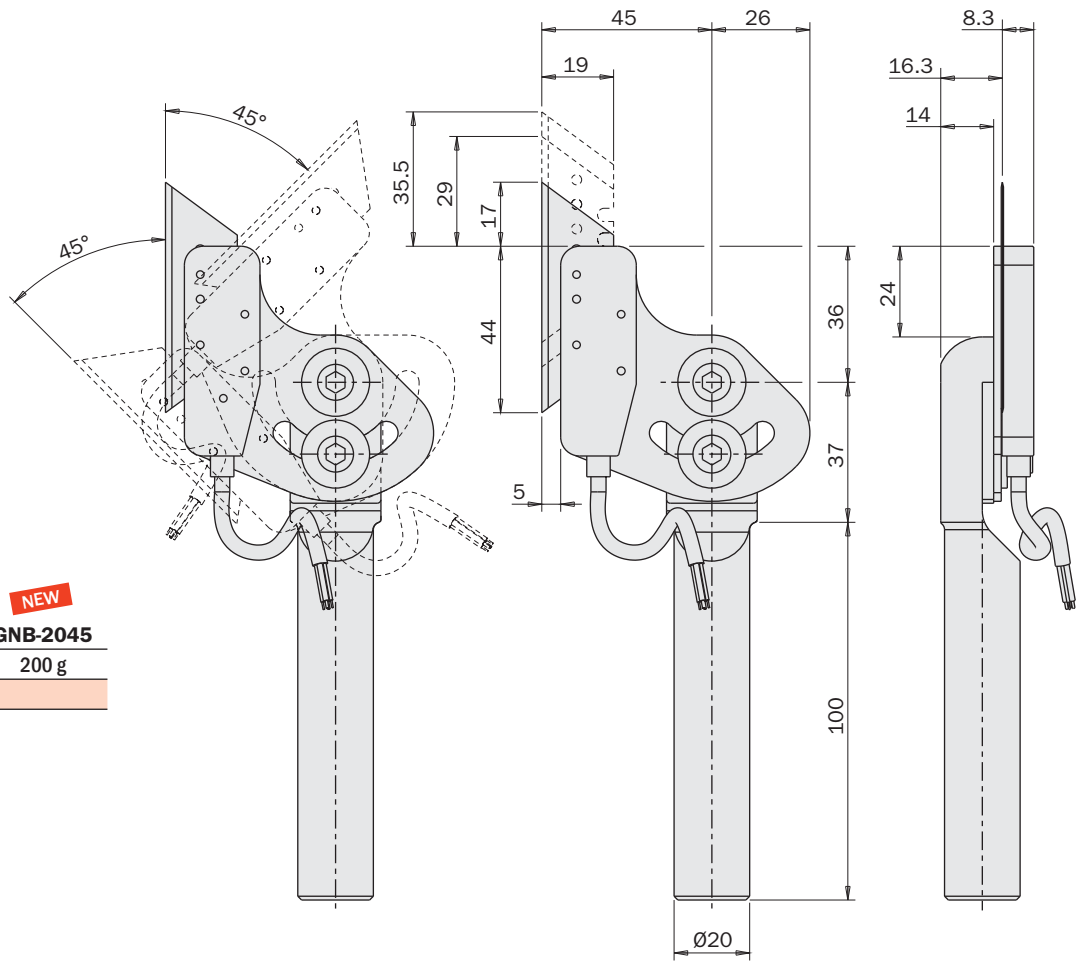
(*)
Il sensore SN3N203-G è incluso
The sensor SN3N203-G is included

Portalama

- Adatta per taglio, smaterozzamento e sbavatura.
- Angolo continuamente regolabile da -45° a +45°.
- Sistema di riscaldamento opzionale.

Blade holder

- Suitable for trimming, degating and deburring.
- Continuously adjustable angle from -45° to +45°.
- Optional heating system.

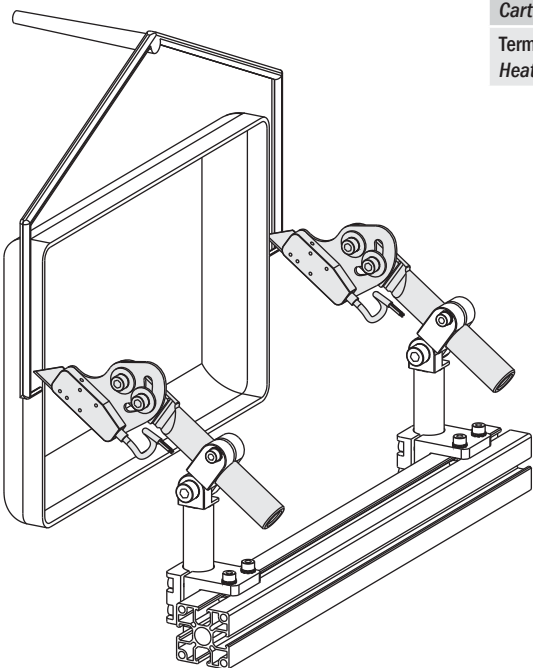


NEW

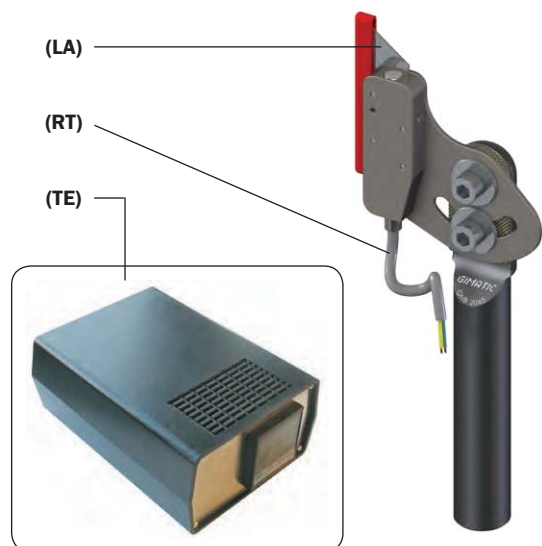
GNB-2045

Peso / Weight 200 g

Esempio di utilizzo / Application example



| | | Codice Code | |
|--|------|-------------|--|
| Lame di ricambio (confezione da 10 pezzi) Spare blade (10 pieces package) | (LA) | 376Y234-10 | |
| Resistenza + termocoppia Cartridge resistance + thermocouple | (RT) | R60K-G | |
| Termoregolatore Heater control box | (TE) | CH102-G | |

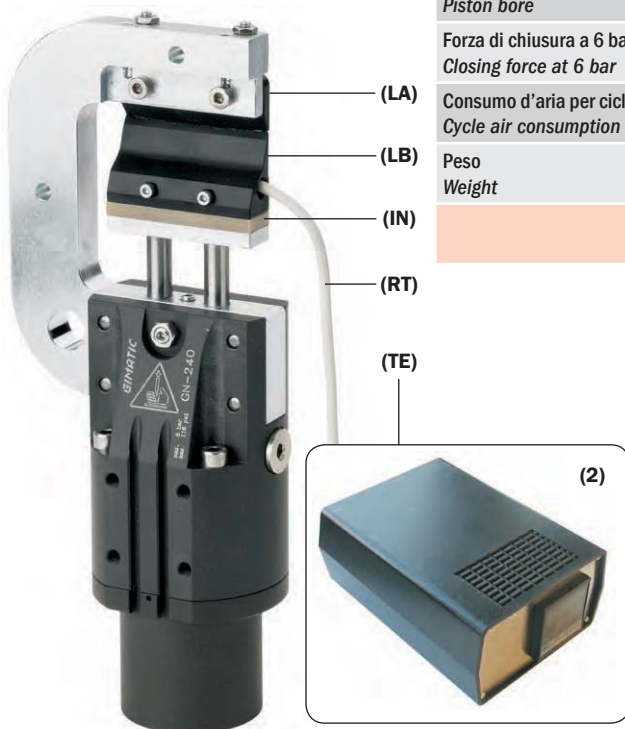


Taglierini a ghigliottina

- Due taglie disponibili.
- Azionamento a doppio effetto con cilindri tandem.
- Sensori magnetici opzionali (1).
- Riscaldamento della lama opzionale (2).
- Le lame (LA e LB) sono fornibili come parti di ricambio.

Thrust Cut Nippers

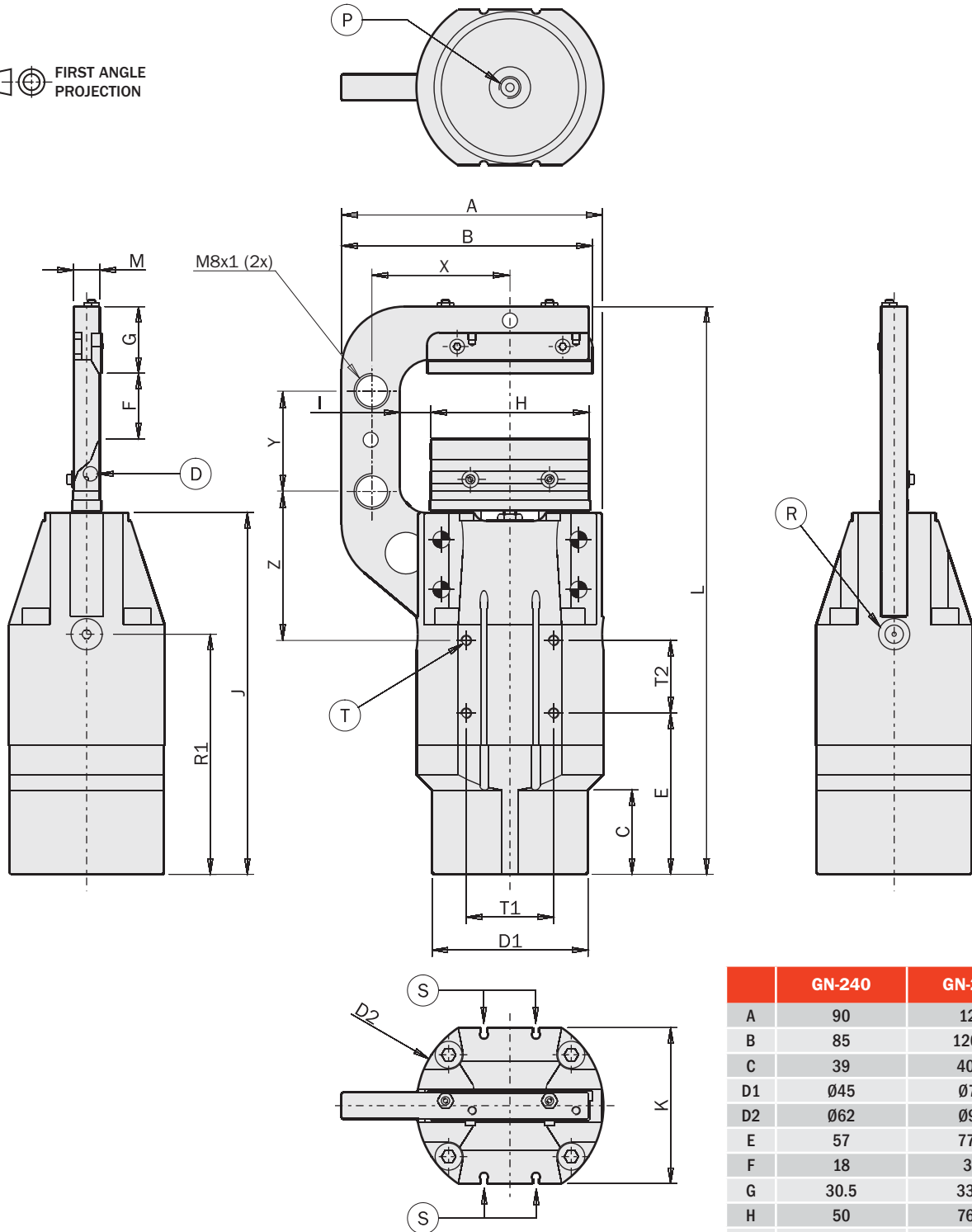
- Two sizes available.
- Double-acting operation with tandem cylinders.
- Optional magnetic sensors (1).
- Optional blade heating system (2).
- The blades (LA and LB) are available as spare parts.



| | GN-240 | GN-263 |
|---|--|---------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | |
| Pressione di esercizio Pressure range | 2 ÷ 6 bar | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C. | |
| Corsa max Maximum stroke | 20 mm | 32 mm |
| Alesaggio Piston bore | Ø40 mm | Ø63 mm |
| Forza di chiusura a 6 bar Closing force at 6 bar | 1470 N | 3648 N |
| Consumo d'aria per ciclo Cycle air consumption | 75 cm ³ | 291 cm ³ |
| Peso Weight | 1330 g | 2900 g |

| | | GN-240 | GN-263 |
|---|--------------|-----------------------------|-----------------------------|
| | | Codice Code | Codice Code |
| Lame di ricambio Spare blade | (LA) (LB) | 5620 5619 | 5617 5616 |
| Isolatore per alte temperature High temperature insulation | (IN) | GN-340-18 | GN-363-18 |
| Resistenza + termocoppia (J) Cartridge resistance + thermocouple (J) | (RT) | R50-G | R75-G |
| Temperatura di esercizio Temperature range | | 250°C | 250°C |
| Potenza Power | | 100W | 120W |
| Cavo Cable | | 1.2m | 1.2m |
| Termoregolatore Heater control box | (TE) | CH102-G | CH102-G |
| Tensione di alimentazione Operating voltage | | 100÷240Vac 50/60Hz | 100÷240Vac 50/60Hz |
| Cavo Cable | | Non fornito Not supplied | Non fornito Not supplied |

Dimensioni (mm) / Dimensions (mm)

FIRST ANGLE
PROJECTION

- (P) Ingresso aria compressa: CHIUSURA
Compressed air connection: CLOSING
- (R) Ingresso aria compressa: APERTURA
Compressed air connection: OPENING
- (S) Sede per sensori serie SS
Slot for SS series sensors
- (T) Foro filettato per fissaggio
Threaded hole for fastening
- (D) Alloggiamento per sistema di riscaldamento Ø6.35
Heating system housing Ø6.35

| | GN-240 | GN-263 |
|----|--------|----------|
| A | 90 | 126 |
| B | 85 | 120.7 |
| C | 39 | 40.5 |
| D1 | Ø45 | Ø75 |
| D2 | Ø62 | Ø90 |
| E | 57 | 77.5 |
| F | 18 | 30 |
| G | 30.5 | 33.5 |
| H | 50 | 76.2 |
| I | 10 | 14.9 |
| J | 134.5 | 174 |
| K | 54 | 74.6 |
| L | 220 | 273 |
| M | 12.7 | 12.7 |
| P | G1/8" | G1/8" |
| R | G1/8" | G1/8" |
| R1 | 90.25 | 115.5 |
| T | M5x7mm | M5x9.5mm |
| T1 | 25 | 42 |
| T2 | 25 | 35 |
| Z | 62.75 | 66.5 |
| X | 47.5 | 67 |
| Y | 40 | 60 |

Attuatori pneumatici per taglierini GNS

- Tre taglie disponibili.
- Ingombri ridotti.
- Compatibili con vari modelli di lame standard.
- Con o senza slitta integrata.
- La slitta è a doppio effetto con molla in chiusura o in apertura.
- Sensori magnetici opzionali.

Air nipper actuators (series GNS)

- Three sizes available.
- Small dimensions.
- Usable with several standard blades.
- With or without integrated slide.
- Double-acting slide, spring closed or spring open.
- Optional magnetic sensors.

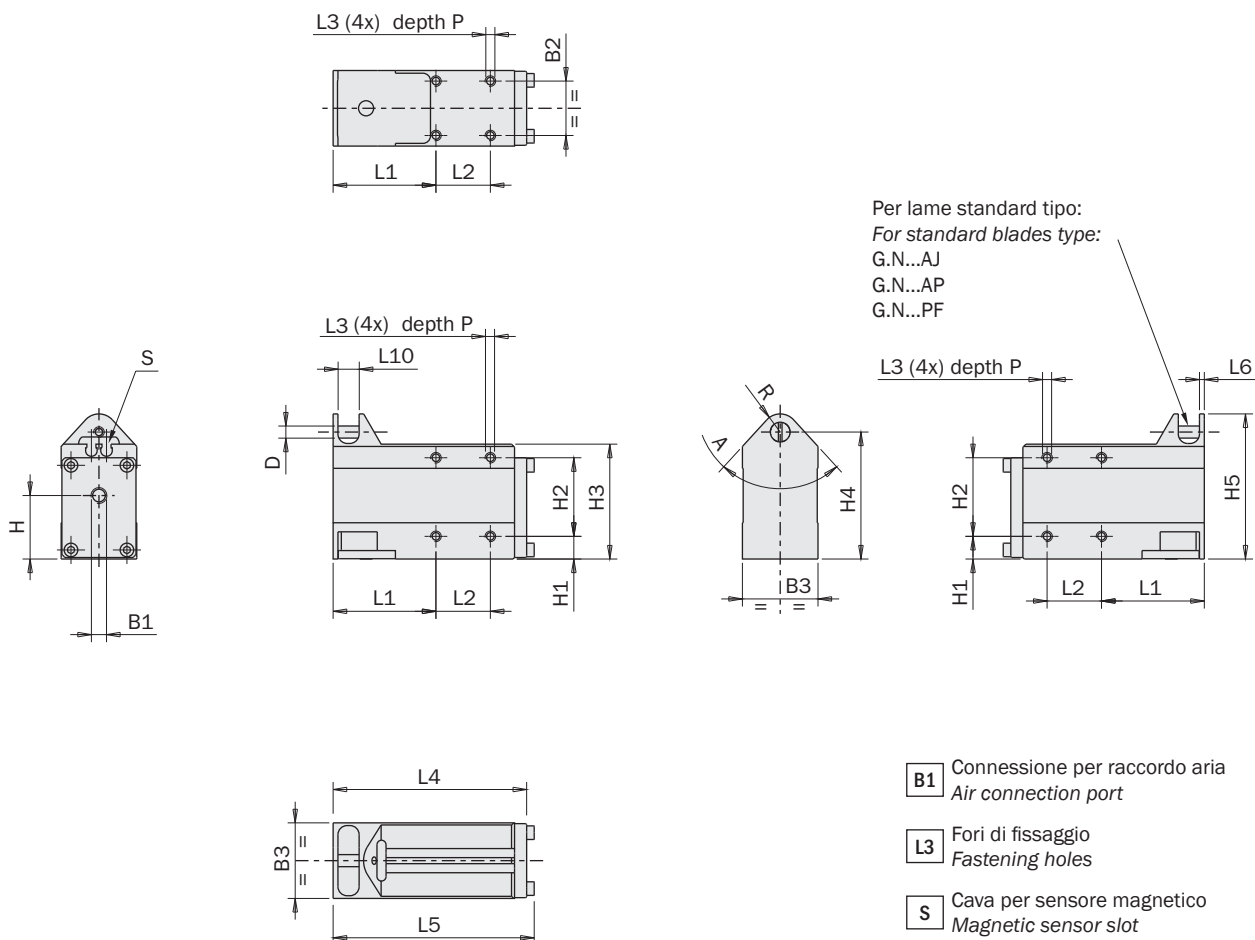


| | GNS-05 GNS-05-NC GNS-05-NO | GNS-10 GNS-10-NC GNS-10-NO | GNS-20 GNS-20-NC GNS-20-NO |
|--|--|----------------------------------|----------------------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C | | |
| Capacità di taglio Cutting capacity | Ø3 mm | Ø4 mm | Ø6 mm |
| Corsa angolare delle lame Blade angular stroke | 2x5° | 2x5° | 2x9° |
| Alesaggio taglierino Nipper piston bore | Ø23 mm | Ø30 mm | Ø42 mm |
| Coppia di chiusura per ogni lama a 6 bar Closing torque at 6 bar each blade | 14 Nm | 34 Nm | 42 Nm |
| Coppia di chiusura totale a 6 bar Total closing torque at 6 bar | 28 Nm | 68 Nm | 84 Nm |
| Consumo d'aria per ciclo Cycle air consumption | 6 cm ³ | 14 cm ³ | 30cm ³ |
| Peso senza lame Weight without blade | 112 g 180 g 175 g | 355 g 570 g 570 g | 480 g 780 g 780 g |

Dimensioni (mm) / Dimensions (mm)

| | A | B1 | B2 | B3 | H | H1 | H2 | H3 | H4 | H5 | D | L1 | L2 | L3 | L4 |
|--------|------|------|----|----|----|-----|----|----|----|----|----|----|----|----|----|
| GNS-05 | 85° | M5 | 18 | 25 | 21 | 7.5 | 26 | 38 | 42 | 48 | ∅4 | 34 | 18 | M3 | 64 |
| GNS-10 | 93° | M5 | 32 | 39 | 32 | 17 | 32 | 53 | 57 | 67 | ∅4 | 45 | 24 | M4 | 84 |
| GNS-20 | 115° | G1/8 | 40 | 48 | 36 | 15 | 40 | 62 | 63 | 73 | ∅4 | 49 | 30 | M5 | 90 |

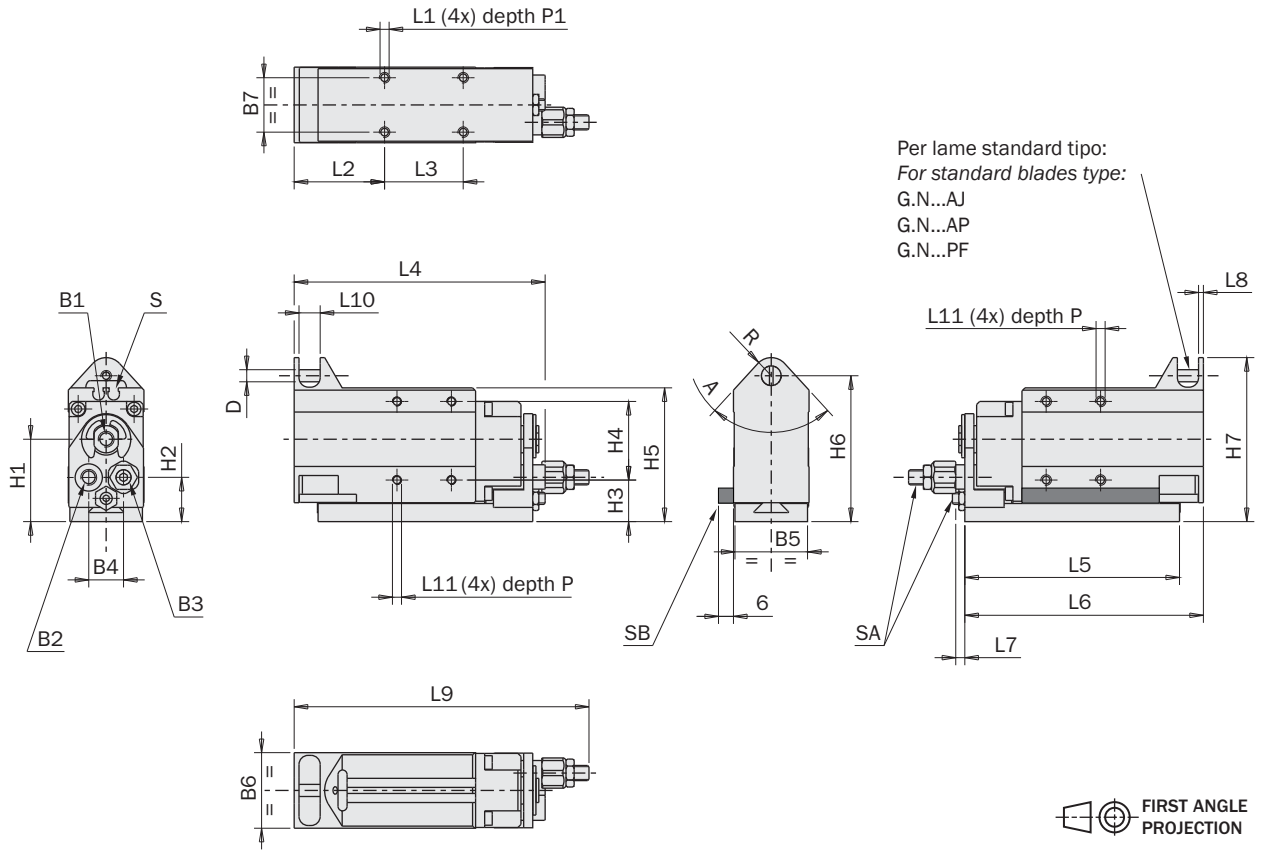
| | L5 | L6 | L10 | P | R |
|--------|------|-----|-----|---|----|
| GNS-05 | 66.5 | 1.6 | 7 | 7 | 6 |
| GNS-10 | 88 | 2 | 12 | 9 | 10 |
| GNS-20 | 94 | 2 | 12 | 9 | 10 |



Dimensioni (mm) / Dimensions (mm)

| | A | B1 | B2 | B3 | B4 | B5 | B6 | B7 | D | H1 | H2 | H3 | H4 | H5 | H6 |
|-----------|------|----|------|----|------|----|----|----|----|-------|-------|-------|----|-------|-------|
| GNS-05-NC | 85° | M5 | M5 | M5 | 11.5 | 24 | 25 | 18 | Ø4 | 27.25 | 14.65 | 13.75 | 26 | 44.25 | 48.25 |
| GNS-10-NC | 93° | M5 | M5 | M5 | 13 | 38 | 39 | 24 | Ø4 | 40.3 | 20.8 | 25.3 | 32 | 61.3 | 65.3 |
| GNS-20-NC | 115° | M5 | G1/8 | M5 | 20.6 | 47 | 48 | 30 | Ø4 | 44.3 | 22.8 | 24.3 | 30 | 70.3 | 71.4 |

| | H7 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 | L11 | P | P1 | R |
|-----------|-------|----|-------|----|-----|-----|------|----|-----|------|-----|-----|---|----|----|
| GNS-05-NC | 54.25 | M3 | 29.9 | 26 | 83 | 71 | 78.9 | 3 | 1.6 | 97.5 | 7 | M3 | 7 | 6 | 6 |
| GNS-10-NC | 75.3 | M4 | 36.05 | 32 | 108 | 90 | 103 | 4 | 2 | 122 | 12 | M4 | 9 | 8 | 10 |
| GNS-20-NC | 81.3 | M5 | 45 | 40 | 121 | 102 | 115 | 5 | 2 | 135 | 12 | M5 | 9 | 8 | 10 |



FIRST ANGLE PROJECTION

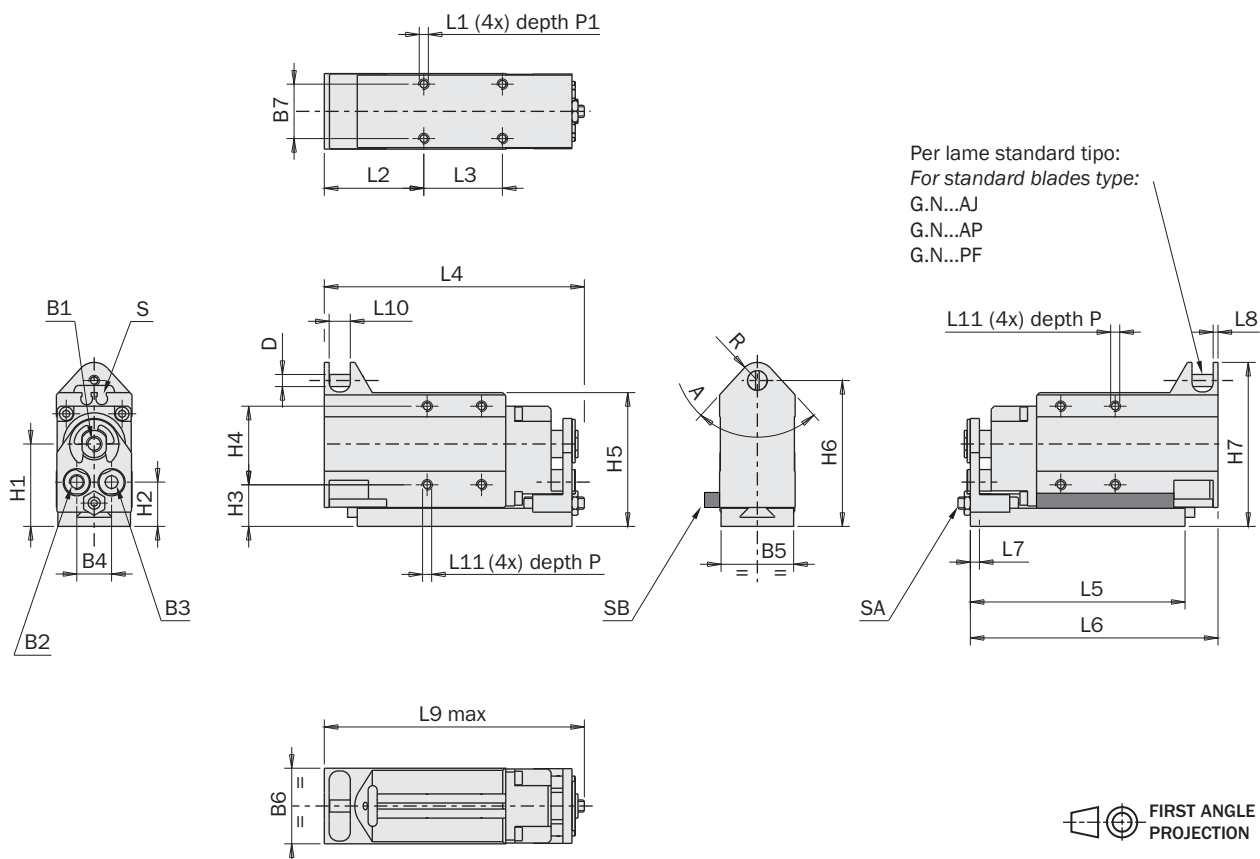
- B1** Connessione per apertura slitta
Slide opening port
- B2** Connessione per chiusura lame
Blades closing port
- B3** Connessione per chiusura slitta
Slide closing port
- L1** Fori di fissaggio
Fastening holes
- L7** Corsa massima slitta
Maximum slide stroke
- S** Cava per sensore magnetico
Magnetic sensor slot
- SA** Regolazione corsa slitta
Slide stroke adjustment
- SB** Sensore slitta
Slide sensor

| | GNS-05-NC | GNS-10-NC | GNS-20-NC |
|---|-----------|-----------|-----------|
| Corsa slitta Slide stroke | 3 mm | 4 mm | 5 mm |
| Alesaggio slitta Slide bore | 18 mm | 20 mm | 25 mm |
| Forza di chiusura a 6 bar sulla slitta Closing force at 6 bar on the slide | 140 N | 185 N | 290 N |
| Forza di apertura a 6 bar sulla slitta Opening force at 6 bar on the slide | 115 N | 130 N | 240 N |
| Forza di chiusura a 0 bar sulla slitta Closing force at 0 bar on the slide | 30 N | 50 N | 50 N |
| Forza di apertura a 0 bar sulla slitta Opening force at 0 bar on the slide | 0 N | 0 N | 0 N |

Dimensioni (mm) / Dimensions (mm)

| | A | B1 | B2 | B3 | B4 | B5 | B6 | B7 | D | H1 | H2 | H3 | H4 | H5 | H6 |
|-----------|------|----|------|----|------|----|----|----|----|-------|-------|-------|----|-------|-------|
| GNS-05-NO | 85° | M5 | M5 | M5 | 11.5 | 24 | 25 | 18 | Ø4 | 27.25 | 14.65 | 13.75 | 26 | 44.25 | 48.25 |
| GNS-10-NO | 93° | M5 | M5 | M5 | 13 | 38 | 39 | 24 | Ø4 | 40.3 | 20.8 | 25.3 | 32 | 61.3 | 65.3 |
| GNS-20-NO | 115° | M5 | G1/8 | M5 | 20.6 | 47 | 48 | 30 | Ø4 | 44.3 | 22.8 | 24.3 | 30 | 70.3 | 71.4 |

| | H7 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10 | L11 | P | P1 | R |
|-----------|-------|----|-------|----|-----|-----|------|----|-----|-----|-----|-----|---|----|----|
| GNS-05-NO | 54.25 | M3 | 29.9 | 26 | 83 | 71 | 81.9 | 3 | 1.6 | 86 | 7 | M3 | 7 | 6 | 6 |
| GNS-10-NO | 75.3 | M4 | 36.05 | 32 | 108 | 90 | 107 | 4 | 2 | 117 | 12 | M4 | 9 | 8 | 10 |
| GNS-20-NO | 81.3 | M5 | 49 | 40 | 121 | 102 | 120 | 5 | 2 | 129 | 12 | M5 | 9 | 8 | 10 |



FIRST ANGLE PROJECTION

- B1** Connessione per apertura slitta
Slide opening port
- B2** Connessione per chiusura lame
Blades closing port
- B3** Connessione per chiusura slitta
Slide closing port
- L1** Fori di fissaggio
Fastening holes
- L7** Corsa massima slitta
Maximum slide stroke
- S** Cava per sensore magnetico
Magnetic sensor slot
- SA** Regolazione corsa slitta
Slide stroke adjustment
- SB** Sensore slitta
Slide sensor

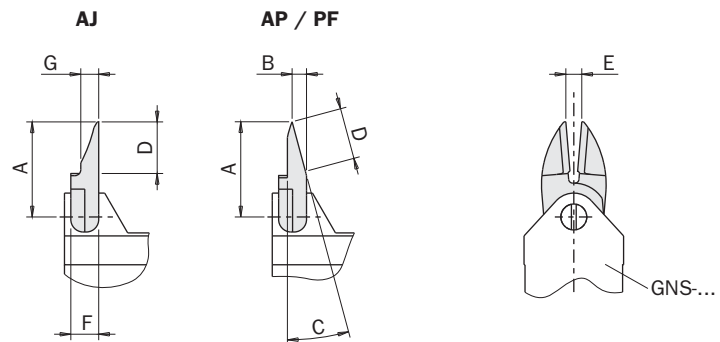
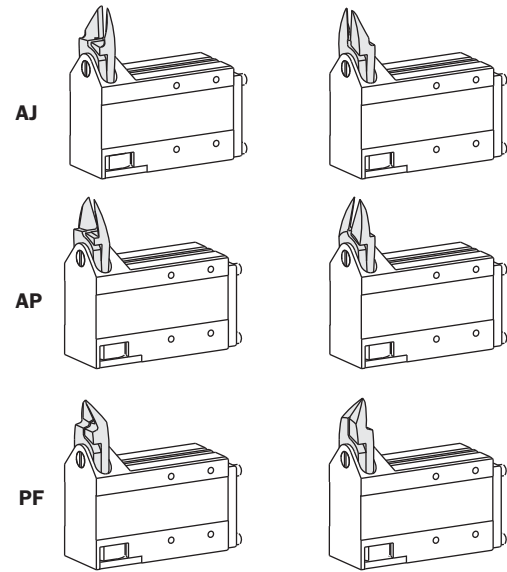
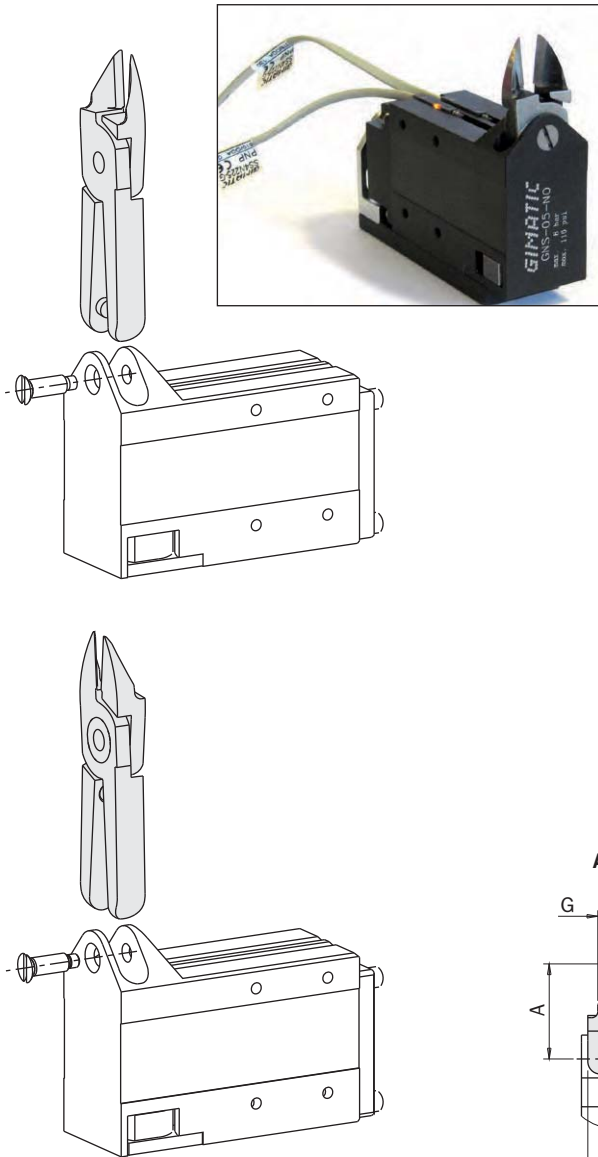
| | GNS-05-NO | GNS-10-NO | GNS-20-NO |
|---|-----------|-----------|-----------|
| Corsa slitta Slide stroke | 3 mm | 4 mm | 5 mm |
| Alesaggio slitta Slide bore | 18 mm | 20 mm | 25 mm |
| Forza di chiusura a 6 bar sulla slitta Closing force at 6 bar on the slide | 75 N | 85 N | 180 N |
| Forza di apertura a 6 bar sulla slitta Opening force at 6 bar on the slide | 180 N | 230 N | 345 N |
| Forza di chiusura a 0 bar sulla slitta Closing force at 0 bar on the slide | 0 N | 0 N | 0 N |
| Forza di apertura a 0 bar sulla slitta Opening force at 0 bar on the slide | 35 N | 50 N | 60 N |

Lame

Le lame possono essere montate in entrambi i sensi.

Blades

The blades can be mounted on either side.

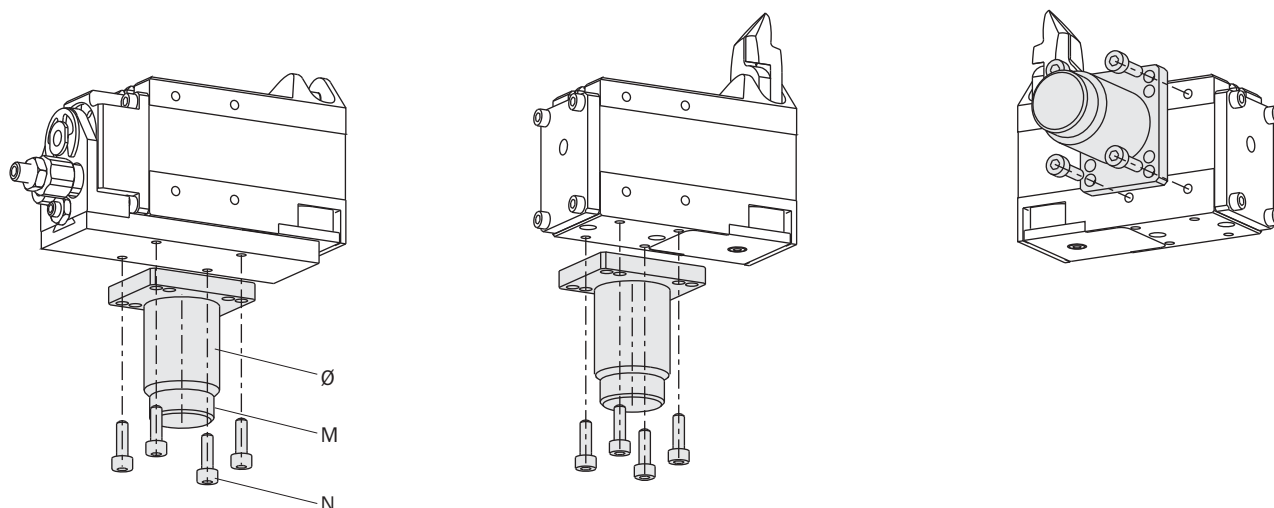


| Lame Blades | Taglierino Nipper | Tipo di lama Blade style | A | B | C | D | E | F | G | Peso Weight |
|----------------|----------------------|------------------------------------|------|-----|-----|------|------|----|-----|----------------|
| G.N5AJ | GNS-05-... | dritta inline | 24 | - | - | 13 | 5 | 7 | 4.5 | 33 g |
| G.N5AP | GNS-05-... | standard | 24 | 3.6 | 15° | 11.5 | 4 | 7 | - | 34 g |
| G.N5PF | GNS-05-... | profonda deep angle | 24 | 7 | 40° | 9.7 | 4 | 7 | - | 35 g |
| G.N10LAJ | GNS-10-... | dritta lunga long inline | 35 | - | - | 18 | 6.5 | 12 | 8 | 117 g |
| G.N10LAP | GNS-10-... | standard lunga long, standard | 36 | 5.3 | 15° | 16 | 6 | 12 | - | 115 g |
| G.N10LPF | GNS-10-... | profonda lunga long, deep angle | 35 | 12 | 40° | 13.5 | 5.5 | 12 | - | 112 g |
| G.N20AJ | GNS-20-... | dritta inline | 34.5 | - | - | 18 | 11.5 | 12 | 8 | 121 g |
| G.N20AP | GNS-20-... | standard | 35 | 3.5 | 15° | 16 | 11 | 12 | - | 120 g |
| G.N20PF | GNS-20-... | profonda deep angle | 35 | 12 | 40° | 13.5 | 11 | 12 | - | 124 g |
| G.N20AJL | GNS-20-... | dritta lunga long inline | 65 | - | - | 20 | 16 | 12 | 7.2 | 220 g |

Codolo di montaggio

Assembly bracket

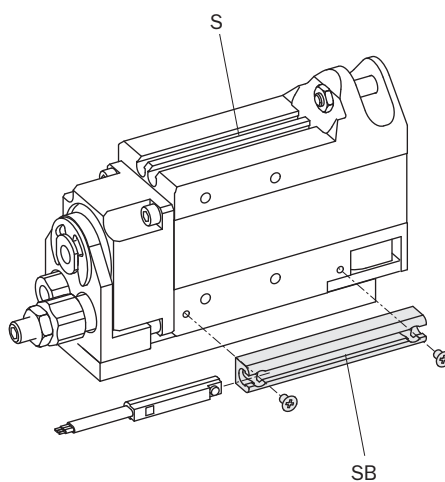
| | GNS-05 GNS-05-NC GNS-05-NO | GNS-10 GNS-10-NC GNS-10-NO | GNS-20 GNS-20-NC GNS-20-NO | Ø | M | N |
|----------|----------------------------------|----------------------------------|----------------------------------|-----|-------|----|
| MFM-A107 | ☑ | | | Ø20 | M17x1 | M3 |
| MFM-A108 | | ☑ | | Ø20 | M17x1 | M4 |
| MFM-A109 | | | ☑ | Ø30 | M27x1 | M5 |

**Sensore slitta**

Le due cava sensore integrate nel corpo (S) servono per il rilevamento della posizione della lama (aperta e chiusa). Una cava addizionale (SB) si può montare esternamente, per rilevare la posizione della slitta (aperta o chiusa), quando necessario. È fornita nella confezione.

Slide sensor

Two sensor slots (S) are machined in the housing, for the detection of the blade position (open and closed). One additional sensor slot (SB) can be mounted externally, to detect the slide position (open or closed), when necessary. It is supplied in the packaging.



Attuatori pneumatici per taglierini serie GN

- Cinque taglie disponibili.
- Azionamento a semplice effetto.
- Autocentrante.
- Compatibili con vari modelli di lame.
- Pistoni magnetici e predisposizione per sensori (solo GN...S).
- Sensori magnetici opzionali.

Air nipper actuators series GN

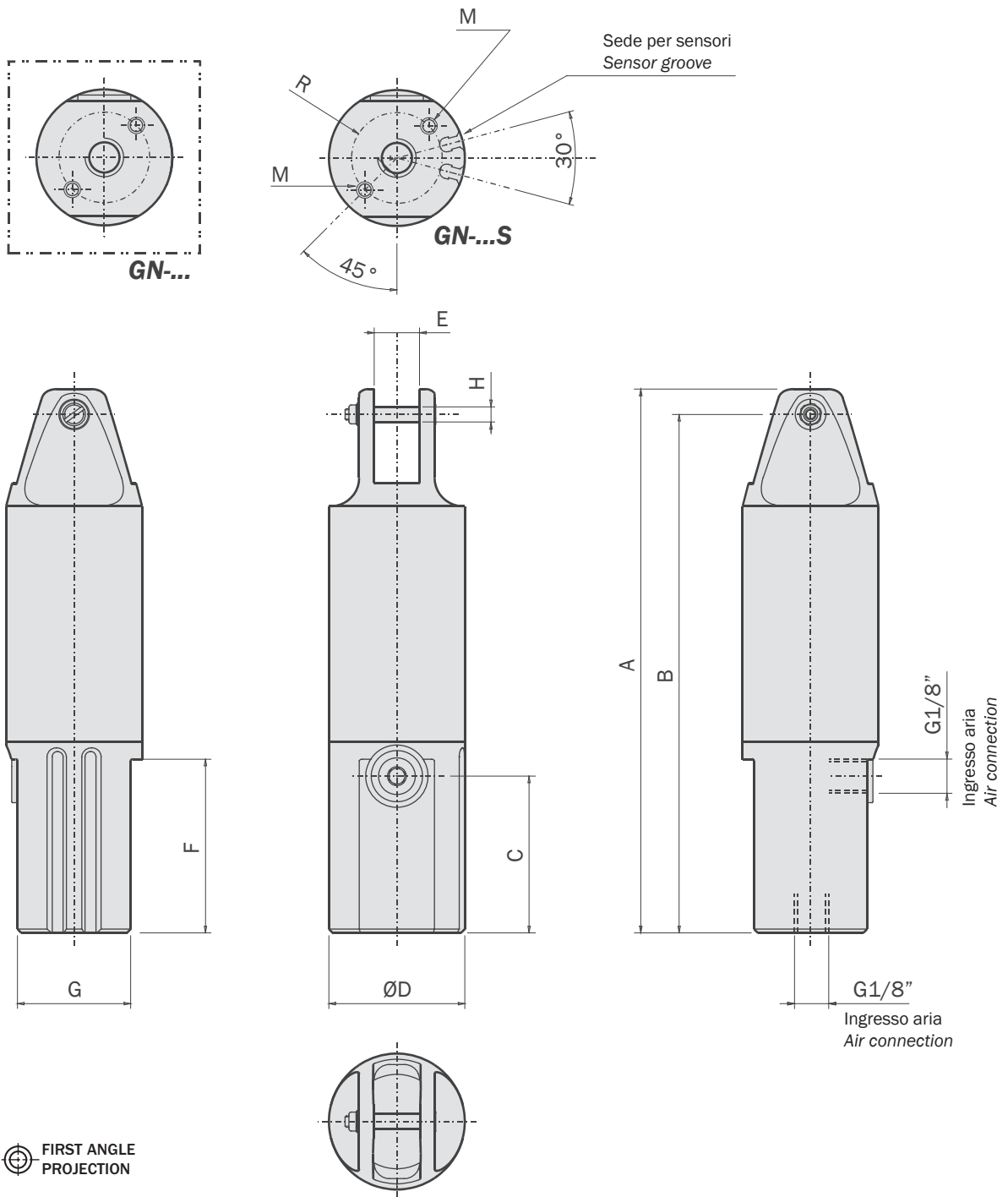
- Five sizes available.
- Single-acting.
- Self-centering.
- Usable with several standard blades.
- Magnetic pistons for sensor detection (GN...S only).
- Optional magnetic sensors.



| | GN-05 GN-05S | GN-10 GN-10S | GN-20 GN-20S | GN-30 GN-30S | GN-50 GN-50S | |
|--|--|--------------------|--------------------|---------------------|---------------------|------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | | | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | | | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C | | | | | |
| Capacità di taglio Cutting capacity | Ø2 mm | Ø4 mm | Ø7 mm | Ø10 mm | Ø12 mm | |
| Corsa Stroke | 2x7° | 2x5° | 2x7° | 2x7.5° | 2x12° | |
| Alesaggio Piston bore | Ø25 mm | Ø30 mm | Ø40 mm | Ø50 mm | Ø63 mm | |
| Coppia di chiusura per ogni lama a 6 bar Closing torque at 6 bar each blade | 11 Nm | 38 Nm | 67 Nm | 150 Nm | 116 Nm | |
| Coppia di chiusura totale a 6 bar Total closing torque at 6 bar | 22 Nm | 76 Nm | 134 Nm | 300 Nm | 232 Nm | |
| Consumo d'aria per ciclo Cycle air consumption | 14 cm ³ | 25 cm ³ | 78 cm ³ | 170 cm ³ | 269 cm ³ | |
| Peso senza lama Weight without blade | GN-... GN-...S | 102 g 125 g | 157 g 208 g | 263 g 370 g | 480 g 715 g | 1100 g 1440 g |

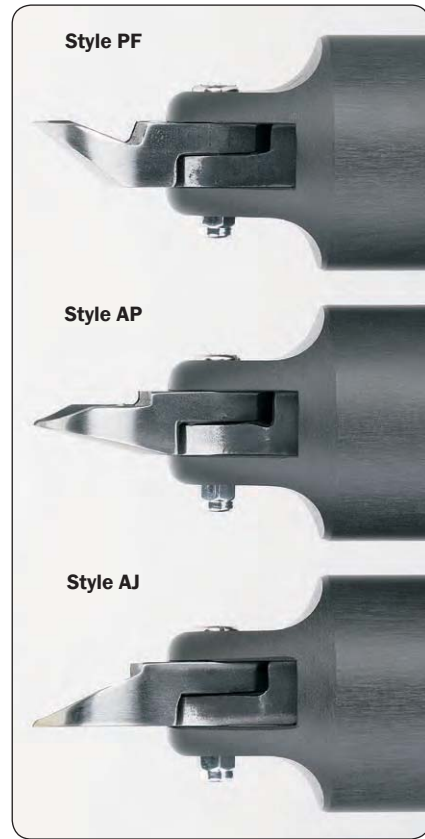
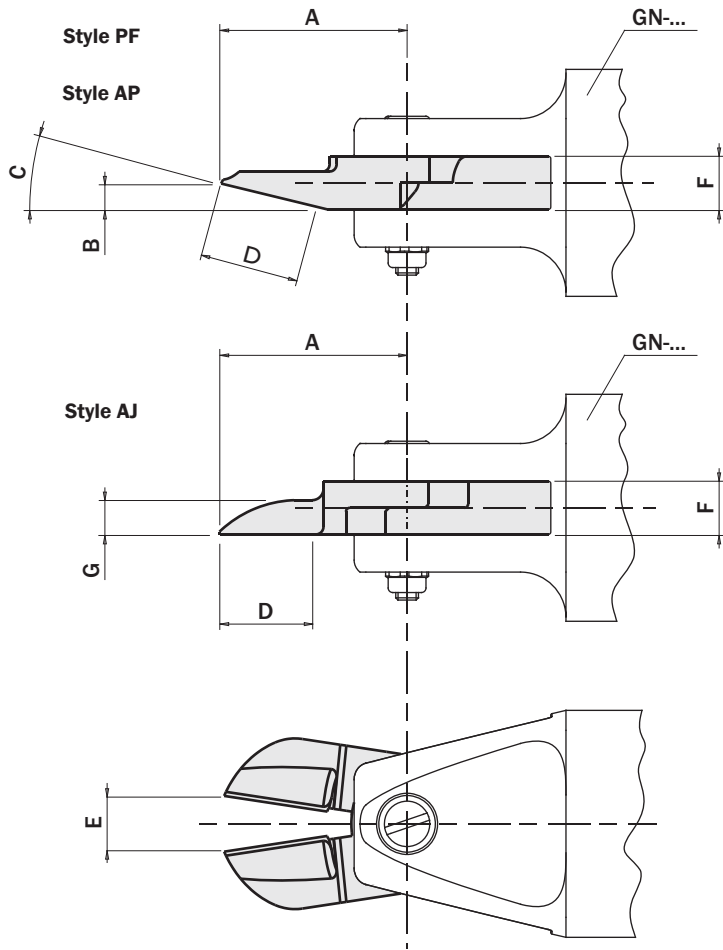
Dimensioni (mm) / Dimensions (mm)

| | A | B | C | D | E | F | G | H | M | R |
|--------|-----|-------|------|-----|----|----|----|----|--------|------|
| GN-05 | 94 | 87 | 10.5 | Ø30 | 7 | 15 | 24 | Ø4 | M4x6.5 | R 10 |
| GN-05S | 118 | 111 | 34.5 | Ø30 | 7 | 40 | 24 | Ø4 | M4x6.5 | R 10 |
| GN-10 | 113 | 106.3 | 10.5 | Ø36 | 12 | 15 | 30 | Ø4 | M4x7 | R 12 |
| GN-10S | 144 | 137.3 | 41.5 | Ø36 | 12 | 46 | 30 | Ø4 | M4x7 | R 12 |
| GN-20 | 129 | 119.8 | 10.5 | Ø45 | 12 | 15 | 36 | Ø4 | M5x8 | R 15 |
| GN-20S | 177 | 167.8 | 58.5 | Ø45 | 12 | 63 | 36 | Ø4 | M5x8 | R 15 |
| GN-30 | 165 | 155 | 10.5 | Ø56 | 17 | 15 | 46 | Ø5 | M6x12 | R 20 |
| GN-30S | 230 | 220 | 75 | Ø56 | 17 | 80 | 46 | Ø5 | M6x12 | R 20 |
| GN-50 | 178 | 169 | 10.5 | Ø75 | 17 | 15 | 70 | Ø5 | M6x12 | R 25 |
| GN-50S | 238 | 229 | 70 | Ø75 | 17 | 75 | 70 | Ø5 | M6x12 | R 25 |



Lame standard

Standard blades

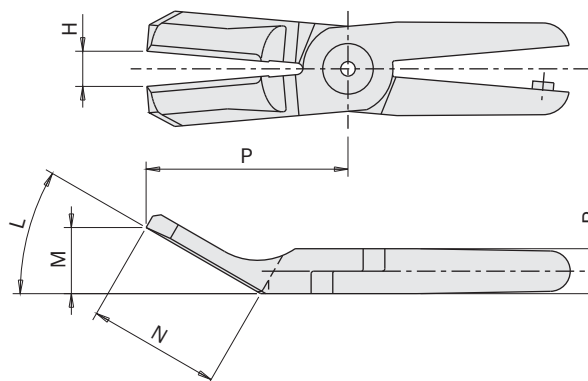


| Lame Blades | Taglierino Nipper | Tipo di lama Blade style | A | B | C | D | E | F | G | Peso Weight |
|----------------|----------------------|------------------------------------|------|-----|-----|------|--------------|----|-----|----------------|
| G.N5AJ | GN-05... | dritta inline | 24 | - | - | 13 | 4 | 7 | 4.5 | 33 g |
| G.N5AP | GN-05... | standard | 24 | 3.6 | 15° | 11.5 | 4 | 7 | - | 34 g |
| G.N5PF | GN-05... | profonda deep angle | 24 | 7 | 40° | 9.7 | 4 | 7 | - | 35 g |
| G.N10LAJ | GN-10... | dritta lunga long inline | 35 | - | - | 18 | 5.5 | 12 | 8 | 117 g |
| G.N10LAP | GN-10... | standard lunga long, standard | 36 | 5.3 | 15° | 16 | 6.5 | 12 | - | 115 g |
| G.N10LPF | GN-10... | profonda lunga long, deep angle | 35 | 12 | 40° | 13.5 | 6.5 | 12 | - | 112 g |
| G.N20AJ | GN-20... | dritta inline | 34.5 | - | - | 18 | 12 | 12 | 8 | 121 g |
| G.N20AP | GN-20... | standard | 35 | 3.5 | 15° | 16 | 11.5 | 12 | - | 120 g |
| G.N20PF | GN-20... | profonda deep angle | 35 | 12 | 40° | 13.5 | 11.5 | 12 | - | 124 g |
| G.N20AJL | GN-20... | dritta lunga long inline | 65 | - | - | 20 | 15.4 | 12 | 7.2 | 220 g |
| G.N30AJ | GN-30... GN-50... | dritta inline | 52 | - | - | 30 | 10.5 22 | 17 | 8 | 365 g |
| G.N30AP | GN-30... GN-50... | standard | 67 | 11 | 15° | 38 | 17.5 29.5 | 17 | - | 380 g |
| G.N30PF | GN-30... GN-50... | profonda deep angle | 58 | 17 | 30° | 27 | 16 26.5 | 17 | - | 388 g |

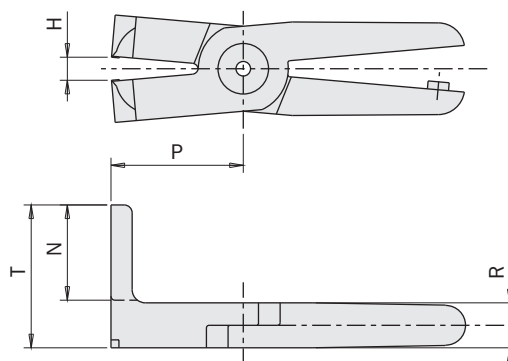
Lame speciali

Special blades

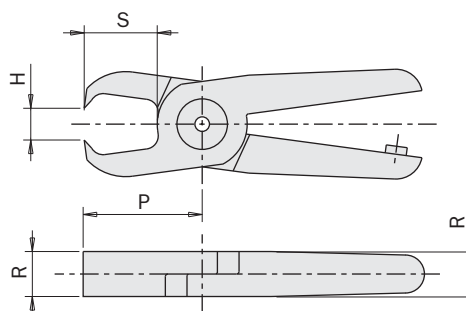
Style AA



Style AL



Style AE

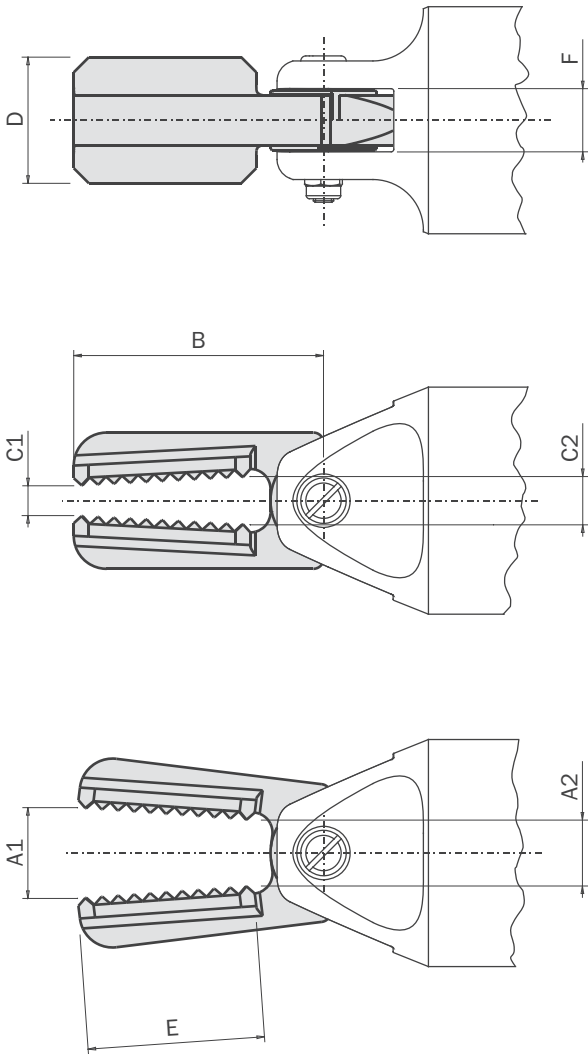


| Lame Blades | Taglierino Nipper | Tipo di lama Blade style | H | L | M | N | P | R | S | T | Peso Weight | |
|----------------|----------------------|-----------------------------|------------|-----|------|----|------|----|------|----|----------------|--|
| G.N10LAB152 | GN-10... | AA | 10 | 15° | 9 | 35 | 60.5 | 12 | - | - | 165 g | |
| G.N20AB360 | GN-20... | AA | 15 | 15° | 9 | 35 | 60.5 | 12 | - | - | 185 g | |
| G.N30AA114 | GN-30... GN-50... | AA | 20 34 | 30° | 25 | 50 | 76 | 17 | - | - | 385 g | |
| G.N30AA | GN-30... GN-50... | AA | 15 26 | 60° | 27.7 | 32 | 55 | 17 | - | - | 390 g | |
| G.N20ALLLL | GN-20... | AL | 11 | - | - | 17 | 40 | 12 | - | 30 | 190 g | |
| G.N30FAL | GN-30... GN-50... | AL | 13 22 | - | - | 35 | 50 | 17 | - | 54 | 455 g | |
| G.N10LAE269 | GN-10... | AE | 5 | - | - | - | 28 | 12 | 15.5 | - | 120 g | |
| G.N20AE | GN-20... | AE | 8.5 | - | - | - | 28 | 12 | 15.5 | - | 135 g | |
| G.N30AE | GN-30... GN-50... | AE | 12.5 20 | - | - | - | 45 | 17 | 28 | - | 395 g | |

Chiedere al fabbricante se è richiesto un tipo di lama diverso.

Consult manufacturer if a different kind of blade is needed.

Griffe / Fingers



| Griffe Fingers | Taglierino Nipper | Pressione di esercizio Pressure range | Tipo di griffa Finger style | A1 A2 | B | C1 C2 | D | E | F | Peso Weight |
|--------------------|----------------------|--|--------------------------------|------------|------|----------|----|----|----|----------------|
| JGW-10S-A50 | GN-10... | 2 ÷ 5 bar | larga wide | 14.5 12 | 49.5 | 5 9 | 25 | 35 | 12 | 175 g |
| JGW-20S-A50 | GN-20... | 2 ÷ 5 bar | larga wide | 18 13 | 49.5 | 6 9 | 25 | 35 | 12 | 185 g |
| JGN-10S-A52 | GN-10... | 2 ÷ 5 bar | stretta narrow | 9 6.5 | 49.5 | 0 3.5 | 25 | 35 | 12 | 190 g |
| JGN-20S-A52 | GN-20... | 2 ÷ 5 bar | stretta narrow | 11 7.5 | 49.5 | 0 3.5 | 25 | 35 | 12 | 200 g |

Slitte per taglierini pneumatici

- Per le materozze più difficili da tagliare è possibile avvicinare il taglierino con una slitta.
- Disponibili in due taglie: alesaggio 16 e 25 mm.
- Con molla in apertura (NO), o in chiusura (NC).
- Con (versione S), o senza predisposizione per i sensori.
- Sensori magnetici opzionali 1.
- Corsa regolabile (fino a 10mm).



Slides for air nippers actuators

- Sliding nippers (with multiple cut action for harder to cut sprues) can be assembled.
- Available in two sizes: bore 16 and 25 mm.
- Spring open (NO), or spring closed (NC).
- With (S versions), or without sensor slots.
- Optional magnetic sensors 1.
- Adjustable stroke (maximum 10mm).

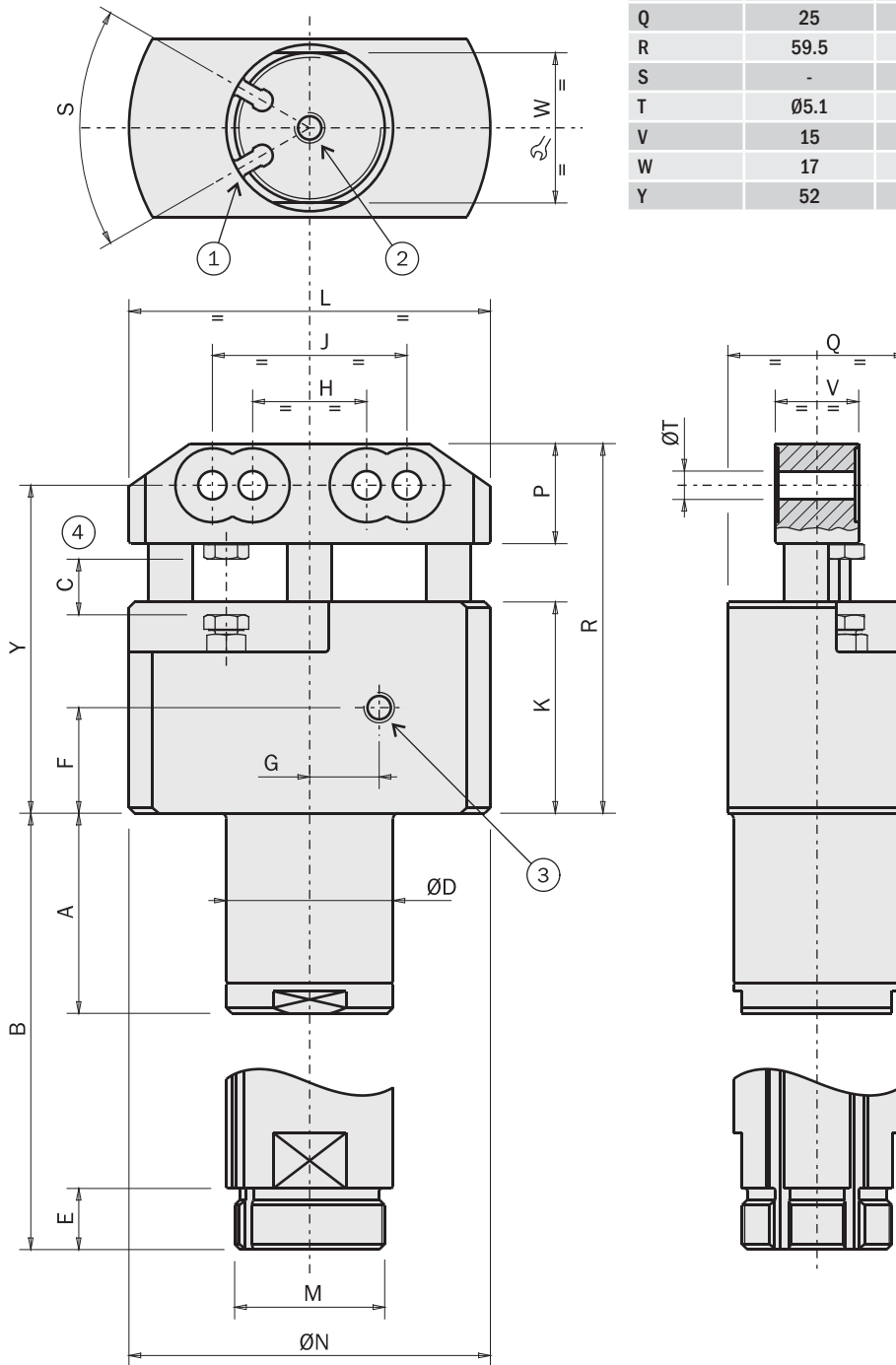


| | ZG-16-NO ZG-16S-NO | ZG-16-NC ZG-16S-NC | ZG-25-NO ZG-25S-NO | ZG-25-NC ZG-25S-NC |
|--|--|-----------------------|-----------------------|-----------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | | |
| Pressione di esercizio Pressure range | 3 ÷ 8 bar | | | |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C | | | |
| Corsa Stroke | 10 mm | 10 mm | 10 mm | 10 mm |
| Alesaggio Piston bore | Ø16 mm | Ø16 mm | Ø25 mm | Ø25 mm |
| Forza di chiusura a 6 bar Retraction force at 6 bar | 65 N | 120 N | 210 N | 275 N |
| Forza di apertura a 6 bar Extension force at 6 bar | 135 N | 80 N | 300 N | 240 N |
| Forza di chiusura a 0 bar Retraction force at 0 bar | 0 N | 25 N | 0 N | 30 N |
| Forza di apertura a 0 bar Extension force at 0 bar | 25 N | 0 N | 30 N | 0 N |
| Consumo d'aria per ciclo Cycle air consumption | 5.6 cm ³ | 5.6 cm ³ | 21 cm ³ | 21 cm ³ |
| Peso senza taglierino Weight without air nipper | ZG-... ZG-...S-... | 180 g 200 g | 180 g 200 g | 360 g 425 g |

Dimensioni (mm) / Dimensions (mm)

- ① Sede per sensori
Sensor groove
- ② Alimentazione aria compressa M5
Air connection M5
- ③ Alimentazione aria compressa M5
Air connection M5
- ④ Corsa regolabile 0÷10 mm
Adjustable stroke 0÷10 mm

| | ZG-16... | ZG-16S... | ZG-25... | ZG-25S... |
|---|----------|-----------|----------|-----------|
| A | 29 | - | 36 | - |
| B | - | 63 | - | 78.5 |
| C | 10 max | 10 max | 10 max | 10 max |
| D | Ø20 | Ø20 | Ø30 | Ø30 |
| E | - | 8 | - | 11 |
| F | 17 | 17 | 19 | 19 |
| G | 6 | 6 | 12.5 | 12.5 |
| H | 20.5 | 20.5 | 20.5 | 20.5 |
| J | - | - | 35 | 35 |
| K | 31 | 31 | 38 | 38 |
| L | 50 | 50 | 65 | 65 |
| M | - | M17x1 | - | M27x1 |
| N | Ø50 | Ø50 | Ø65 | Ø65 |
| P | 18 | 18 | 18 | 18 |
| Q | 25 | 25 | 32 | 32 |
| R | 59.5 | 59.5 | 66.5 | 66.5 |
| S | - | 80° | - | 60° |
| T | Ø5.1 | Ø5.1 | Ø5.1 | Ø5.1 |
| V | 15 | 15 | 15 | 15 |
| W | 17 | 17 | 27 | 27 |
| Y | 52 | 52 | 59 | 59 |



FIRST ANGLE PROJECTION

Slitta a doppia corsa per grosse pinze per materozze

- Cilindro principale a doppio effetto con pistone da 32mm e corsa 35mm.
- Arresto intermedio a semplice effetto (1).
- Cravatta da 36mm per attuatore GN-10 (2).
- Usata per l'estrazione di paraurti.
- Sensori magnetici opzionali.
- Distanziale per riduzione corsa incluso.

Double stroke slide for large sprue grippers

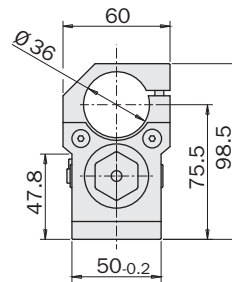
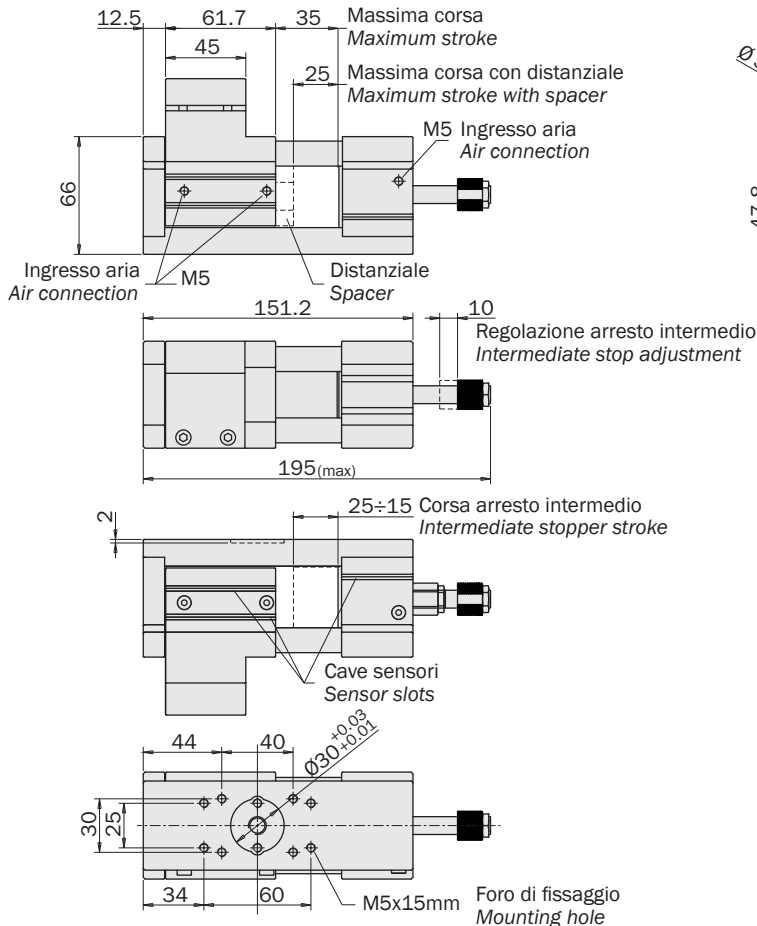
- Double-effect main cylinder with piston bore 32mm and stroke 35mm.
- Single-acting intermediate stopper (1).
- Dia. 36mm clamp for GN-10 actuator (2).
- Used for car bumpers extracting.
- Optional magnetic sensors.
- Stroke reduction spacer included.

NEW

| | ZJ-3235 |
|--|--|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar |
| Temperatura di esercizio Temperature range | 5° ÷ 60 °C |
| Corsa principale senza distanziale Main stroke without spacer | 35 mm |
| Corsa intermedia senza distanziale Intermediate stroke without spacer | 10 ÷ 20 mm |
| Corsa principale con distanziale Main stroke with spacer | 25 mm |
| Corsa intermedia con distanziale Intermediate stroke with spacer | 0 ÷ 10 mm |
| Forza di trazione a 6 bar Pulling force at 6 bar | 450 N |
| Peso Weight | 1330 g |



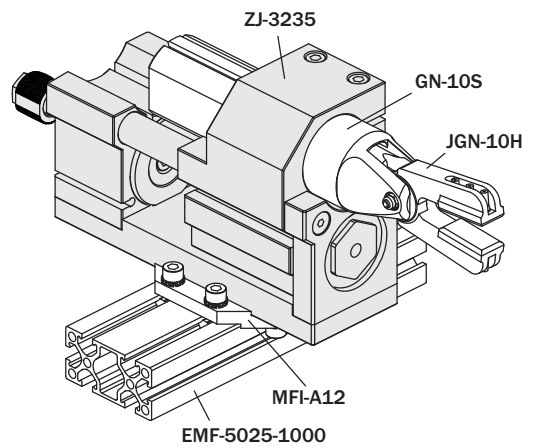
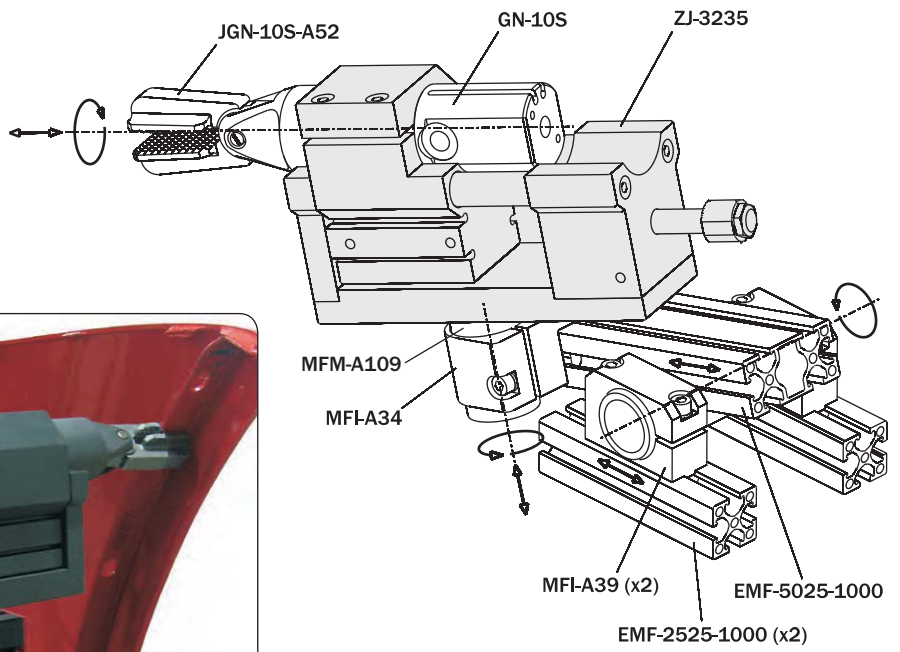
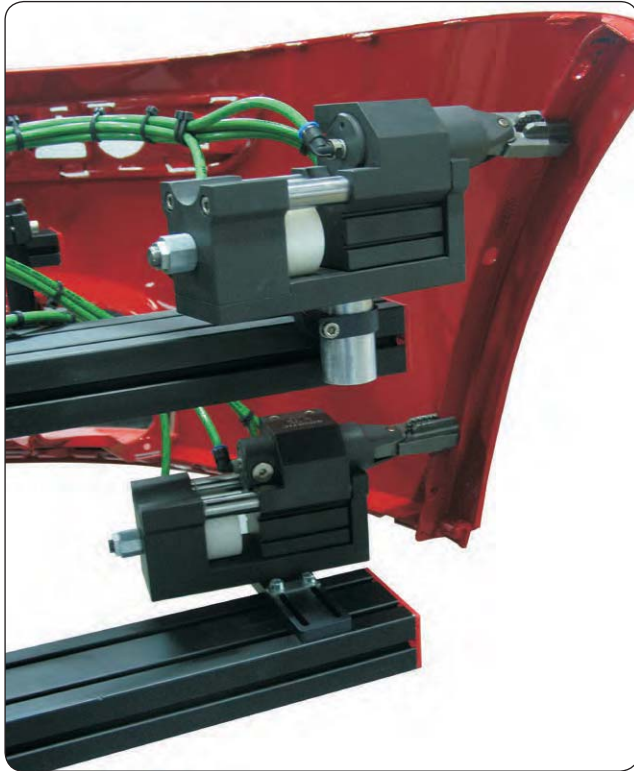
Dimensioni (mm) / Dimensions (mm)



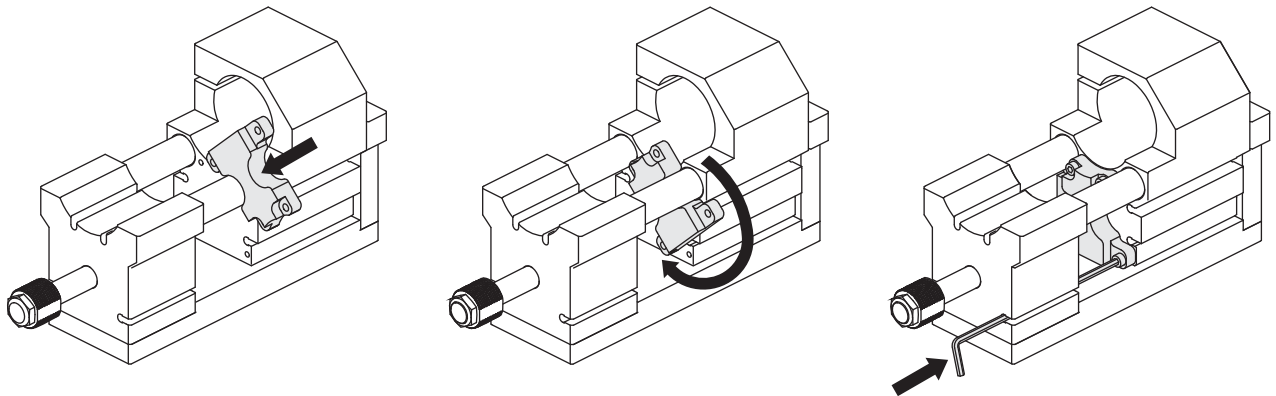
FIRST ANGLE PROJECTION



Esempi di utilizzo
Application example



Montaggio del distanziale
Spacer mounting



Ventose

- Due tipologie: piane o con 1.5 soffietti.
- Quattro materiali: Silicone, EPDM, gomma naturale, HNBR.
- Diametri da 11mm a 53mm.

Vacuum cups

- Two styles: flat or with 1.5 bellows.
- Four materials: Silicone, EPDM, natural rubber, HNBR.
- Diameters from 11mm to 53mm.

Scelta del materiale

Le ultime tre cifre del codice identificano il materiale ed il colore.

Material choice

The three final characters in the code identify the material and the color.

Codice/Code

| | | | | | | |
|--|--|--|--|---|---|---|
| | | | | S | 0 | 1 |
|--|--|--|--|---|---|---|

| | | | | | | |
|--|--|--|--|---|---|---|
| | | | | E | 0 | 2 |
|--|--|--|--|---|---|---|

| | | | | | | |
|--|--|--|--|---|---|---|
| | | | | R | 0 | 3 |
|--|--|--|--|---|---|---|

| | | | | | | |
|--|--|--|--|---|---|---|
| | | | | H | 0 | 4 |
|--|--|--|--|---|---|---|



| Colore <i>Color</i> | Rosso <i>Red</i> | Nero <i>Black</i> | Verde <i>Green</i> | Blu <i>Blue</i> |
|--|---------------------------|---------------------------------|-----------------------|-----------------------------|
| Durezza (Sh.A) <i>Hardness</i> | 55 | 48 | 53 | 60 |
| Temperatura di esercizio <i>Temperature range</i> | -70° ÷ +200° | -40° ÷ +100° | -40° ÷ +80° | -25° ÷ +150° |
| Applicazioni tipiche <i>Typical applications</i> | Alimentare <i>Food</i> | Automobile <i>Automotive</i> | Carta <i>Paper</i> | Plastica <i>Plastics</i> |

P/G In base al diametro esistono due tipi di attacco: tipo P e tipo G
According to the cup diameter there are two connections: P type and G type

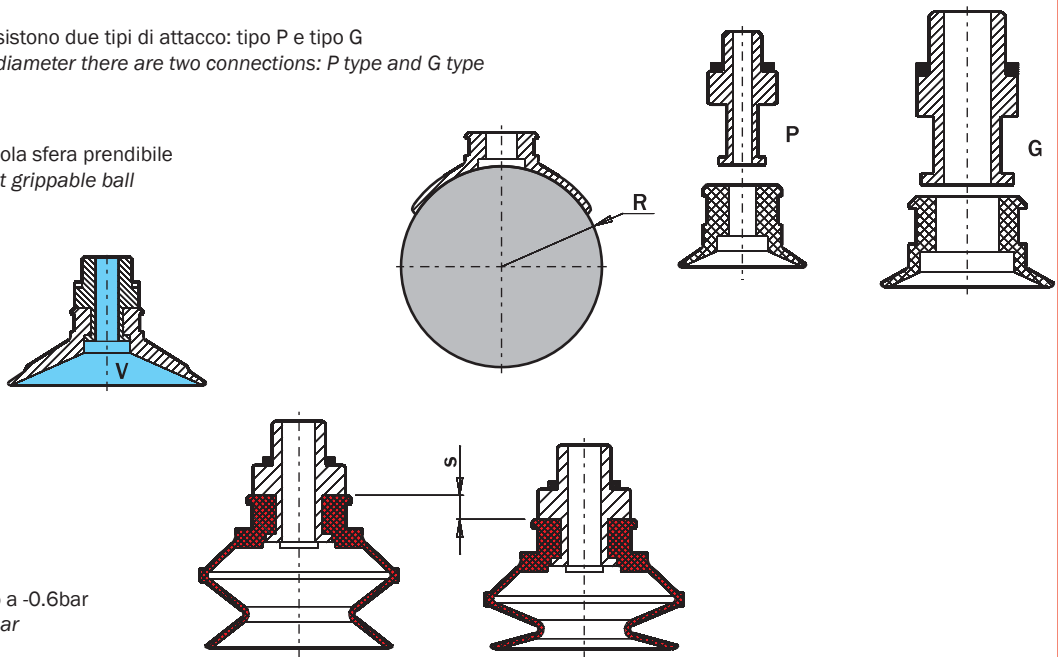
R Il raggio della più piccola sfera prendibile
Radius of the smallest grippable ball

V Il volume interno
The inner volume

s Corsa verticale
Vertical stroke

m Peso
Weight

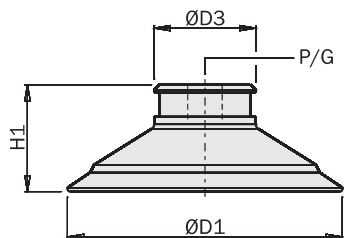
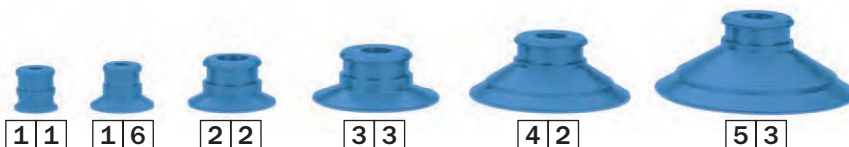
F Forza di sollevamento a -0.6bar
Suction force at -0.6bar



Ventose plane / Flat vacuum cups

Codice/Code

V 0 1

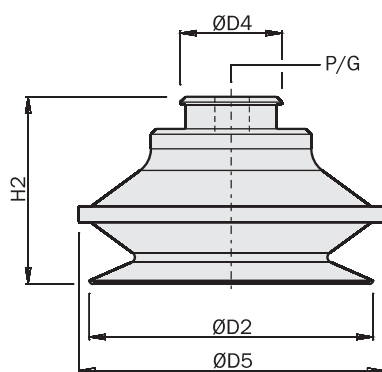


| V01 | P/G | D1 [mm] | D3 [mm] | H1 [mm] | R [mm] | s [mm] | V [cm ³] | m [g] | F [N] |
|----------|-----|------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| V0111S01 | | | | | | | | | |
| V0111E02 | P | Ø11 | Ø10 | 10 | 8 | 0.5 | 0.2 | 0.6 | 4 |
| V0111R03 | | | | | | | | | |
| V0111H04 | | | | | | | | | |
| V0116S01 | | | | | | | | | |
| V0116E02 | P | Ø16.2 | Ø10 | 10.5 | 8 | 1.5 | 0.3 | 0.6 | 8 |
| V0116R03 | | | | | | | | | |
| V0116H04 | | | | | | | | | |
| V0122S01 | | | | | | | | | |
| V0122E02 | G | Ø22 | Ø15 | 11.5 | 13 | 2.5 | 1.1 | 1.3 | 12 |
| V0122R03 | | | | | | | | | |
| V0122H04 | | | | | | | | | |
| V0133S01 | | | | | | | | | |
| V0133E02 | G | Ø32 | Ø19 | 12.5 | 20 | 3.5 | 1.7 | 2.7 | 25 |
| V0133R03 | | | | | | | | | |
| V0133H04 | | | | | | | | | |
| V0142S01 | | | | | | | | | |
| V0142E02 | G | Ø41 | Ø19 | 15.5 | 30 | 4.5 | 3.5 | 4.6 | 40 |
| V0142R03 | | | | | | | | | |
| V0142H04 | | | | | | | | | |
| V0153S01 | | | | | | | | | |
| V0153E02 | G | Ø51.4 | Ø19 | 20 | 35 | 6 | 8 | 8.6 | 64 |
| V0153R03 | | | | | | | | | |
| V0153H04 | | | | | | | | | |

Ventose a soffietto / Bellow vacuum cups

Codice/Code

V 0 2



| V02 | P/G | D2 [mm] | D4 [mm] | D5 [mm] | H2 [mm] | R [mm] | s [mm] | V [cm ³] | m [g] | F [N] |
|----------|-----|------------|------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| V0211S01 | | | | | | | | | | |
| V0211E02 | P | Ø11 | Ø10 | Ø12 | 15.4 | 4 | 4.5 | 0.4 | 0.8 | 3 |
| V0211R03 | | | | | | | | | | |
| V0211H04 | | | | | | | | | | |
| V0216S01 | | | | | | | | | | |
| V0216E02 | P | Ø15.7 | Ø10 | Ø17.5 | 18.8 | 5 | 6.5 | 1 | 1.3 | 6 |
| V0216R03 | | | | | | | | | | |
| V0216H04 | | | | | | | | | | |
| V0222S01 | | | | | | | | | | |
| V0222E02 | P | Ø22 | Ø10 | Ø23 | 19 | 10 | 10 | 2 | 1.6 | 11 |
| V0222R03 | | | | | | | | | | |
| V0222H04 | | | | | | | | | | |
| V0233S01 | | | | | | | | | | |
| V0233E02 | G | Ø34 | Ø19 | Ø36 | 26 | 15 | 15 | 10 | 5.2 | 27 |
| V0233R03 | | | | | | | | | | |
| V0233H04 | | | | | | | | | | |
| V0242S01 | | | | | | | | | | |
| V0242E02 | G | Ø42 | Ø19 | Ø45 | 28 | 20 | 15 | 14 | 8.4 | 39 |
| V0242R03 | | | | | | | | | | |
| V0242H04 | | | | | | | | | | |
| V0253S01 | | | | | | | | | | |
| V0253E02 | G | Ø53 | Ø19 | Ø57 | 35 | 30 | 15 | 30 | 14.4 | 64 |
| V0253R03 | | | | | | | | | | |
| V0253H04 | | | | | | | | | | |

Nippli (per ventose serie V)

Scegliere il nipplo in accordo alla ventosa (tipo P o tipo G) e in accordo alla filettatura richiesta dal supporto.

Nipples (for vacuum cups series V)

Select the proper nipple according to the vacuum cup (P type or G type) and according to the thread of the cup support.

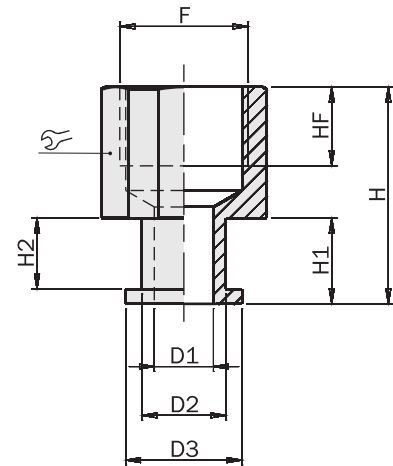


| AV | P/G | F | M | ⌀ [mm] | m [g] |
|-----------|-----|-------|-------|--------|-------|
| AV01M5F08 | P | M5 | - | 8 | 1.2 |
| AV01M5M08 | P | - | M5 | 8 | 0.8 |
| AV0118F13 | P | G1/8" | - | 13 | 4 |
| AV0118M13 | P | - | G1/8" | 13 | 4 |
| AV0118F12 | G | G1/8" | - | 12 | 3 |
| AV0118M12 | G | - | G1/8" | 12 | 2.6 |
| AV0118F16 | G | G1/8" | - | 16 | 6.2 |
| AV0118M16 | G | - | G1/8" | 16 | 4 |
| AV0114F16 | G | G1/4" | - | 16 | 4.6 |
| AV0114M16 | G | - | G1/4" | 16 | 5.4 |



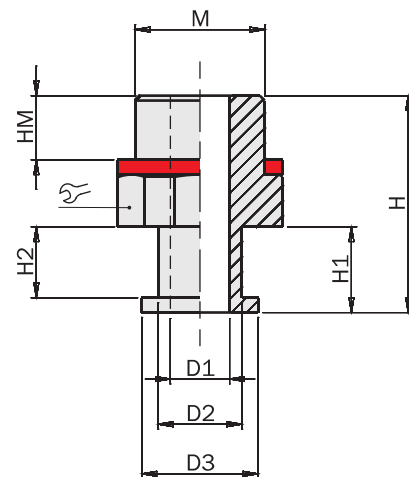
Dimensioni (mm) / Dimensions (mm)

| | AV01M5F08 | AV0118F12 | AV0118F13 | AV0118F16 | AV0114F16 |
|----|-----------|-----------|-----------|-----------|-----------|
| F | M5 | G1/8" | G1/8" | G1/8" | G1/4" |
| D1 | Ø2.5 | Ø6 | Ø2.5 | Ø6 | Ø6 |
| D2 | Ø4 | Ø8.5 | Ø4 | Ø8.5 | Ø8.5 |
| D3 | Ø6 | Ø11.8 | Ø6 | Ø11.8 | Ø11.8 |
| H | 17 | 22 | 21 | 22 | 22 |
| H1 | 7.7 | 8.7 | 7.7 | 8.7 | 8.7 |
| H2 | 6.7 | 7.2 | 6.7 | 7.2 | 7.2 |
| HF | 5 | 7 | 7 | 8 | 8 |
| ⌀ | 8 | 12 | 13 | 16 | 16 |



FIRST ANGLE PROJECTION

| | AV01M5M08 | AV0118M12 | AV0118M13 | AV0118M16 | AV0114M16 |
|----|-----------|-----------|-----------|-----------|-----------|
| M | M5 | G1/8" | G1/8" | G1/8" | G1/4" |
| D1 | Ø2.5 | Ø6 | Ø2.5 | Ø6 | Ø6 |
| D2 | Ø4 | Ø8.5 | Ø4 | Ø8.5 | Ø8.5 |
| D3 | Ø6 | Ø11.8 | Ø6 | Ø11.8 | Ø11.8 |
| H | 17 | 22 | 21 | 22 | 22 |
| H1 | 7.7 | 8.7 | 7.7 | 8.7 | 8.7 |
| H2 | 6.7 | 7.2 | 6.7 | 7.2 | 7.2 |
| HM | 4 | 6.5 | 6.5 | 6.5 | 6.5 |
| ⌀ | 8 | 12 | 13 | 16 | 16 |



Ventose

- Due tipologie: piane o con 1.5 soffietti.
- Due materiali: Silicone (SIL) o Cloroprene (CR).
- Diametri da 5mm a 11mm.
- Due nippli (AVP).

Vacuum cups

- Two styles: flat or with 1.5 bellows.
- Two materials: Silicone (SIL) or Chloroprene (CR).
- Diameters from 5mm to 11mm.
- Two nipples (AVP).

Materiali / Materials

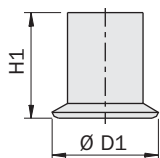
| | | Colore Color | Durezza Hardness | Temperatura di esercizio Temperature range |
|---------------------------|-----|-----------------|---------------------|---|
| Silicone Silicone | SIL | Rosso Red | 50 Sh.A | -40 ÷ +200°C. |
| Cloroprene Chloroprene | CR | Nero Black | 50 Sh.A | -40 ÷ +110°C. |

Ventose piane

- Adatte per oggetti con superfici piane o leggermente curve.
- Consentono la presa su superfici concave.

Flat vacuum cups

- Suitable for objects with flat or slightly curved surfaces.
- Also able to pick up concave objects.

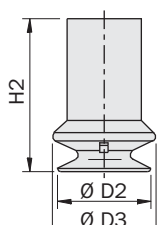
| | Material Material | Niplo Nipple | D1 [mm] | H1 [mm] | R [mm] | s [mm] | V [cm³] | m [g] | F [N] |
|---|----------------------|-----------------|------------|------------|-----------|-----------|------------|----------|----------|
|  | VP.3150114 | CR AVP.3107031 | Ø5 | 6.1 | 3 | 0.2 | 0.03 | 0.08 | 0.9 |
| | VP.3150114S | SIL AVP.3107031 | Ø5 | 6.1 | 3 | 0.2 | 0.03 | 0.08 | 0.9 |
| | VP.3150115 | CR AVP.3107031 | Ø7 | 7 | 5 | 0.3 | 0.05 | 0.14 | 1.7 |
| | VP.3150115S | SIL AVP.3107031 | Ø7 | 7 | 5 | 0.3 | 0.05 | 0.14 | 1.7 |
| | VP.3150116 | CR AVP.3107031 | Ø9 | 7 | 6 | 0.5 | 0.1 | 0.16 | 2.9 |
| | VP.3150116S | SIL AVP.3107031 | Ø9 | 7 | 6 | 0.5 | 0.1 | 0.16 | 2.9 |
| | VP.3150117 | CR AVP.3107030 | Ø11 | 10.5 | 8 | 0.5 | 0.18 | 0.65 | 4.4 |
| | VP.3150117S | SIL AVP.3107030 | Ø11 | 10.5 | 8 | 0.5 | 0.18 | 0.65 | 4.4 |

Ventose a soffietto

- Creano spostamenti verso l'alto per la separazione di particolari sottili.
- Poco adatte a manipolare oggetti con forza di sollevamento parallela alla superficie.
- Consentono di compensare differenze di altezza.

Bellow vacuum cups

- Lifting movements to separate thin objects.
- Not recommended for handling objects with the lifting force parallel to the surface.
- Suitable for level adjustment.

| | Material Material | Niplo Nipple | D2 [mm] | D3 [mm] | H2 [mm] | R [mm] | s [mm] | V [cm³] | m [g] | F [N] |
|---|----------------------|-----------------|------------|------------|------------|-----------|-----------|------------|----------|----------|
|  | VP.3150286 | CR AVP.3107031 | Ø5.6 | Ø6.2 | 9.2 | 1.5 | 1.5 | 0.05 | 0.11 | 0.8 |
| | VP.3150286S | SIL AVP.3107031 | Ø5.6 | Ø6.2 | 9.2 | 1.5 | 1.5 | 0.05 | 0.11 | 0.8 |
| | VP.3150287 | CR AVP.3107031 | Ø8.8 | Ø9.6 | 11.9 | 1.9 | 3.5 | 0.15 | 0.3 | 1.6 |
| | VP.3150287S | SIL AVP.3107031 | Ø8.8 | Ø9.6 | 11.9 | 1.9 | 3.5 | 0.15 | 0.3 | 1.6 |
| | VP.3150101 | CR AVP.3107030 | Ø11 | Ø12 | 16.4 | 4 | 4.5 | 0.48 | 1 | 3.4 |
| | VP.3150101S | SIL AVP.3107030 | Ø11 | Ø12 | 16.4 | 4 | 4.5 | 0.48 | 1 | 3.4 |

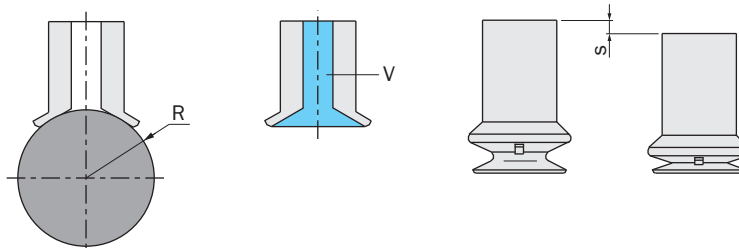
R Il raggio della più piccola sfera prendibile
Radius of the smallest grippable ball

V Il volume interno
The inner volume

s Corsa verticale
Vertical stroke

m Peso
Weight

F Forza di sollevamento a -0.6bar
Suction force at -0.6bar

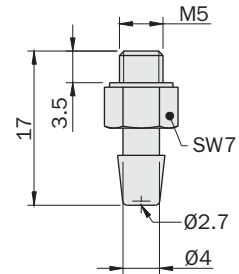
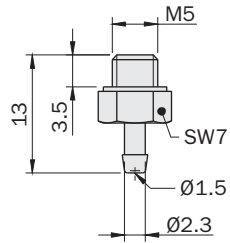


Nippli

- Adatti alle ventose tipo VP.
- Filetto M5 maschio.

Nipples

- Suit VP suction cups.
- M5 male thread.



| | AVP.3107031 | AVP.3107030 |
|----------------|-------------|-------------|
| Peso Weight | 3 g | 4 g |
| | | |

Esempio / Example

AVP.3107031



VP.3150114S

AVP.3107030



VP.3150117S

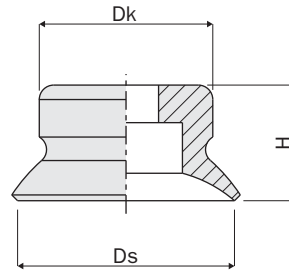
AVP.3107030



VP.3150101

Ventose plane

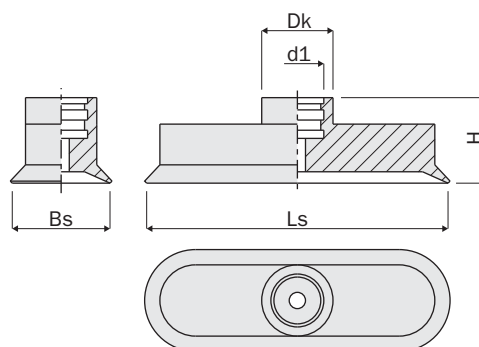
Flat vacuum cups



| | Materiale Material | Nipplo Nipple | Ds [mm] | Dk [mm] | H [mm] | R [mm] | V [cm ³] | m [g] | F [N] |
|--------------------|-----------------------|-------------------------------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| VS.PFG2NBR55N003 | NBR | AVS.N003M3AG100 | 2 | 4 | 4 | 2 | 0.001 | 0.1 | 0.12 |
| VS.PFG2SI55N003 | SIL | AVS.N003M3AG100 | 2 | 4 | 4 | 2 | 0.001 | 0.1 | 0.12 |
| VS.PFG3.5NBR55N003 | NBR | AVS.N003M3AG100 | 3.5 | 4 | 4 | 8 | 0.002 | 0.3 | 0.42 |
| VS.PFG3.5SI55N003 | SIL | AVS.N003M3AG100 | 3.5 | 4 | 4 | 8 | 0.002 | 0.4 | 0.42 |
| VS.PFG5HT160N004 | HT1 | AVS.N004M5AG200 | 5 | 7.5 | 6.5 | 8 | 0.005 | 0.2 | 0.75 |
| VS.PFG5NBR55N004 | NBR | AVS.N004M5AG200 | 5 | 7.5 | 6.5 | 8 | 0.005 | 0.2 | 0.75 |
| VS.PFG5SI55N004 | SIL | AVS.N004M5AG200 | 5 | 7.5 | 6.5 | 8 | 0.005 | 0.2 | 0.75 |
| VS.PFG8HT160N004 | HT1 | AVS.N004M5AG200 | 8 | 8 | 7 | 10 | 0.03 | 0.2 | 2.3 |
| VS.PFG8NBR55N004 | NBR | AVS.N004M5AG200 | 8 | 8 | 7 | 10 | 0.03 | 0.2 | 2.3 |
| VS.PFG8SI55N004 | SIL | AVS.N004M5AG200 | 8 | 8 | 7 | 10 | 0.03 | 0.2 | 2.3 |
| VS.PFG10HT160N004 | HT1 | AVS.N004M5AG200 AVS.N004G18AG200 | 10 | 8.5 | 7.5 | 13 | 0.07 | 0.2 | 4 |
| VS.PFG10NBR55N004 | NBR | AVS.N004M5AG200 AVS.N004G18AG200 | 10 | 8.5 | 7.5 | 13 | 0.07 | 0.31 | 4 |
| VS.PFG10SI55N004 | SIL | AVS.N004M5AG200 AVS.N004G18AG200 | 10 | 8.5 | 7.5 | 13 | 0.07 | 0.3 | 4 |
| VS.PFG15HT160N005 | HT1 | AVS.N005G18AG200 | 15 | 12 | 8 | 13 | 0.4 | 0.7 | 9 |
| VS.PFG15NBR55N005 | NBR | AVS.N005G18AG200 | 15 | 12 | 8 | 13 | 0.4 | 0.7 | 9 |
| VS.PFG15SI55N005 | SIL | AVS.N005G18AG200 | 15 | 12 | 8 | 13 | 0.4 | 0.7 | 9 |
| VS.PFG20HT160N006 | HT1 | AVS.N006G18AG200 | 20 | 15 | 10 | 20 | 0.8 | 1.4 | 15.5 |
| VS.PFG20NBR55N006 | NBR | AVS.N006G18AG200 | 20 | 15 | 10 | 20 | 0.8 | 1.5 | 15.5 |
| VS.PFG20SI55N006 | SIL | AVS.N006G18AG200 | 20 | 15 | 10 | 20 | 0.8 | 1.4 | 15.5 |
| VS.PFG25HT160N007 | HT1 | AVS.N007G18AG240 | 25 | 16 | 14 | 25 | 1.3 | 2.4 | 26.5 |
| VS.PFG25NBR55N007 | NBR | AVS.N007G18AG240 | 25 | 16 | 14 | 25 | 1.3 | 2.2 | 26.5 |
| VS.PFG25SI55N007 | SIL | AVS.N007G18AG240 | 25 | 16 | 14 | 25 | 1.3 | 2.4 | 26.5 |
| VS.PFG30HT160N007 | HT1 | AVS.N007G18AG240 | 28.8 | 14.5 | 12 | 40 | 1.3 | 3.5 | 34 |
| VS.PFG30NBR55N007 | NBR | AVS.N007G18AG240 | 28.8 | 14.5 | 12 | 40 | 1.3 | 3.3 | 34 |
| VS.PFG30SI55N007 | SIL | AVS.N007G18AG240 | 28.8 | 14.5 | 12 | 40 | 1.3 | 3.4 | 34 |
| VS.PFG40HT160N007 | HT1 | AVS.N007G18AG240 | 40 | 24 | 14 | 50 | 3.8 | 7.6 | 57.7 |
| VS.PFG40NBR55N007 | NBR | AVS.N007G18AG240 | 40 | 24 | 14 | 50 | 3.8 | 7.6 | 57.7 |
| VS.PFG40SI55N007 | SIL | AVS.N007G18AG240 | 40 | 24 | 14 | 50 | 3.8 | 7.4 | 57.7 |
| VS.PFG50HT160N008 | HT1 | AVS.N008G18AG240 | 50 | 28.5 | 15 | 75 | 7 | 10.6 | 91 |
| VS.PFG50NBR55N008 | NBR | AVS.N008G18AG240 | 50 | 28.5 | 15 | 75 | 7 | 10.2 | 91 |
| VS.PFG50SI55N008 | SIL | AVS.N008G18AG240 | 50 | 28.5 | 15 | 75 | 7 | 10.5 | 91 |
| VS.PFG60HT160N009 | HT1 | AVS.N009G14AG | 60 | 38.5 | 18 | 100 | 10 | 24.2 | 125 |
| VS.PFG60NBR55N009 | NBR | AVS.N009G14AG | 60 | 38.5 | 18 | 100 | 10 | 24.7 | 125 |
| VS.PFG60SI55N009 | SIL | AVS.N009G14AG | 60 | 38.5 | 18 | 100 | 10 | 23.6 | 125 |
| VS.PFG80HT160N009 | HT1 | AVS.N009G14AG | 80 | 52 | 18 | 150 | 25 | 51.2 | 260 |
| VS.PFG80NBR55N009 | NBR | AVS.N009G14AG | 80 | 52 | 18 | 150 | 25 | 52.8 | 260 |
| VS.PFG80SI55N009 | SIL | AVS.N009G14AG | 80 | 52 | 18 | 150 | 25 | 50.5 | 260 |
| VS.PFG95NBR55N009 | NBR | AVS.N009G14AG | 95 | 68 | 19 | 200 | 35 | 92.4 | 350 |
| VS.PFG95SI55N009 | SIL | AVS.N009G14AG | 95 | 68 | 19 | 200 | 35 | 87.9 | 350 |

Ventose piano ovali

Oval flat vacuum cups



| | Materiale Material | Nipplo Nipple | Dk [mm] | d1 [mm] | Bs [mm] | Ls [mm] | H [mm] | R [mm] | V [cm ³] | m [g] | F [N] |
|-----------------------------|-----------------------|------------------|------------|------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| VS.SG04X2HT160N003 | HT1 | AVS.N003M3AG100 | 6 | 3 | 2 | 4 | 6 | 1 | 0.004 | 0.1 | 0.42 |
| VS.SG04X2NBR60N003 | NBR | AVS.N003M3AG100 | 6 | 3 | 2 | 4 | 6 | 1 | 0.004 | 0.1 | 0.42 |
| VS.SG07X3.5HT160N003 | HT1 | AVS.N003M3AG100 | 6 | 3 | 3.5 | 7 | 6 | 3 | 0.019 | 0.1 | 1 |
| VS.SG07X3.5NBR60N003 | NBR | AVS.N003M3AG100 | 6 | 3 | 3.5 | 7 | 6 | 3 | 0.019 | 0.14 | 1 |
| VS.SG015X5HT160N021 | HT1 | AVS.N021M5AG200 | 8.5 | 6 | 5 | 15 | 12 | 4 | 0.036 | 0.5 | 3.1 |
| VS.SG015X5NBR60N021 | NBR | AVS.N021M5AG200 | 8.5 | 6 | 5 | 15 | 12 | 4 | 0.036 | 0.5 | 3.1 |
| VS.SG018X6HT160N021 | HT1 | AVS.N021M5AG200 | 8.5 | 6 | 6 | 18 | 12 | 4 | 0.058 | 0.5 | 4.5 |
| VS.SG018X6NBR60N021 | NBR | AVS.N021M5AG200 | 8.5 | 6 | 6 | 18 | 12 | 4 | 0.058 | 0.5 | 4.5 |
| VS.SG024X8HT160N022 | HT1 | AVS.N022G18AG350 | 11.5 | 7 | 8 | 24 | 12 | 8 | 0.138 | 2.6 | 8 |
| VS.SG024X8NBR60N022 | NBR | AVS.N022G18AG350 | 11.5 | 7 | 8 | 24 | 12 | 8 | 0.138 | 2.6 | 8 |
| VS.SG030X10HT160N022 | HT1 | AVS.N022G18AG350 | 11.5 | 7 | 10 | 30 | 12 | 8 | 0.28 | 2.8 | 12.2 |
| VS.SG030X10NBR60N022 | NBR | AVS.N022G18AG350 | 11.5 | 7 | 10 | 30 | 12 | 8 | 0.28 | 2.7 | 12.2 |
| VS.SG045X15HT160N023 | HT1 | AVS.N023G14AG350 | 15.5 | 13 | 15 | 45 | 21 | 10 | 0.98 | 6.3 | 28.2 |
| VS.SG045X15NBR60N023 | NBR | AVS.N023G14AG350 | 15.5 | 13 | 15 | 45 | 21 | 10 | 0.98 | 6.3 | 28.2 |
| VS.SG060X20HT160N023 | HT1 | AVS.N023G14AG350 | 15.5 | 13 | 20 | 60 | 21 | 20 | 2.3 | 9.7 | 50.1 |
| VS.SG060X20NBR60N023 | NBR | AVS.N023G14AG350 | 15.5 | 13 | 20 | 60 | 21 | 20 | 2.3 | 9.6 | 50.1 |
| VS.SG075X25HT160N023 | HT1 | AVS.N023G14AG350 | 17.5 | 13 | 25 | 75 | 21 | 30 | 4.7 | 17.8 | 78.3 |
| VS.SG075X25NBR60N023 | NBR | AVS.N023G14AG350 | 17.5 | 13 | 25 | 75 | 21 | 30 | 4.7 | 17.8 | 78.3 |
| VS.SG090X30NBR70N023 | NBR | AVS.N023G14AG350 | 17.5 | 13 | 30 | 90 | 21 | 35 | 8.5 | 26 | 112.6 |

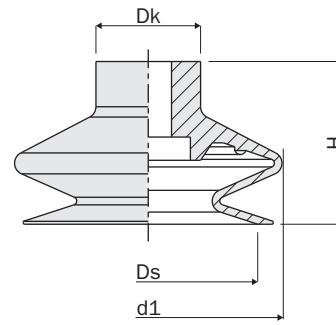
Morsetto a due orecchie per ventose ovali

Two-ear clamp for oval vacuum cups

| | Materiale Material | Dk [mm] | m [g] |
|--------------------|-------------------------------------|------------|----------|
| VS.ZOKL1113 | Acciaio zincato Galvanised steel | 11÷13 | 1.7 |
| VS.ZOKL1518 | Acciaio zincato Galvanised steel | 15÷18 | 2.56 |

Ventose con 1.5 soffietti

Vacuum cups with 1.5 bellows



| | Materiale Material | Nipplo Nipple | Dk [mm] | d1 [mm] | Ds [mm] | H [mm] | R [mm] | V [cm ³] | m [g] | F [N] |
|-------------------|-----------------------|-------------------------------------|------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| VS.FGA11HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 12 | 10.4 | 16 | 10 | 0.225 | 0.9 | 0.95 |
| VS.FGA11NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 12 | 10.4 | 16 | 10 | 0.225 | 0.9 | 0.95 |
| VS.FGA11SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 12 | 10.4 | 16 | 10 | 0.225 | 0.8 | 0.95 |
| VS.FGA16HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 17 | 15.6 | 19.2 | 20 | 0.75 | 1.2 | 2.3 |
| VS.FGA16NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 17 | 15.6 | 19.2 | 20 | 0.75 | 1.3 | 2.3 |
| VS.FGA16SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 17 | 15.6 | 19.2 | 20 | 0.75 | 1.2 | 2.3 |
| VS.FGA22HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 24.2 | 21.5 | 19 | 25 | 1.4 | 1.9 | 5.7 |
| VS.FGA22NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 24.2 | 21.5 | 19 | 25 | 1.4 | 1.9 | 5.7 |
| VS.FGA22SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 24.2 | 21.5 | 19 | 25 | 1.4 | 1.8 | 5.7 |
| VS.FGA33HT160N018 | HT1 | AVS.N018G14AG440 | 18 | 36 | 30 | 27 | 40 | 4.75 | 7.3 | 13.6 |
| VS.FGA33NBR55N018 | NBR | AVS.N018G14AG440 | 18 | 36 | 30 | 27 | 40 | 4.75 | 7.3 | 13.6 |
| VS.FGA33SI55N018 | SIL | AVS.N018G14AG440 | 18 | 36 | 30 | 27 | 40 | 4.75 | 7 | 13.6 |
| VS.FGA43HT160N018 | HT1 | AVS.N018G14AG440 | 18 | 45.9 | 38 | 27.6 | 60 | 9.25 | 11.5 | 22.8 |
| VS.FGA43NBR55N018 | NBR | AVS.N018G14AG440 | 18 | 45.9 | 38 | 27.6 | 60 | 9.25 | 11.6 | 22.8 |
| VS.FGA43SI55N018 | SIL | AVS.N018G14AG440 | 18 | 45.9 | 38 | 27.6 | 60 | 9.25 | 11 | 22.8 |
| VS.FGA53HT160N018 | HT1 | AVS.N018G14AG440 | 18 | 58.6 | 50 | 34 | 75 | 26.25 | 19.4 | 51.3 |
| VS.FGA53NBR55N018 | NBR | AVS.N018G14AG440 | 18 | 58.6 | 50 | 34 | 75 | 26.25 | 19.3 | 51.3 |
| VS.FGA53SI55N018 | SIL | AVS.N018G14AG440 | 18 | 58.6 | 50 | 34 | 75 | 26.25 | 18.4 | 51.3 |
| VS.FGA78HT160N019 | HT1 | AVS.N019G14AG | 25 | 83 | 74 | 47 | 70 | 76 | 60 | 137.4 |
| VS.FGA78NBR55N019 | NBR | AVS.N019G14AG | 25 | 83 | 74 | 47 | 70 | 76 | 58.4 | 137.4 |
| VS.FGA78SI55N019 | SIL | AVS.N019G14AG | 25 | 83 | 74 | 47 | 70 | 76 | 54.3 | 137.4 |

Materiali

Materials

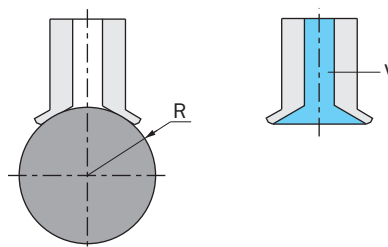
| | Colore Color | Durezza Hardness | Temperatura di esercizio Temperature range |
|--|-------------------------------|---------------------|---|
| Materiale antialone / Non-marking material | HT1 Blu / Blue | 60 Sh.A | -25° ÷ +170° C |
| Gomma nitrilica / Nitrile rubber | NBR Nero / Black | 55/60/70 Sh.A | -30° ÷ +120° C |
| Silicone / Silicone | SIL Trasparente / Translucent | 55 Sh.A | -50° ÷ +220° C |

R Il raggio della più piccola sfera prendibile
Radius of the smallest grippable ball

V Il volume interno
The inner volume

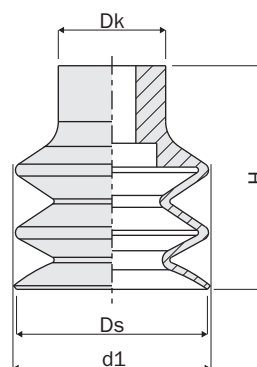
m Peso
Weight

F Forza di sollevamento a -0.6bar
Suction force at -0.6bar



Ventose con 2.5 soffietti

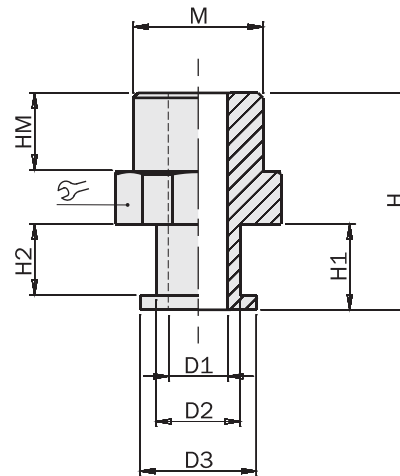
Vacuum cups with 2.5 bellows




| | Materiale Material | Nipplo Nipple | Dk [mm] | d1 [mm] | Ds [mm] | H [mm] | R [mm] | V [cm ³] | m [g] | F [N] |
|-------------------------|-----------------------|-------------------------------------|------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| VS.FG5HT160N017 | HT1 | AVS.N017M5AG200 | 7 | 6 | 5 | 14 | 8 | 0.033 | 0.3 | 0.1 |
| VS.FG5NBR55N017 | NBR | AVS.N017M5AG200 | 7 | 6 | 5 | 14 | 8 | 0.033 | 0.3 | 0.1 |
| VS.FG5SI55N017 | SIL | AVS.N017M5AG200 | 7 | 6 | 5 | 14 | 8 | 0.033 | 0.3 | 0.1 |
| VS.FG9HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 9 | 8.9 | 9 | 15 | 10 | 0.15 | 0.6 | 0.7 |
| VS.FG9NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 9 | 8.9 | 9 | 15 | 10 | 0.15 | 0.6 | 0.7 |
| VS.FG9SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 9 | 8.9 | 9 | 15 | 10 | 0.15 | 0.6 | 0.7 |
| VS.FG12HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 12 | 12 | 21 | 13 | 0.6 | 1.1 | 0.9 |
| VS.FG12NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 12 | 12 | 21 | 13 | 0.6 | 1.1 | 0.9 |
| VS.FG12SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 12 | 12 | 21 | 13 | 0.6 | 1.1 | 0.9 |
| VS.FG14HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 13.9 | 14.5 | 22.8 | 15 | 0.975 | 1.4 | 1.2 |
| VS.FG14NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 13.9 | 14.5 | 22.8 | 15 | 0.975 | 1.4 | 1.2 |
| VS.FG14SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 13.9 | 14.5 | 22.8 | 15 | 0.975 | 1.3 | 1.2 |
| VS.FG18HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 17.8 | 17.2 | 22.6 | 20 | 1.35 | 1.9 | 2.3 |
| VS.FG18NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 17.8 | 17.2 | 22.6 | 20 | 1.35 | 2.1 | 2.3 |
| VS.FG18SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 17.8 | 17.2 | 22.6 | 20 | 1.35 | 1.9 | 2.3 |
| VS.FG20HT160N016 | HT1 | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 20 | 20 | 22.1 | 30 | 2 | 2 | 3.8 |
| VS.FG20NBR55N016 | NBR | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 20 | 20 | 22.1 | 30 | 2 | 2.2 | 3.8 |
| VS.FG20SI55N016 | SIL | AVS.N016G18AG350 AVS.N016M5AG250 | 10 | 20 | 20 | 22.1 | 30 | 2 | 2 | 3.8 |
| VS.FG32HT160N018 | HT1 | AVS.N018G14AG440 | 18 | 32.6 | 32 | 37.5 | 35 | 10 | 9.5 | 12 |
| VS.FG32NBR55N018 | NBR | AVS.N018G14AG440 | 18 | 32.6 | 32 | 37.5 | 35 | 10 | 9.6 | 12 |
| VS.FG32SI55N018 | SIL | AVS.N018G14AG440 | 18 | 32.6 | 32 | 37.5 | 35 | 10 | 9 | 12 |
| VS.FG42HT160N018 | HT1 | AVS.N018G14AG440 | 18 | 43.5 | 42.6 | 46 | 75 | 19.5 | 20.9 | 13.6 |
| VS.FG42NBR55N018 | NBR | AVS.N018G14AG440 | 18 | 43.5 | 42.6 | 46 | 75 | 19.5 | 22.5 | 13.6 |
| VS.FG42SI55N018 | SIL | AVS.N018G14AG440 | 18 | 43.5 | 42.6 | 46 | 75 | 19.5 | 20.6 | 13.6 |
| VS.FG62HT160N018 | HT1 | AVS.N018G14AG440 | 18 | 62 | 62 | 54 | 75 | 72.5 | 40.3 | 39.6 |
| VS.FG62NBR55N018 | NBR | AVS.N018G14AG440 | 18 | 62 | 62 | 54 | 75 | 72.5 | 42.1 | 39.6 |
| VS.FG62SI55N018 | SIL | AVS.N018G14AG440 | 18 | 62 | 62 | 54 | 75 | 72.5 | 38.1 | 39.6 |
| VS.FG88NBR55N019 | NBR | AVS.N019G14AG | 25 | 88.2 | 89 | 86.5 | 100 | 165 | 166.6 | 45.2 |
| VS.FG88SI55N019 | SIL | AVS.N019G14AG | 25 | 88.2 | 89 | 86.5 | 100 | 165 | 155.6 | 45.2 |

Nippli (per ventose serie VS.)

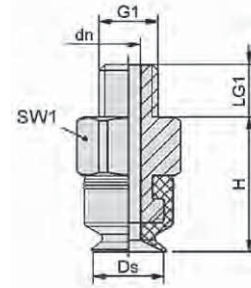
Nipples (for vacuum cups series VS.)



| | M | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | H1 [mm] | H2 [mm] | HM [mm] |  [mm] | Peso Weight |
|-------------------------|-----|------------|------------|------------|-----------|------------|------------|------------|---|----------------|
| AVS.N003M3AG100 | M3 | 1 | 2 | 3.2 | 7.5 | 2.5 | 1.5 | 3 | 5 | 0.18 g |
| AVS.N004M5AG200 | M5 | 2 | 4 | 6 | 13.5 | 4 | 2 | 4.5 | 8 | 1.05 g |
| AVS.N004G18AG200 | 1/8 | 2 | 4 | 6 | 17 | 4 | 2 | 8 | 14 | 3.8 g |
| AVS.N005G18AG200 | 1/8 | 2 | 5 | 8 | 17.5 | 4.5 | 2.5 | 8 | 14 | 4.05 g |
| AVS.N006G18AG200 | 1/8 | 2 | 5 | 10 | 19.5 | 6.5 | 4.5 | 8 | 14 | 4.3 g |
| AVS.N007G18AG240 | 1/8 | 2.4 | 6.5 | 10 | 21.5 | 8.5 | 7 | 8 | 14 | 3.8 g |
| AVS.N008G18AG240 | 1/8 | 2.4 | 8.5 | 14 | 22 | 9 | 7 | 8 | 14 | 4.7 g |
| AVS.N009G14AG | 1/4 | 5.5 | 10x1.25 | - | 25 | 10 | - | 10 | 17 | 9.3 g |
| AVS.N023G14AG350 | 1/4 | 3.5 | 12 | 13.5 | 25 | 10 | 8 | 10 | 17 | 9.6 g |
| AVS.N022G18AG350 | 1/8 | 3.5 | 6 | 7.5 | 18.5 | 4.5 | 2 | 8 | 14 | 3.8 g |
| AVS.N021M5AG200 | M5 | 2 | 5 | 6.5 | 15.5 | 4.5 | 2 | 5 | 8 | 1.2 g |
| AVS.N016M5AG250 | M5 | 2.5 | 5.8 | 6.5 | 16 | 6 | 3.5 | 5 | 7 | 1.02 g |
| AVS.N017M5AG200 | M5 | 2 | 4.2 | 4.5 | 17 | 7 | 4 | 5 | 8 | 1.1 g |
| AVS.N018G14AG440 | 1/4 | 4.4 | 8.7 | 14 | 28.8 | 13.8 | 12.3 | 11 | 17 | 7.75 g |
| AVS.N019G14AG | 1/4 | 8.2 | 13.5 | 20 | 40 | 23 | 19 | 11 | 21 | 14.2 g |
| AVS.N016G18AG350 | 1/8 | 3.5 | 5.8 | 6.5 | 20 | 6.5 | 4 | 7.5 | 14 | 4.13 g |

Ventose plane con nipplo

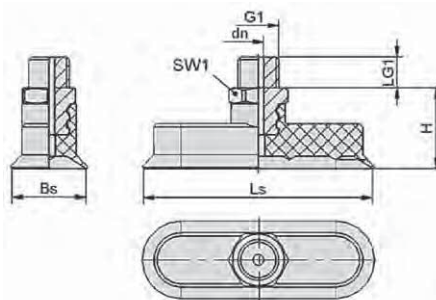
Flat vacuum cups with nipple



| | Ventosa Vacuum cup | Nipplo Nipple | G1 [mm] | dn [mm] | Ds [mm] | H [mm] | LG1 [mm] | SW1 [mm] | R [mm] | V [cm ³] | m [g] | F [N] |
|---------------------|-----------------------|------------------|------------|------------|------------|-----------|-------------|-------------|-----------|-------------------------|----------|----------|
| WS.PFYN2NBR55M3AG | VS.PFG2NBR55N003 | AVS.N003M3AG100 | M3 | 1 | 2 | 6 | 3.17 | 5 | 2 | 0.001 | 0.28 | 0.12 |
| WS.PFYN2SI55M3AG | VS.PFG2SI55N003 | AVS.N003M3AG100 | M3 | 1 | 2 | 6 | 3.17 | 5 | 2 | 0.001 | 0.28 | 0.12 |
| WS.PFYN3.5NBR55M3AG | VS.PFG3.5NBR55N003 | AVS.N003M3AG100 | M3 | 1 | 3.5 | 6 | 3.17 | 5 | 8 | 0.002 | 0.48 | 0.42 |
| WS.PFYN3.5SI55M3AG | VS.PFG3.5SI55N003 | AVS.N003M3AG100 | M3 | 1 | 3.5 | 6 | 3.17 | 5 | 8 | 0.002 | 0.58 | 0.42 |
| WS.PFYN5HT160M5AG | VS.PFG5HT160N004 | AVS.N004M5AG200 | M5 | 2 | 5 | 11.5 | 4.5 | 8 | 8 | 0.005 | 1.25 | 0.75 |
| WS.PFYN5NBR55M5AG | VS.PFG5NBR55N004 | AVS.N004M5AG200 | M5 | 2 | 5 | 11.5 | 4.5 | 8 | 8 | 0.005 | 1.25 | 0.75 |
| WS.PFYN5SI55M5AG | VS.PFG5SI55N004 | AVS.N004M5AG200 | M5 | 2 | 5 | 11.5 | 4.5 | 8 | 8 | 0.005 | 1.25 | 0.75 |
| WS.PFYN8HT160M5AG | VS.PFG8HT160N004 | AVS.N004M5AG200 | M5 | 2 | 8 | 12 | 4.5 | 8 | 10 | 0.03 | 1.25 | 2.3 |
| WS.PFYN8NBR55M5AG | VS.PFG8NBR55N004 | AVS.N004M5AG200 | M5 | 2 | 8 | 12 | 4.5 | 8 | 10 | 0.03 | 1.25 | 2.3 |
| WS.PFYN8SI55M5AG | VS.PFG8SI55N004 | AVS.N004M5AG200 | M5 | 2 | 8 | 12 | 4.5 | 8 | 10 | 0.03 | 1.25 | 2.3 |
| WS.PFYN10HT160G18AG | VS.PFG10HT160N004 | AVS.N004G18AG200 | 1/8 | 2 | 10 | 12.5 | 8 | 14 | 13 | 0.07 | 4 | 4 |
| WS.PFYN10HT160M5AG | VS.PFG10HT160N004 | AVS.N004M5AG200 | M5 | 2 | 10 | 12.5 | 4.5 | 8 | 13 | 0.07 | 1.36 | 4 |
| WS.PFYN10NBR55G18AG | VS.PFG10NBR55N004 | AVS.N004G18AG200 | 1/8 | 2 | 10 | 12.5 | 8 | 14 | 13 | 0.07 | 4.1 | 4 |
| WS.PFYN10NBR55M5AG | VS.PFG10NBR55N004 | AVS.N004M5AG200 | M5 | 2 | 10 | 12.5 | 4.5 | 8 | 13 | 0.07 | 1.25 | 4 |
| WS.PFYN10SI55G18AG | VS.PFG10SI55N004 | AVS.N004G18AG200 | 1/8 | 2 | 10 | 12.5 | 8 | 14 | 13 | 0.07 | 4.11 | 4 |
| WS.PFYN10SI55M5AG | VS.PFG10SI55N004 | AVS.N004M5AG200 | M5 | 2 | 10 | 12.5 | 4.5 | 8 | 13 | 0.07 | 1.35 | 4 |
| WS.PFYN15HT160G18AG | VS.PFG15HT160N005 | AVS.N005G18AG200 | 1/8 | 2 | 15 | 13 | 8 | 14 | 13 | 0.4 | 4.75 | 9 |
| WS.PFYN15NBR55G18AG | VS.PFG15NBR55N005 | AVS.N005G18AG200 | 1/8 | 2 | 15 | 13 | 8 | 14 | 13 | 0.4 | 4.75 | 9 |
| WS.PFYN15SI55G18AG | VS.PFG15SI55N005 | AVS.N005G18AG200 | 1/8 | 2 | 15 | 13 | 8 | 14 | 13 | 0.4 | 4.75 | 9 |
| WS.PFYN20HT160G18AG | VS.PFG20HT160N006 | AVS.N006G18AG200 | 1/8 | 2 | 20 | 15 | 8 | 14 | 20 | 0.8 | 5.7 | 15.5 |
| WS.PFYN20NBR55G18AG | VS.PFG20NBR55N006 | AVS.N006G18AG200 | 1/8 | 2 | 20 | 15 | 8 | 14 | 20 | 0.8 | 5.8 | 15.5 |
| WS.PFYN20SI55G18AG | VS.PFG20SI55N006 | AVS.N006G18AG200 | 1/8 | 2 | 20 | 15 | 8 | 14 | 20 | 0.8 | 5.7 | 15.5 |
| WS.PFYN25HT160G18AG | VS.PFG25HT160N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 25 | 19 | 8 | 14 | 25 | 1.3 | 6.2 | 26.5 |
| WS.PFYN25NBR55G18AG | VS.PFG25NBR55N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 25 | 19 | 8 | 14 | 25 | 1.3 | 6 | 26.5 |
| WS.PFYN25SI55G18AG | VS.PFG25SI55N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 25 | 19 | 8 | 14 | 25 | 1.3 | 6.2 | 26.5 |
| WS.PFYN30HT160G18AG | VS.PFG30HT160N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 28.8 | 17 | 8 | 14 | 40 | 1.3 | 7.3 | 34 |
| WS.PFYN30NBR55G18AG | VS.PFG30NBR55N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 28.8 | 17 | 8 | 14 | 40 | 1.3 | 7.1 | 34 |
| WS.PFYN30SI55G18AG | VS.PFG30SI55N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 28.8 | 17 | 8 | 14 | 40 | 1.3 | 7.2 | 34 |
| WS.PFYN40HT160G18AG | VS.PFG40HT160N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 40 | 19 | 8 | 14 | 50 | 3.8 | 11.4 | 57.7 |
| WS.PFYN40NBR55G18AG | VS.PFG40NBR55N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 40 | 19 | 8 | 14 | 50 | 3.8 | 11.4 | 57.7 |
| WS.PFYN40SI55G18AG | VS.PFG40SI55N007 | AVS.N007G18AG240 | 1/8 | 2.4 | 40 | 19 | 8 | 14 | 50 | 3.8 | 11.2 | 57.7 |
| WS.PFYN50HT160G18AG | VS.PFG50HT160N008 | AVS.N008G18AG240 | 1/8 | 2.4 | 50 | 20 | 8 | 14 | 75 | 7 | 10.6 | 91 |
| WS.PFYN50NBR55G18AG | VS.PFG50NBR55N008 | AVS.N008G18AG240 | 1/8 | 2.4 | 50 | 20 | 8 | 14 | 75 | 7 | 10.2 | 91 |
| WS.PFYN50SI55G18AG | VS.PFG50SI55N008 | AVS.N008G18AG240 | 1/8 | 2.4 | 50 | 20 | 8 | 14 | 75 | 7 | 10.5 | 91 |
| WS.PFYN60HT160G14AG | VS.PFG60HT160N009 | AVS.N009G14AG | 1/4 | 5.5 | 60 | 23 | 10 | 17 | 100 | 10 | 24.2 | 125 |
| WS.PFYN60NBR55G14AG | VS.PFG60NBR55N009 | AVS.N009G14AG | 1/4 | 5.5 | 60 | 23 | 10 | 17 | 100 | 10 | 24.7 | 125 |
| WS.PFYN60SI55G14AG | VS.PFG60SI55N009 | AVS.N009G14AG | 1/4 | 5.5 | 60 | 23 | 10 | 17 | 100 | 10 | 23.6 | 125 |
| WS.PFYN80NBR55G14AG | VS.PFG80NBR55N009 | AVS.N009G14AG | 1/4 | 5.5 | 80 | 25 | 10 | 17 | 150 | 25 | 51.2 | 260 |
| WS.PFYN80SI55G14AG | VS.PFG80SI55N009 | AVS.N009G14AG | 1/4 | 5.5 | 80 | 25 | 10 | 17 | 150 | 25 | 52.8 | 260 |
| WS.PFYN80HT160G14AG | VS.PFG80HT160N009 | AVS.N009G14AG | 1/4 | 5.5 | 80 | 25 | 10 | 17 | 150 | 25 | 50.5 | 260 |
| WS.PFYN95NBR55G14AG | VS.PFG95NBR55N009 | AVS.N009G14AG | 1/4 | 5.5 | 95 | 25.5 | 10 | 17 | 200 | 35 | 92.4 | 350 |
| WS.PFYN95SI55G14AG | VS.PFG95SI55N009 | AVS.N009G14AG | 1/4 | 5.5 | 95 | 25.5 | 10 | 17 | 200 | 35 | 87.9 | 350 |

Ventose piane ovali con nipplo

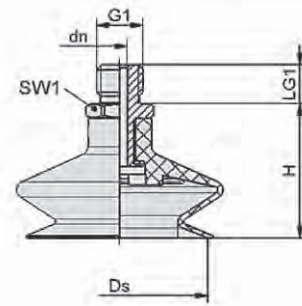
Oval flat vacuum cups with nipple



| | Ventosa <i>Vacuum cup</i> | Nipplo <i>Nipple</i> | G1 | dn | B | H | L | LG1 | SW1 | R | V | m | F |
|-----------------------------|------------------------------|-------------------------|------|------|------|------|------|------|------|------|--------------------|------|-------|
| | | | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [cm ³] | [g] | [N] |
| WS.SGON4X2HT1M3AG | VS.SG04X2HT160N003 | AVS.N003M3AG100 | M3 | 1 | 2 | 8 | 4 | 3 | 5 | 1 | 0.004 | 0.28 | 0.42 |
| WS.SGON4X2NBRM3AG | VS.SG04X2NBR60N003 | AVS.N003M3AG100 | M3 | 1 | 2 | 8 | 4 | 3 | 5 | 1 | 0.004 | 0.28 | 0.42 |
| WS.SGON7X3.5HT1M3AG | VS.SG07X3.5HT160N003 | AVS.N003M3AG100 | M3 | 1 | 3.5 | 8 | 7 | 3 | 5 | 3 | 0.019 | 0.28 | 1 |
| WS.SGON7X3.5NBRM3AG | VS.SG07X3.5NBR60N003 | AVS.N003M3AG100 | M3 | 1 | 3.5 | 8 | 7 | 3 | 5 | 3 | 0.019 | 0.32 | 1 |
| WS.SGON15X5HT1M5AG | VS.SG015X5HT160N021 | AVS.N021M5AG200 | M5 | 2 | 5 | 17 | 15 | 5 | 8 | 4 | 0.036 | 0.71 | 3.1 |
| WS.SGON15X5NBRM5AG | VS.SG015X5NBR60N021 | AVS.N021M5AG200 | M5 | 2 | 5 | 17 | 15 | 5 | 8 | 4 | 0.036 | 0.71 | 3.1 |
| WS.SGON18X6HT1M5AG | VS.SG018X6HT160N021 | AVS.N021M5AG200 | M5 | 2 | 6 | 17 | 18 | 5 | 8 | 4 | 0.058 | 0.71 | 4.5 |
| WS.SGON18X6NBRM5AG | VS.SG018X6NBR60N021 | AVS.N021M5AG200 | M5 | 2 | 6 | 17 | 18 | 5 | 8 | 4 | 0.058 | 0.71 | 4.5 |
| WS.SGON24X8HT1G18AG | VS.SG024X8HT160N022 | AVS.N022G18AG350 | 1/8 | 3.5 | 8 | 17 | 24 | 8 | 14 | 8 | 0.138 | 6.4 | 8 |
| WS.SGON24X8NBRG18AG | VS.SG024X8NBR60N022 | AVS.N022G18AG350 | 1/8 | 3.5 | 8 | 17 | 24 | 8 | 14 | 8 | 0.138 | 6.4 | 8 |
| WS.SGON30X10HT1G18AG | VS.SG030X10HT160N022 | AVS.N022G18AG350 | 1/8 | 3.5 | 10 | 17 | 30 | 8 | 14 | 8 | 0.28 | 6.6 | 12.2 |
| WS.SGON30X10NBRG18AG | VS.SG030X10NBR60N022 | AVS.N022G18AG350 | 1/8 | 3.5 | 10 | 17 | 30 | 8 | 14 | 8 | 0.28 | 6.5 | 12.2 |
| WS.SGON45X15HT1G14AG | VS.SG045X15HT160N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 15 | 26 | 45 | 10 | 17 | 10 | 0.98 | 15.9 | 28.2 |
| WS.SGON45X15NBRG14AG | VS.SG045X15NBR60N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 15 | 26 | 45 | 10 | 17 | 10 | 0.98 | 15.9 | 28.2 |
| WS.SGON60X20HT1G14AG | VS.SG060X20HT160N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 20 | 26 | 60 | 9.95 | 17 | 20 | 2.3 | 19.3 | 50.1 |
| WS.SGON60X20NBRG14AG | VS.SG060X20NBR60N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 20 | 26 | 60 | 9.95 | 17 | 20 | 2.3 | 19.3 | 50.1 |
| WS.SGON75X25NBRG14AG | VS.SG075X25NBR60N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 25 | 26 | 75 | 10 | 17 | 30 | 4.7 | 27.4 | 78.3 |
| WS.SGON75X25HT1G14AG | VS.SG075X25HT160N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 25 | 26 | 75 | 10 | 17 | 30 | 4.7 | 27.4 | 78.3 |
| WS.SGON90X30NBRG14AG | VS.SG090X30NBR70N023 | AVS.N023G14AG350 | 1/4 | 3.5 | 30 | 26 | 90 | 10 | 17 | 35 | 8.5 | 35.6 | 112.6 |

Ventose con 1.5 soffietti con nipplo

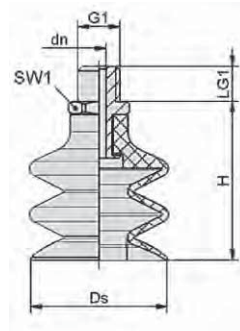
Vacuum cups with 1.5 bellows with nipple



| | Ventosa <i>Vacuum cup</i> | Nipplo <i>Nipple</i> | G1 | dn | Ds | H | LG1 | SW1 | R | V | m | F |
|----------------------------|------------------------------|-------------------------|------|------|------|------|------|------|------|--------------------|-------|-------|
| | | | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [cm ³] | [g] | [N] |
| WS.FSGA11HT160G18AG | VS.FGA11HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 10.4 | 22 | 7.5 | 14 | 10 | 0.225 | 5.03 | 0.95 |
| WS.FSGA11HT160M5AG | VS.FGA11HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 10.4 | 21 | 5 | 7 | 10 | 0.225 | 1.92 | 0.95 |
| WS.FSGA11NBR55G18AG | VS.FGA11NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 10.4 | 22 | 7.5 | 14 | 10 | 0.225 | 5.03 | 0.95 |
| WS.FSGA11NBR55M5AG | VS.FGA11NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 10.4 | 21 | 5 | 7 | 10 | 0.225 | 1.92 | 0.95 |
| WS.FSGA11SI55G18AG | VS.FGA11SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 10.4 | 22 | 7.5 | 14 | 10 | 0.225 | 5.03 | 0.95 |
| WS.FSGA11SI55M5AG | VS.FGA11SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 10.4 | 21 | 5 | 7 | 10 | 0.225 | 1.92 | 0.95 |
| WS.FSGA16HT160G18AG | VS.FGA16HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 15.6 | 25.2 | 7.5 | 14 | 20 | 0.75 | 5.33 | 2.3 |
| WS.FSGA16HT160M5AG | VS.FGA16HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 15.6 | 24.2 | 5 | 7 | 20 | 0.75 | 2.32 | 2.3 |
| WS.FSGA16NBR55G18AG | VS.FGA16NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 15.6 | 25.2 | 7.5 | 14 | 20 | 0.75 | 5.33 | 2.3 |
| WS.FSGA16NBR55M5AG | VS.FGA16NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 15.6 | 24.2 | 5 | 7 | 20 | 0.75 | 2.22 | 2.3 |
| WS.FSGA16SI55G18AG | VS.FGA16SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 15.6 | 25.2 | 7.5 | 14 | 20 | 0.75 | 5.43 | 2.3 |
| WS.FSGA16SI55M5AG | VS.FGA16SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 15.6 | 24.2 | 5 | 7 | 20 | 0.75 | 2.22 | 2.3 |
| WS.FSGA22HT160G18AG | VS.FGA22HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 21.5 | 25 | 7.5 | 14 | 25 | 1.4 | 6.03 | 5.7 |
| WS.FSGA22HT160M5AG | VS.FGA22HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 21.5 | 24 | 5 | 7 | 25 | 1.4 | 2.92 | 5.7 |
| WS.FSGA22NBR55G18AG | VS.FGA22NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 21.5 | 25 | 7.5 | 14 | 25 | 1.4 | 5.93 | 5.7 |
| WS.FSGA22NBR55M5AG | VS.FGA22NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 21.5 | 24 | 5 | 7 | 25 | 1.4 | 2.92 | 5.7 |
| WS.FSGA22SI55G18AG | VS.FGA22SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 21.5 | 25 | 7.5 | 14 | 25 | 1.4 | 6.02 | 5.7 |
| WS.FSGA22SI55M5AG | VS.FGA22SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 21.5 | 24 | 5 | 7 | 25 | 1.4 | 2.82 | 5.7 |
| WS.FSGA33HT160G14AG | VS.FGA33HT160N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 30 | 31 | 11 | 17 | 40 | 4.75 | 15.05 | 13.6 |
| WS.FSGA33NBR55G14AG | VS.FGA33NBR55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 30 | 31 | 11 | 17 | 40 | 4.75 | 15.05 | 13.6 |
| WS.FSGA33SI55G14AG | VS.FGA33SI55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 30 | 31 | 11 | 17 | 40 | 4.75 | 14.75 | 13.6 |
| WS.FSGA43HT160G14AG | VS.FGA43HT160N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 38 | 31.6 | 11 | 17 | 60 | 9.25 | 19.25 | 22.8 |
| WS.FSGA43NBR55G14AG | VS.FGA43NBR55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 38 | 31.6 | 11 | 17 | 60 | 9.25 | 19.35 | 22.8 |
| WS.FSGA43SI55G14AG | VS.FGA43SI55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 38 | 31.6 | 11 | 17 | 60 | 9.25 | 18.75 | 22.8 |
| WS.FSGA53HT160G14AG | VS.FGA53HT160N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 50 | 38 | 11 | 17 | 75 | 26.25 | 27.15 | 51.3 |
| WS.FSGA53NBR55G14AG | VS.FGA53NBR55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 50 | 38 | 11 | 17 | 75 | 26.25 | 27.05 | 51.3 |
| WS.FSGA53SI55G14AG | VS.FGA53SI55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 50 | 38 | 11 | 17 | 75 | 26.25 | 26.15 | 51.3 |
| WS.FSGA78NBR55G14AG | VS.FGA78NBR55N019 | AVS.N019G14AG | 1/4 | 8.2 | 74 | 53 | 11 | 21 | 70 | 76 | 74.20 | 137.4 |
| WS.FSGA78SI55G14AG | VS.FGA78SI55N019 | AVS.N019G14AG | 1/4 | 8.2 | 74 | 53 | 11 | 21 | 70 | 76 | 72.6 | 137.4 |
| WS.FSGA78HT160G14AG | VS.FGA78HT160N019 | AVS.N019G14AG | 1/4 | 8.2 | 74 | 53 | 11 | 21 | 70 | 76 | 68.5 | 137.4 |

Ventose con 2.5 soffiatti con nipplo

Vacuum cups with 2.5 bellows with nipple



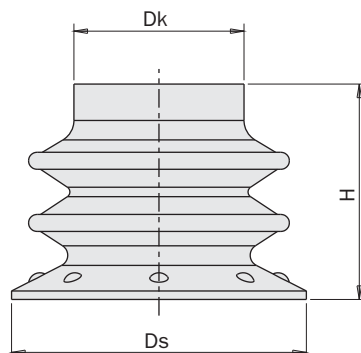
| | Ventosa <i>Vacuum cup</i> | Nipplo <i>Nipple</i> | G1 | dn | Ds | H | LG1 | SW1 | R | V | m | F |
|--------------------|------------------------------|-------------------------|------|------|------|------|------|------|------|--------------------|-------|------|
| | | | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [cm ³] | [g] | [N] |
| WS.FSG5HT160M5AG | VS.FG5HT160N017 | AVS.N017M5AG200 | M5 | 2 | 5 | 19 | 5 | 8 | 8 | 0.033 | 1.4 | 0.1 |
| WS.FSG5NBR55M5AG | VS.FG5NBR55N017 | AVS.N017M5AG200 | M5 | 2 | 5 | 19 | 5 | 8 | 8 | 0.033 | 1.4 | 0.1 |
| WS.FSG5SI55M5AG | VS.FG5SI55N017 | AVS.N017M5AG200 | M5 | 2 | 5 | 19 | 5 | 8 | 8 | 0.033 | 1.4 | 0.1 |
| WS.FSG9HT160G18AG | VS.FG9HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 9 | 21 | 7.5 | 14 | 10 | 0.15 | 4.73 | 0.7 |
| WS.FSG9HT160M5AG | VS.FG9HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 9 | 20 | 5 | 7 | 10 | 0.15 | 1.62 | 0.7 |
| WS.FSG9NBR55G18AG | VS.FG9NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 9 | 21 | 7.5 | 14 | 10 | 0.15 | 4.73 | 0.7 |
| WS.FSG9NBR55M5AG | VS.FG9NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 9 | 20 | 5 | 7 | 10 | 0.15 | 1.62 | 0.7 |
| WS.FSG9SI55G18AG | VS.FG9SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 9 | 21 | 7.5 | 14 | 10 | 0.15 | 4.73 | 0.7 |
| WS.FSG9SI55M5AG | VS.FG9SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 9 | 20 | 5 | 7 | 10 | 0.15 | 1.62 | 0.7 |
| WS.FSG12HT160G18AG | VS.FG12HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 12 | 27 | 7.5 | 14 | 13 | 0.6 | 5.23 | 0.9 |
| WS.FSG12HT160M5AG | VS.FG12HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 12 | 26 | 5 | 7 | 13 | 0.6 | 2.12 | 0.9 |
| WS.FSG12NBR55G18AG | VS.FG12NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 12 | 27 | 7.5 | 14 | 13 | 0.6 | 5.23 | 0.9 |
| WS.FSG12NBR55M5AG | VS.FG12NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 12 | 26 | 5 | 7 | 13 | 0.6 | 2.12 | 0.9 |
| WS.FSG12SI55G18AG | VS.FG12SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 12 | 27 | 7.5 | 14 | 13 | 0.6 | 5.23 | 0.9 |
| WS.FSG12SI55M5AG | VS.FG12SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 12 | 26 | 5 | 7 | 13 | 0.6 | 2.12 | 0.9 |
| WS.FSG14HT160G18AG | VS.FG14HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 14.5 | 28 | 7.5 | 14 | 15 | 0.975 | 5.53 | 1.2 |
| WS.FSG14HT160M5AG | VS.FG14HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 14.5 | 27 | 5 | 7 | 15 | 0.975 | 2.42 | 1.2 |
| WS.FSG14NBR55G18AG | VS.FG14NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 14.5 | 28 | 7.5 | 14 | 15 | 0.975 | 5.43 | 1.2 |
| WS.FSG14NBR55M5AG | VS.FG14NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 14.5 | 27 | 5 | 7 | 15 | 0.975 | 2.42 | 1.2 |
| WS.FSG14SI55G18AG | VS.FG14SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 14.5 | 28 | 7.5 | 14 | 15 | 0.975 | 5.53 | 1.2 |
| WS.FSG14SI55M5AG | VS.FG14SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 14.5 | 27 | 5 | 7 | 15 | 0.975 | 2.32 | 1.2 |
| WS.FSG18HT160G18AG | VS.FG18HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 17.2 | 28 | 7.5 | 14 | 20 | 1.35 | 6.03 | 2.3 |
| WS.FSG18HT160M5AG | VS.FG18HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 17.2 | 27 | 5 | 7 | 20 | 1.35 | 3.12 | 2.3 |
| WS.FSG18NBR55G18AG | VS.FG18NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 17.2 | 28 | 7.5 | 14 | 20 | 1.35 | 6.03 | 2.3 |
| WS.FSG18NBR55M5AG | VS.FG18NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 17.2 | 27 | 5 | 7 | 20 | 1.35 | 2.92 | 2.3 |
| WS.FSG18SI55G18AG | VS.FG18SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 17.2 | 28 | 7.5 | 14 | 20 | 1.35 | 6.23 | 2.3 |
| WS.FSG18SI55M5AG | VS.FG18SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 17.2 | 27 | 5 | 7 | 20 | 1.35 | 2.92 | 2.3 |
| WS.FSG20HT160G18AG | VS.FG20HT160N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 20 | 28 | 7.5 | 14 | 30 | 2 | 6.13 | 3.8 |
| WS.FSG20HT160M5AG | VS.FG20HT160N016 | AVS.N016M5AG250 | M5 | 2.5 | 20 | 27 | 5 | 7 | 30 | 2 | 3.22 | 3.8 |
| WS.FSG20NBR55G18AG | VS.FG20NBR55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 20 | 28 | 7.5 | 14 | 30 | 2 | 6.13 | 3.8 |
| WS.FSG20NBR55M5AG | VS.FG20NBR55N016 | AVS.N016M5AG250 | M5 | 2.5 | 20 | 27 | 5 | 7 | 30 | 2 | 3.02 | 3.8 |
| WS.FSG20SI55G18AG | VS.FG20SI55N016 | AVS.N016G18AG350 | 1/8 | 3.5 | 20 | 28 | 7.5 | 14 | 30 | 2 | 6.33 | 3.8 |
| WS.FSG20SI55M5AG | VS.FG20SI55N016 | AVS.N016M5AG250 | M5 | 2.5 | 20 | 27 | 5 | 7 | 30 | 2 | 3.02 | 3.8 |
| WS.FSG32HT160G14AG | VS.FG32HT160N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 32 | 41.5 | 11 | 17 | 35 | 10 | 17.25 | 12 |
| WS.FSG32NBR55G14AG | VS.FG32NBR55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 32 | 41.5 | 11 | 17 | 35 | 10 | 17.25 | 12 |
| WS.FSG32SI55G14AG | VS.FG32SI55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 32 | 41.5 | 11 | 17 | 35 | 10 | 17.25 | 12 |
| WS.FSG42HT160G14AG | VS.FG42HT160N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 42.6 | 50 | 11 | 17 | 75 | 19.5 | 28.65 | 13.6 |
| WS.FSG42NBR55G14AG | VS.FG42NBR55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 42.6 | 50 | 11 | 17 | 75 | 19.5 | 30.25 | 13.6 |
| WS.FSG42SI55G14AG | VS.FG42SI55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 42.6 | 50 | 11 | 17 | 75 | 19.5 | 28.35 | 13.6 |
| WS.FSG62HT160G14AG | VS.FG62HT160N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 62.2 | 59 | 11 | 17 | 75 | 72.5 | 48.05 | 39.6 |
| WS.FSG62NBR55G14AG | VS.FG62NBR55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 62.2 | 59 | 11 | 17 | 75 | 72.5 | 49.85 | 39.6 |
| WS.FSG62SI55G14AG | VS.FG62SI55N018 | AVS.N018G14AG440 | 1/4 | 4.4 | 62.2 | 59 | 11 | 17 | 75 | 72.5 | 45.85 | 39.6 |
| WS.FSG88NBR55G14AG | VS.FG88NBR55N019 | AVS.N019G14AG | 1/4 | 8 | 89 | 92 | 11 | 21 | 100 | 165 | 180.8 | 45.2 |
| WS.FSG88SI55G14AG | VS.FG88SI55N019 | AVS.N019G14AG | 1/4 | 8 | 89 | 92 | 11 | 21 | 100 | 165 | 169.8 | 45.2 |

Ventose con 2.5 soffietti

- Ventose Duraflex®.
- Fabbricate in un pezzo unico.
- In poliuretano anti-macchia a durezza differenziata.
- Soffietto robusto e flessibile.
- Labbro molto morbido, perfetto per le superfici goffrate.

Vacuum cups with 2.5 bellows

- Duraflex® vacuum cups.
- Manufactured in one piece.
- In dual durometer non-marking polyurethane.
- Sturdy and flexible bellow.
- Very soft lip, ideal for embossed surfaces.



| | Niplo Nipple | Dk [mm] | Ds [mm] | H [mm] | R [mm] | V [cm ³] | m [g] | F [N] |
|-------------------|-----------------|------------|------------|-----------|-----------|-------------------------|----------|----------|
| VD.0118329 | AVD.3107030 | 9 | 11 | 16.5 | 4 | 0.56 | 3 | 2.3 |
| VD.0118505 | AVD.3107030 | 9 | 16 | 18.5 | 5.5 | 0.92 | 3 | 4 |
| VD.0118507 | AVD.3250085 | 11 | 21 | 15.2 | 8.5 | 1.16 | 5 | 7 |
| VD.0109006 | AVD.3250085 | 15 | 26 | 19 | 6 | 3 | 6 | 13 |
| VD.0106292 | AVD.0200714 | 20 | 37 | 27 | 10 | 10 | 10 | 20 |
| VD.0104529 | AVD.3250092 | 27 | 53 | 39 | 32 | 30 | 27 | 56 |

Materiali**Materials**

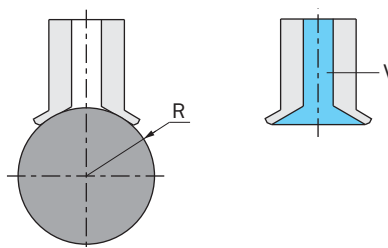
| | Materiale Material | Colore Color | Durezza Hardness | Temperatura di esercizio Temperature range |
|---------------------|-----------------------|------------------|---------------------|---|
| Soffietto Bellow | PU | verde green | 60 Sh.A | 10° ÷ 50° C |
| Labbro Lip | PU | giallo yellow | 30 Sh.A | 10° ÷ 50° C |

R Il raggio della più piccola sfera prendibile
Radius of the smallest grippable ball

V Il volume interno
The inner volume

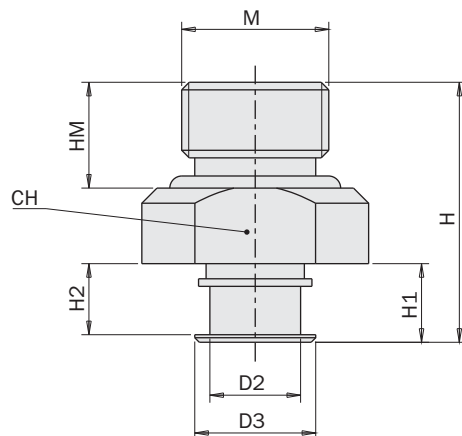
m Peso
Weight

F Forza di sollevamento a -0.6bar
Suction force at -0.6bar



Nippli (per ventose serie VD.)

Nipples (for vacuum cups series VD.)



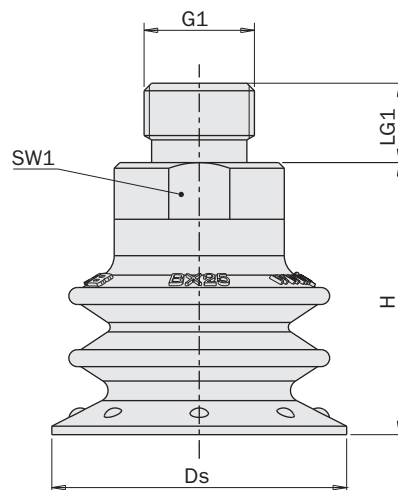
| | Ventosa Vacuum cup | M [mm] | D2 [mm] | D3 [mm] | H [mm] | H1 [mm] | H2 [mm] | HM [mm] | CH [mm] | m [g] |
|--------------------|--------------------------|-----------|------------|------------|-----------|------------|------------|------------|------------|----------|
| AVD.3107030 | VD.0118329 VD.0118505 | M5 | 4 | 5 | 17 | 8.5 | 3 | 3.5 | 7 | 5 |
| AVD.3250085 | VD.0118507 VD.0109006 | 1/8 | 6 | 8 | 17.2 | 5.2 | 4.7 | 7 | 13 | 6 |
| AVD.0200714 | VD.0106292 | 1/8 | 7.5 | 11 | 19.2 | 7.2 | 6.2 | 6 | 16 | 6 |
| AVD.3250092 | VD.0104529 | 1/4 | 11.5 | 15 | 24.2 | 9.2 | 8.2 | 9 | 22 | 13 |

Ventose con 2.5 soffiotti con nipplo

- Ventose Duraflex®.
- In poliuretano anti-macchia a durezza differenziata.
- Soffietto robusto e flessibile.
- Labbro molto morbido, perfetto per le superfici goffrate.

Vacuum cups with 2.5 bellows with nipple

- Duraflex® vacuum cups.
- In dual durometer non-marking polyurethane.
- Sturdy and flexible bellows.
- Very soft lip, the best for the embossed surfaces.



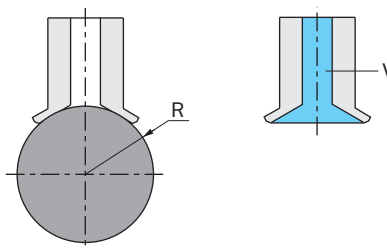
| | Ventosa Vacuum cup | Nipplo Nipple | G1 [mm] | Ds [mm] | H [mm] | LG1 [mm] | SW1 [mm] | R [mm] | V [cm³] | m [g] | F [N] |
|-------------------|-----------------------|------------------|------------|------------|-----------|-------------|-------------|-----------|------------|----------|----------|
| WD.0122869 | VD.0118329 | AVD.3107030 | M5 | 11 | 21.5 | 3.5 | 7 | 4 | 0.56 | 8 | 2.3 |
| WD.0124344 | VD.0118505 | AVD.3107030 | M5 | 16 | 23.5 | 3.5 | 7 | 5.5 | 0.92 | 9 | 4 |
| WD.0125108 | VD.0118507 | AVD.3250085 | 1/8 | 21 | 21 | 7 | 13 | 8.5 | 1.16 | 9 | 7 |
| WD.0114131 | VD.0109006 | AVD.3250085 | 1/8 | 26 | 24 | 7 | 13 | 6 | 3 | 11 | 13 |
| WD.9912151 | VD.0106292 | AVD.0200714 | 1/8 | 37 | 33 | 6 | 16 | 10 | 10 | 19 | 20 |
| WD.0106045 | VD.0104529 | AVD.3250092 | 1/4 | 53 | 45 | 9 | 22 | 32 | 30 | 39 | 56 |

R Il raggio della più piccola sfera prendibile
Radius of the smallest grippable ball

V Il volume interno
The inner volume

m Peso
Weight

F Forza di sollevamento a -0.6bar
Suction force at -0.6bar



Ventose modulari piGRIP®

Un concetto unico di ventose modulari che consiste in componenti separati ottimizzati per la presa, il sollevamento e la compensazione in altezza.

piGRIP® modular suction cups

A unique modular suction cup concept with individually optimized parts for gripping, lifting and levelling.

ATTACCHI

In applicazioni con una pompa del vuoto centralizzata, il foro calibrato riduce la portata in perdita e mantiene il vuoto ad alti livelli quando si manipolano oggetti a tenuta.



FITTINGS

In applications with a centralized vacuum pump, flow restrictors reduce vacuum flow and maintain high vacuum levels when handling non-leaking objects.

SUPPORTI

Un singolo supporto per taglia consente il montaggio di tutti i soffietti o direttamente dei labbri (nel caso di ventose piane).



SUPPORTS

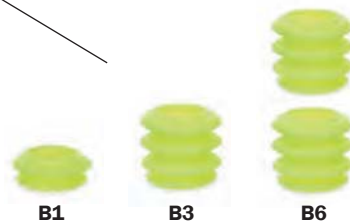
One only support per size fits with all bellows or directly with lips (in the case of flat cups).

SOFFIETTI

I robusti e stabili soffietti con 1, 3 e 6 involuzioni permettono di raggiungere elevate velocità della macchina. Il ridotto spessore delle pareti interne agevola la compressione del soffietto utilizzando meno forza ed energia. La robustezza del materiale è in grado di incrementare la capacità di sollevamento tra il 30 ed il 50% rispetto alle ventose convenzionali.

BELLOWS

Firm and stable 1, 3 and 6 folded bellows allow for faster machine speeds. Thin-wall design makes them faster to compress using less force and energy. The strength of the material increases lifting capacity between 30-50% compared to similar conventional cups.



LABBRI

Per ottenere un'eccellente presa del prodotto è determinante scegliere il labbro idoneo all'applicazione.

LIPS

Get an excellent grip on almost anything with the right lip for your application.



Codici di ordinazione

| | | | | |
|--------------|---|-------------|-----------------------------------|-------------------------------|
| S25 | Labbro standard Ø25mm Ø25mm Standard lip | T60 | TPE con durezza 60 Sh.A | |
| S35 | Labbro standard Ø35mm Ø35mm Standard lip | | TPE with 60 Sh.A hardness | |
| S50 | Labbro standard Ø50mm Ø50mm Standard lip | | TPE con durezza 50 Sh.A | |
| S70 | Labbro standard Ø70mm Ø70mm Standard lip | T50 | TPE with 50 Sh.A hardness | |
| FX28 | Labbro flessibile Ø28mm Ø28mm Flexible lip | T50 | TPE con durezza 50 Sh.A | |
| FX39 | Labbro flessibile Ø39mm Ø39mm Flexible lip | | TPE with 50 Sh.A hardness | |
| FX55 | Labbro flessibile Ø55mm Ø55mm Flexible lip | | TPE con durezza 30 Sh.A | |
| FX77 | Labbro flessibile Ø77mm Ø77mm Flexible lip | T30 | TPE with 30 Sh.A hardness | |
| BG34 | Labbro per sacchetti Ø34mm Ø34mm Bag lip | S50 | Silicone con durezza 50 Sh.A | |
| BG48 | Labbro per sacchetti Ø48mm Ø48mm Bag lip | | Silicone with 50 Sh.A hardness | |
| BG63 | Labbro per sacchetti Ø63mm Ø63mm Bag lip | | | |
| FLI25 | Gomma espansa Ø25mm Ø25mm Foam lip | F | NR (tenace) NR (firm) | |
| FLI35 | Gomma espansa Ø35mm Ø35mm Foam lip | | | |
| FLI50 | Gomma espansa Ø50mm Ø50mm Foam lip | | | |
| FLI70 | Gomma espansa Ø70mm Ø70mm Foam lip | | | |
| FLI25 | Gomma espansa Ø25mm Ø25mm Foam lip | S | EDPM (soffice) EDPM (soft) | |
| FLI35 | Gomma espansa Ø35mm Ø35mm Foam lip | | | |
| FLI50 | Gomma espansa Ø50mm Ø50mm Foam lip | | | |
| FLI70 | Gomma espansa Ø70mm Ø70mm Foam lip | | | |
| HS29 | Labbro per superfici calde Ø29mm Ø29mm Hot surface lip | HN50 | HNBR con durezza 50 Sh.A | |
| HS39 | Labbro per superfici calde Ø39mm Ø39mm Hot surface lip | | | HNBR with 50 Sh.A hardness |
| HS58 | Labbro per superfici calde Ø58mm Ø58mm Hot surface lip | | | |
| HS79 | Labbro per superfici calde Ø79mm Ø79mm Hot surface lip | | | |

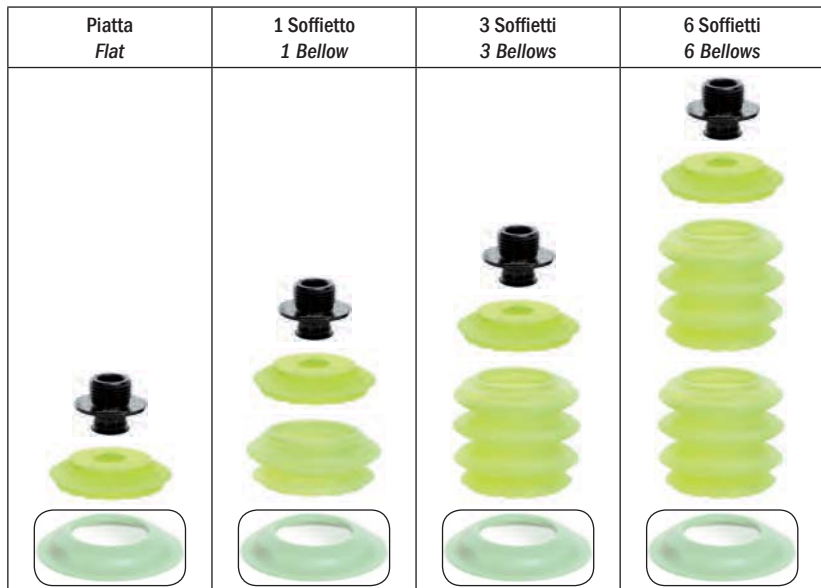
Ordering codes


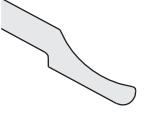

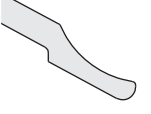

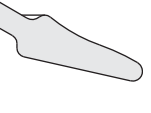

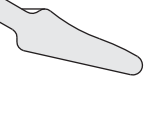

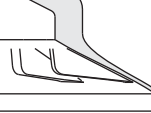


| | | | | | | | | | | | | | |
|-----------|--------------------------|-----------|-------------------------|-----------|--------------------------|-----------|---------------------|----------|---------------------------|-----------|------|----------|-----------------|
| F | Piatta Flat | B1 | 1 Soffietto 1 Bellow | B3 | 3 Soffietti 3 Bellows | S1 | Supporto Support | G | Filettatura G G-Thread | 18 | 1/8" | M | Maschio Male |
| B6 | 6 Soffietti 6 Bellows | 14 | 1/4" | 38 | 3/8" | | | | | | | | |

VG . BG 48 S 50 B 3 S 1 G 3 8 M





| | | | Piatta Flat | 1 Soffietto 1 Bellow | 3 Soffietti 3 Bellows | 6 Soffietti 6 Bellows |
|---|--|--------|----------------|-------------------------|--------------------------|--------------------------|
| Labbro standard in TPE con durezza 60 Sh.A <i>Standard lip in TPE with 60 Sh.A hardness</i> |   | Ø25 mm | VG.S25T60FS1 | VG.S25T60B1S1 | VG.S25T60B3S1 | VG.S25T60B6S1 |
| | | Ø35 mm | VG.S35T60FS1 | VG.S35T60B1S1 | VG.S35T60B3S1 | VG.S35T60B6S1 |
| | | Ø50 mm | VG.S50T60FS1 | VG.S50T60B1S1 | VG.S50T60B3S1 | VG.S50T60B6S1 |
| | | Ø70 mm | VG.S70T60FS1 | VG.S70T60B1S1 | VG.S70T60B3S1 | VG.S70T60B6S1 |
| Labbro standard in TPE con durezza 50 Sh.A <i>Standard lip in TPE with 50 Sh.A hardness</i> |   | Ø25 mm | VG.S25T50FS1 | VG.S25T50B1S1 | VG.S25T50B3S1 | VG.S25T50B6S1 |
| | | Ø35 mm | VG.S35T50FS1 | VG.S35T50B1S1 | VG.S35T50B3S1 | VG.S35T50B6S1 |
| | | Ø50 mm | VG.S50T50FS1 | VG.S50T50B1S1 | VG.S50T50B3S1 | VG.S50T50B6S1 |
| | | Ø70 mm | VG.S70T50FS1 | VG.S70T50B1S1 | VG.S70T50B3S1 | VG.S70T50B6S1 |
| Labbro flessibile in TPE con durezza 50 Sh.A <i>Flexible lip in TPE with 50 Sh.A hardness</i> |   | Ø28 mm | VG.FX28T50FS1 | VG.FX28T50B1S1 | VG.FX28T50B3S1 | VG.FX28T50B6S1 |
| | | Ø39 mm | VG.FX39T50FS1 | VG.FX39T50B1S1 | VG.FX39T50B3S1 | VG.FX39T50B6S1 |
| | | Ø55 mm | VG.FX55T50FS1 | VG.FX55T50B1S1 | VG.FX55T50B3S1 | VG.FX55T50B6S1 |
| | | Ø77 mm | VG.FX77T50FS1 | VG.FX77T50B1S1 | VG.FX77T50B3S1 | VG.FX77T50B6S1 |
| Labbro flessibile in TPE con durezza 30 Sh.A <i>Flexible lip in TPE with 30 Sh.A hardness</i> |   | Ø28 mm | VG.FX28T30FS1 | VG.FX28T30B1S1 | VG.FX28T30B3S1 | VG.FX28T30B6S1 |
| | | Ø39 mm | VG.FX39T30FS1 | VG.FX39T30B1S1 | VG.FX39T30B3S1 | VG.FX39T30B6S1 |
| | | Ø55 mm | VG.FX55T30FS1 | VG.FX55T30B1S1 | VG.FX55T30B3S1 | VG.FX55T30B6S1 |
| | | Ø77 mm | VG.FX77T30FS1 | VG.FX77T30B1S1 | VG.FX77T30B3S1 | VG.FX77T30B6S1 |
| Labbro per sacchetti in Silicone con durezza 50 Sh.A <i>Bag lip in Silicone with 50 Sh.A hardness</i> |   | Ø34 mm | VG.BG34S50FS1 | VG.BG34S50B1S1 | VG.BG34S50B3S1 | VG.BG34S50B6S1 |
| | | Ø48 mm | VG.BG48S50FS1 | VG.BG48S50B1S1 | VG.BG48S50B3S1 | VG.BG48S50B6S1 |
| | | Ø63 mm | VG.BG63S50FS1 | VG.BG63S50B1S1 | VG.BG63S50B3S1 | VG.BG63S50B6S1 |

| | | | Piatta <i>Flat</i> | 1 Soffietto <i>1 Bellow</i> | 3 Soffietti <i>3 Bellows</i> | 6 Soffietti <i>6 Bellows</i> |
|--|------|--------|-----------------------|--------------------------------|---------------------------------|---------------------------------|
| | | | | | | |
| Gomma espansa in NR (tenace) <i>Foam lip in NR (firm)</i> | | Ø25 mm | VG.FLI25FFS1 | VG.FLI25FB1S1 | VG.FLI25FB3S1 | VG.FLI25FB6S1 |
| | | Ø35 mm | VG.FLI35FFS1 | VG.FLI35FB1S1 | VG.FLI35FB3S1 | VG.FLI35FB6S1 |
| | | Ø50 mm | VG.FLI50FFS1 | VG.FLI50FB1S1 | VG.FLI50FB3S1 | VG.FLI50FB6S1 |
| | | Ø70 mm | VG.FLI70FFS1 | VG.FLI70FB1S1 | VG.FLI70FB3S1 | VG.FLI70FB6S1 |
| Gomma espansa in EPDM (soffice) <i>Foam lip in EPDM (soft)</i> | | Ø25 mm | VG.FLI25SFS1 | VG.FLI25SB1S1 | VG.FLI25SB3S1 | VG.FLI25SB6S1 |
| | | Ø35 mm | VG.FLI35SFS1 | VG.FLI35SB1S1 | VG.FLI35SB3S1 | VG.FLI35SB6S1 |
| | | Ø50 mm | VG.FLI50SFS1 | VG.FLI50SB1S1 | VG.FLI50SB3S1 | VG.FLI50SB6S1 |
| | | Ø70 mm | VG.FLI70SFS1 | VG.FLI70SB1S1 | VG.FLI70SB3S1 | VG.FLI70SB6S1 |
| Labbro per superfici calde in HNBR con durezza 50 Sh.A <i>Hot surface lip in HNBR with 50 Sh.A hardness</i> | | Ø29 mm | VG.HS29HN50FS1 | VG.HS29HN50B1S1 | VG.HS29HN50B3S1 | VG.HS29HN50B6S1 |
| | | Ø39 mm | VG.HS39HN50FS1 | VG.HS39HN50B1S1 | VG.HS39HN50B3S1 | VG.HS39HN50B6S1 |
| | | Ø58 mm | VG.HS58HN50FS1 | VG.HS58HN50B1S1 | VG.HS58HN50B3S1 | VG.HS58HN50B6S1 |
| | | Ø79 mm | VG.HS79HN50FS1 | VG.HS79HN50B1S1 | VG.HS79HN50B3S1 | VG.HS79HN50B6S1 |

Tutte le ventose sono disponibili con tre taglie di attacchi maschio.

All cups are available with three sizes of male fittings.

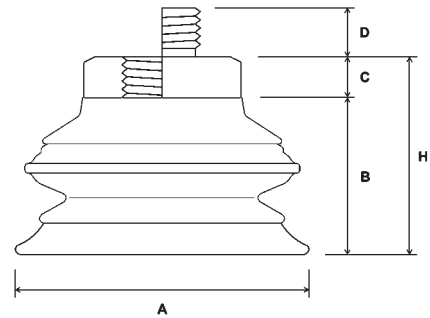
| | | G | Codice Code |
|---------------------------------|--|------|----------------|
| Attacchi <i>Fittings</i> | | 1/8" | G18M |
| | | 1/4" | G14M |
| | | 3/8" | G38M |

Dimensioni della ventosa (mm)

Suction cup dimensions (mm)

Tipo labbro e taglia
Lip type and size

| | | B | | | | |
|--|--------|----|------|------|------|-------|
| | | A | | | | |
| | S25 | 25 | 10.9 | 18.7 | 29.8 | 48.7 |
| | S35 | 35 | 12.4 | 23.3 | 38.8 | 65.2 |
| | S50 | 50 | 14.7 | 30.3 | 52.4 | 90.1 |
| | S70 | 70 | 17.8 | 39.6 | 70.6 | 123.4 |
| | FX28 | 28 | 11.4 | 19.2 | 30.3 | 49.2 |
| | FX39 | 38 | 13.1 | 24 | 39.5 | 65.9 |
| | FX55 | 55 | 15.7 | 31.3 | 53.4 | 91.1 |
| | FX77 | 77 | 19.2 | 41 | 72 | 124.8 |
| | BG34 | 34 | 15.5 | 23.3 | 34.4 | 53.3 |
| | BG48 | 48 | 18.4 | 29.3 | 44.8 | 71.2 |
| | BG63 | 63 | 21.3 | 36.9 | 59 | 96.7 |
| | FLI25F | 25 | 16 | 23.8 | 34.9 | 53.8 |
| | FLI35F | 35 | 17 | 27.9 | 43.4 | 69.8 |
| | FLI50F | 50 | 21.1 | 36.7 | 58.8 | 96.5 |
| | FLI70F | 70 | 23.1 | 44.9 | 75.9 | 128.7 |
| | FLI25S | 25 | 17.5 | 25.3 | 36.4 | 55.3 |
| | FLI35S | 35 | 21.5 | 32.4 | 47.9 | 74.3 |
| | FLI50S | 50 | 32.1 | 47.7 | 69.8 | 107.5 |
| | FLI70S | 70 | 34.1 | 55.9 | 86.9 | 139.7 |
| | HS29 | 29 | 13.4 | 21.2 | 32.3 | 51.2 |
| | HS39 | 39 | 15.6 | 26.5 | 42 | 68.4 |
| | HS58 | 58 | 19.5 | 35.1 | 57.2 | 94.9 |
| | HS79 | 79 | 24.3 | 46.1 | 77.1 | 129.6 |



Dimensioni attacco (mm)

Fitting dimensions (mm)

Codice
Code

| C | D |
|---|---|
|---|---|

Dimensioni raccomandate di attacco per non penalizzare le prestazioni (1)
Recommended fitting size for best performance (1)

| | Codice | C | D | Ø25÷29 | Ø34÷39 | Ø48÷58 | Ø63÷79 |
|--|--------|---|----|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | | |
| | G18M | 5 | 6 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| | G14M | 6 | 9 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| | G38M | 6 | 10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

(1) Nessuna restrizione di flusso o eccessivo volume da evacuare che limitano le prestazioni del circuito di vuoto.

(1) No flow restriction or excessive volume for evacuation, which impair vacuum system performance.

Caratteristiche dei materiali

Material specifications

| | Durezza Hardness | Componente Item | Colore Colour | Temperatura di esercizio Temperature range | T Max. (2) Max T (2) | Proprietà speciali Special qualities |
|------|---------------------|---|-------------------|--|-------------------------|---|
| TPE | 80-87 Sh.A | Supporto S1 Support S1 | Lime Lime | -20 ÷ 60°C. | 100°C. | Esente da Silicone/PWIS, antialone, resistente agli oli Silicone/PWIS free, mark free, oil resistant |
| TPE | 87 Sh.A | Soffietti Bellows | Lime Lime | | | |
| TPE | 60 Sh.A | Labbro standard (S) T60 Standard lip (S) T60 | Verde Green | | | |
| TPE | 50 Sh.A | Labbro standard (S) T50 Standard lip (S) T50 | Blu Blue | -40 ÷ 60°C. | 100°C. | FDA |
| TPE | 50 Sh.A | Labbro flessibile (FX) T50 Flexible lip (FX) T50 | Blu Blue | | | |
| TPE | 30 Sh.A | Labbro flessibile (FX) T30 Flexible lip (FX) T30 | Giallo Yellow | | | |
| SIL | 50 Sh.A | Labbro per sacchetti (BG) S50 Bag lip (BG) S50 | Blu Blue | -40 ÷ 200°C. | | |
| EPDM | - | Gomma espansa (FLI-S) Foam lip (FLI-S) | Nero Black | -40 ÷ 120°C. | | Gomma espansa ultra soffice Ultra soft cellular rubber |
| NR | - | Gomma espansa (FLI-F) Foam lip (FLI-F) | Arancio Orange | -20 ÷ 80°C. | | Gomma naturale tenace Firm natural rubber |
| PU | 60 Sh.A | Supporto per gomma espansa Foam lip holder | Verde Green | +10 ÷ 50°C. | | |
| HNBR | 50 Sh.A | Labbro per superfici calde Hot surface lip | Blu Blue | -30 ÷ 120°C. | 150°C. | Esente da Silicone/PWIS, antialone, resistente agli oli Silicone/PWIS free, mark free, oil resistant |

(2)
Temperatura Max. per un contatto breve, <10 sec. con intermittenza al 50%,
temperatura ambiente 15-30°C., le proprietà meccaniche inizieranno a degradare.

(2)
Max Temperature for short term contact, <10 sec. and 50% intermittence, ambient
temperature 15-30°C., mechanical properties will start to degrade.

Resistenza dei materiali

Material resistances

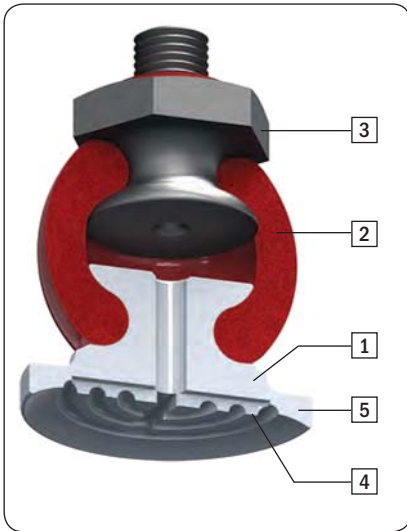
| | Durezza Hardness | Usura Wear resistance | Olii Oils | Agenti atmosferici e ozono Weather & ozone | Idrolisi Hydrolysis | Petrolio Petrol | Acidi concentrati Concentrated acids | Alcool Alcohol | Ossidazione Oxidation |
|------|---------------------|--------------------------|-------------------------|--|------------------------|-------------------------|--|-------------------------|--------------------------|
| TPE | 30 Sh.A 50 Sh.A | Discreta Fair | Scarsa Poor | Eccellente Excellent | Scarsa Poor | Scarsa Poor | Scarsa Poor | Eccellente Excellent | Buona Good |
| TPE | 60 Sh.A | Eccellente Excellent | Eccellente Excellent | Eccellente Excellent | Discreta Fair | Scarsa Poor | Scarsa Poor | Buona Good | Buona Good |
| SIL | 50 Sh.A | Buona Good | Scarsa Poor | Eccellente Excellent | Discreta Fair | Scarsa Poor | Scarsa Poor | Buona Good | Eccellente Excellent |
| EPDM | - | Discreta Fair | Scarsa Poor | Eccellente Excellent | Buona Good | Scarsa Poor | Scarsa Poor | Eccellente Excellent | Eccellente Excellent |
| NR | - | Buona Good | Scarsa Poor | Discreta Fair | Buona Good | Scarsa Poor | Scarsa Poor | Scarsa Poor | Scarsa Poor |
| PU | 60 Sh.A | Eccellente Excellent | Eccellente Excellent | Eccellente Excellent | Discreta Fair | Discreta Fair | Discreta Fair | Discreta Fair | Scarsa Poor |
| HNBR | 50 Sh.A | Eccellente Excellent | Eccellente Excellent | Eccellente Excellent | Buona Good | Eccellente Excellent | Discreta Fair | Buona Good | Eccellente Excellent |

Sistema di presa a depressione per "organo sheet"

- Ventosa in PTFE [1].
- Compensatore in Silicone [2].
- Nipplo in acciaio inox [3].
- Temperatura di lavoro fino a 250°C.
- Il PTFE non si incolla ai polimeri ed alle fibre calde.
- Le nervature di supporto evitano il risucchio dei materiali delicati [4].
- Il labbro flessibile garantisce la tenuta del vuoto anche a bassa temperatura [5].
- La sospensione elastica permette movimenti assiali ed angolari.

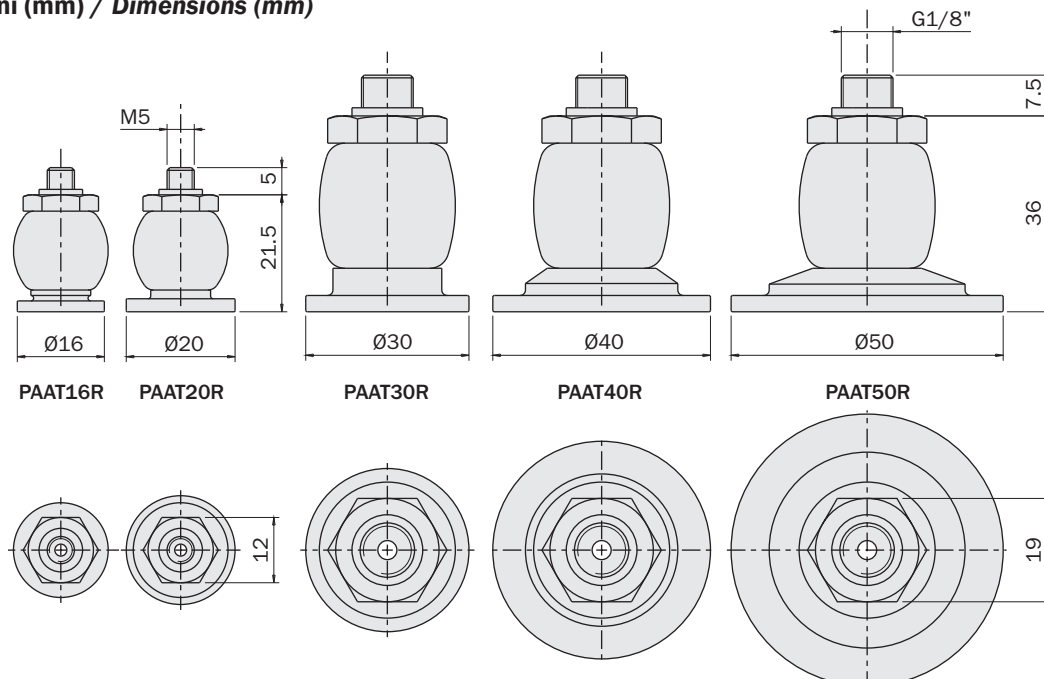
Vacuum gripping system for "organo sheet"

- PTFE vacuum cup [1].
- Flexible silicone bellow [2].
- Stainless steel nipple [3].
- Working temperature up to 250°C.
- The PTFE cup does not stick to hot polymers and fibres.
- The supporting ribs avoid the suction of the soft materials [4].
- The flexible lip allows a good vacuum even at the low temperatures [5].
- The elastic suspension allows axial and angular movements.



| | PAAT16R | PAAT20R | PAAT30R | PAAT40R | PAAT50R |
|----------------|---------|---------|---------|---------|---------|
| Peso Weight | 9 g | 9 g | 35 g | 37 g | 41 g |
| | | | | | |

Dimensioni (mm) / Dimensions (mm)

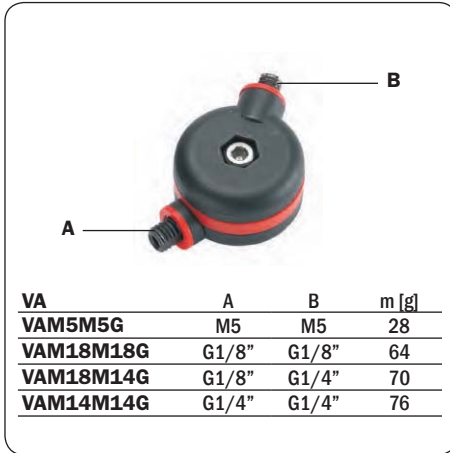


Giunti angolari

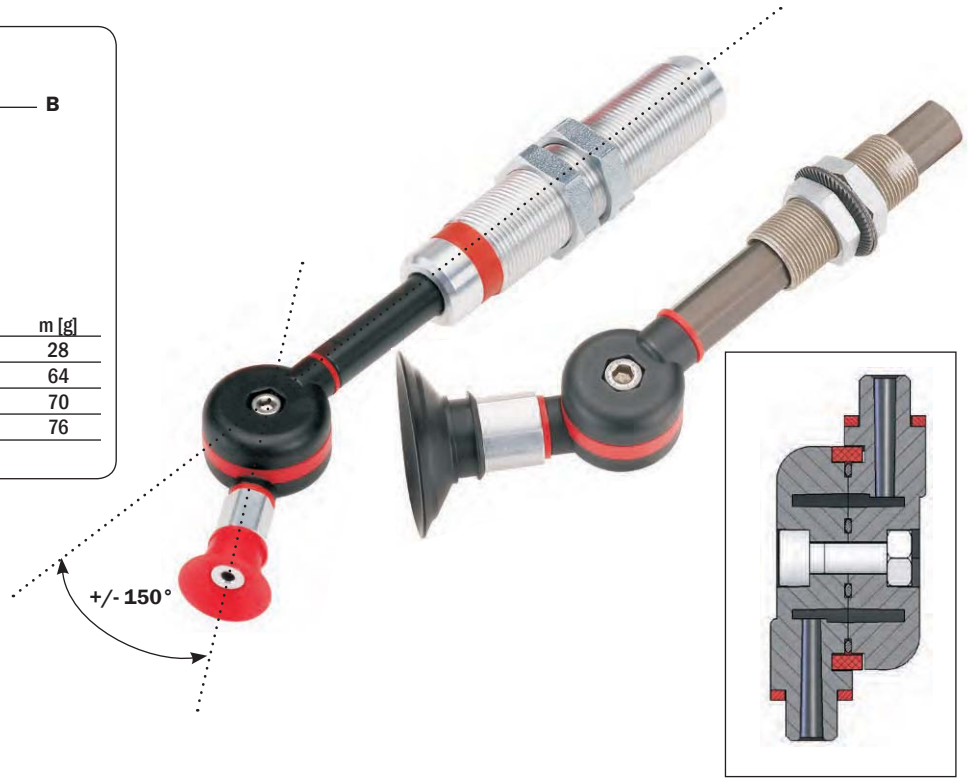
- Si montano fra la ventosa ed il suo supporto con due filetti maschi.
- Consentono di orientare la ventosa di un angolo predefinito rispetto al supporto.
- L'angolo è regolabile fra 0° e +/-150°.
- L'angolo è fissato stringendo una vite.
- Il condotto del vuoto è ricavato all'interno dei due semicorpi.

Elbow arms

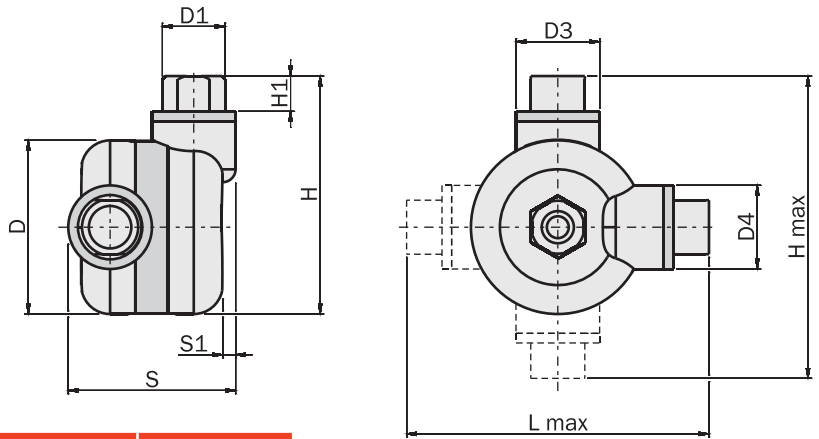
- They are mounted between the vacuum cup and its support by two male threads.
- They are used to tilt the vacuum cup with respect to the support under a predefined angle.
- It is possible to set the angle between 0° and +/-150°.
- By tightening a screw the angle is fixed.
- The vacuum lead is inside the two half-bodies.



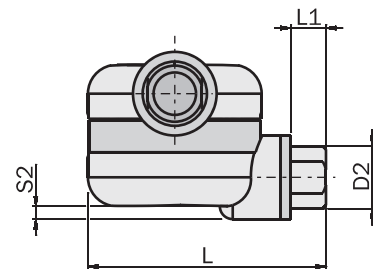
| VA | A | B | m [g] |
|-----------|-------|-------|-------|
| VAM5M5G | M5 | M5 | 28 |
| VAM18M18G | G1/8" | G1/8" | 64 |
| VAM18M14G | G1/8" | G1/4" | 70 |
| VAM14M14G | G1/4" | G1/4" | 76 |



Dimensioni (mm) / Dimensions (mm)



| | VAM5M5G | VAM18M18G | VAM18M14G | VAM14M14G |
|-------|---------|-----------|-----------|-----------|
| D | Ø22 | Ø27 | Ø27 | Ø27 |
| D1 | M5 | G1/8" | G1/8" | G1/4" |
| D2 | M5 | G1/8" | G1/4" | G1/4" |
| D3 | Ø8 | Ø13 | Ø13 | Ø16.8 |
| D4 | Ø8 | Ø13 | Ø16.8 | Ø16.8 |
| H | 29 | 37 | 37 | 38 |
| H1 | 4 | 5.5 | 5.5 | 6.5 |
| H max | 36 | 47 | 47 | 49 |
| L | 29 | 37 | 38 | 38 |
| L1 | 4 | 5.5 | 6.5 | 6.5 |
| L max | 36 | 47 | 49 | 49 |
| S | 15.2 | 26 | 27.9 | 29.8 |
| S1 | 0.6 | 2 | 2 | 3.9 |
| S2 | 0.6 | 2 | 3.9 | 3.9 |



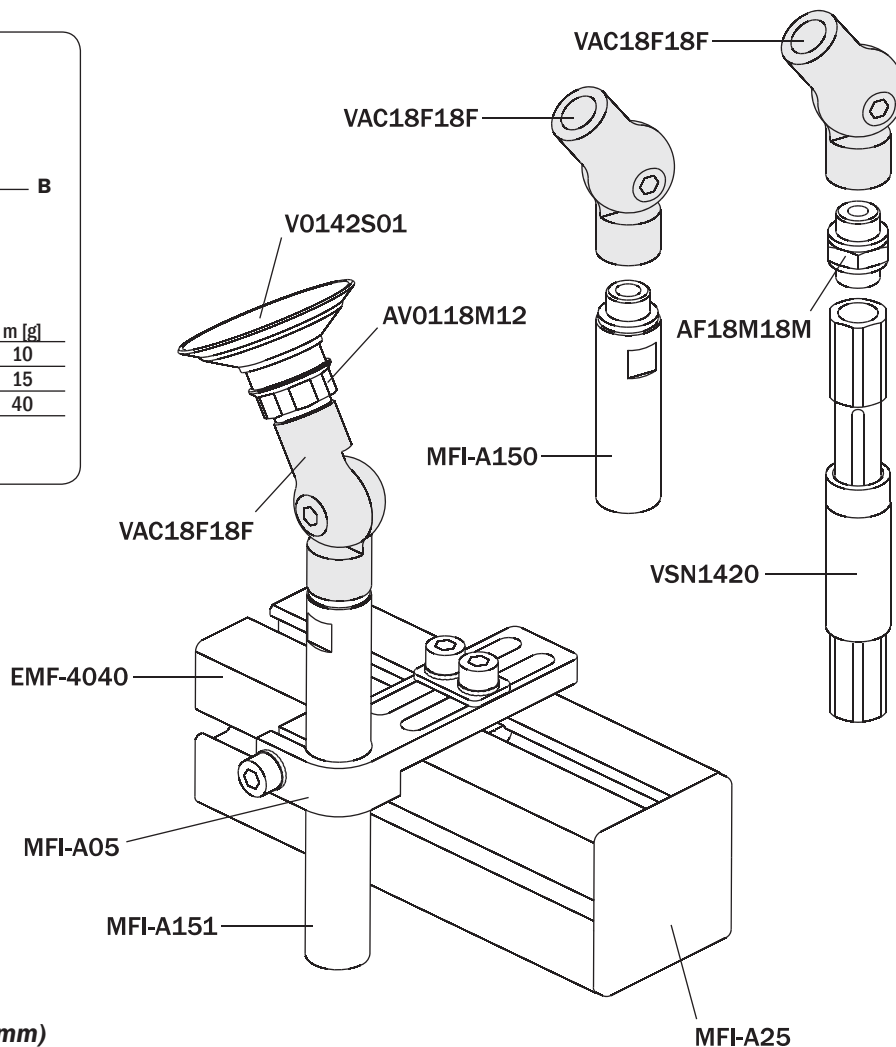
FIRST ANGLE PROJECTION

Giunti angolari

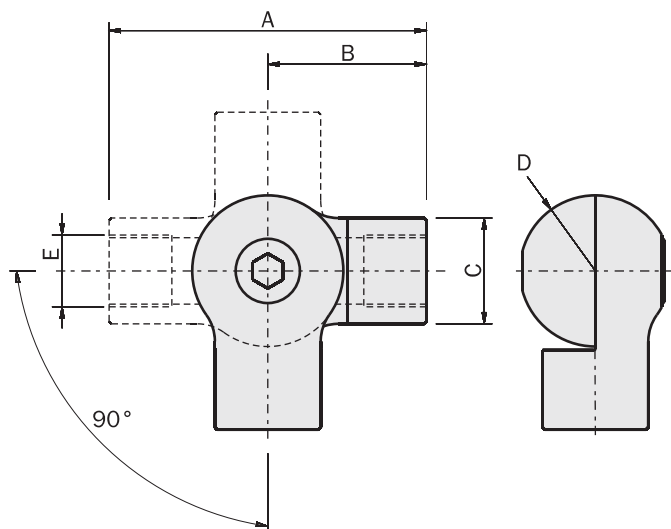
- Non per aria compressa (solo vuoto).
- Si montano fra la ventosa ed il suo supporto con due filetti femmina.
- Consentono di orientare la ventosa di un angolo predefinito rispetto al supporto.
- L'angolo è regolabile continuamente fra 0° e +/-90°.
- L'angolo è fissato stringendo una vite.
- Canale per il vuoto integrato.

Elbow arms

- Not for compressed air (only vacuum).
- They are mounted between the vacuum cup and its support by two female threads.
- They are used to tilt the vacuum cup with respect to the support under a predefined angle.
- It is possible to set continuously the angle from 0° to +/-90°.
- By tightening one screw the angle is fixed.
- Integrated vacuum channel.



Dimensioni (mm) / Dimensions (mm)

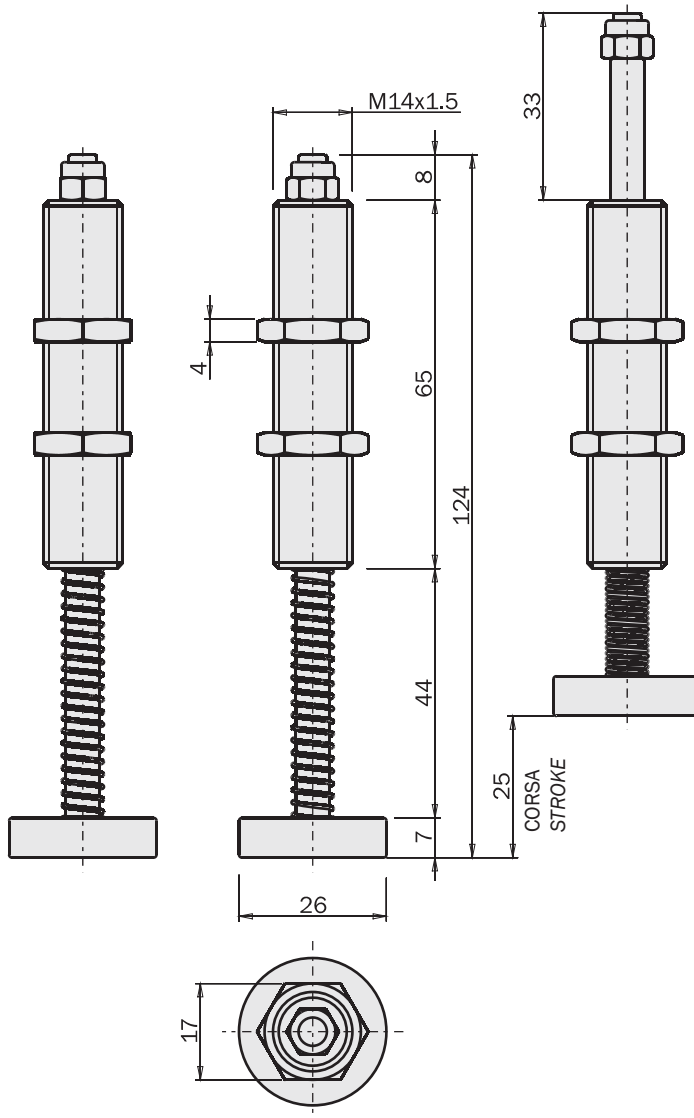


| | VAC05F05F | VAC18F18F | VAC14F14F |
|---|-----------|-----------|-----------|
| A | 33 | 42 | 56 |
| B | 16.5 | 21 | 28 |
| C | Ø10 | Ø14 | Ø20 |
| D | R8 | R10 | R14 |
| E | M5 | G1/8" | G1/4" |

Pressore a molla

Spring rod

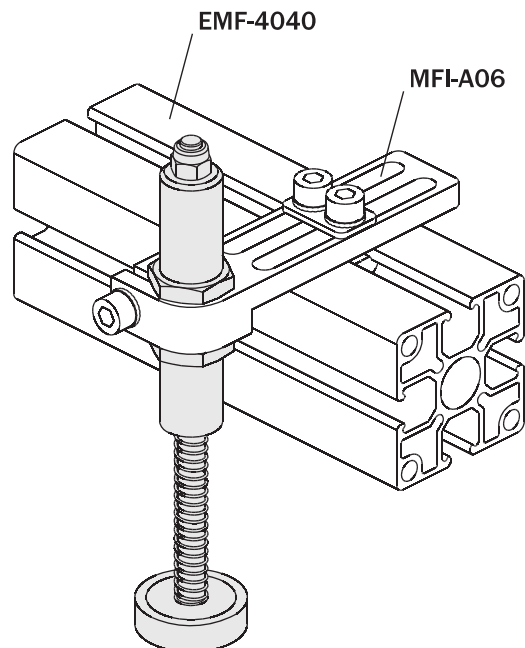
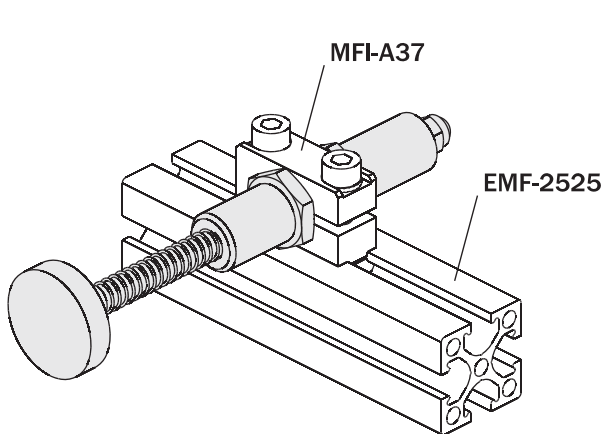
FIRST ANGLE PROJECTION



| | |
|---------------|----------------|
| | VSX1425 |
| Peso / Weight | 65 g |



Materiale: Gomma TPU
Material: TPU Rubber

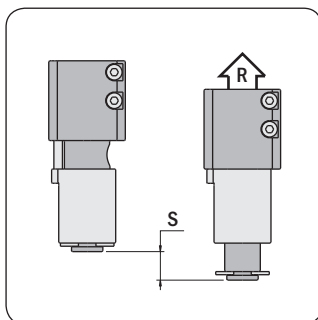
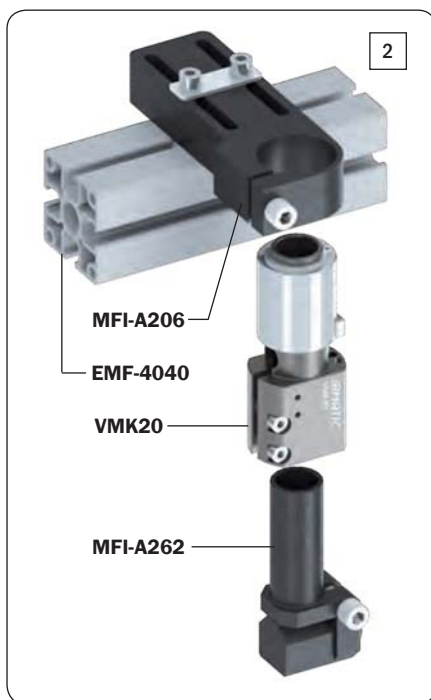


Sospensioni universali anti-rotazione

- Per tutti gli attuatori e le staffe con codolo da 14mm, 20mm e 30mm.
- Con foro passante per i tubi dell'aria **1**.
- Fissaggio a cravatta **2**.
- Sensore magnetico opzionale.
- Sensore induttivo opzionale (non per VMK14).

Non-rotative universal suspensions

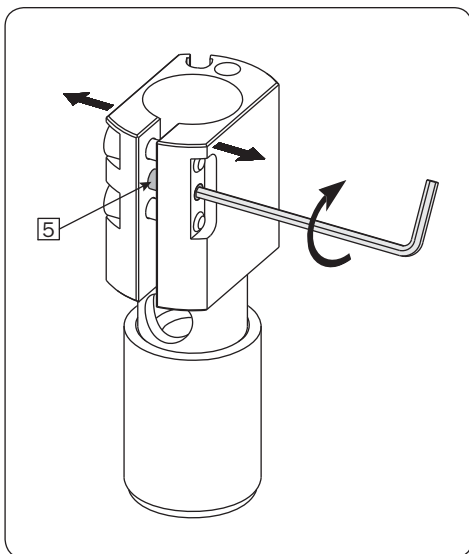
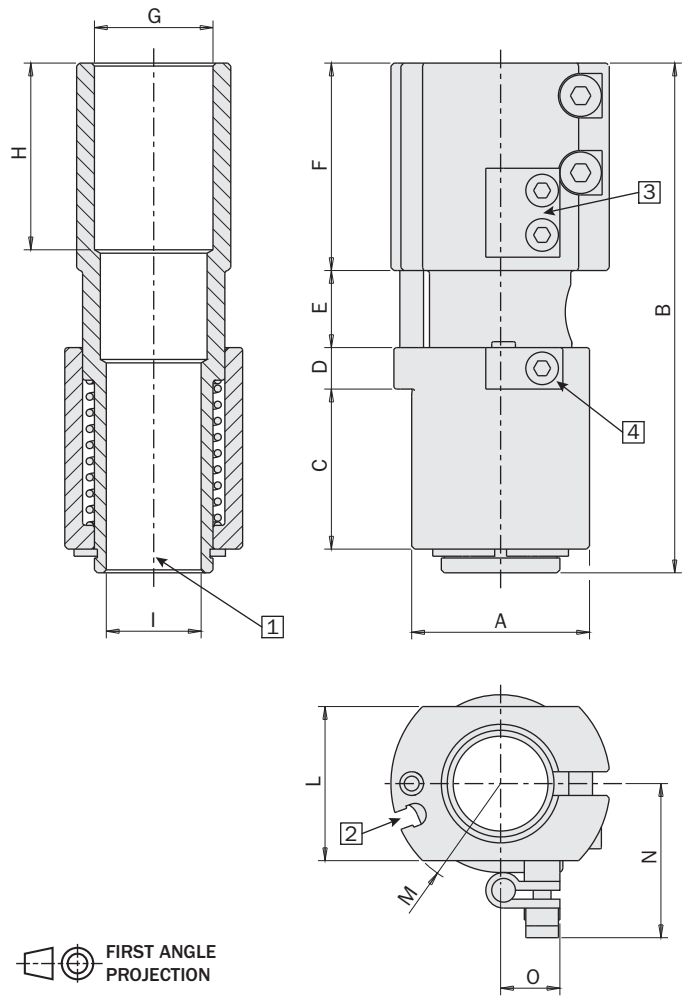
- For all actuators and brackets with 14mm, 20mm and 30mm tang.
- With through hole for air hoses **1**.
- Clamp mounting **2**.
- Optional magnetic sensor.
- Optional inductive sensor (not for VMK14).



| | | VMK14 | VMK20 | VMK30 |
|--|-----|--------------|--------------|--------------|
| Forza di reazione della molla Spring reaction force | (R) | 5 ÷ 6 N | 7 ÷ 10 N | 7 ÷ 10 N |
| Corsa della sospensione Suspension stroke | (S) | 10 mm | 13 mm | 16 mm |
| Peso Weight | | 55 g | 160 g | 250 g |

Dimensioni (mm) / Dimensions (mm)

| | VMK14 | VMK20 | VMK30 |
|---|-------|-------|-------|
| A | Ø20 | Ø30 | Ø30 |
| B | 67 | 86 | 105 |
| C | 21 | 27 | 31 |
| D | 5 | 7 | 8 |
| E | 10 | 13 | 16 |
| F | 28 | 35 | 46 |
| G | Ø14 | Ø20 | Ø30 |
| H | 14 | 31.5 | 41.2 |
| I | Ø6 | Ø16 | Ø16 |
| L | 17 | 26 | 35 |
| M | Ø27 | Ø37 | Ø48 |
| N | - | 26 | 28.5 |
| O | - | 10 | 12.5 |



- E** Corsa della sospensione
Suspension stroke
- 1** Foro passante per i tubi dell'aria
Through hole for hoses
- 2** Cava per sensore magnetico
Slot for magnetic sensor
- 3** Staffa per fissaggio sensore induttivo (non per VMK14)
Inductive sensor fastening bracket (not for VMK14)
- 4** Staffa per spina metallica (non per VMK14)
Bracket for metal pin (not for VMK14)
- 5** Grano per allargare la cravatta
Grub screw for clamp opening

Sensori (opzionali)

Il rilevamento della posizione compressa della sospensione può essere effettuato con un sensore magnetico, oppure con un sensore induttivo (non per VMK14).

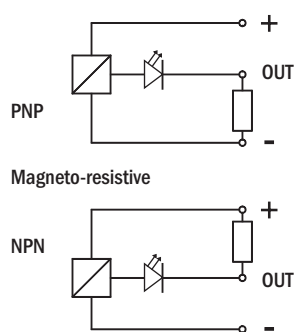
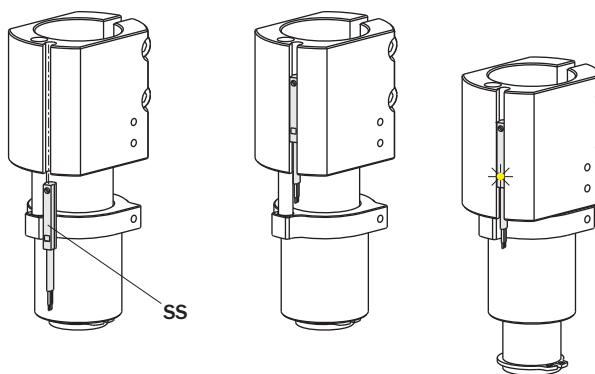
Sensors (optional)

The compressed position of the suspension can be detected by a magnetic sensor, or an inductive sensor (not for VMK14).

Sensori magnetici

| SN4N225-G | PNP | Cavo 2.5m / 2.5m cable |
|-----------|-----|--|
| SN4M225-G | NPN | Cavo 2.5m / 2.5m cable |
| SN3N203-G | PNP | Connettore M8 / M8 snap plug connector |
| SN3M203-G | NPN | Connettore M8 / M8 snap plug connector |
| SS4N225-G | PNP | Cavo 2.5m / 2.5m cable |
| SS4M225-G | NPN | Cavo 2.5m / 2.5m cable |
| SS3N203-G | PNP | Connettore M8 / M8 snap plug connector |
| SS3M203-G | NPN | Connettore M8 / M8 snap plug connector |

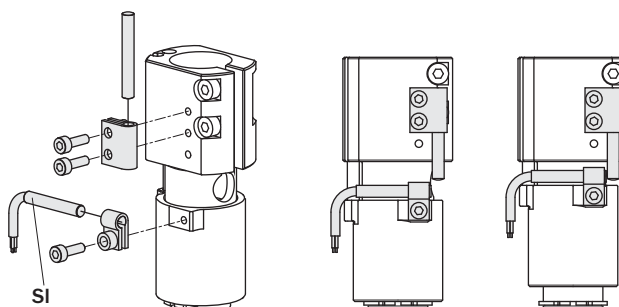
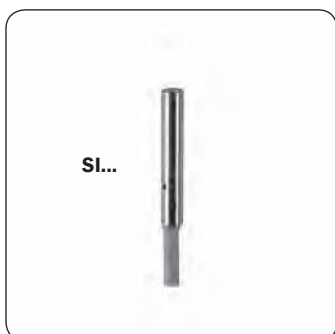
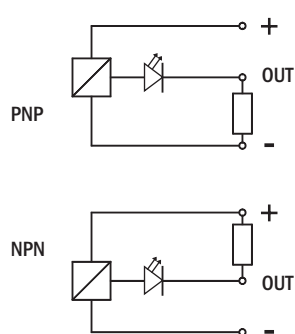
Magnetic sensors



Sensori induttivi

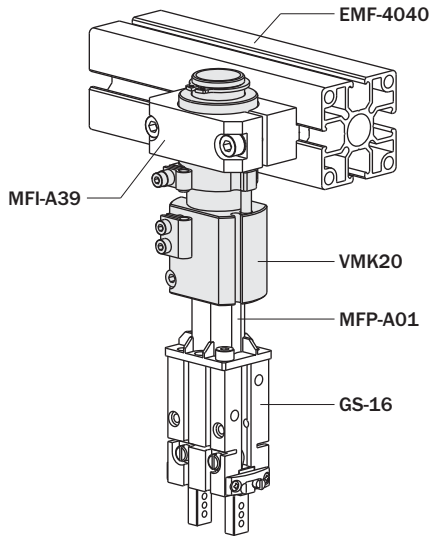
| SI4M225-G | NPN | Cavo 2.5m / 2.5m cable |
|-----------|-----|------------------------|
| SI4N225-G | PNP | Cavo 2.5m / 2.5m cable |

Inductive sensors



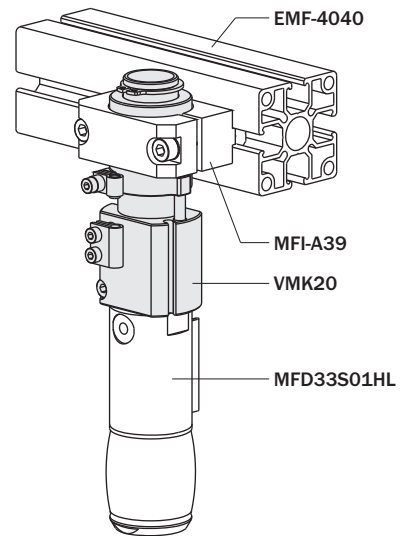
Esempi di applicazione

Sospensione di una pinza parallela GS.
Buffering of a parallel gripper GS.

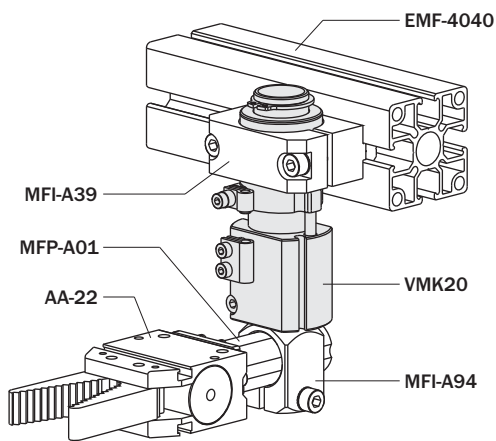


Application examples

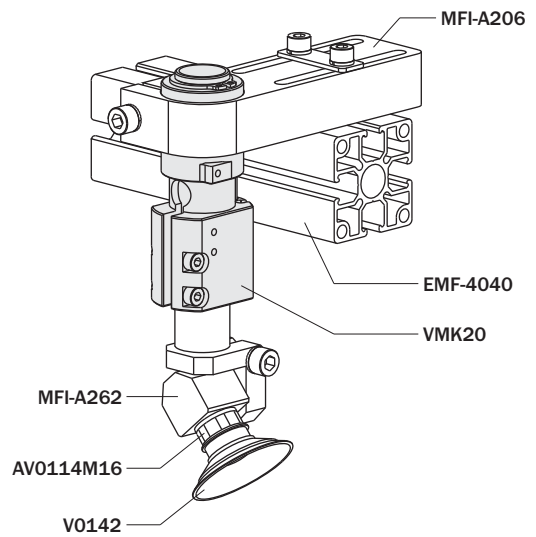
Sospensione di una pinza ad espansione MFD/MFU.
Buffering of an expansion gripper MFD/MFU.



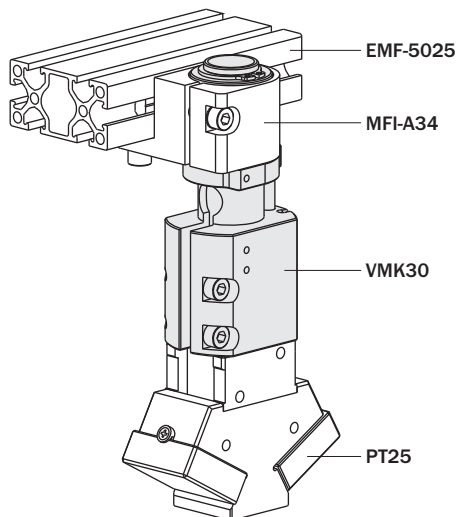
Sospensione di una pinza per materozze AA.
Buffering of a sprue gripper AA.



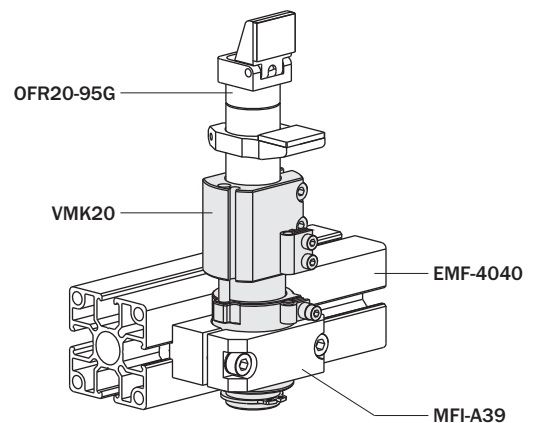
Sospensione di una ventosa V01.
Buffering of a vacuum cup V01.



Sospensione di una pinza ad aghi PT.
Buffering of a needle gripper PT.



Sospensione di una pinza monodito OF.
Buffering of an one finger gripper OF.



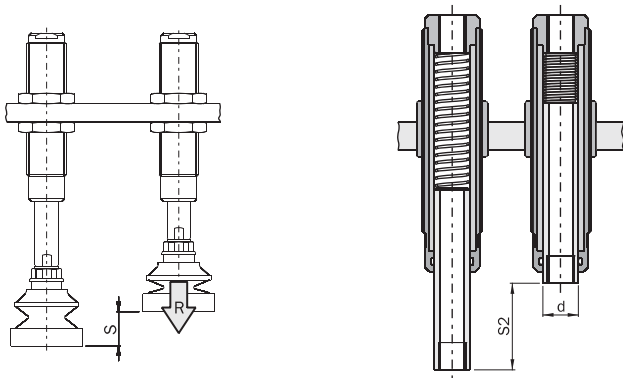
Sospensioni per ventose

- Le sospensioni (o buffer, o compensatori di livello) sono usate per tenere in posizione le ventose durante l'avvicinamento del robot.
- Gimatic offre una gamma specificamente progettata per le applicazioni Plastics.
- Tipicamente sono montate su EOAT (End Of Arm Tooling) con le staffe MFI.

Forza di reazione

La forza di reazione dipende dalla compressione (S) della molla interna. E anche dal diametro del pistone (d) e dalla pressione di utilizzo (p), nel caso delle sospensioni telescopiche. Usare la formula seguente per il calcolo.

$$R = R1 + K \cdot S + d^2 \cdot \frac{\pi}{40} \cdot p$$



Vacuum cup suspensions

- The suspensions (or buffers, or level compensators) are used to keep the suction cups in position as the robot approaches.
- Gimatic offers a range specifically designed for Plastics applications.
- They are typically mounted on EOATs (End Of Arm Toolings) with MFI brackets.

Reaction force

The reaction force depends on the compression (S) of the internal spring. And also on the piston diameter (d) and operation pressure (p), in the case of telescopic suspensions. Use the following formula for calculation.

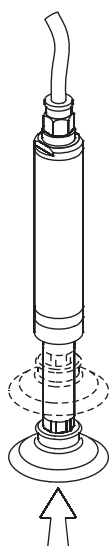
- R [N] Forza di reazione
Reaction force
- R1 [N] Forza della molla all'inizio della corsa
Spring force at the beginning
- K [N/mm] Costante elastica della molla
Spring rate
- S [mm] Corsa effettuata
Compression stroke
- d [mm] Alesaggio
Piston bore
- p [bar] Pressione
Pressure
- R2 [N] Forza della molla alla fine della corsa
Spring force at the end-stroke
- S2 [mm] Corsa massima
Maximum stroke
- m [g] Peso
Weight



Sospensioni telescopiche

Telescopic suspensions

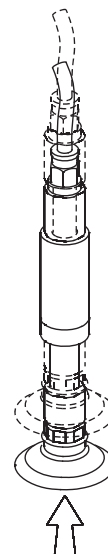
- VSC
- VSL
- VSS



Sospensioni con stelo passante

Through rod suspensions

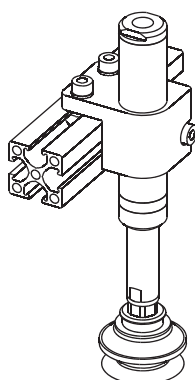
- VSR
- VSRT
- VSN
- VSNT
- VSE
- VSET
- VVX
- VSRTG
- VSNG
- VSNTG
- VSD



Sospensioni con corpo liscio

Suspensions with smooth body

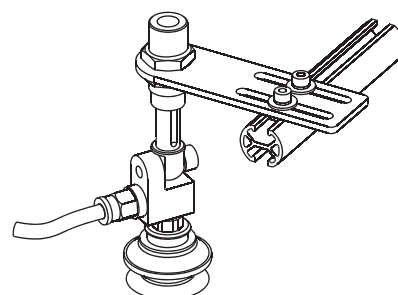
- VSL
- VSS
- VSR
- VSN
- VSE
- VVX
- VSNG
- VSD



Sospensioni con corpo filettato

Suspensions with threaded body

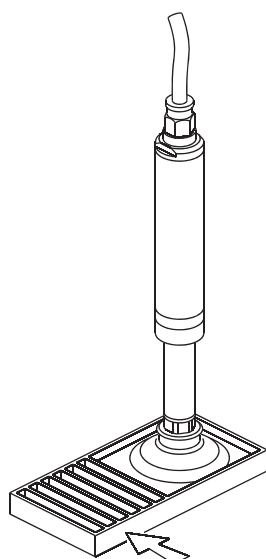
- VSC
- VSRT
- VSNT
- VSET
- VSRTG
- VSNTG



Sospensioni anti-rotazione

Non-rotative suspensions

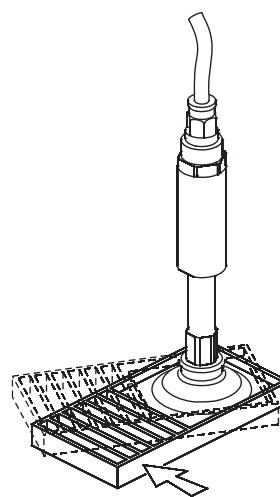
- VSC
- VSL
- VSN
- VSNT
- VSE
- VSET
- VVX
- VSNG
- VSNTG
- VSD



Sospensioni rotanti

Rotative suspensions

- VSS
- VSR
- VSRT
- VSRTG

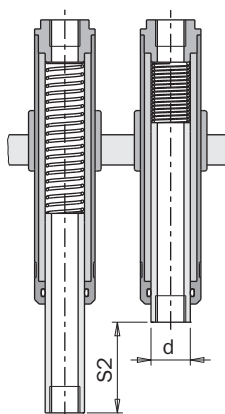
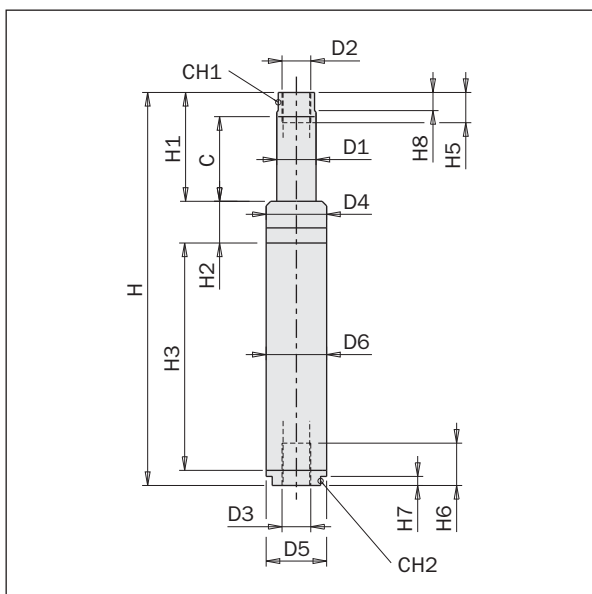


Sospensioni telescopiche anti-rotazione con corpo liscio

- Corpo e stelo in alluminio anodizzato.
- Trattamento anti-frizione sullo stelo.
- Cuscinetto in polimero per un movimento più omogeneo.
- Stelo anti-rotazione con gioco ridotto.
- Movimento telescopico: i raccordi ed i tubi non si muovono.
- Guarnizioni unidirezionali: usabile solo con il vuoto.
- Pressione di utilizzo: $-1 \div 0$ bar.

Smooth-body non-rotative telescopic suspensions

- Body and rod in anodized aluminum.
- Anti-friction treatment on the rod.
- Smooth movement thanks to the plastic bearing.
- Non-rotative rod with reduced tolerance.
- Telescopic lay-out: fittings and hoses don't move.
- Unidirectional sealing: only for vacuum applications.
- Pressure range: $-1 \div 0$ bar.



VSL



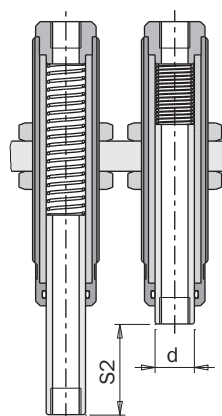
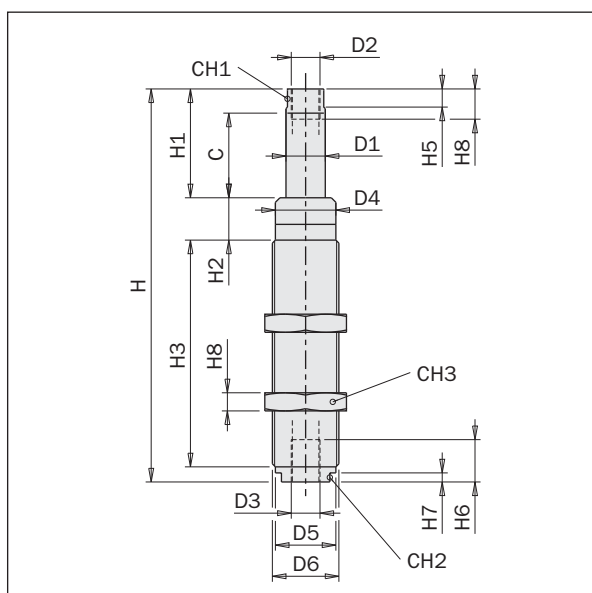
| | VSL1620 | VSL2030 | VSL2430 |
|----------|---------|---------|---------|
| H [mm] | 100 | 130 | 130 |
| H1 [mm] | 26 | 36 | 36 |
| H2 [mm] | 12 | 14 | 14 |
| H3 [mm] | 57 | 75 | 75 |
| H4 [mm] | 5 | 5 | 5 |
| H5 [mm] | 10 | 10 | 10 |
| H6 [mm] | 14 | 14 | 14 |
| H7 [mm] | 3 | 3 | 3 |
| H8 [mm] | 5 | 6 | 6 |
| D1 [mm] | Ø8 | Ø13 | Ø16 |
| D2 | M5 | G1/8" | G1/4" |
| D3 | M5 | G1/8" | G1/4" |
| D4 [mm] | Ø14.5 | Ø20 | Ø23 |
| D5 [mm] | Ø14.5 | Ø20 | Ø23 |
| D6 [mm] | Ø16 | Ø20 | Ø24 |
| CH1 [mm] | 7 | 12 | 14 |
| CH2 [mm] | 13 | 16 | 20 |
| C [mm] | 20 | 30 | 30 |
| S2 [mm] | 20 | 30 | 30 |
| d [mm] | 8 | 13 | 16 |
| K [N/mm] | 0.311 | 0.239 | 0.334 |
| R1 [N] | 9.338 | 14.80 | 20.05 |
| R2 [N] | 16.04 | 22.37 | 30.42 |
| m [g] | 30 | 55 | 70 |

Sospensioni telescopiche anti-rotazione con corpo filettato

- Corpo e stelo in alluminio anodizzato.
- Trattamento anti-frizione sullo stelo.
- Cuscinetto in polimero per un movimento più omogeneo.
- Stelo anti-rotazione con gioco ridotto.
- Movimento telescopico: i raccordi ed i tubi non si muovono.
- Guarnizioni unidirezionali: usabile solo con il vuoto.
- Pressione di utilizzo: $-1 \div 0$ bar.

Threaded-body non-rotative telescopic suspensions

- Body and rod in anodized aluminum.
- Anti-friction treatment on the rod.
- Smooth movement thanks to the plastic bearing.
- Non-rotative rod with reduced tolerance.
- Telescopic lay-out: fittings and hoses don't move.
- Unidirectional sealing: only for vacuum applications.
- Pressure range: $-1 \div 0$ bar.



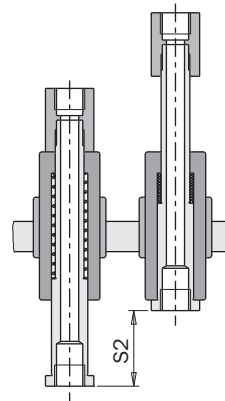
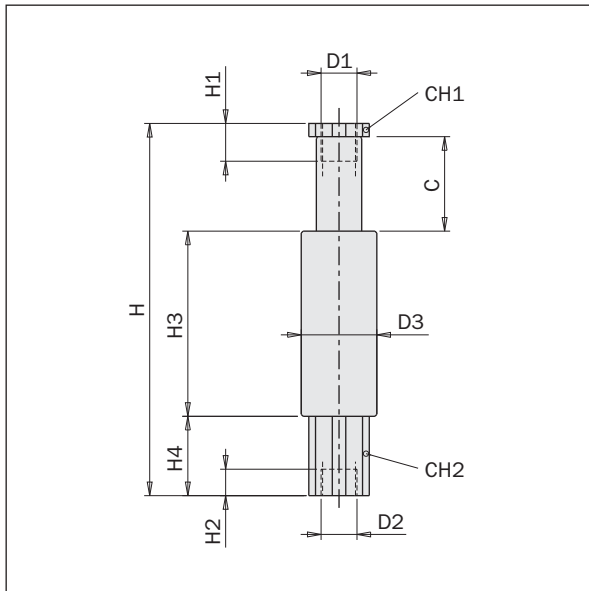
| | VSC1620 | VSC2230 | VSC2530 |
|----------|---------|---------|---------|
| H [mm] | 100 | 130 | 130 |
| H1 [mm] | 26 | 36 | 36 |
| H2 [mm] | 12 | 14 | 14 |
| H3 [mm] | 57 | 75 | 75 |
| H4 [mm] | 5 | 5 | 5 |
| H5 [mm] | 10 | 10 | 10 |
| H6 [mm] | 14 | 14 | 14 |
| H7 [mm] | 3 | 3 | 3 |
| H8 [mm] | 5 | 6 | 6 |
| D1 [mm] | Ø8 | Ø13 | Ø16 |
| D2 | M5 | G1/8" | G1/4" |
| D3 | M5 | G1/8" | G1/4" |
| D4 [mm] | Ø14.5 | Ø20 | Ø23 |
| D5 [mm] | Ø14.5 | Ø20 | Ø23 |
| D6 | M16x1 | M22x1.5 | M25x1.5 |
| CH1 [mm] | 7 | 12 | 14 |
| CH2 [mm] | 13 | 16 | 20 |
| CH3 [mm] | 19 | 27 | 32 |
| C [mm] | 20 | 30 | 30 |
| S2 [mm] | 20 | 30 | 30 |
| d [mm] | 8 | 13 | 16 |
| K [N/mm] | 0.311 | 0.239 | 0.334 |
| R1 [N] | 9.338 | 14.80 | 20.05 |
| R2 [N] | 16.04 | 22.37 | 30.42 |
| m [g] | 35 | 80 | 115 |

Sospensioni rotanti con corpo liscio

- Corpo e stelo in alluminio anodizzato.
- Stelo girevole.
- Pressione di utilizzo: -1 ÷ 8 bar.

Smooth-body rotative suspensions

- Body and rod in anodized aluminum.
- Rotative rod.
- Pressure range: -1 ÷ 8 bar.



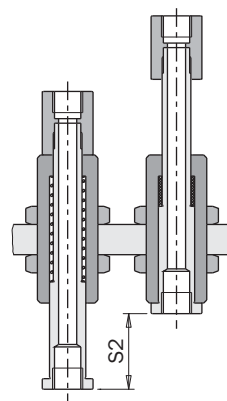
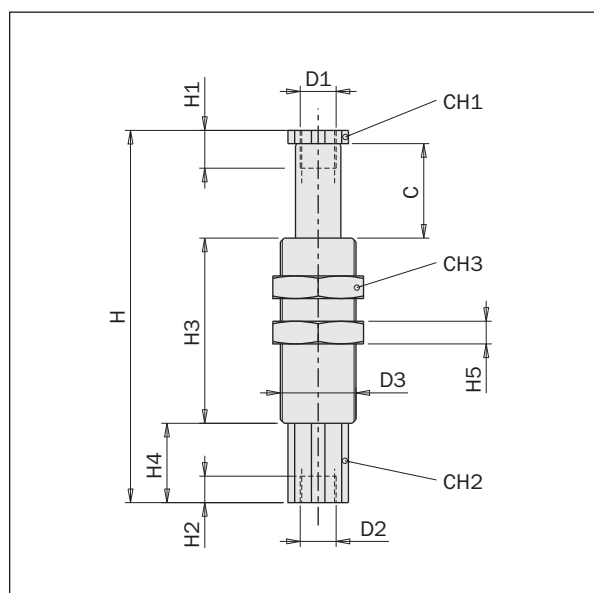
| | VSR1010 | VSR1025 | VSR1420 | VSR1435 | VSR2025 | VSR2050 |
|----------|---------|---------|---------|---------|---------|---------|
| H [mm] | 51 | 85.5 | 92.5 | 127.5 | 98.5 | 156 |
| H1 [mm] | 6 | 6 | 10 | 10 | 10 | 10 |
| H2 [mm] | 5 | 5 | 7 | 7 | 7 | 7 |
| H3 [mm] | 21 | 40.5 | 38.5 | 58.5 | 49 | 81.5 |
| H4 [mm] | 17 | 17 | 20 | 20 | 21 | 21 |
| D1 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" |
| D2 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" |
| D3 [mm] | Ø10 | Ø10 | Ø14 | Ø14 | Ø20 | Ø20 |
| CH1 [mm] | 8 | 8 | 12 | 12 | 16 | 16 |
| CH2 [mm] | 8 | 8 | 12 | 12 | 16 | 16 |
| C [mm] | 10 | 25 | 20 | 35 | 25 | 50 |
| S2 [mm] | 10 | 25 | 20 | 35 | 25 | 50 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.213 | 0.085 | 0.268 | 0.150 | 0.275 | 0.141 |
| R1 [N] | 1.490 | 1.575 | 3.617 | 4.267 | 4.131 | 4.308 |
| R2 [N] | 3.619 | 3.704 | 8.975 | 9.507 | 11.02 | 11.37 |
| m [g] | 7 | 11 | 23 | 32 | 50 | 77 |

Sospensioni rotanti con corpo filettato

- Corpo e stelo in alluminio anodizzato.
- Stelo girevole.
- Pressione di utilizzo: $-1 \div 8$ bar.

Threaded-body rotative suspensions

- Body and rod in anodized aluminum.
- Rotative rod.
- Pressure range: $-1 \div 8$ bar.



VSRT



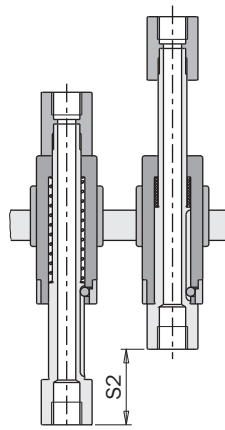
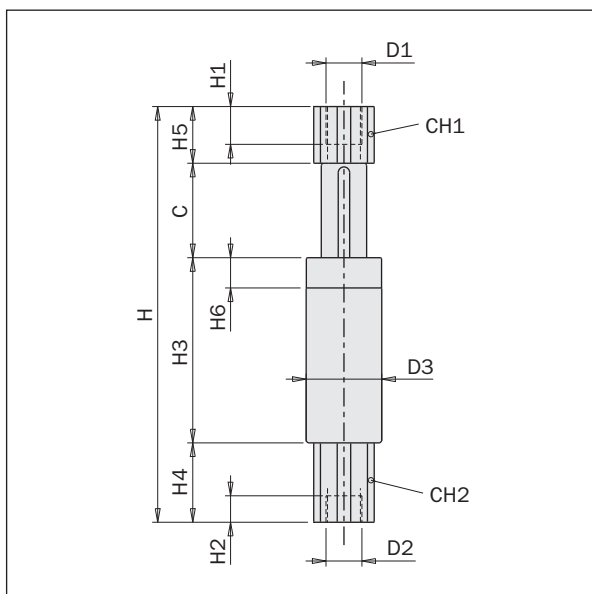
| | VSRT1010 | VSRT1025 | VSRT1420 | VSRT1435 | VSRT1620 | VSRT1635 | VSRT2025 | VSRT2050 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| H [mm] | 51 | 85.5 | 92.5 | 127.5 | 92.5 | 127.5 | 98.5 | 156 |
| H1 [mm] | 6 | 6 | 10 | 10 | 10 | 10 | 10 | 10 |
| H2 [mm] | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 |
| H3 [mm] | 21 | 40.5 | 38.5 | 58.5 | 38.5 | 58.5 | 49 | 81.5 |
| H4 [mm] | 17 | 17 | 20 | 20 | 20 | 20 | 21 | 21 |
| H5 [mm] | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 6 |
| D1 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" |
| D2 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" |
| D3 | M10x1 | M10x1 | M14x1.5 | M14x1.5 | M16x1 | M16x1 | M20x1.5 | M20x1.5 |
| CH1 [mm] | 8 | 8 | 12 | 12 | 12 | 12 | 16 | 16 |
| CH2 [mm] | 8 | 8 | 12 | 12 | 12 | 12 | 16 | 16 |
| CH3 [mm] | 13 | 13 | 17 | 17 | 19 | 19 | 24 | 24 |
| C [mm] | 10 | 25 | 20 | 35 | 20 | 35 | 25 | 50 |
| S2 [mm] | 10 | 25 | 20 | 35 | 20 | 35 | 25 | 50 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.213 | 0.085 | 0.268 | 0.150 | 0.268 | 0.150 | 0.275 | 0.141 |
| R1 [N] | 1.490 | 1.575 | 3.617 | 4.267 | 3.617 | 4.267 | 4.131 | 4.308 |
| R2 [N] | 3.619 | 3.704 | 8.975 | 9.507 | 8.975 | 9.507 | 11.02 | 11.37 |
| m [g] | 11 | 16 | 32 | 42 | 40 | 50 | 70 | 104 |

Sospensioni anti-rotazione con corpo liscio

- Corpo e stelo in alluminio anodizzato.
- Stelo anti-rotazione con elevata capacità di carico.
- Pressione di utilizzo: -1 ÷ 8 bar.

Smooth-body non-rotative telescopic suspensions

- Body and rod in anodized aluminum.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.



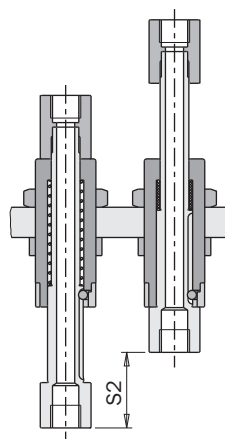
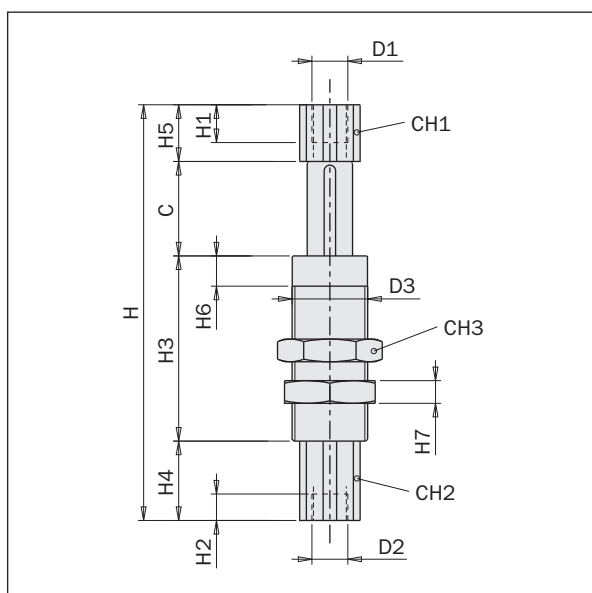
| | VSN1010 | VSN1025 | VSN1420 | VSN1435 | VSN2025 | VSN2050 |
|----------|---------|---------|---------|---------|---------|---------|
| H [mm] | 56 | 90.5 | 98.5 | 133.5 | 110 | 167.5 |
| H1 [mm] | 6 | 6 | 10 | 10 | 10 | 10 |
| H2 [mm] | 5 | 5 | 7 | 7 | 7 | 7 |
| H3 [mm] | 21 | 40.5 | 38.5 | 58.5 | 49 | 81.5 |
| H4 [mm] | 17 | 17 | 20 | 20 | 21 | 21 |
| H5 [mm] | 8 | 8 | 20 | 20 | 15 | 15 |
| H6 [mm] | 5 | 5 | 7 | 7 | 8 | 8 |
| D1 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" |
| D2 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" |
| D3 [mm] | Ø10 | Ø10 | Ø14 | Ø14 | Ø20 | Ø20 |
| CH1 [mm] | 8 | 8 | 12 | 12 | 16 | 16 |
| CH2 [mm] | 8 | 8 | 12 | 12 | 16 | 16 |
| C [mm] | 10 | 25 | 20 | 35 | 25 | 50 |
| S2 [mm] | 10 | 25 | 20 | 35 | 25 | 50 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.213 | 0.085 | 0.268 | 0.150 | 0.275 | 0.141 |
| R1 [N] | 1.490 | 1.575 | 3.617 | 4.267 | 4.131 | 4.308 |
| R2 [N] | 3.619 | 3.704 | 8.975 | 9.507 | 11.02 | 11.37 |
| m [g] | 7 | 11 | 24 | 33 | 54 | 80 |

Sospensioni anti-rotazione con corpo filettato

- Corpo e stelo in alluminio anodizzato.
- Stelo anti-rotazione con elevata capacità di carico.
- Pressione di utilizzo: $-1 \div 8$ bar.

Threaded-body non-rotative suspensions

- Body and rod in anodized aluminum.
- Non-rotative rod with high load capability.
- Pressure range: $-1 \div 8$ bar.



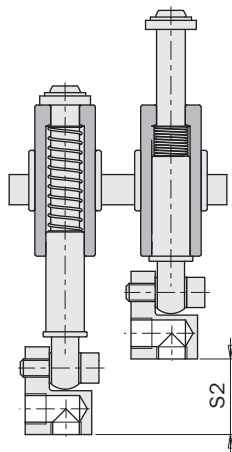
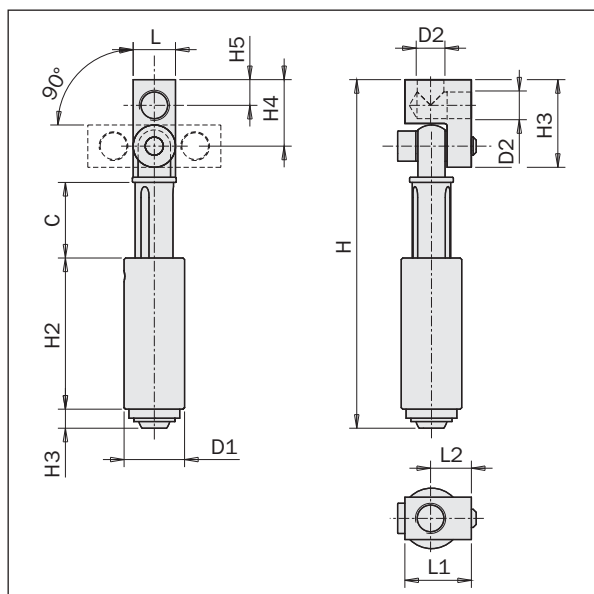
| | VSNT1010 | VSNT1025 |
|----------|----------|----------|
| H [mm] | 56 | 90.5 |
| H1 [mm] | 6 | 6 |
| H2 [mm] | 5 | 5 |
| H3 [mm] | 21 | 40.5 |
| H4 [mm] | 17 | 17 |
| H5 [mm] | 8 | 8 |
| H6 [mm] | 5 | 5 |
| H7 [mm] | 3.5 | 3.5 |
| D1 | M5 | M5 |
| D2 | M5 | M5 |
| D3 | M10x1 | M10x1 |
| CH1 [mm] | 8 | 8 |
| CH2 [mm] | 8 | 8 |
| CH3 [mm] | 13 | 13 |
| C [mm] | 10 | 25 |
| S2 [mm] | 10 | 25 |
| d [mm] | 0 | 0 |
| K [N/mm] | 0.213 | 0.085 |
| R1 [N] | 1.490 | 1.575 |
| R2 [N] | 3.619 | 3.704 |
| m [g] | 12 | 16 |

Sospensioni anti-rotazione con giunto angolare integrato e corpo liscio

- L'angolo è regolabile continuamente fra 0° e +/-90°.
- Alimentazione esterna.
- Corpo e stelo in alluminio anodizzato.
- Stelo anti-rotazione con elevata capacità di carico.
- Pressione di utilizzo: -1 ÷ 8 bar.

Smooth-body non-rotative suspensions with integral elbow arms

- It is possible to set continuously the angle between 0° and +/-90°.
- External air feeding.
- Body and rod in anodized aluminum.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.



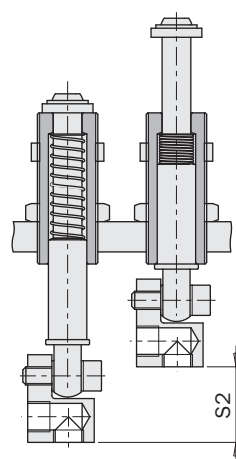
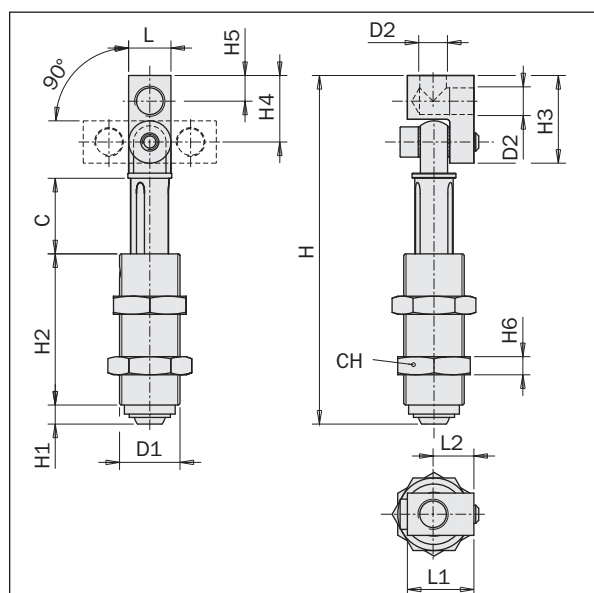
| | NEW | NEW | NEW | NEW | NEW | NEW | NEW | NEW |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| | VSE1010F05 | VSE1025F05 | VSE1420F18 | VSE1435F18 | VSE2025F18 | VSE2025F14 | VSE2050F18 | VSE2050F14 |
| H [mm] | 56.3 | 90.8 | 96.1 | 131.1 | 115.3 | 121.3 | 172.8 | 178.8 |
| H1 [mm] | 3.3 | 3.3 | 5.3 | 5.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| H2 [mm] | 22.5 | 42 | 40 | 60 | 50 | 50 | 82.5 | 82.5 |
| H3 [mm] | 19 | 19 | 29 | 29 | 29 | 38 | 29 | 38 |
| H4 [mm] | 14 | 14 | 22 | 22 | 22 | 28 | 22 | 28 |
| H5 [mm] | 5.5 | 5.5 | 8.5 | 8.5 | 8.5 | 12 | 8.5 | 12 |
| D1 [mm] | Ø10 | Ø10 | Ø14 | Ø14 | Ø20 | Ø20 | Ø20 | Ø20 |
| D2 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/4" | G1/8" | G1/4" |
| L [mm] | 10 | 10 | 14 | 14 | 14 | 20 | 14 | 20 |
| L1 [mm] | 16.5 | 16.5 | 22 | 22 | 22 | 27 | 22 | 27 |
| L2 [mm] | 11 | 11 | 13.5 | 13.5 | 13.5 | 15 | 13.5 | 15 |
| C [mm] | 10 | 25 | 20 | 35 | 25 | 25 | 50 | 50 |
| S2 [mm] | 10 | 25 | 20 | 35 | 25 | 25 | 50 | 50 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.106 | 0.138 | 0.268 | 0.150 | 0.275 | 0.275 | 0.141 | 0.141 |
| R1 [N] | 0.957 | 3.100 | 3.617 | 4.267 | 4.131 | 4.131 | 4.308 | 4.308 |
| R2 [N] | 2.020 | 6.545 | 8.975 | 9.507 | 11.02 | 11.02 | 11.37 | 11.37 |
| m [g] | 15 | 20 | 45 | 55 | 70 | 90 | 105 | 120 |

Sospensioni anti-rotazione con giunto angolare integrato e corpo filettato

- L'angolo è regolabile continuamente fra 0° e +/-90°.
- Alimentazione esterna.
- Corpo e stelo in alluminio anodizzato.
- Stelo anti-rotazione con elevata capacità di carico.
- Pressione di utilizzo: -1 ÷ 8 bar.

Threaded-body non-rotative suspensions with integral elbow arms

- It is possible to set continuously the angle between 0° and +/-90°.
- External air feeding.
- Body and rod in anodized aluminum.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.



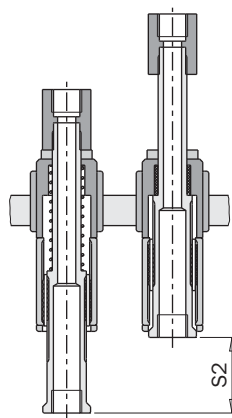
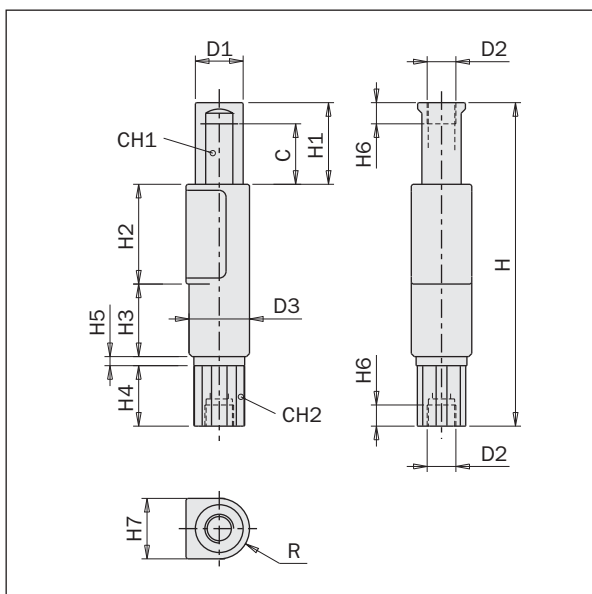
| | NEW | NEW | NEW | NEW | NEW | NEW | NEW | NEW |
|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | VSET1010F05 | VSET1025F05 | VSET1620F18 | VSET1635F18 | VSET2025F18 | VSET2025F14 | VSET2050F18 | VSET2050F14 |
| H [mm] | 56.3 | 90.8 | 96.1 | 131.1 | 115.3 | 121.3 | 172.8 | 178.8 |
| H1 [mm] | 3.3 | 3.3 | 5.3 | 5.3 | 6.3 | 6.3 | 6.3 | 6.3 |
| H2 [mm] | 22.5 | 42 | 40 | 60 | 50 | 50 | 82.5 | 82.5 |
| H3 [mm] | 19 | 19 | 29 | 29 | 29 | 38 | 29 | 38 |
| H4 [mm] | 14 | 14 | 22 | 22 | 22 | 28 | 22 | 28 |
| H5 [mm] | 5.5 | 5.5 | 8.5 | 8.5 | 8.5 | 12 | 8.5 | 12 |
| H6 [mm] | 3.5 | 3.5 | 5 | 5 | 6 | 6 | 6 | 6 |
| D1 | M10x1 | M10x1 | M16x1 | M16x1 | M20x1.5 | M20x1.5 | M20x1.5 | M20x1.5 |
| D2 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/4" | G1/8" | G1/4" |
| L [mm] | 10 | 10 | 14 | 14 | 14 | 20 | 14 | 20 |
| L1 [mm] | 16.5 | 16.5 | 22 | 22 | 22 | 27 | 22 | 27 |
| L2 [mm] | 11 | 11 | 13.5 | 13.5 | 13.5 | 15 | 13.5 | 15 |
| C [mm] | 10 | 25 | 20 | 35 | 25 | 25 | 50 | 50 |
| CH [mm] | 13 | 13 | 19 | 19 | 24 | 24 | 24 | 24 |
| S2 [mm] | 10 | 25 | 20 | 35 | 25 | 25 | 50 | 50 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.213 | 0.085 | 0.268 | 0.150 | 0.275 | 0.275 | 0.141 | 0.142 |
| R1 [N] | 1.490 | 1.575 | 3.617 | 4.267 | 4.131 | 4.131 | 4.308 | 4.308 |
| R2 [N] | 3.619 | 3.704 | 8.975 | 9.507 | 11.02 | 11.02 | 11.37 | 11.37 |
| m [g] | 18 | 23 | 57 | 70 | 88 | 109 | 125 | 142 |

Sospensioni inox anti-rotazione per carichi elevati

- Corpo, stelo, cuscinetto e molla in acciaio inossidabile.
- Guida a sfere per un'altissima capacità di carico.
- Gioco zero.
- Grasso alimentare FDA-H1.
- Pressione di utilizzo: -1 ÷ 8 bar.

Non-rotative heavy duty stainless suspensions

- Body, rod, bearing and spring in stainless steel.
- Ball bearing for a very high load capability.
- Zero backlash.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.



WX



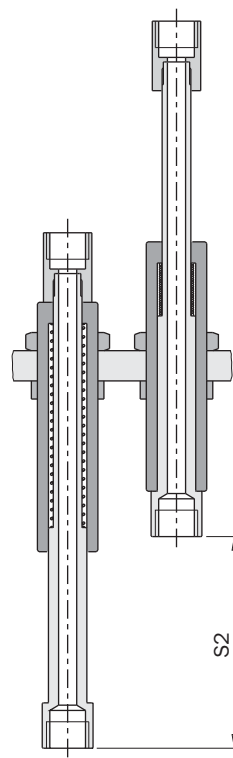
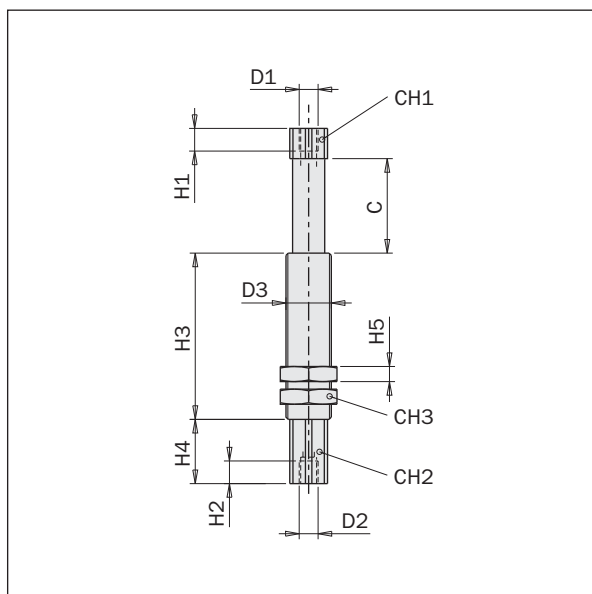
| | WX1010F | WX1025F | WX1420F | WX1435F | WX2025F | WX2050F |
|----------|---------|---------|---------|---------|---------|---------|
| H [mm] | 63 | 100.5 | 99 | 137 | 107 | 169 |
| H1 [mm] | 11 | 26 | 25 | 40 | 27 | 52 |
| H2 [mm] | 23.5 | 35 | 31 | 43 | 33 | 50.5 |
| H3 [mm] | 12 | 23 | 21 | 32 | 24 | 43.5 |
| H4 [mm] | 15 | 15 | 20 | 20 | 20 | 20 |
| H5 [mm] | 10 | 10 | 14 | 14 | 20 | 20 |
| H6 [mm] | 6 | 6 | 7 | 7 | 7 | 7 |
| H7 [mm] | 8 | 8 | 10 | 10 | 11 | 11 |
| D1 [mm] | Ø7.8 | Ø7.8 | Ø11.8 | Ø11.8 | Ø15.8 | Ø15.8 |
| D2 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" |
| D3 [mm] | Ø10 | Ø10 | Ø14 | Ø14 | Ø20 | Ø20 |
| CH1 [mm] | 6 | 6 | 10.5 | 10.5 | 13 | 13 |
| CH2 [mm] | 8 | 8 | 12 | 12 | 16 | 16 |
| C [mm] | 10 | 25 | 20 | 35 | 25 | 50 |
| R [mm] | 5 | 5 | 7 | 7 | 10 | 10 |
| S2 [mm] | 10 | 25 | 20 | 35 | 25 | 50 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.194 | 0.0786 | 0.252 | 0.137 | 0.258 | 0.129 |
| R1 [N] | 1.548 | 1.533 | 3.65 | 4.325 | 4.388 | 4.452 |
| R2 [N] | 3.483 | 3.498 | 8.685 | 9.132 | 10.84 | 10.9 |
| m [g] | 30 | 45 | 80 | 110 | 150 | 235 |

Sospensioni inox rotanti con corpo filettato

- Corpo, stelo e molla in acciaio inossidabile.
- Stelo girevole.
- Grasso alimentare FDA-H1.
- Pressione di utilizzo: $-1 \div 8$ bar.

Rotative stainless suspensions with threaded body

- Body, rod and spring in stainless steel.
- Rotative rod.
- FDA-H1 food-grade grease.
- Pressure range: $-1 \div 8$ bar.



VSRTG



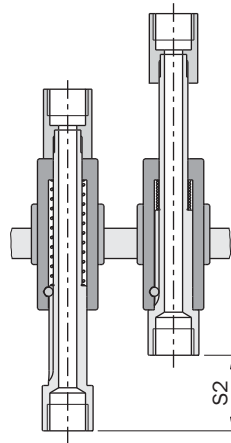
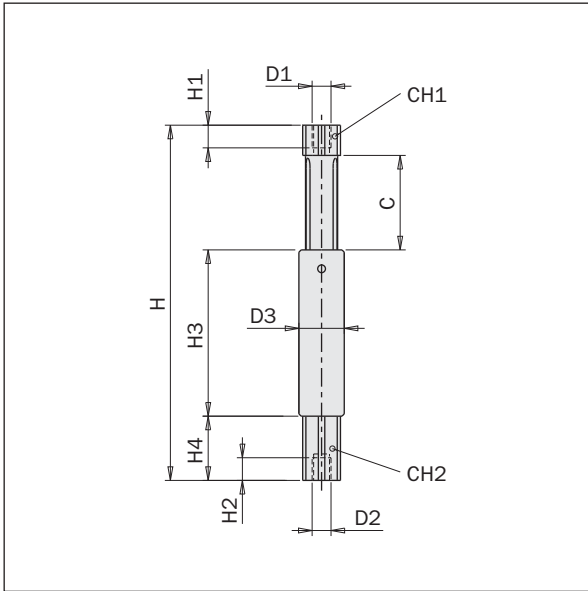
| | VSRTG1225 | VSRTG1635 | VSRTG2050 | VSRTG2580 |
|----------|-----------|-----------|-----------|-----------|
| H [mm] | 94 | 127.5 | 170.5 | 249 |
| H1 [mm] | 5.5 | 9 | 10 | 11 |
| H2 [mm] | 5.5 | 7 | 10 | 11 |
| H3 [mm] | 44 | 58.5 | 82.5 | 121 |
| H4 [mm] | 17 | 20 | 23 | 33 |
| H5 [mm] | 4 | 5 | 6 | 8 |
| D1 | M5 | G1/8" | G1/4" | G3/8" |
| D2 | M5 | G1/8" | G1/4" | G3/8" |
| D3 | M12x1 | M16x1 | M20x1.5 | M25x1.5 |
| CH1 [mm] | 10 | 12 | 16 | 23 |
| CH2 [mm] | 10 | 12 | 16 | 23 |
| CH3 [mm] | 15 | 19 | 24 | 32 |
| C [mm] | 25 | 35 | 50 | 80 |
| S2 [mm] | 25 | 35 | 50 | 80 |
| d [mm] | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.108 | 0.137 | 0.129 | 0.119 |
| R1 [N] | 2.112 | 4.325 | 4.452 | 6.005 |
| R2 [N] | 4.820 | 9.132 | 10.90 | 15.52 |
| m [g] | 50 | 110 | 220 | 560 |

Sospensioni anti-rotazione con corpo liscio

- Corpo e stelo in alluminio anodizzato.
- Molla e sfere in acciaio inossidabile.
- Stelo anti-rotazione con elevata capacità di carico.
- Pressione di utilizzo: -1 ÷ 8 bar.

Smooth-body non-rotative telescopic suspensions

- Body and rod in anodized aluminum.
- Spring and balls in stainless steel.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.



VSNG



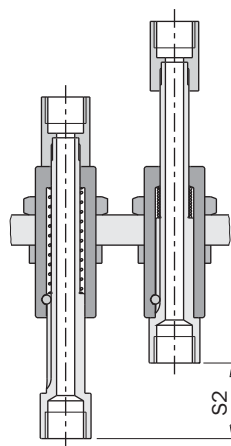
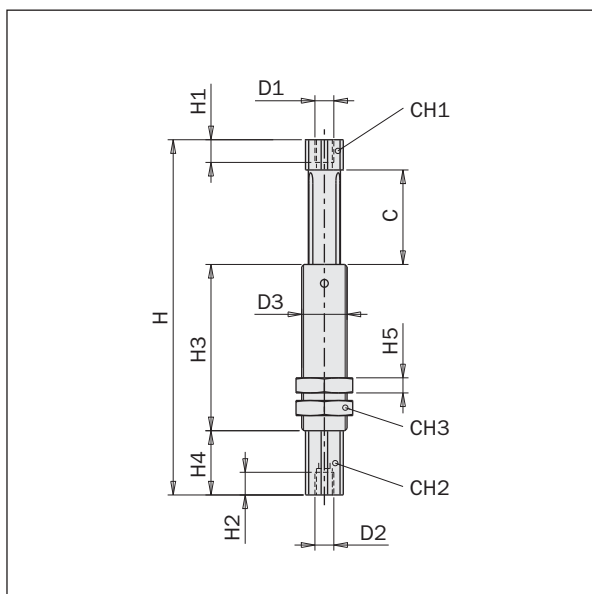
| | | NEW | NEW | | NEW | NEW | | NEW | NEW | | NEW | | | | |
|-----|--------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|----------|-------------|----------|----------|----------|
| | | VSNG1010 | VSNG1025 | VSNG1210 | VSNG1225 | VSNG1420 | VSNG1435 | VSNG1620 | VSNG1635 | VSNG2025F18 | VSNG2025 | VSNG2050F18 | VSNG2050 | VSNG2540 | VSNG2580 |
| H | [mm] | 56 | 90.5 | 60 | 94 | 100 | 135 | 100 | 135 | 111 | 113 | 168.5 | 170.5 | 159 | 249 |
| H1 | [mm] | 5 | 5 | 5.5 | 5.5 | 7 | 7 | 9 | 9 | 10 | 10 | 10 | 10 | 11 | 11 |
| H2 | [mm] | 5 | 5 | 5.5 | 5.5 | 7 | 7 | 7 | 7 | 10 | 10 | 10 | 10 | 11 | 11 |
| H3 | [mm] | 21 | 40.5 | 25 | 44 | 38.5 | 58.5 | 38.5 | 58.5 | 50 | 50 | 82.5 | 82.5 | 71 | 121 |
| H4 | [mm] | 17 | 17 | 17 | 17 | 20 | 20 | 20 | 20 | 21 | 23 | 21 | 23 | 33 | 33 |
| D1 | | M5 | M5 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/8" | G1/4" | G3/8" | G3/8" |
| D2 | | M5 | M5 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/8" | G1/4" | G3/8" | G3/8" |
| D3 | [mm] | Ø10 | Ø10 | Ø12 | Ø12 | Ø14 | Ø14 | Ø16 | Ø16 | Ø20 | Ø20 | Ø20 | Ø20 | Ø25 | Ø25 |
| CH1 | [mm] | 8 | 8 | 10 | 10 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 22 | 22 |
| CH2 | [mm] | 8 | 8 | 10 | 10 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 22 | 22 |
| C | [mm] | 10 | 25 | 10 | 25 | 20 | 35 | 20 | 35 | 25 | 25 | 50 | 50 | 40 | 80 |
| S2 | [mm] | 10 | 25 | 10 | 25 | 20 | 35 | 20 | 35 | 25 | 25 | 50 | 50 | 40 | 80 |
| d | [mm] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K | [N/mm] | 0.213 | 0.085 | 0.277 | 0.108 | 0.268 | 0.15 | 0.252 | 0.137 | 0.275 | 0.258 | 0.141 | 0.129 | 0.230 | 0.119 |
| R1 | [N] | 1.49 | 1.575 | 1.938 | 2.112 | 3.617 | 4.267 | 3.650 | 4.325 | 4.131 | 4.388 | 4.308 | 4.452 | 6.082 | 6.005 |
| R2 | [N] | 3.619 | 3.704 | 4.706 | 4.820 | 8.975 | 9.507 | 8.685 | 9.132 | 11.02 | 10.84 | 11.37 | 10.90 | 15.26 | 15.52 |
| m | [g] | 7 | 11 | 15 | 20 | 22 | 33 | 40 | 50 | 54 | 55 | 80 | 85 | 135 | 205 |

Sospensioni anti-rotazione con corpo filettato

- Corpo e stelo in alluminio anodizzato.
- Molla e sfere in acciaio inossidabile.
- Stelo anti-rotazione con elevata capacità di carico.
- Pressione di utilizzo: -1 ÷ 8 bar.

Threaded-body non-rotative suspensions

- Body and rod in anodized aluminum.
- Spring and balls in stainless steel.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.



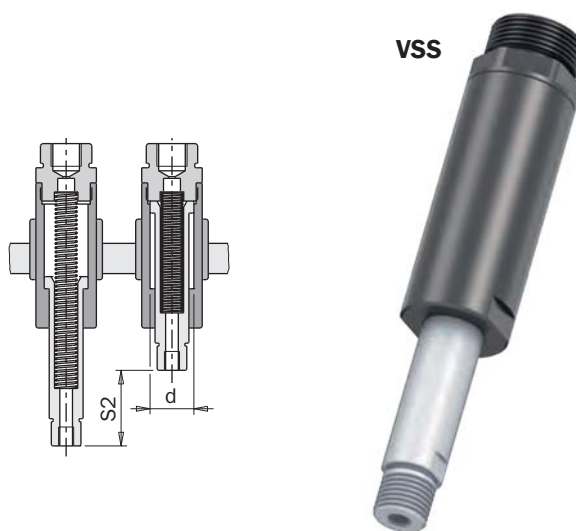
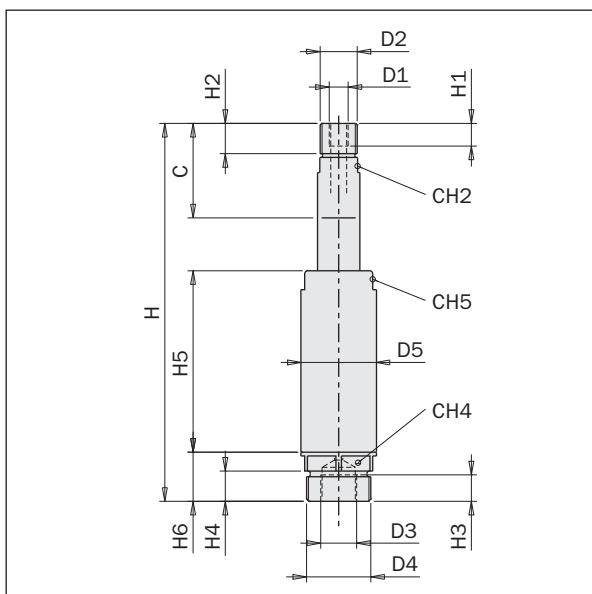
| | NEW | NEW | | | NEW | NEW | | | NEW | | NEW | | | |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|-----------|--------------|-----------|-----------|-----------|
| | VSNTG1010 | VSNTG1025 | VSNTG1210 | VSNTG1225 | VSNTG1420 | VSNTG1435 | VSNTG1620 | VSNTG1635 | VSNTG2025F18 | VSNTG2025 | VSNTG2050F18 | VSNTG2050 | VSNTG2540 | VSNTG2580 |
| H [mm] | 56 | 90.5 | 60 | 94 | 100 | 135 | 100 | 135 | 111 | 113 | 168.5 | 170,5 | 159 | 249 |
| H1 [mm] | 5 | 5 | 5.5 | 5.5 | 7 | 7 | 7 | 7 | 10 | 10 | 10 | 10 | 11 | 11 |
| H2 [mm] | 5 | 5 | 5.5 | 5.5 | 7 | 7 | 9 | 9 | 10 | 10 | 10 | 10 | 11 | 11 |
| H3 [mm] | 21 | 40.5 | 25 | 44 | 38.5 | 58.5 | 38.5 | 58.5 | 50 | 50 | 82.5 | 82.5 | 71 | 121 |
| H4 [mm] | 17 | 17 | 17 | 17 | 20 | 20 | 20 | 20 | 21 | 23 | 21 | 23 | 33 | 33 |
| H5 [mm] | 3.5 | 3.5 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 8 | 8 |
| D1 | M5 | M5 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/8" | G1/4" | G3/8" | G3/8" |
| D2 | M5 | M5 | M5 | M5 | G1/8" | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/8" | G1/4" | G3/8" | G3/8" |
| D3 | M10x1 | | M12x1 | | M14x1.5 | | M16x1 | | M20x1.5 | | | M25x1.5 | | |
| CH1 [mm] | 8 | 8 | 10 | 10 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 22 | 22 |
| CH2 [mm] | 8 | 8 | 10 | 10 | 12 | 12 | 12 | 12 | 16 | 16 | 16 | 16 | 22 | 22 |
| CH3 [mm] | 13 | 13 | 15 | 15 | 17 | 17 | 19 | 19 | 24 | 24 | 24 | 24 | 32 | 32 |
| C [mm] | 10 | 25 | 20 | 35 | 20 | 35 | 40 | 80 | 25 | | 50 | | | |
| S2 [mm] | 10 | 25 | 10 | 25 | 20 | 35 | 20 | 35 | 25 | 25 | 50 | 50 | 40 | 80 |
| d [mm] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| K [N/mm] | 0.213 | 0.085 | 0.277 | 0.108 | 0.268 | 0.15 | 0.252 | 0.137 | 0.275 | 0.258 | 0.141 | 0.129 | 0.230 | 0.119 |
| R1 [N] | 1.49 | 1.575 | 1.938 | 2.112 | 3.617 | 4.267 | 3.650 | 4.325 | 4.131 | 4.388 | 4.308 | 4.452 | 6.082 | 6.005 |
| R2 [N] | 3.619 | 3.704 | 4.706 | 4.820 | 8.975 | 9.507 | 8.685 | 9.132 | 11.02 | 10.84 | 11.37 | 10.90 | 15.26 | 15.52 |
| m [g] | 7 | 11 | 15 | 20 | 22 | 33 | 35 | 45 | 54 | 65 | 80 | 90 | 170 | 235 |

Sospensioni telescopiche auto-ritraenti

- Corpo e stelo in alluminio anodizzato.
- Tenuta senza guarnizioni.
- Usabile solo con il vuoto.
- Quando la ventosa prende un pezzo, il vuoto che agisce sul pistone interno supera la forza della molla e muove lo stelo.
- La velocità del movimento di ritrazione può essere calibrata con un regolatore di flusso standard.
- Quando si rimuove il vuoto, il pezzo viene rilasciato e la molla interna riporta lo stelo a fondo corsa.
- Pressione di utilizzo: $-1 \div 0$ bar.

Telescopic self-retracting suspensions

- Body and rod in anodized aluminum.
- Sealing with no seals.
- Only for vacuum applications.
- When the cup takes a part, the vacuum on the internal piston overtakes the spring force and moves the rod up.
- The speed of the retraction movement can be adjusted by a standard throttle valve.
- When the vacuum is removed the part is released and the internal spring resets the rod.
- Pressure range: $-1 \div 0$ bar.



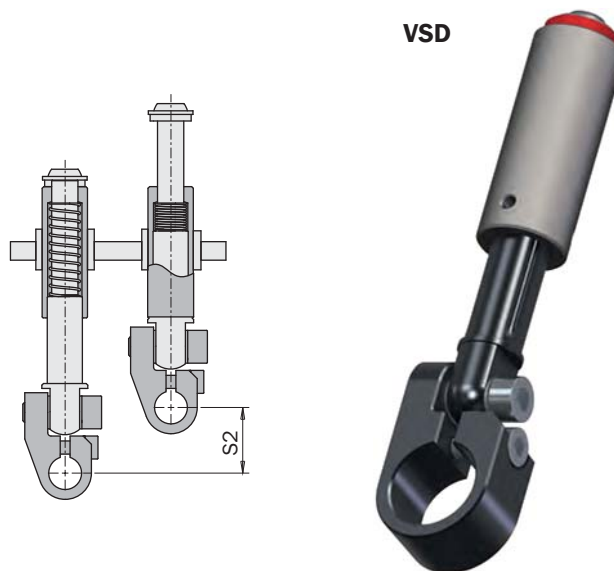
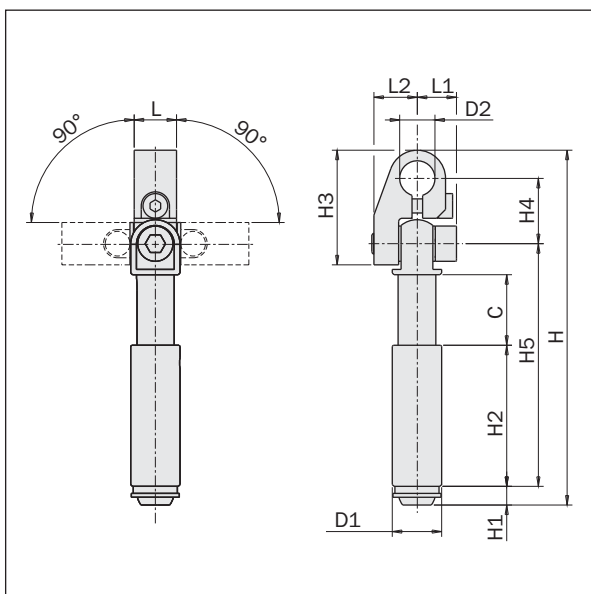
| | VSS2025 | VSS2050 |
|----------|---------|---------|
| H [mm] | 100 | 150 |
| H1 [mm] | 6 | 6 |
| H2 [mm] | 8 | 8 |
| H3 [mm] | 8 | 8 |
| H4 [mm] | 8 | 8 |
| H5 [mm] | 48 | 73 |
| H6 [mm] | 13 | 13 |
| D1 | M5 | M5 |
| D2 | G1/8" | G1/8" |
| D3 | G1/8" | G1/8" |
| D4 | M17x1 | M17x1 |
| D5 [mm] | Ø20 | Ø20 |
| CH2 [mm] | 10 | 10 |
| CH4 [mm] | 18 | 18 |
| CH5 [mm] | 18 | 18 |
| C [mm] | 25 | 50 |
| S2 [mm] | 25 | 50 |
| d [mm] | 14.5 | 14.5 |
| K [N/mm] | 0.085 | 0.052 |
| R1 [N] | 1.525 | 1.606 |
| R2 [N] | 3.642 | 4.197 |
| m [g] | 40 | 55 |

Sospensioni anti-rotazione con cravatta regolabile e corpo liscio

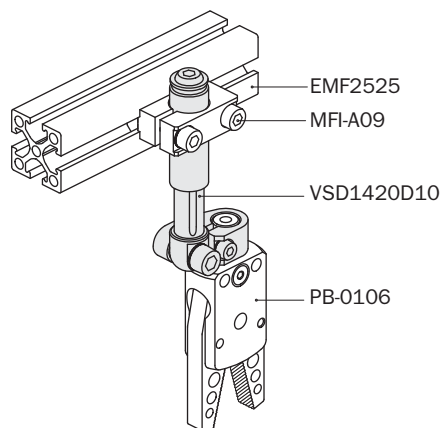
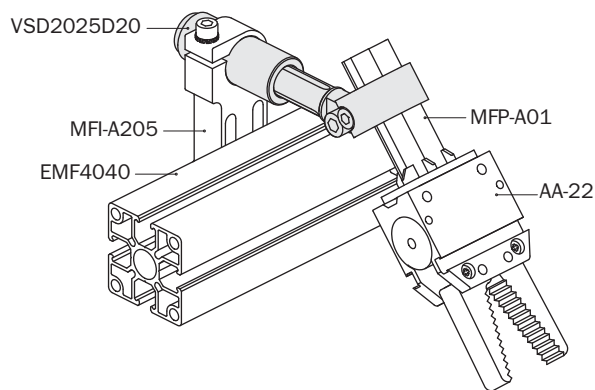
- L'angolo è regolabile continuamente fra 0° e +/-90°.
- Alimentazione esterna.
- Corpo e stelo in alluminio anodizzato.
- Stelo anti-rotazione.

Non-rotative suspensions with smooth-body and adjustable clamp

- It is possible to set continuously the angle between 0° and +/-90°.
- External air feeding.
- Body and rod in anodized aluminum.
- Non-rotative rod.



| | NEW VSD1420D10 | NEW VSD2025D10 | NEW VSD2025D20 |
|----------|-------------------|-------------------|-------------------|
| H [mm] | 100.6 | 119.8 | 131.8 |
| H1 [mm] | 5.3 | 6.3 | 6.3 |
| H2 [mm] | 40 | 50 | 50 |
| H3 [mm] | 32.5 | 32.5 | 46.5 |
| H4 [mm] | 18.5 | 18.5 | 25 |
| H5 [mm] | 67.3 | 86 | 86 |
| D1 [mm] | Ø14 | Ø20 | Ø20 |
| D2 [mm] | Ø10 | Ø10 | Ø20 |
| L [mm] | 12 | 12 | 16 |
| L1 [mm] | 11.3 | 11.3 | 13.5 |
| L2 [mm] | 12.3 | 12.3 | 13.5 |
| C [mm] | 20 | 25 | 25 |
| S2 [mm] | 20 | 25 | 25 |
| d [mm] | 0 | 0 | 0 |
| K [N/mm] | 0.268 | 0.275 | 0.275 |
| R1 [N] | 3.617 | 4.131 | 4.131 |
| R2 [N] | 8.975 | 11.02 | 11.02 |
| m [g] | 43 | 69 | 85 |



Attuatore a depressione serie VAQ

- Azionato solo con il vuoto.
- I movimenti di estensione e ritrazione sono attuati automaticamente.
- La corsa si autoregola.
- Opzione VAQN per stelo anti rotazione.
- La ventosa 1 è da ordinare a parte.

Vacuum actuator series VAQ

- Operated by vacuum only.
- The extension and the retraction movements are automatically actuated.
- The stroke is self-adjusting.
- Option VAQN for anti-rotation rod.
- The suction cup 1 must be ordered separately.



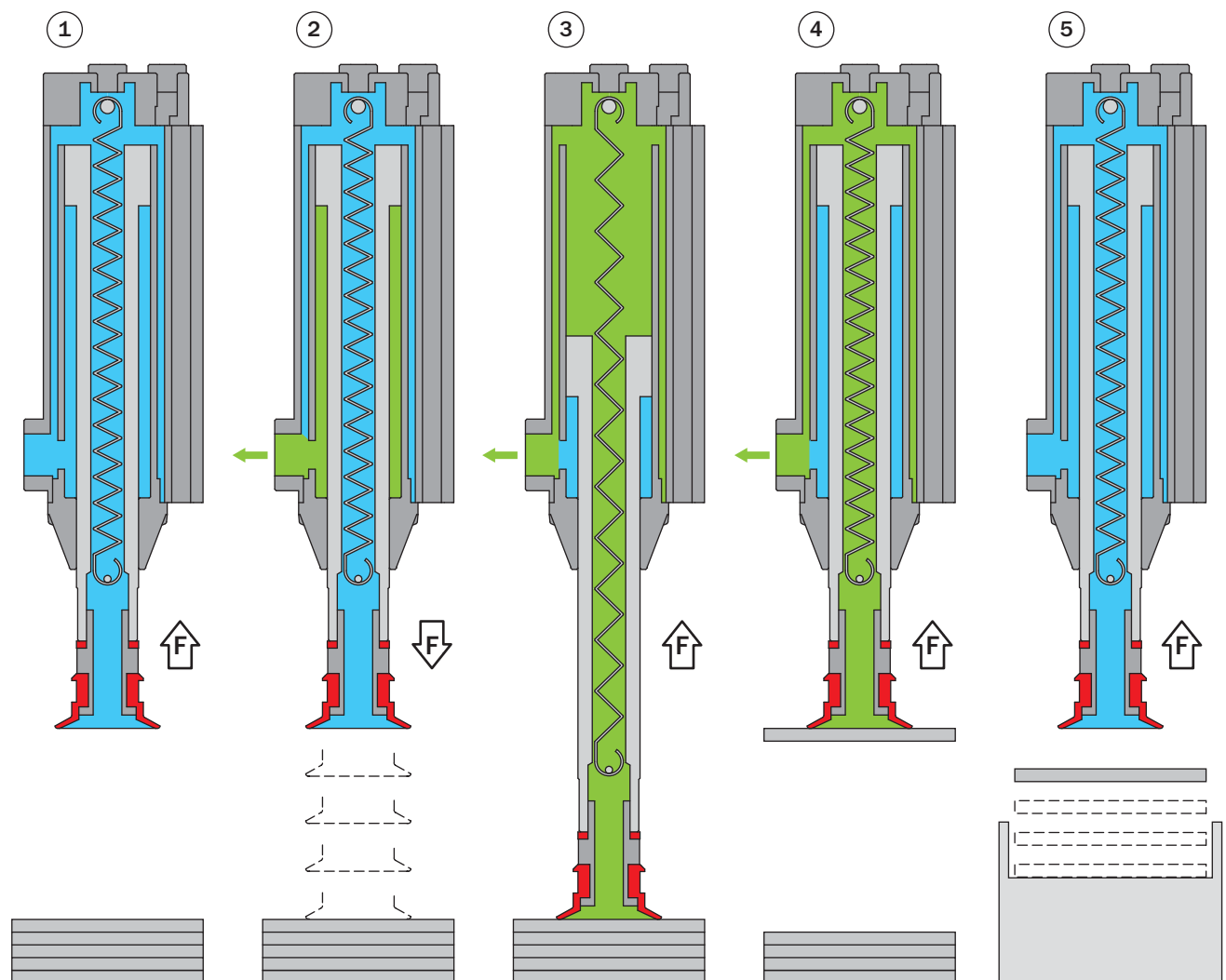
| | VAQ1820 | VAQ1840 | VAQN1820 | VAQN1840 |
|--|---|---------|----------|----------|
| Fluido Medium | Vuoto -0.3 ÷ -1 bar Vacuum -0.3 ÷ -1 bar | | | |
| Temperatura di esercizio Temperature range | 10 ÷ 40°C. | | | |
| Forza di ritrazione a -0.6 bar Retraction force at -0.6 bar | 10 N | | | |
| Carico massimo raccomandato Maximum recommended load | 5 N | | | |
| Corsa totale Total stroke | 25 mm | 55 mm | 25 mm | 55 mm |
| Corsa a piena forza Stroke with full force | 20 mm | 40 mm | 20 mm | 40 mm |
| Peso Weight | 90 g | 125 g | 105 g | 145 g |

Principio di funzionamento

- 1- Senza aspirazione, lo stelo viene ritratto dalla forza della molla.
 - 2- Quando si applica il vuoto, la pressione sotto il pistone è inferiore alla pressione sopra il pistone e lo stelo avanza.
 - 3- Le pressioni si invertono non appena la ventosa contatta un oggetto.
 - 4- Così lo stelo si ritrae immediatamente, sollevando l'oggetto.
 - 5- Quando l'aspirazione cessa, l'oggetto viene rilasciato, ma la molla mantiene lo stelo arretrato.
- (Invece di interrompere l'aspirazione, si può applicare un impulso di pressione attraverso il raccordo sopra il pistone).

Working principle

- 1- Without vacuum, the rod is retracted by the spring force.
 - 2- When vacuum is applied, the pressure under the piston is lower than the pressure over the piston and the rod travels forward.
 - 3- The pressures invert as soon as the vacuum cup makes contact with an object.
 - 4- Thus the rod retracts immediately, lifting the object.
 - 5- When the vacuum is removed, the object is released, but the spring holds the rod retracted.
- (Acurately, instead of removing vacuum, a pressure impulse can be provided by the air port over the piston).

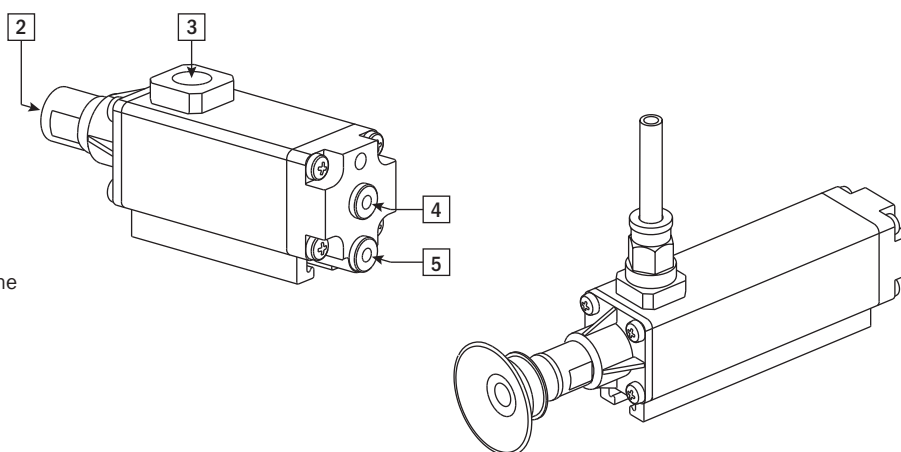


2 G1/8
Filetto femmina per ventosa
Female thread for suction cup

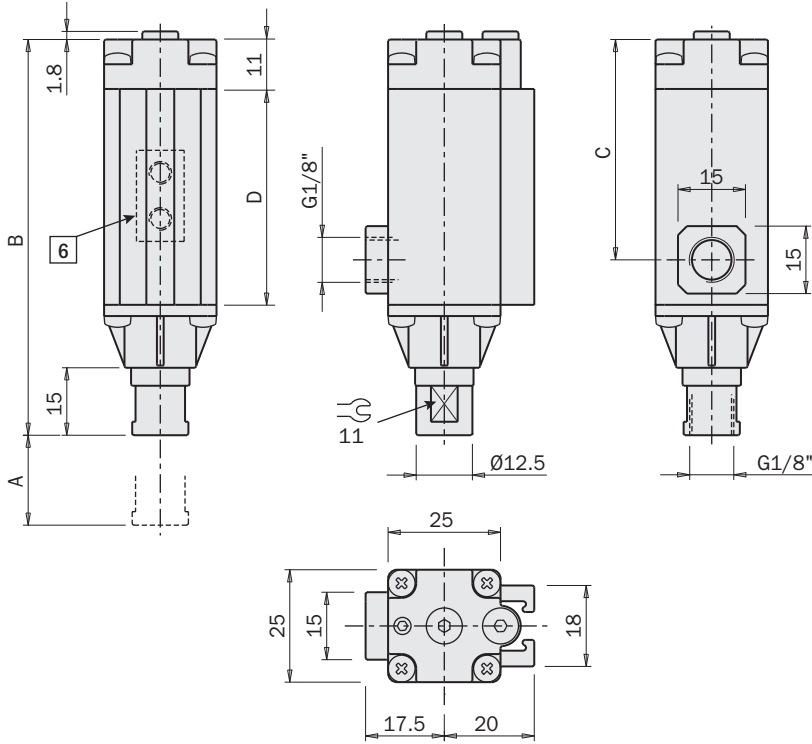
3 G1/8
Connessione per aspirazione
Vacuum supply port

4 M5
Connessione per impulso di pressione
Pressure impulse connection

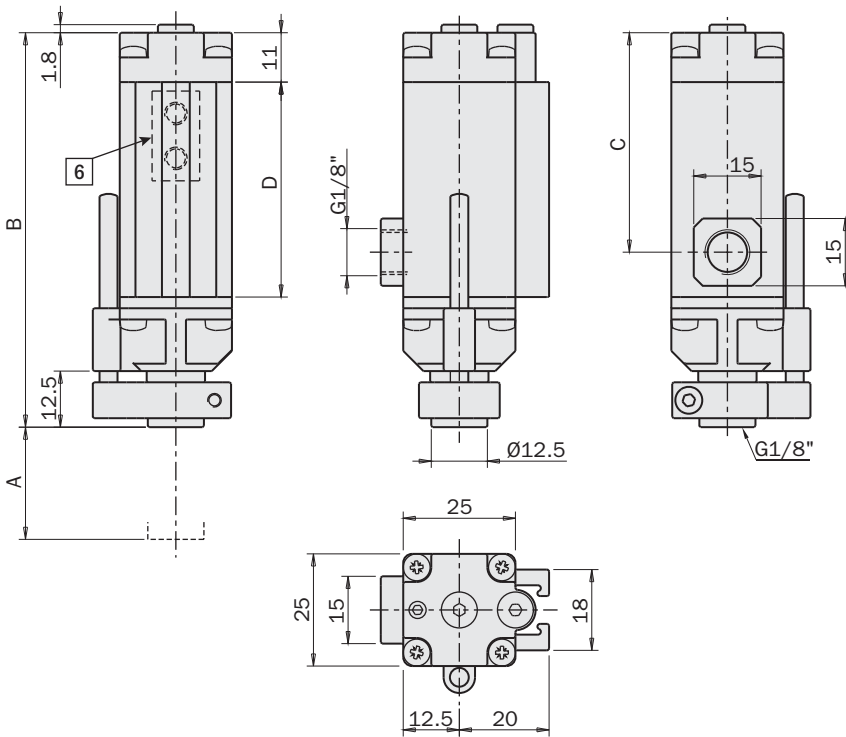
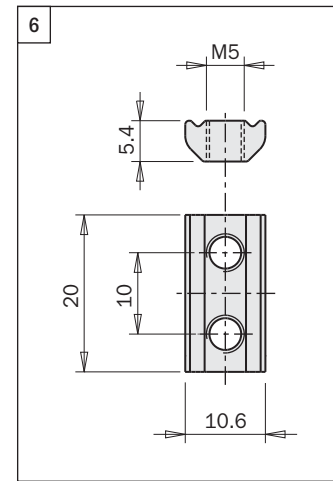
5 M5
Connessione per sensore di vuoto
Vacuum sensor connection



Dimensioni (mm) / Dimensions (mm)



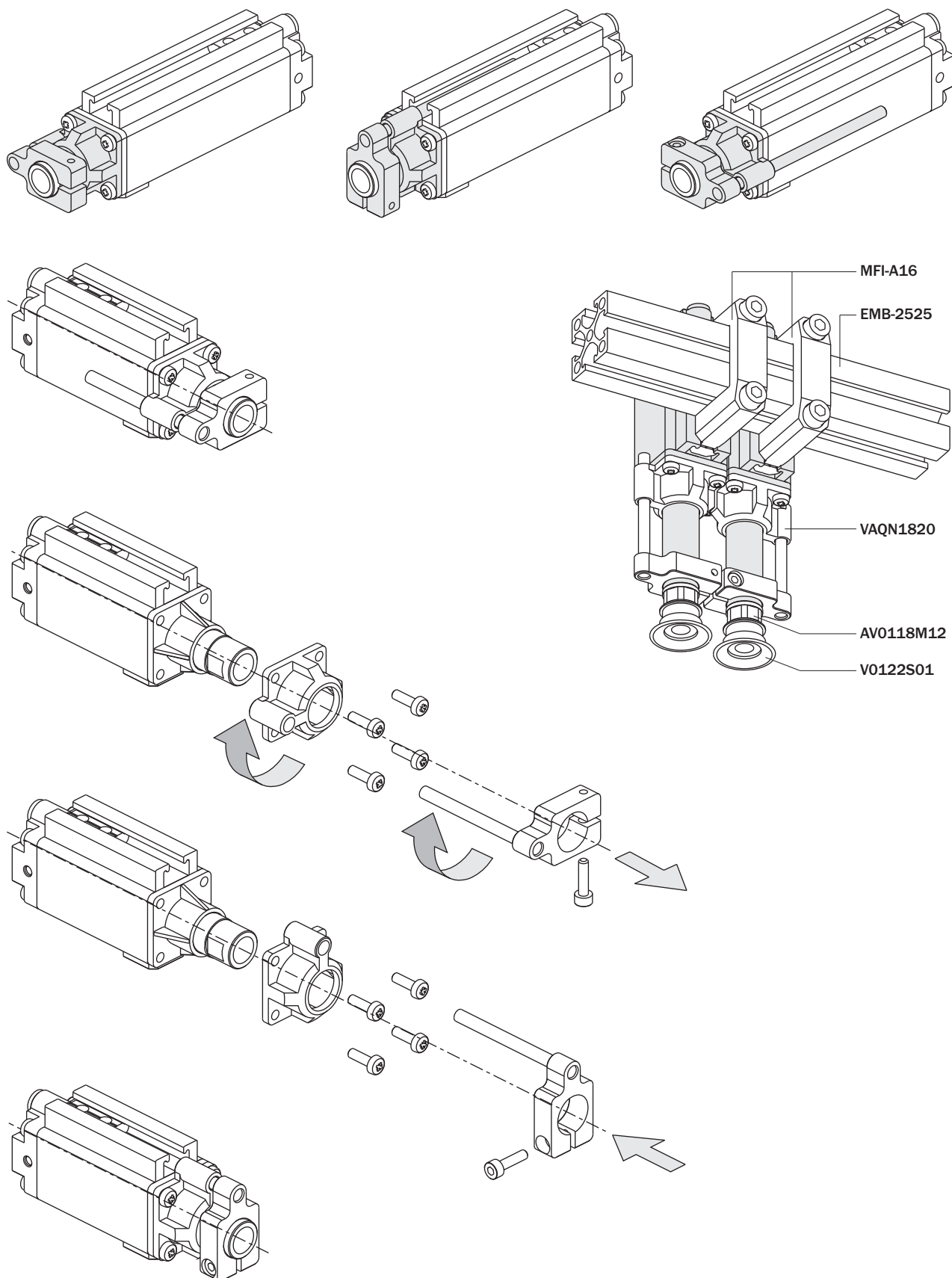
| | VAQ1820 VAQN1820 | VAQ1840 VAQN1840 |
|---|---------------------|---------------------|
| A | 20 | 40 |
| B | 88 | 119 |
| C | 49 | 80 |
| D | 48 | 79 |



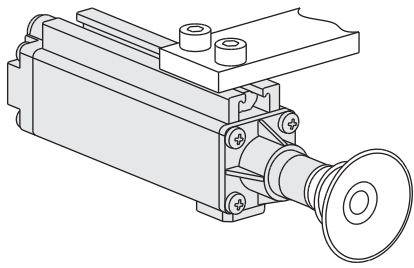
FIRST ANGLE PROJECTION

Il dispositivo anti-giro dei VAQN può essere posizionato su 3 lati in base allo spazio disponibile.

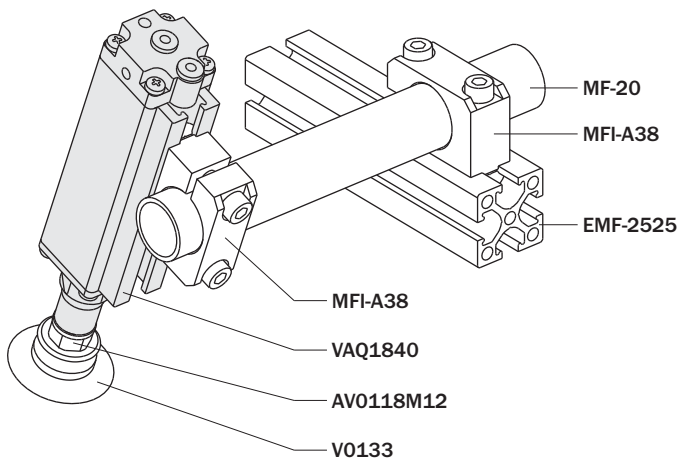
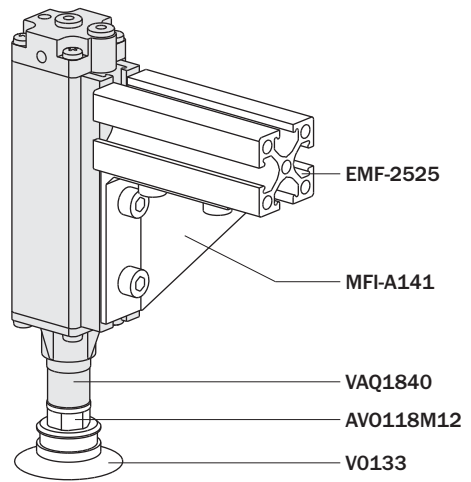
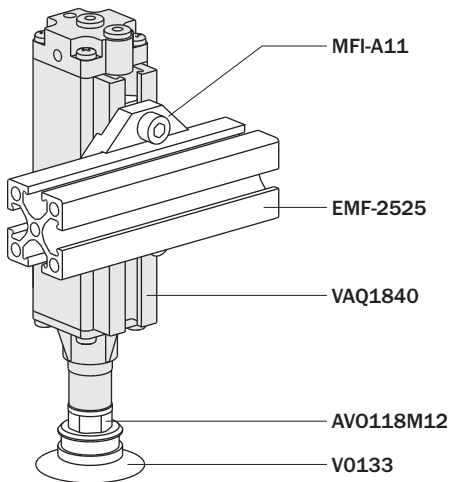
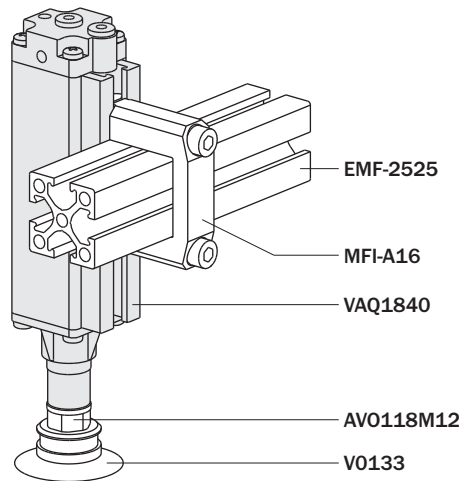
The anti-rotation device can be positioned on 3 sides, based on the space available.



Fissaggio



Fastening

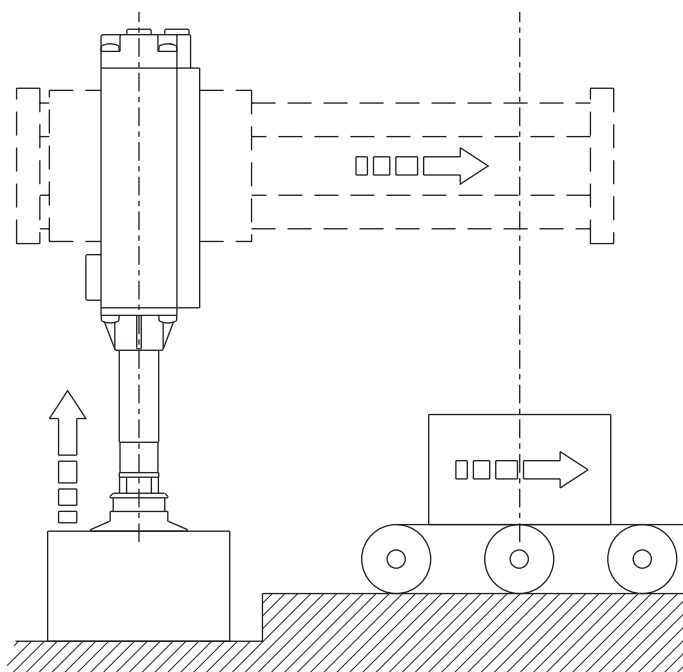


Esempio di applicazione

Presca e deposito a livelli diversi.

Application example

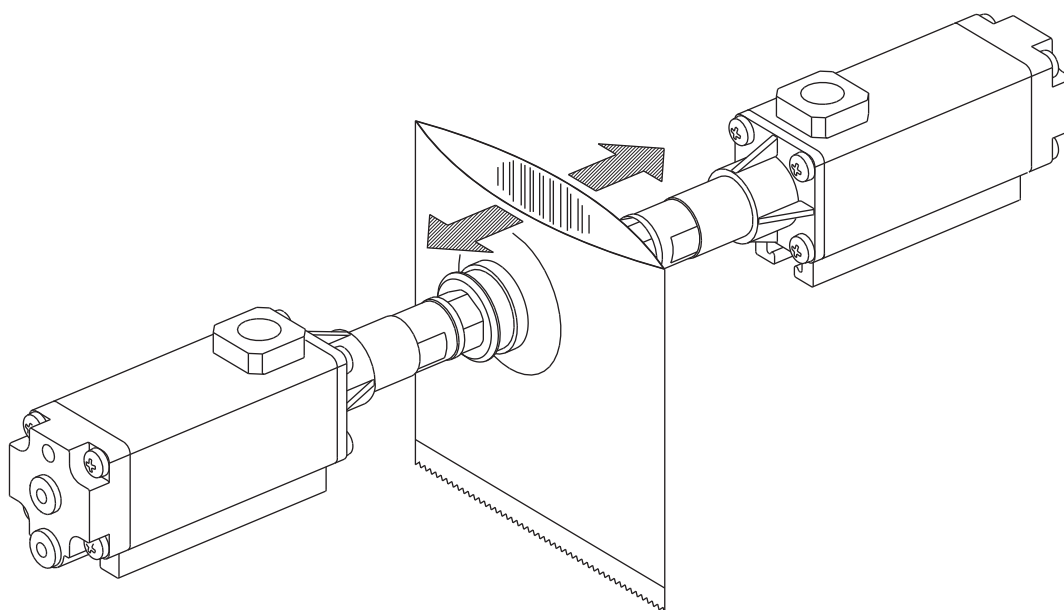
Pick and placing at different levels.

**Esempio di applicazione**

Apertura sacchetti in macchine per confezionamento.

Application example

Bag opening in packaging machines.



Pompe a vuoto

- Tecnologia brevettata COAX®.
- Elevato rapporto tra portata aspirata e consumo di aria compressa.
- Peso ridotto e innesti rapidi in linea.
- Installazione facile e veloce sulla tubazione.
- Cartucce COAX® alimentate a 6 bar per un'elevata portata.

Vacuum pumps

- Patented COAX® cartridge technology.
- High vacuum flow capacity in relation to energy consumption.
- Low weight inlinedesign with push-in fittings.
- Quick and easy installation directly on the hose.
- Cartridge COAX® at 6 bar for extra vacuum flow.

PV.0122882



PV.0122025
PV.0122896

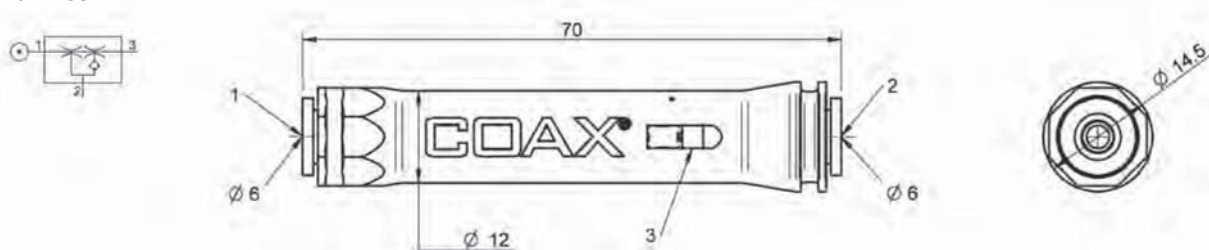


| | PV.0122882 | PV.0122025 | PV.0122896 |
|---|--|------------|------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Pressione di esercizio Pressure range | 2 ÷ 7 bar | | |
| Temperatura di esercizio Temperature range | -10 ÷ +80°C. | | |
| Livello di rumorosità Noise level, min-max | 67-73 dBA | 68-84 dBA | 68-84 dBA |
| Connessione Connection | Ø6 mm | Ø6 mm | Ø8 mm |
| Peso Weight | 9.8 g | 23 g | 21.8 g |

Dimensioni (mm)

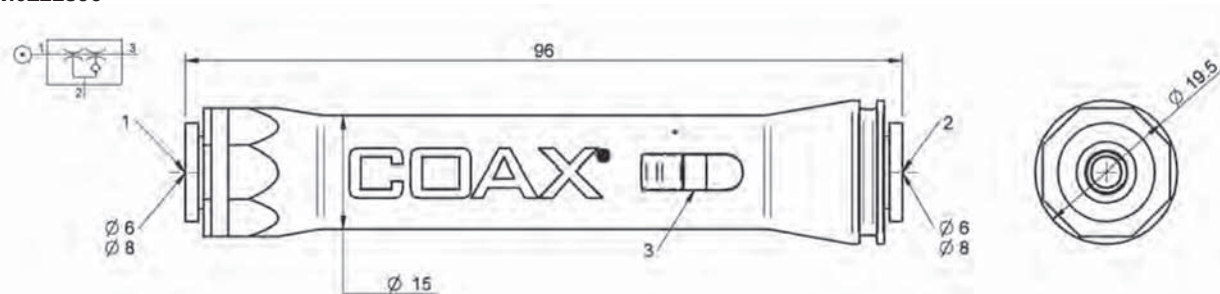
Dimensions (mm)

PV.0122882



PV.0122025

PV.0122896



Prestazioni di aspirazione

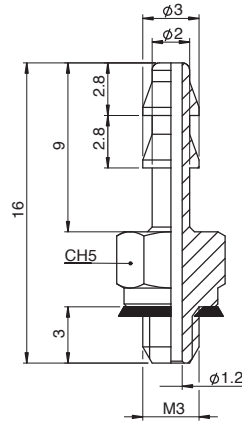
Suction performances

| | | PV.0122882 | PV.0122025 PV.0122896 |
|---|----------|------------|--------------------------|
| Pressione di alimentazione ottimale <i>Optimal feed pressure</i> | | 6 bar | 6 bar |
| Consumo d'aria a 6 bar <i>Air consumption at 6 bar</i> | | 0.12 NI/s | 0.44 NI/s |
| Vuoto max <i>Max vacuum</i> | | -0.75 bar | -0.75 bar |
| Portata d'aria aspirata ai diversi gradi di vuoto <i>Vacuum flow at different vacuum levels</i> | 0 bar | 0.28 NI/s | 0.69 NI/s |
| | -0.1 bar | 0.21 NI/s | 0.55 NI/s |
| | -0.2 bar | 0.12 NI/s | 0.42 NI/s |
| | -0.3 bar | 0.08 NI/s | 0.28 NI/s |
| | -0.4 bar | 0.07 NI/s | 0.23 NI/s |
| | -0.5 bar | 0.06 NI/s | 0.16 NI/s |
| | -0.6 bar | 0.04 NI/s | 0.12 NI/s |
| | -0.7 bar | 0.02 NI/s | 0.08 NI/s |
| Pressione di alimentazione ottimale <i>Optimal feed pressure</i> | | 6 bar | 6 bar |
| Consumo d'aria a 6 bar <i>Air consumption at 6 bar</i> | | 0.12 NI/s | 0.44 NI/s |
| Vuoto max <i>Max vacuum</i> | | -0.75 bar | -0.75 bar |
| Tempo di evacuazione ai diversi gradi di vuoto <i>Evacuation time to reach different vacuum levels</i> | -0.1 bar | 0.41 s/l | 0.16 s/l |
| | -0.2 bar | 1.01 s/l | 0.37 s/l |
| | -0.3 bar | 2.01 s/l | 0.66 s/l |
| | -0.4 bar | 3.3 s/l | 1.1 s/l |
| | -0.5 bar | 4.9 s/l | 1.4 s/l |
| | -0.6 bar | 6.9 s/l | 2.1 s/l |
| | -0.7 bar | 10 s/l | 3.1 s/l |

Raccordi / Fittings

Raccordo diritto a calzamento
Straight push-on fitting

| | ∅ | n° | m |
|-----------------------|---|----|----|
| RG.RO-1376-AS1 | 4 | 10 | 50 |

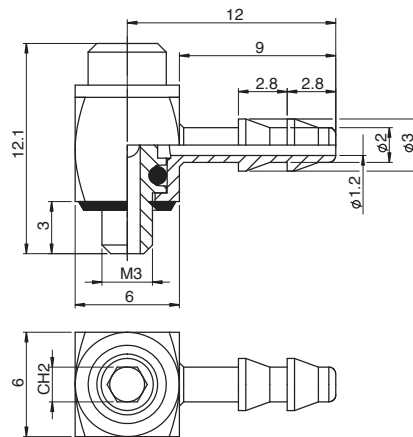


Caratteristiche tecniche
Technical characteristics

T= -20° + +80°C
P= -0.99 ÷ +15bar

Raccordo orientabile a "L" a calzamento
Adjustable-position push-on elbow fitting

| | ∅ | n° | m |
|-----------------------|---|----|----|
| RG.RO-1376-AS2 | 4 | 10 | 50 |



Caratteristiche tecniche
Technical characteristics

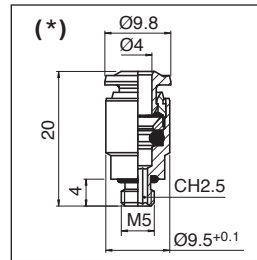
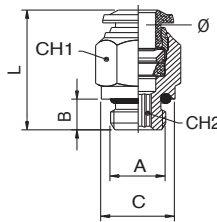
T= -20° + +80°C
P= -0.99 ÷ +15bar

- ∅ [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

Raccordo diritto maschio cilindrico
Straight male adaptor (parallel)

| | ∅ | A | B | C | L | CH1 | CH2 | n° | m |
|-----------------|-----|-----|-----|-----|------|-----|-----|----|-----|
| RG.50-020-00N01 | (*) | (*) | (*) | (*) | (*) | (*) | (*) | 10 | 45 |
| RG.5002000N02 | 4 | 1/8 | 6 | 13 | 20 | 10 | 3 | 10 | 70 |
| RG.5002000N22 | 4 | 1/4 | 8 | 16 | 19.5 | 16 | 3 | 10 | 160 |
| RG.5002000N20 | 6 | M5 | 4 | 10 | 24.5 | 13 | 2 | 10 | 110 |
| RG.5002000N03 | 6 | 1/8 | 6 | 13 | 23.5 | 13 | 4 | 10 | 125 |
| RG.5002000N04 | 6 | 1/4 | 8 | 16 | 23.5 | 13 | 4 | 10 | 170 |
| RG.5002000N05 | 8 | 1/8 | 6 | 13 | 25 | 14 | 5 | 10 | 130 |
| RG.5002000N06 | 8 | 1/4 | 8 | 16 | 23 | 14 | 6 | 10 | 130 |

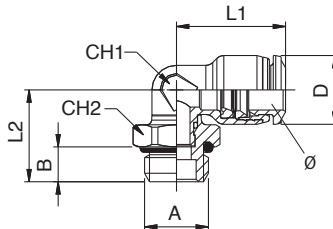


Caratteristiche tecniche
Technical characteristics

T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

Raccordo a L orientabile maschio cilindrico
Orienting elbow male adaptor

| | ∅ | A | B | L1 | L2 | CH1 | CH2 | D | n° | m |
|---------------|---|--------|-----|------|------|-----|-----|----|----|-----|
| RG.5511600001 | 4 | M3x0.5 | 3 | 16.5 | 12 | 7 | 9 | 10 | 10 | 35 |
| RG.5511600002 | 4 | M5 | 3.6 | 16.5 | 13.8 | 7 | 9 | 10 | 10 | 45 |
| RG.5511600004 | 4 | 1/8 | 5.4 | 16.5 | 15 | 7 | 13 | 10 | 10 | 80 |
| RG.5511600011 | 6 | M5 | 3.6 | 20.5 | 14.7 | 9 | 9 | 12 | 10 | 60 |
| RG.5511600013 | 6 | 1/8 | 5.4 | 20.5 | 15.8 | 9 | 13 | 12 | 10 | 90 |
| RG.5511600014 | 6 | 1/4 | 7.1 | 20.5 | 17.5 | 9 | 16 | 12 | 10 | 140 |
| RG.5511600017 | 8 | 1/8 | 5.4 | 22 | 19.4 | 10 | 13 | 14 | 10 | 115 |
| RG.5511600018 | 8 | 1/4 | 7.1 | 22 | 18.7 | 10 | 16 | 14 | 10 | 145 |

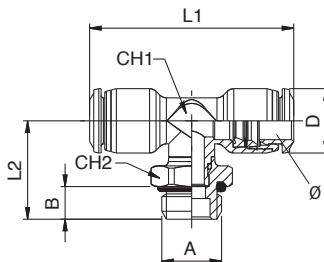


Caratteristiche tecniche
Technical characteristics

T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

Raccordo a T orientabile maschio cilindrico
Orienting T male adaptor - centre leg

| | ∅ | A | B | L1 | L2 | CH1 | CH2 | D | n° | m |
|---------------|---|-----|-----|----|------|-----|-----|------|----|-----|
| RG.5521600002 | 4 | M5 | 3.6 | 33 | 15.5 | 7 | 9 | 10 | 10 | 65 |
| RG.5521600011 | 6 | M5 | 3.6 | 41 | 14.7 | 9 | 9 | 12.5 | 10 | 80 |
| RG.5521600013 | 6 | 1/8 | 5.4 | 41 | 18.4 | 9 | 13 | 12.5 | 10 | 115 |
| RG.5521600014 | 6 | 1/4 | 7.1 | 41 | 20 | 9 | 16 | 12.5 | 10 | 165 |
| RG.5521600017 | 8 | 1/8 | 5.4 | 44 | 22.1 | 10 | 13 | 14 | 10 | 145 |
| RG.5521600018 | 8 | 1/4 | 7.1 | 44 | 21.4 | 10 | 16 | 14 | 10 | 175 |



Caratteristiche tecniche
Technical characteristics

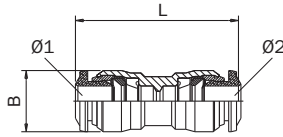
T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

- ∅ [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

Raccordo diritto intermedio
Straight connector

| | Ø1 | Ø2 | B | L | n° | m |
|----------------------|----|----|------|------|----|----|
| RG.5504000002 | 4 | 4 | 10 | 31 | 10 | 35 |
| RG.5504000004 | 6 | 6 | 12.5 | 35 | 10 | 50 |
| RG.5504000009 | 6 | 4 | 12.5 | 34 | 10 | 50 |
| RG.5504000005 | 8 | 8 | 14 | 37 | 10 | 65 |
| RG.5504000010 | 8 | 6 | 14 | 37.5 | 10 | 65 |

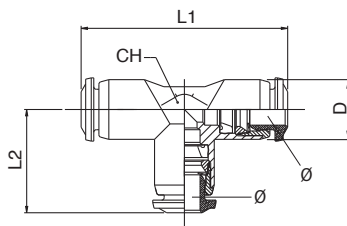


Caratteristiche tecniche
Technical characteristics

T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

Raccordo a T intermedio
T connector

| | Ø | L1 | L2 | CH | D | n° | m |
|----------------------|---|----|------|----|----|----|-----|
| RG.5523000002 | 4 | 33 | 16.5 | 9 | 10 | 10 | 55 |
| RG.5523000004 | 6 | 41 | 20.5 | 11 | 12 | 10 | 80 |
| RG.5523000005 | 8 | 44 | 22 | 13 | 14 | 10 | 105 |

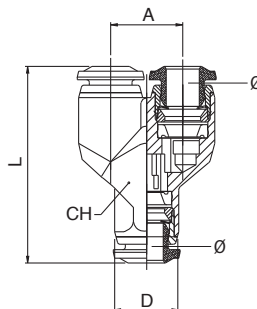


Caratteristiche tecniche
Technical characteristics

T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

Raccordo a Y intermedio
Y connector

| | Ø | A | L | CH | D | n° | m |
|----------------------|---|------|------|----|----|----|----|
| RG.5531000002 | 4 | 11 | 31.5 | 10 | 10 | 10 | 55 |
| RG.5531000004 | 6 | 13.5 | 37 | 12 | 12 | 10 | 55 |
| RG.5531000005 | 8 | 15.5 | 40 | 14 | 14 | 10 | 65 |



Caratteristiche tecniche
Technical characteristics

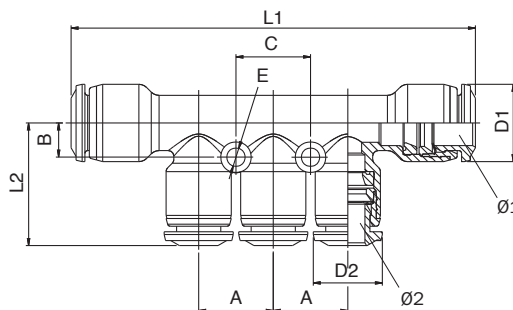
T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

- Ø [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

Raccordo multiplo di riduzione
Reduction manifold

| | Ø1-Ø2 | A | B | L1 | L2 | C | D1 | D2 | E | n° | m |
|----------------------|-------|------|---|----|------|------|----|------|-----|----|-----|
| RG.5535000001 | 6-4 | 13.5 | 6 | 74 | 21.8 | 13.5 | 14 | 12 | 3.3 | 10 | 170 |
| RG.5535000002 | 8-4 | 13.5 | 6 | 73 | 21.8 | 13.5 | 14 | 12 | 3.3 | 10 | 160 |
| RG.5535000003 | 8-6 | 13.5 | 6 | 73 | 22.3 | 13.5 | 14 | 12.5 | 3.3 | 10 | 160 |

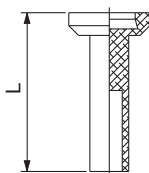


Caratteristiche tecniche
Technical characteristics

T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

Tappo in poliamide
Plug polyamide

| | Ø | L | n° | m |
|-------------------------|---|------|----|---|
| RG.086100031X1RO | 4 | 23.5 | 10 | 3 |
| RG.086100031X4RO | 6 | 24.5 | 10 | 6 |
| RG.086100031X7RO | 8 | 26 | 10 | 9 |



Caratteristiche tecniche
Technical characteristics

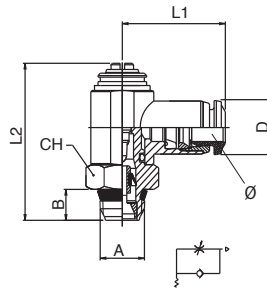
T= -20° ÷ +80°C
P= -0.99 ÷ +15bar

- Ø [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

Regolatore di flusso unidirezionale orientabile (regolazione a cacciavite)
Swivel unidirectional flow controller (adjustment by screwdriver)

| | Ø | A | B | L1 | L2 | CH | D | n° | m |
|---------------|---|-----|-----|------|------|----|------|----|----|
| RG.5590000002 | 4 | M5 | 5.5 | 19.5 | 29.5 | 8 | 10 | 1 | 8 |
| RG.5590000003 | 4 | 1/8 | 5.5 | 21.5 | 31 | 14 | 10 | 1 | 18 |
| RG.5590000007 | 6 | M5 | 5.5 | 21 | 29.5 | 8 | 12.5 | 1 | 7 |
| RG.5590000008 | 6 | 1/8 | 5.5 | 23 | 31 | 14 | 12.5 | 1 | 16 |
| RG.5590000010 | 8 | 1/8 | 5.5 | 23.5 | 31 | 14 | 14 | 1 | 19 |
| RG.5590000011 | 8 | 1/4 | 7 | 26 | 36.5 | 17 | 14 | 1 | 33 |

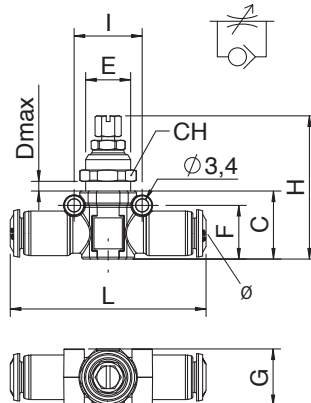


Caratteristiche tecniche
Technical characteristics

T= -20° + 80°C
P= 1 ÷ 10bar

Regolatore di flusso in linea unidirezionale tubo-tubo
Tube in-line unidirectional flow controller

| | Ø | C | D | E | F | G | H | I | L | CH | n° | m |
|---------------|---|----|-----|-------|------|----|-----------|----|----|----|----|----|
| RG.5594000001 | 6 | 18 | 6 | M12x1 | 14.5 | 15 | 37.5+43.5 | 18 | 52 | 14 | 1 | 27 |
| RG.5594000002 | 8 | 20 | 6.5 | M14x1 | 16.5 | 17 | 39.5+45.5 | 20 | 58 | 16 | 1 | 37 |

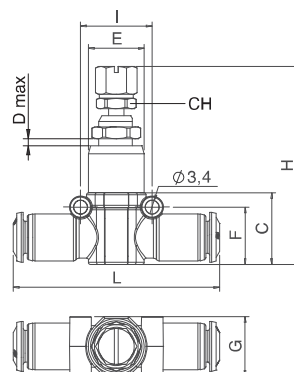


Caratteristiche tecniche
Technical characteristics

T= -20° + 80°C
P= 1 ÷ 10bar

Regolatore di pressione in linea tubo-tubo
Tube in line pressure regulator

| | Ø | C | D | E | F | G | H | I | L | CH | n° | m |
|--------------------------|---|----|---|----|------|----|---------|----|----|----|----|----|
| RG.5597000002 NEW | 6 | 18 | 5 | 14 | 14.5 | 15 | 48+56.5 | 18 | 52 | 11 | 1 | 30 |
| RG.5597000003 NEW | 8 | 20 | 5 | 17 | 16.5 | 17 | 55+65 | 20 | 58 | 13 | 1 | 40 |



Caratteristiche tecniche
Technical characteristics

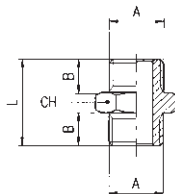
T= -20° + 80°C
P= 1 ÷ 10bar

- Ø [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

Niplo cilindrico
Nipple (parallel)

| | A | B | L | CH | n° | m |
|-------------------------|-----|---|------|----|----|-----|
| RG.020100001B5NB | M5 | 4 | 11.5 | 8 | 10 | 20 |
| RG.02010000102NB | 1/8 | 6 | 16.5 | 14 | 10 | 90 |
| RG.02010000103NB | 1/4 | 8 | 21 | 17 | 10 | 165 |

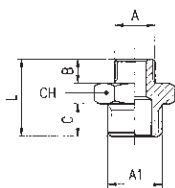


Caratteristiche tecniche
Technical characteristics

T= 300°C max

Niplo di riduzione cilindrico
Reducing nipple (parallel)

| | A | A1 | B | C | L | CH | n° | m |
|-------------------------|-----|-----|---|---|------|----|----|-----|
| RG.0203000010WNB | M5 | 1/8 | 4 | 6 | 14.5 | 14 | 10 | 80 |
| RG.020300001ATNB | 1/8 | 1/4 | 6 | 8 | 19 | 17 | 10 | 140 |



Caratteristiche tecniche
Technical characteristics

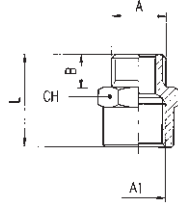
T= 300°C max

- Ø [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

**Riduzione cilindrica
Reducer (parallel)**

| | A | A1 | B | L | CH | n° | m |
|-------------------------|-----|-----|---|------|----|----|-----|
| RG.0205000012WNB | 1/8 | 1/8 | 6 | 17 | 14 | 10 | 110 |
| RG.020500001ATNB | 1/8 | 1/4 | 6 | 20.5 | 17 | 10 | 175 |
| RG.0205000016WNB | 1/4 | 1/4 | 8 | 22.5 | 17 | 10 | 190 |

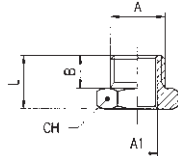


Caratteristiche tecniche
Technical characteristics

T= 300°C max

**Riduzione cilindrica
Reducer (parallel)**

| | A | A1 | B | L | CH | n° | m |
|-------------------------|-----|-----|---|------|----|----|-----|
| RG.0209000010WNT | 1/8 | M5 | 6 | 10.5 | 14 | 10 | 80 |
| RG.0209000015WNT | 1/4 | 1/8 | 8 | 13 | 17 | 10 | 100 |

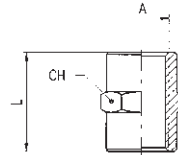


Caratteristiche tecniche
Technical characteristics

T= 300°C max

**Manicotto
Sleeve**

| | A | L | CH | n° | m |
|-------------------------|-----|----|----|----|-----|
| RG.030000001B5NB | M5 | 11 | 8 | 10 | 30 |
| RG.03000000102NB | 1/8 | 15 | 14 | 10 | 100 |
| RG.03000000103NB | 1/4 | 22 | 17 | 10 | 180 |



Caratteristiche tecniche
Technical characteristics

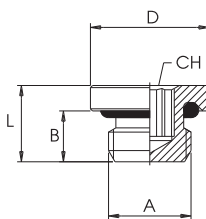
T= 300°C max

- Ø [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Raccordi / Fittings

Tappo maschio cilindrico esagono incassato con O-Ring NBR
Male plug (parallel) with exagon embedded and NBR O-Ring

| | A | B | L | D | CH | n° | m |
|----------------------|-----|---|-----|----|----|----|-----|
| RG.0301500005 | M5 | 4 | 6 | 8 | 2 | 10 | 10 |
| RG.0301500001 | 1/8 | 6 | 8.5 | 14 | 5 | 10 | 60 |
| RG.0301500002 | 1/4 | 8 | 11 | 17 | 6 | 10 | 110 |

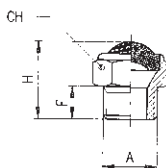


Caratteristiche tecniche
 Technical characteristics

T= -20 ÷ +80°C
 P= -0.99 ÷ +15bar

Silenziatore
Silencer

| | A | F | H | CH | dB | S | n° | m |
|----------------------|-----|---|----|----|----|-------|----|-----|
| RG.0702000001 | M5 | 4 | 8 | 8 | - | 100µm | 10 | 15 |
| RG.0702000002 | 1/8 | 6 | 15 | 13 | 74 | 100µm | 10 | 55 |
| RG.0702000003 | 1/4 | 7 | 18 | 16 | 72 | 100µm | 10 | 110 |



Caratteristiche tecniche
 Technical characteristics

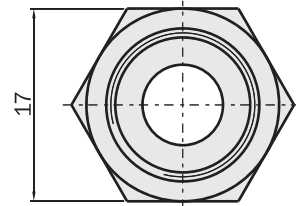
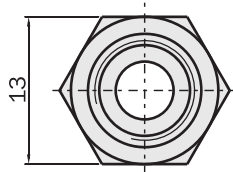
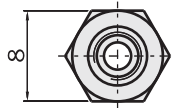
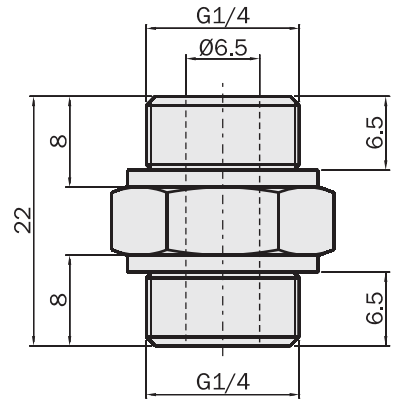
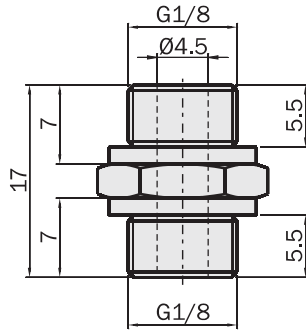
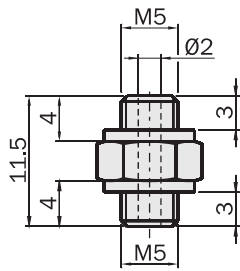
T= -10 ÷ +80°C
 P= 12bar max

- Ø [Diametro esterno tubo - Hose outer diameter]
- n° [Quantità pezzi in confezione - Number of pieces in the pack]
- m [Peso di una confezione da 10 pezzi - Weight of a 10-piece pack]
- P [Pressione di esercizio - Operating pressure range]
- T [Temperatura di esercizio - Operating temperature range]
- dB [Livello di rumore in (dB) a 6 bar - Noise level in (dB) at 6 bar]
- S [Soglia di filtrazione - Filtration threshold]

Nippli filettati

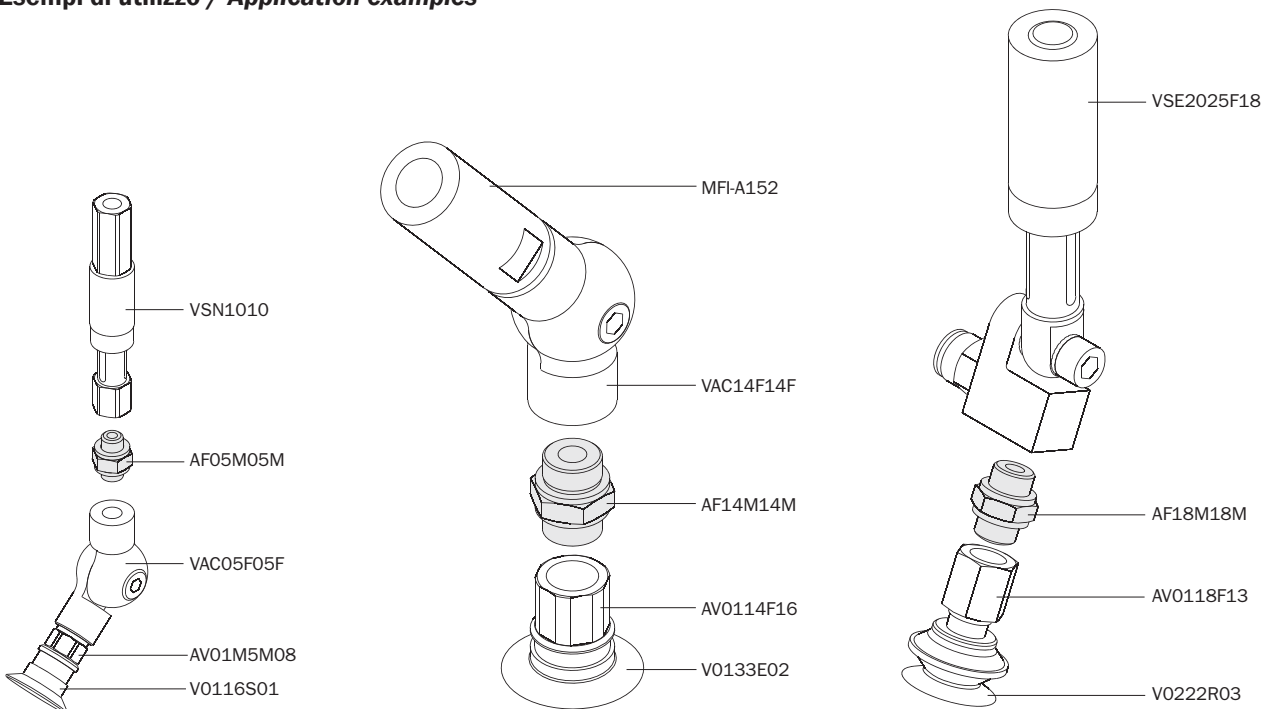
Threaded nipples

FIRST ANGLE PROJECTION



| | AF05M05M | AF18M18M | AF14M14M |
|----------------|----------|----------|----------|
| Peso Weight | 3 g | 4 g | 8 g |
| | | | |

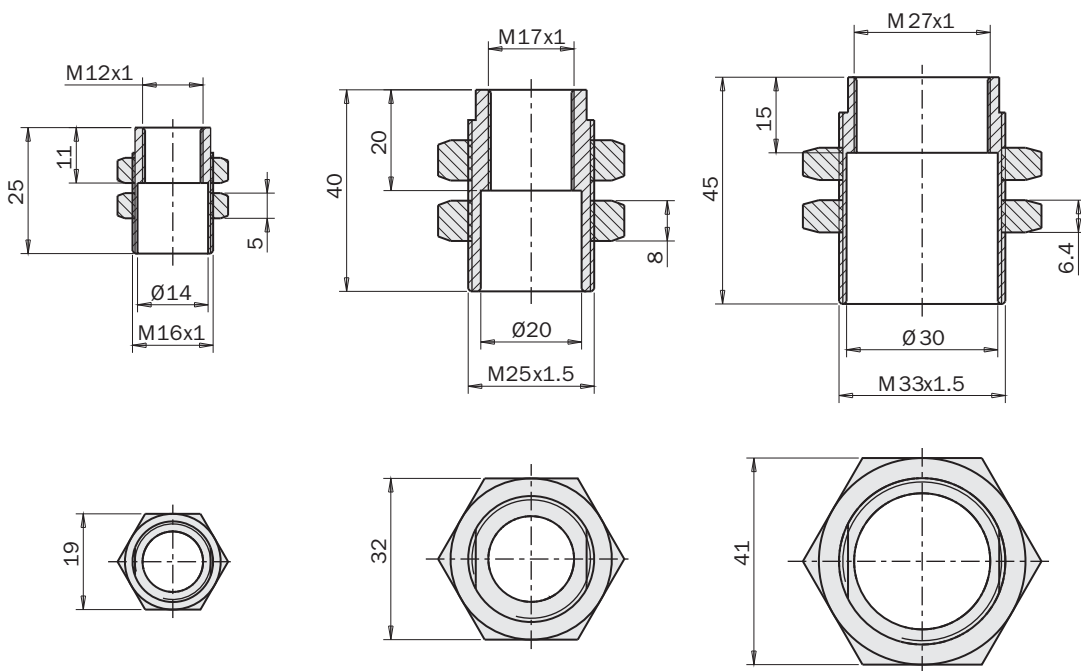
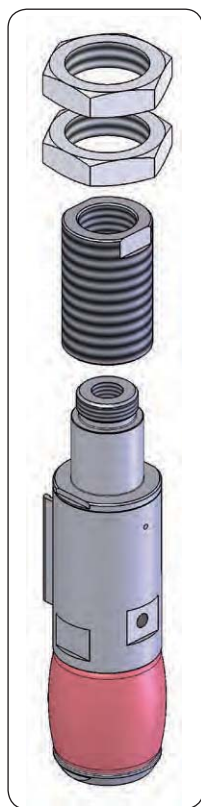
Esempi di utilizzo / Application examples



Nippli filettati

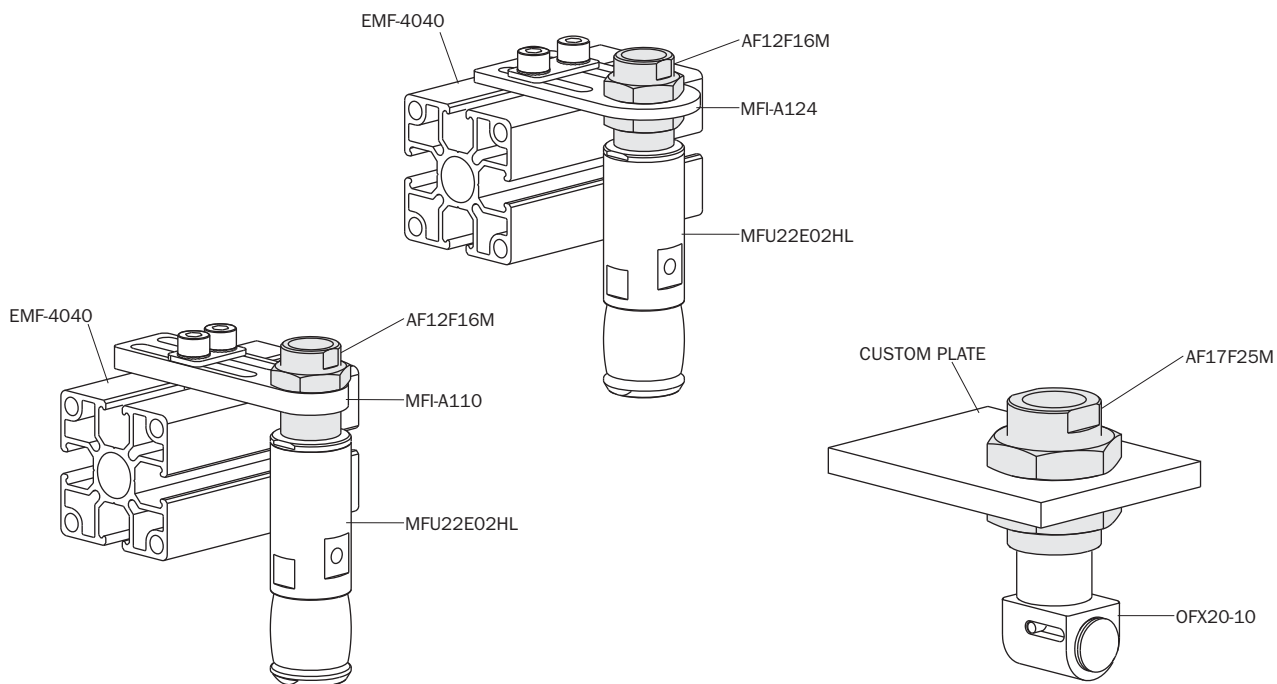
Threaded nipples

FIRST ANGLE PROJECTION



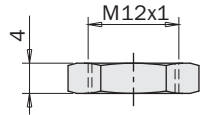
| | AF12F16M | AF17F25M | AF27F33M |
|----------------|----------|----------|----------|
| Peso Weight | 25 g | 130 g | 140 g |

Esempi di utilizzo / Application examples

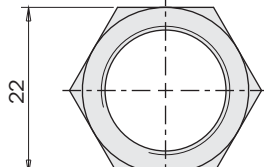
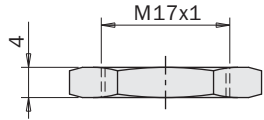


Dadi

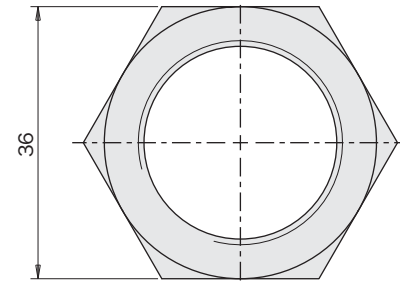
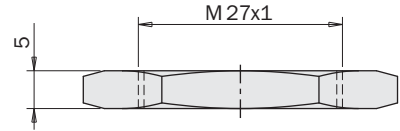
Nuts



VITE-293



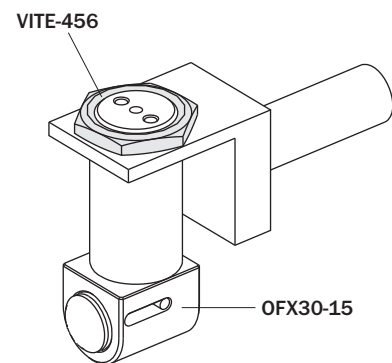
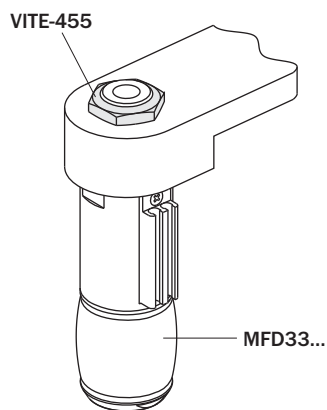
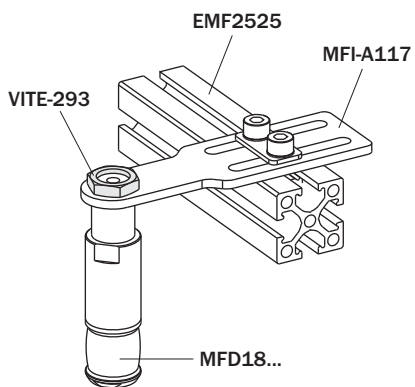
VITE-455



VITE-456

| | VITE-293 | VITE-455 | VITE-456 |
|----------------|----------|----------|----------|
| Peso Weight | 4 g | 7 g | 23 g |
| | | | |

Esempi di utilizzo / Application examples

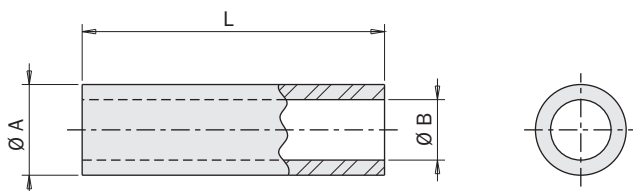


Tubi flessibili

Tubo in poliuretano per aria compressa idoneo all'utilizzo con i raccordi rapidi.

Hoses

Polyurethane hose for compressed air suitable for use with push-in fittings.



Caratteristiche tecniche
Technical characteristics

T= -40° ÷ +60°C
P= -0.99 ÷ +10bar

| | | ØA [mm] | ØB [mm] | R [mm] | L [m] | Lm [g/m] |
|--------------------|-----------------|------------|------------|-----------|----------|-------------|
| TUB04X2,5B | Nero / Black | 4 | 2.5 | 20 | 25 | 9.49 |
| TUB04X2,5BL | Blu / Blue | 4 | 2.5 | 20 | 25 | 9.49 |
| TUB04X2,5GR | Verde / Green | 4 | 2.5 | 20 | 25 | 9.49 |
| TUB04X2,5RE | Rosso / Red | 4 | 2.5 | 20 | 25 | 9.49 |
| TUB04X2,5SI | Grigio / Silver | 4 | 2.5 | 20 | 25 | 9.49 |
| TUB04X2,5YE | Giallo / Yellow | 4 | 2.5 | 20 | 25 | 9.49 |
| TUB06X4B | Nero / Black | 6 | 4 | 30 | 25 | 19.47 |
| TUB06X4BL | Blu / Blue | 6 | 4 | 30 | 25 | 19.47 |
| TUB06X4GR | Verde / Green | 6 | 4 | 30 | 25 | 19.47 |
| TUB06X4RE | Rosso / Red | 6 | 4 | 30 | 25 | 19.47 |
| TUB06X4SI | Grigio / Silver | 6 | 4 | 30 | 25 | 19.47 |
| TUB06X4YE | Giallo / Yellow | 6 | 4 | 30 | 25 | 19.47 |
| TUB08X6B | Nero / Black | 8 | 6 | 40 | 25 | 30 |
| TUB08X6BL | Blu / Blue | 8 | 6 | 40 | 25 | 30 |
| TUB08X6SI | Grigio / Silver | 8 | 6 | 40 | 25 | 30 |
| TUB08X6YE | Giallo / Yellow | 8 | 6 | 40 | 25 | 30 |

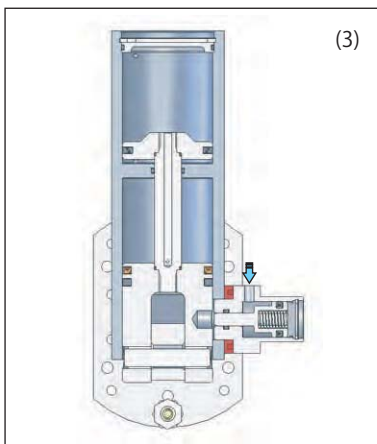
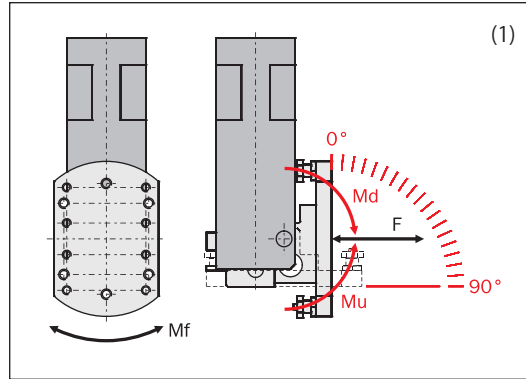
- A [Diametro esterno - Outer diameter]
 B [Diametro interno - Inner diameter]
 R [Raggio di curvatura minimo - Minimum bending radius]
 L [Lunghezza - Length]
 Lm [Peso lineare - Linear mass]
 P [Pressione di esercizio - Operating pressure range]
 T [Temperatura di esercizio - Operating temperature range]

Ribaltatori pneumatici per EOAT serie RBT

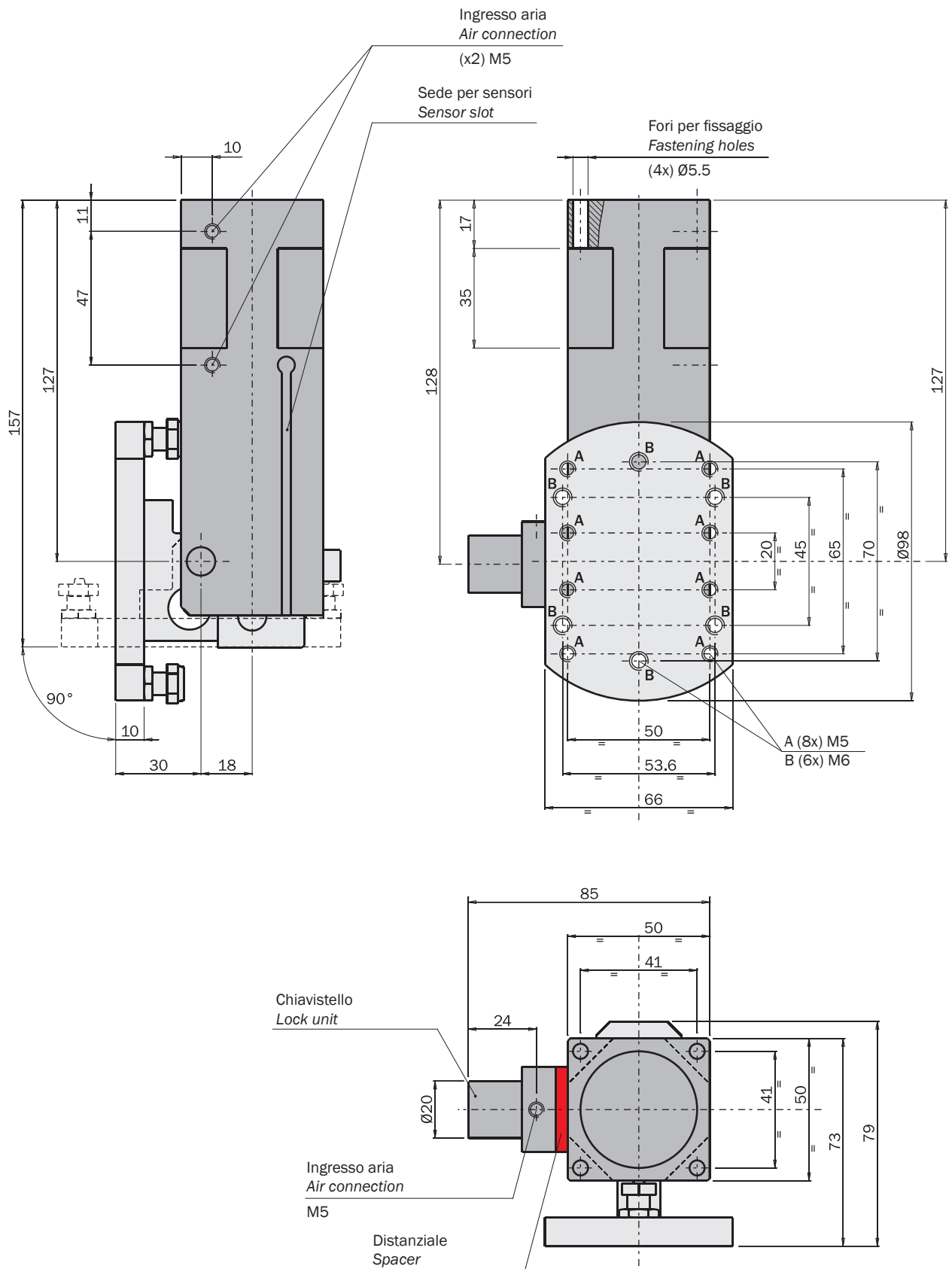
- Rotazione di 90° (1).
- Due fine corsa su gomma regolabili (2).
- Elevata coppia di sollevamento.
- Bloccaggio di sicurezza (3).
- Sensori magnetici opzionali.

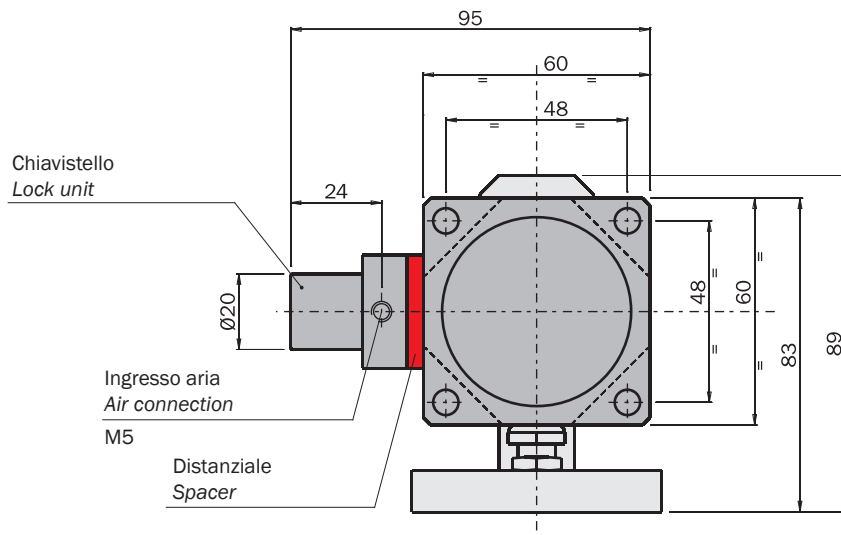
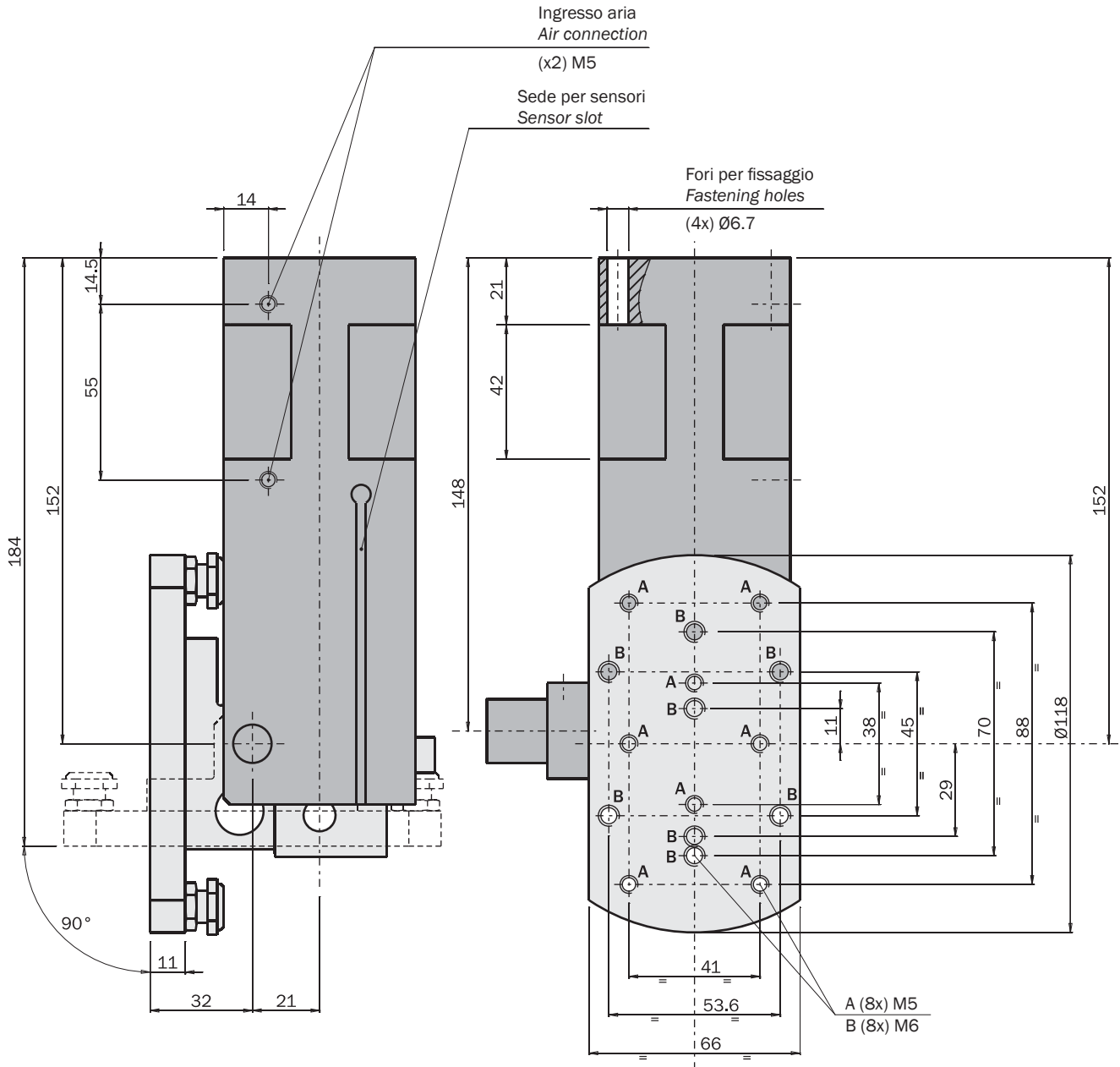
Pneumatic tilt units for EOATs, series RBT

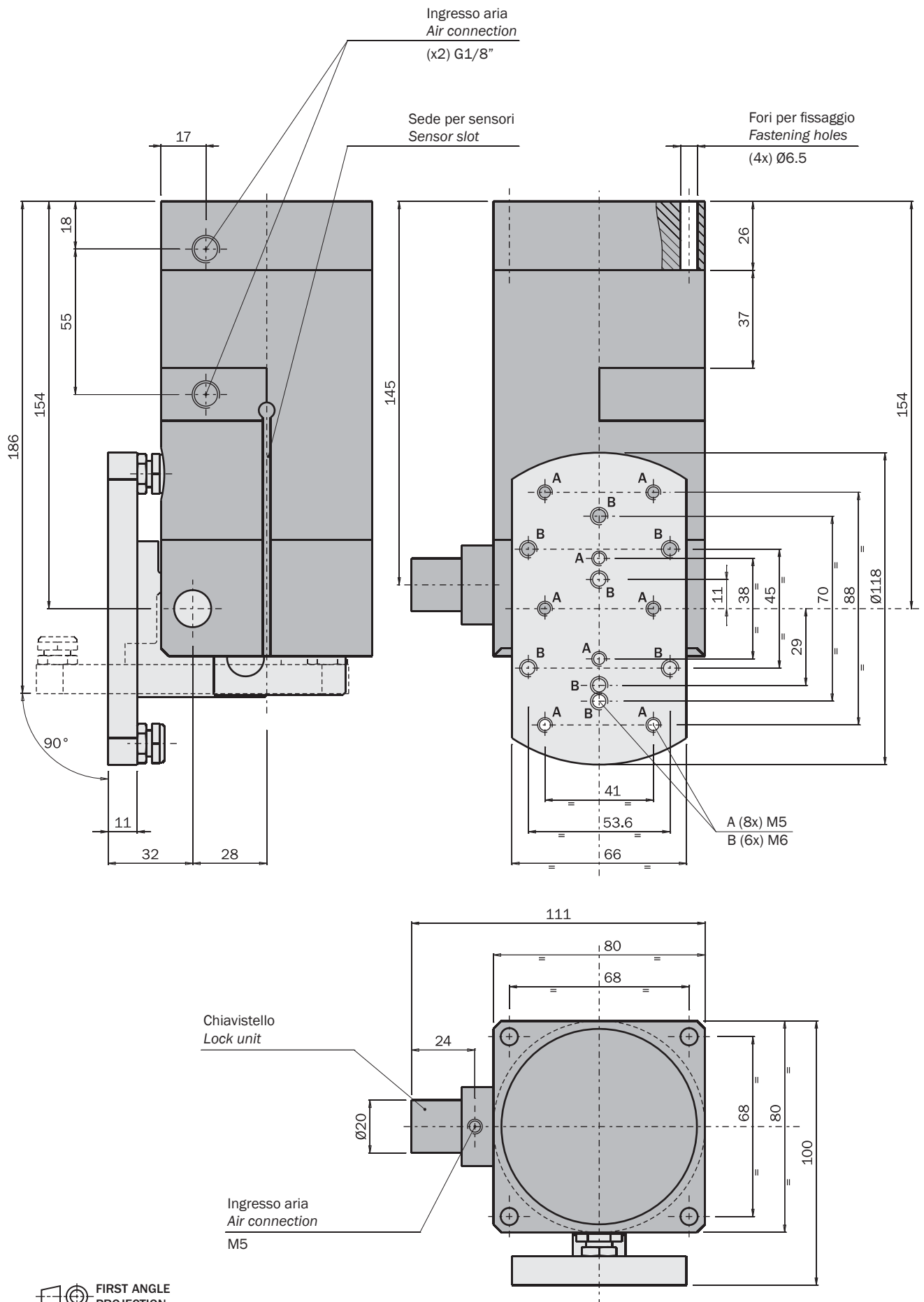
- 90° rotation (1).
- Two rubber adjustable end strokes (2).
- High lifting torque.
- Safety lock (3).
- Optional magnetic sensors.



| | RBT40 | RBT50 | RBT63 |
|--|--|---------------------|---------------------|
| Fluido Medium | Aria compressa filtrata, lubrificata / non lubrificata Filtered, lubricated / non lubricated compressed air | | |
| Pressione di esercizio Pressure range | 2 ÷ 8 bar | | |
| Pressione per sbloccaggio Unlock pressure | > 3.5 bar | | |
| Temperatura di esercizio Temperature range | 5 ÷ 60 °C. | | |
| Corsa angolare Tilt angle | 90° | | |
| Regolazione fine-corsa End stroke adjustment | ± 4° | ± 3° | ± 2° |
| Consumo d'aria per ciclo Cycle air consumption | 135 cm ³ | 243 cm ³ | 441 cm ³ |
| Coppia di sollevamento a 6 bar (90° → 0°) Lift torque at 6 bar (90° → 0°) | (Mu) > 24 Nm | > 45 Nm | > 78 Nm |
| Coppia di abbassamento a 6 bar (0° → 90°) Drop torque at 6 bar (0° → 90°) | (Md) > 11 Nm | > 22 Nm | > 42 Nm |
| Carico ammissibile Allowed load | (F) 100 N | 200 N | 300 N |
| Momento ammissibile Allowed moment | (Mf) 7 Nm | 12 Nm | 30 Nm |
| Peso Weight | 1050 g | 1635 g | 2390 g |







Ribaltatore pneumatico per piccoli EOAT, serie OFN

- Rotazione di 90°.
- Funzionamento a semplice effetto.
- Sollevamento con aria compressa, rilascio a molla.
- Vari accessori disponibili per il fissaggio.
- Sensori magnetici opzionali.

Pneumatic tilt unit for small EOATs, series OFN

- 90° rotation.
- Single-acting.
- Lifting by compressed air, spring reset.
- Several mounting accessories.
- Optional magnetic sensors.

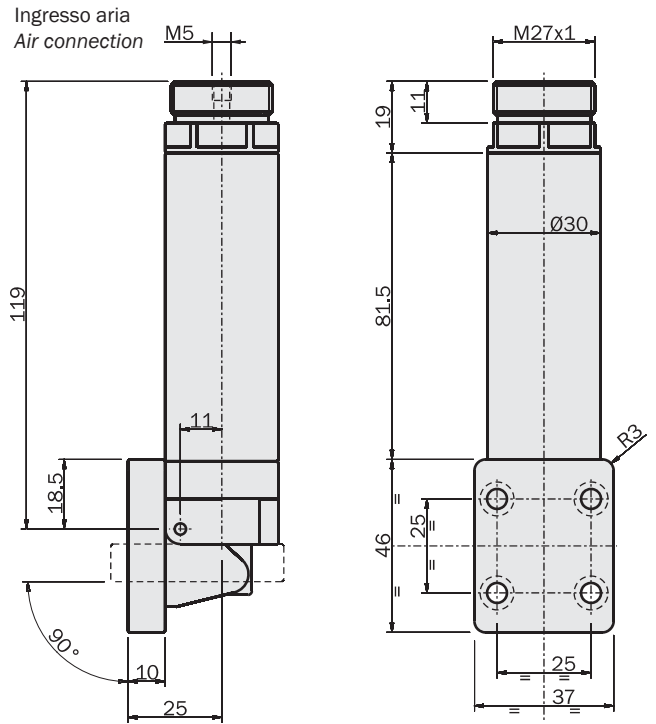


| | OFN30-90 |
|---|---|
| Fluido <i>Medium</i> | Aria compressa filtrata, lubrificata / non lubrificata <i>Filtered, lubricated / non lubricated compressed air</i> |
| Pressione di esercizio <i>Pressure range</i> | 2 ÷ 8 bar |
| Temperatura di esercizio <i>Temperature range</i> | 5 ÷ 60 °C. |
| Corsa angolare <i>Tilt angle</i> | 90° |
| Consumo d'aria per ciclo <i>Cycle air consumption</i> | 12.9 cm ³ |
| Coppia di sollevamento a 6 bar <i>Lift torque at 6 bar</i> | 300 Ncm |
| Peso <i>Weight</i> | 210 g |
| | |

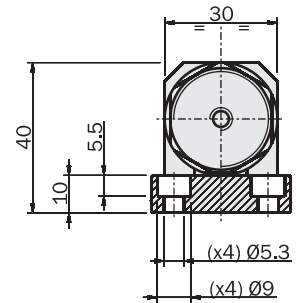
Dimensioni (mm) / Dimensions (mm)



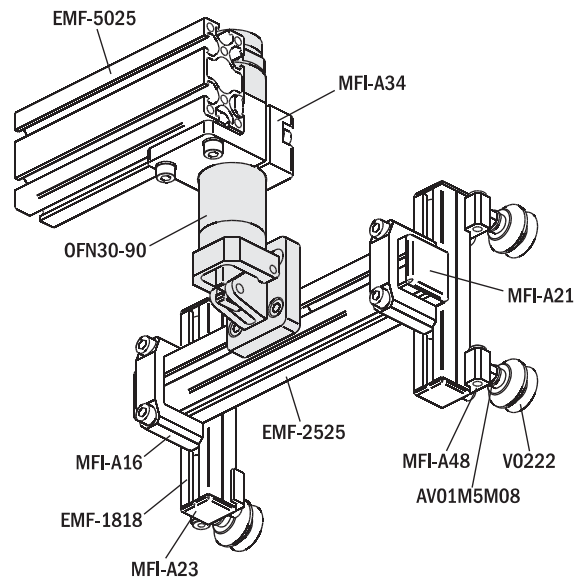
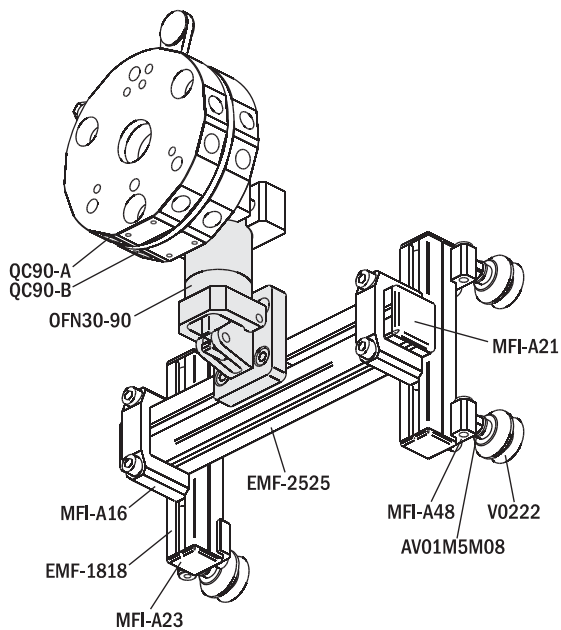
300Ncm



FIRST ANGLE PROJECTION



Esempi di utilizzo / Application example

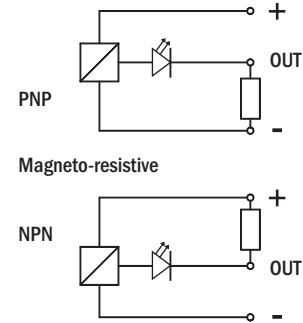
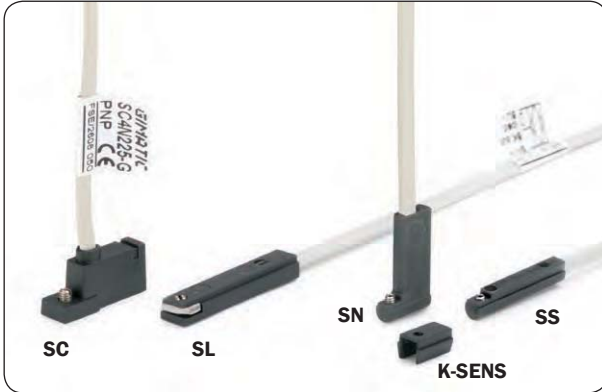


Sensori magnetici

- Sensori magnetoresistivi GMR.
- Uscita in logica PNP o NPN.
- Nessun problema in caso di vibrazioni.
- Uscita cavo o connettore M8.
- Tracciabilità 100%.
- Applicazione diretta in cava "C" o "T" standard.
- Adattatori per cave K-SENS opzionali.
- Prolunghe 2.5m, 5m e 10m opzionali.

Magnetic sensors

- GMR magnetoresistive sensors.
- PNP or NPN logic output.
- No problems in case of vibrations.
- Cable or M8 connector output.
- 100% traceability.
- Standard direct "C" or "T" slot application.
- Optional K-SENS slot adapters.
- Optional 2.5m, 5m and 10m extensions.

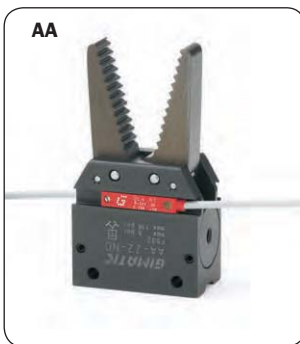
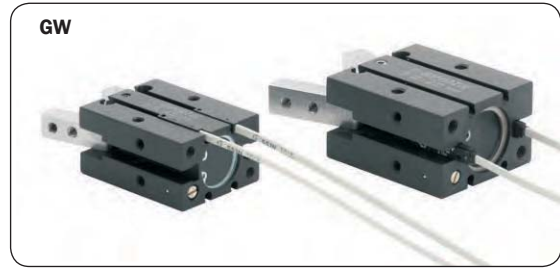


| | ⌋ | ⌋ | SC4N225Y PNP 2.5m cable | SC3N203Y PNP M8 Connector | SL4M225-G PNP 2.5m cable | SL4M225-G NPN 2.5m cable | SL3N203-G PNP M8 Connector | SL3M203-G NPN M8 Connector | SN4M225-G PNP 2.5m cable | SN4M225-G NPN 2.5m cable | SN3N203-G PNP M8 Connector | SN3M203-G NPN M8 Connector | SS4M225-G PNP 2.5m cable | SS4M225-G NPN 2.5m cable | SS3N203-G PNP M8 Connector | SS3M203-G NPN M8 Connector |
|----------------------------------|---|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---|---|---|---|
| AA | ● | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) |
| AGG | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| AQC | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
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| GN-240 / GN-263 | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| GN...S | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| GS-10 | ● | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) |
| GS-16 / GS-20 / GS-25 | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| GS-16 / GS-20 / GS-25 | ● | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) |
| GW-10 | ● | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) |
| GW-16 / GW-20 / GW-25 | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| GW-16 / GW-20 / GW-25 | ● | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> (1) |
| MFD / MFU | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| OFA...S / OFR...S / OFS...S | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| OFL | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| PQ16 / PQ20 / PQ25 | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PQ30 / PQ35 / PQ45 / PQ50 / PQ60 | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| RBT | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| TFA...S | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ZG...S | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| ZJ | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| LOQC | | ● | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

(1) Utilizzando l'adattatore fornito nella confezione K-SENS.

(1) Using the adapter included in the K-SENS pack.

Esempi di utilizzo / Application example

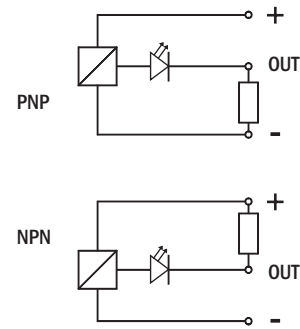
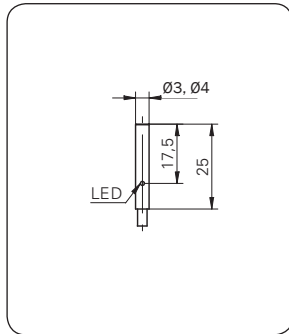


Sensori induttivi

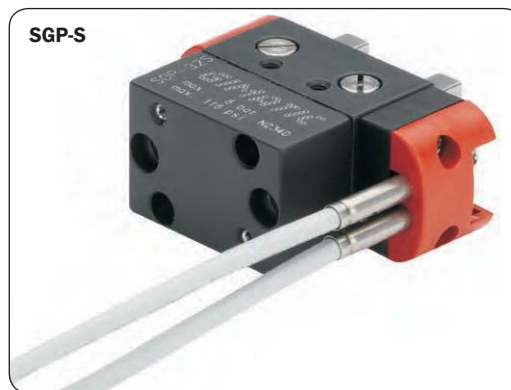
- Sensori induttivi Ø3, Ø4 mm a profilo pulito.
- Uscita in logica PNP o NPN.
- Distanza di lettura 1 mm.
- Uscita cavo 2.5 m.
- Nessun problema in caso di vibrazioni.

Inductive sensors

- Ø3, Ø4 mm inductive sensors with clean design profile.
- PNP or NPN logic output.
- 1 mm sensing distance.
- 2.5 m cable output.
- No problems in case of vibrations.



| | SI4M225-G | SI4N225-G | NEW SIS4M225-G | NEW SIS4N225-G |
|-----------------------------|-----------|-----------|--------------------------|--------------------------|
| | Ø4 mm | | Ø3 mm | |
| | NPN | PNP | NPN | PNP |
| AQC | ✓ | ✓ | | |
| SGP-25S / SGP-32S / SGP-40S | ✓ | ✓ | | |
| LOQC | ✓ | ✓ | | |
| SGP-20S | | | ✓ | ✓ |

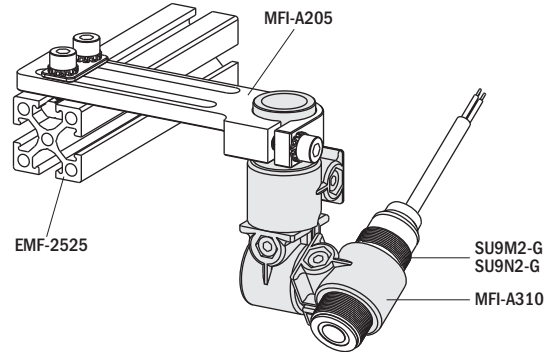


Sensori ultrasonici

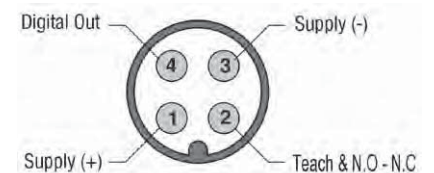
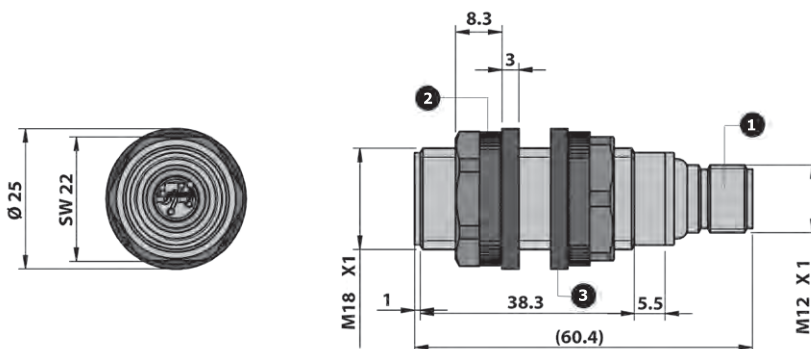
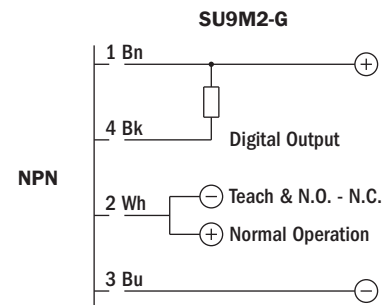
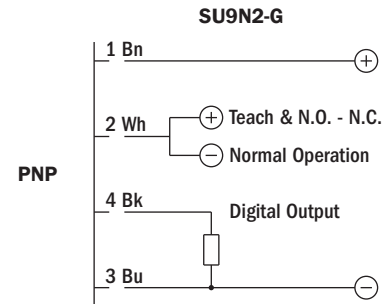
- Sensori ultrasuoni M18x1 mm.
- Uscita digitale PNP/NPN programmabile in logica NA o NC.
- Campo di lettura 40-300 mm con punto programmabile a mezzo Teach esterno.
- Uscita connettore M12, 4 pin.
- Corpo plastico corto e leggero.
- Ghiera e rondelle incluse.

Ultrasonic sensor

- M18x1 mm ultrasonic sensors.
- PNP/NPN digital output with NO or NC programmable logic.
- 40-300 mm sensing range with programmable point via External Teach.
- M12, 4 pin connector output.
- Short and lightweight plastic body.
- Lock nuts and washers included.



| | SU9N2-G PNP | SU9M2-G NPN |
|--|--|----------------|
| Massima distanza di rilevamento <i>Maximum sensing distance</i> | 300 mm | |
| Minima distanza di rilevamento (zona morta) <i>Minimum sensing distance (blind zone)</i> | 40 mm | |
| Apertura fascio angolare <i>Beam angle</i> | ±10° | |
| Tempo di risposta (uscita digitale) <i>Response time (digital output)</i> | 13 ms | |
| Range di temperatura <i>Temperature range</i> | -20° +60°C | |
| Compensazione in temperatura <i>Temperature compensation</i> | si yes | |
| Tensione di alimentazione <i>Operating voltage</i> | +15÷30 Vcc | |
| Caduta di tensione in uscita <i>Output voltage drop</i> | 2.2 V max. @ (IL=100 mA) | |
| Corrente assorbita <i>No-Load supply</i> | ≤ 40 mA | |
| Corrente di uscita (uscita digitale) <i>Maximum load current (digital output)</i> | 100 mA | |
| Regolazione punto di lavoro <i>Adjustment set point</i> | Teach-in esterno <i>External Teach-in</i> | |
| Ritardo alla disponibilità (uscita digitale) <i>Time delay before availability (digital output)</i> | ≤ 300 ms | |
| Grado di protezione <i>Protection degree</i> | IP67 | |
| Coppia di serraggio <i>Tightening torque</i> | 1 Nm | |
| Peso (uscita connettore) <i>Weight (plug exit)</i> | 15 g (uscita connettore) 15 g (plug exit) | |



Sensori ottici

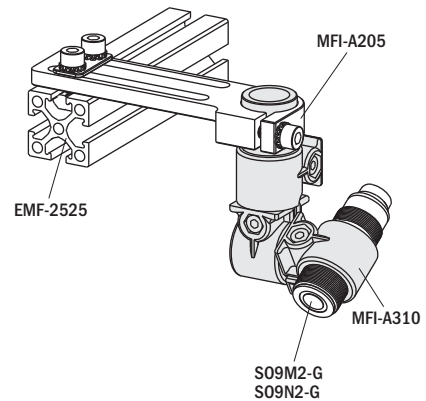
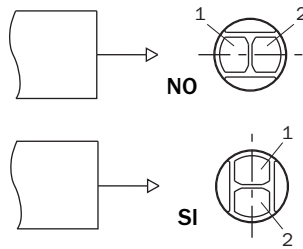
- Sensori fotoelettrici M18x1 mm.
- Soppressione di sfondo 100 mm senza regolazione.
- Uscita digitale PNP/NPN programmabile in logica impulso di luce LO oppure impulso di buio DO.
- Indicatore LED integrato.
- Uscita connettore M12, 4 pin.
- Corpo plastico corto e leggero.
- Ghiera e rondelle incluse.

Optical sensors

- M18x1 mm photoelectric sensors.
- 100 mm background suppression without adjustment.
- PNP/NPN digital output, with programmable LO (Light Operate) or DO (Dark Operate) pulse logic.
- Built-in LED indicator.
- M12, 4 pin connector output.
- Short and lightweight plastic body.
- Lock nuts and washers included.

Per un corretto funzionamento del sensore l'oggetto in movimento deve attraversare contemporaneamente l'emettitore (1) ed il ricevitore (2).

For proper sensor operation, the moving object must cross the emitter (1) and the receiver (2) simultaneously.



| | S09N2-G | S09M2-G |
|--|---|---------|
| Tipo di uscita Output type | PNP | NPN |
| Distanza di rilevazione nominale Nominal sensing distance | 100 mm | |
| Campo di misura Measurement range | bianco / white (90%): 0 ÷ 50 mm grigio / grey (18%): 5 ÷ 50 mm nero / black (6%): 8 ÷ 50 mm | |
| Oggetto minimo rilevabile Minimum detectable object | 3.5 mm | |
| Isteresi Hysteresis | ≤ 10 % | |
| Ripetibilità Repeat accuracy | 5% | |
| Tensione di alimentazione Operating voltage | +10 ÷ 30 Vcc | |
| Corrente di uscita Output current | 100 mA | |
| Frequenza di lavoro Operating frequency | 1 kHz | |
| Ritardo alla disponibilità Time delay before availability | 200 ms | |
| Temperatura di esercizio Temperature range | -25°C ÷ +70°C (senza condensa / without condensation) | |
| Grado di protezione Protection rating | IP67 (EN60529) | |
| Coppia di serraggio Tightening torque | 1 Nm | |
| Peso Weight | 30 g | |

