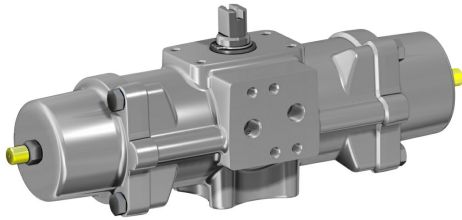


GS (spring return) pneumatic actuator CF8M (microcast stainless steel)

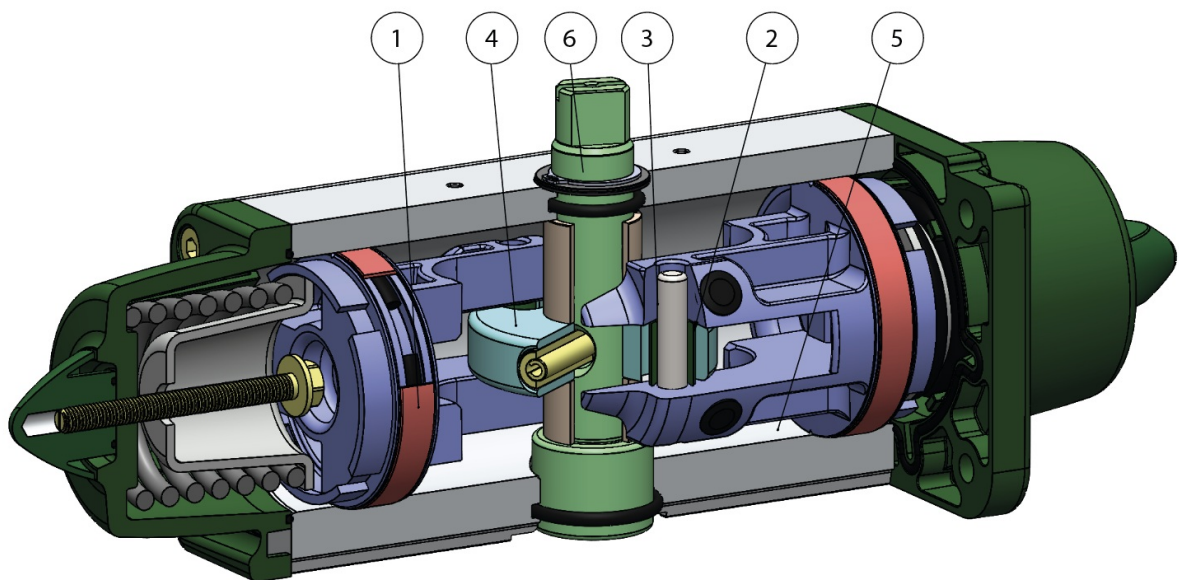


Macro Pneumatic actuators

Category Inox precision casting CF8M actuators

Nominal torque of the actuator: from 15 Nm to 240 Nm

benefits



1. Energized and self-lubricated strips

Less friction between piston and cylinder

It prevents the bonding of the seal to the cylinder even after long periods of inactivity

2. Slots, bushes and pins made by steel with hardness higher than 50 HRC

Higher resistance to the forces inside the actuator

3. Rolling friction between piston and slot

Less friction

4. Scotch yoke with rolling friction (transforming rotary motion into linear motion using piston and shaft without teeth/gears)

Reduced friction between piston and shaft with consequently less wear on the relevant parts

Empowered Breakaway Torque (BTO & BTC)

Smaller volume/size than rack and pinion actuators (with the same torque) therefore less space required for installation

Less weight than the rack and pinion (-30% kg / Nm), with consequent savings on the construction sizing of the plant/equipment

Lower air consumption compared to the rack and pinion actuators (-40% air cm³/Nm for Double Acting and -20% air cm³/Nm for Spring Return) therefore less load on the compressor or the possibility of using a smaller compressor's size.

5. Rolled cylinder

Less wear of the energized ties thanks to the low roughness of the surface

6. Stainless steel shaft

Higher corrosion resistance

From sizes bigger than GD15, NAMUR interface for solenoid valve is already integrated

No need for extra plate.

100% in- house manufacturing process technology

Maximum control and accuracy in all the stages of the manufacturing process

ATEX Certificate

Installation is allowed in a potential explosive environment

Up to SIL 3 Certified

Guarantee of the high level of functional safety.

features

TECHNICAL FEATURES

Torque from 15 Nm to 240 Nm

Mounting flange according to ISO 5211; F03 - F05 - F07 - F10

In compliance with EN 15714-3

Rotation angle: 92° (-1°, +91°)

Torque: the return torque depends on spring action only notwithstanding the air supply

The spring is provided in four different sizes; see table - general catalogue pneumatic actuator GS br>The actuator automatic closing takes place in clockwise direction by means of its springs

In the code of standard version GS actuators, it is indicated the size of the springs (6=5,6 bar) followed by the breakaway torque in Nm at 5,6 bar air supply.

Sizes from GS 30 direct connection with NAMUR solenoid valve

Size GS15 can be provided with NAMUR plate on request

ATEX version in conformity with directive 2014/34/EU

WORKING CONDITION

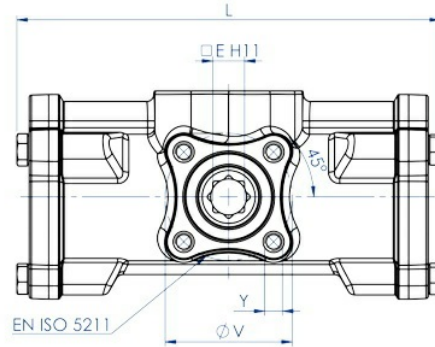
Temperature: from -20°C to +80°C

Air supply: 5,6 bar; maximum 8,4 bar

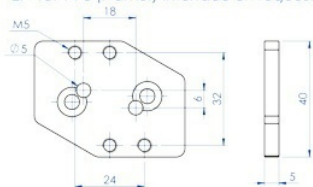
Actuating media: filtered dry compressed air, not necessarily lubricated. In case of lubricated air, either non detergent oil, NBR compatible oil, must be used.

dimensions

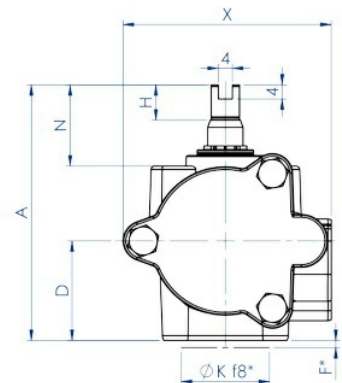
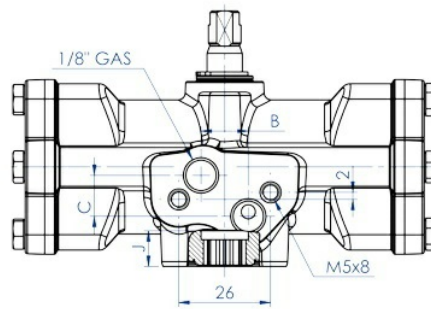
GS15



Interfaccia EN 15714-3 (Namur) a richiesta
EN 15714-3 (Namur) interface on request

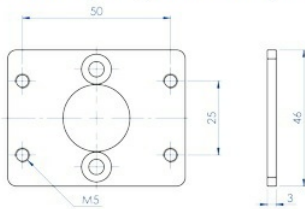


Optional Code KBNI4015

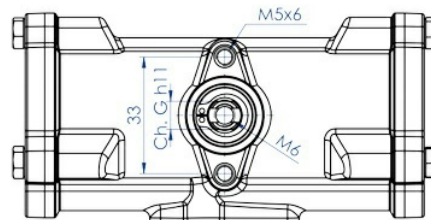


*Anello di centraggio
Centering ring

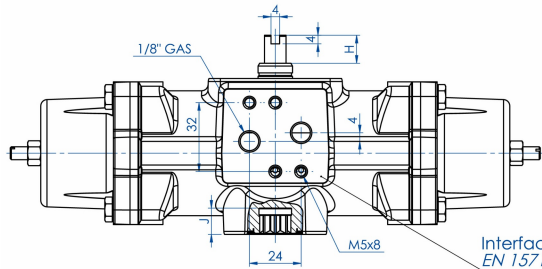
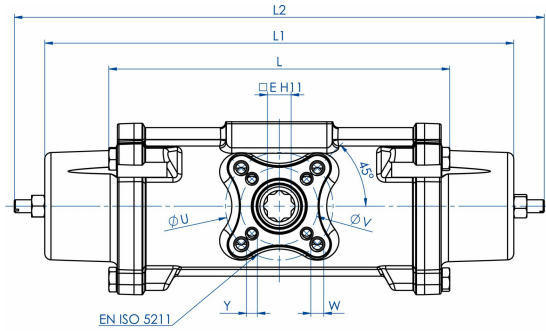
Interfaccia EN 15714-3 (Namur) a richiesta
EN 15714-3 (Namur) interface on request



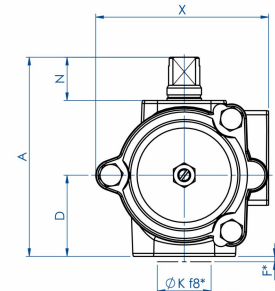
Optional Code KBVI4015



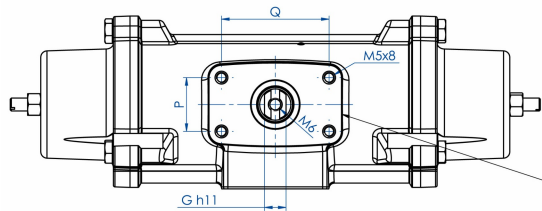
GS30 ÷ GS240



Interfaccia EN 15714-3 (Namur)
EN 15714-3 (Namur) interface



*Anello di centraggio
Centering ring

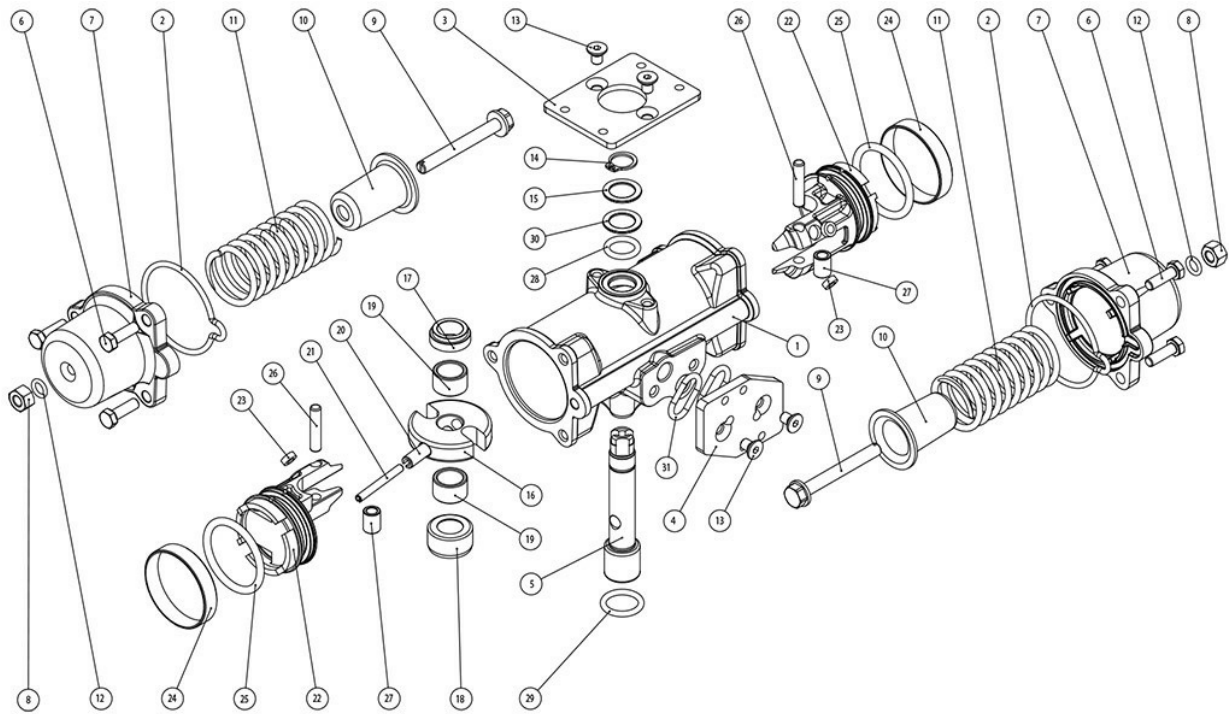


Interfaccia per accessori
EN 15714-3 (VDI/VDE 3845)
Accessories interface
EN 15714-3 (VDI/VDE 3845)

DATA SHEET

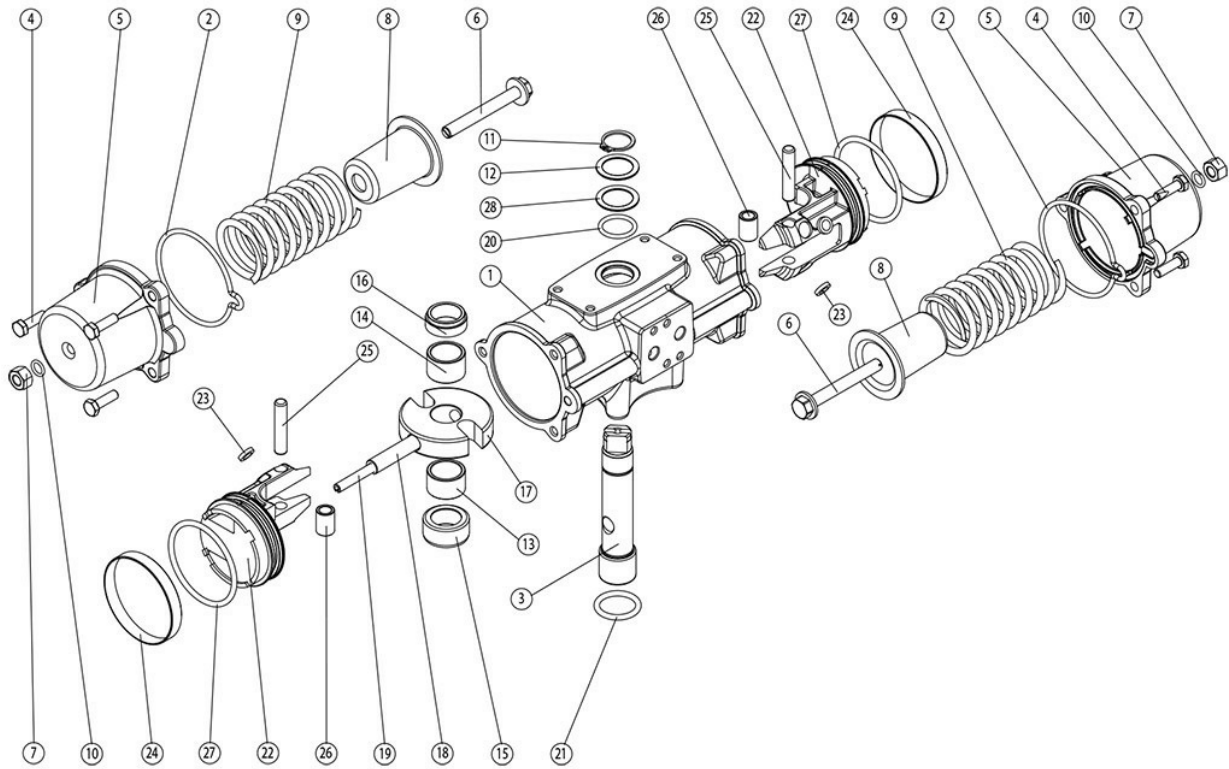
| | KGSS214 | KGSS216 | KGSS218 | KGSS220 | KGSS222 |
|----------------------------|-----------------|---------------------|---------------------|----------------------|----------------------|
| Spare seals | KGSS214 | KGSS216 | KGSS218 | KGSS220 | KGSS222 |
| Size | GS15 F03 | GS30 F03-F05 | GS60 F05-F07 | GS120 F05-F07 | GS240 F07-F10 |
| L mm. | 134,6 | 158,4 | 192,9 | 246,8 | 298,4 |
| L1 mm. | 194,2 | 217,9 | 287,5 | 341,2 | 421 |
| L2 mm. | 224 | 246,2 | 316,5 | 376,2 | 463,9 |
| A mm. | 80,4 | 92,5 | 116,5 | 136,4 | 160 |
| D mm. | 32,7 | 37,7 | 46,2 | 56,2 | 68 |
| E mm. | 9 | 11 | 14 | 17 | 22 |
| F mm. | 2 | 2 | 3 | 3 | 3 |
| Ch. G mm. | 9 | 10 | 12 | 15 | 19 |
| H mm. | 10 | 13 | 13 | 17 | 19 |
| N mm. | 23 | 20 | 30 | 30 | 30 |
| X mm. | 68 | 80,3 | 94,4 | 117 | 139,7 |
| J mm. | 10,2 | 12,2 | 16,3 | 19,3 | 24,3 |
| ØK mm. | 25 | 25 | 35 | 35 | 55 |
| Q mm. | 50 | 50 | 80 | 80 | 80 |
| P mm. | 25 | 25 | 30 | 30 | 30 |
| ØU mm. | - | 50 | 70 | 70 | 102 |
| ØV mm. | 36 | 36 | 50 | 50 | 70 |
| Y x prof. depth mm. | M5x9 | M5x9 | M6x11 | M6x11 | M8x13 |
| W x prof. depth mm. | - | M6x11 | M8x15 | M8x13 | M10x22 |
| air dm ³ /cycle | 0,09 | 0,16 | 0,33 | 0,69 | 1,34 |
| weight Kg. | 1,6 | 2,4 | 4,5 | 7,6 | 12,9 |

CASTING CF8M SPRING RETURN PNEUMATIC ACTUATOR COMPONENTS SIZE: GS15



| MATERIALS GS15 | | | |
|--------------------------------|----------------------------------|-------------|--------------------------------|
| Pos | Denomination | Q.ty | Material |
| 1 | Cylinder | 1 | Stainless steel |
| 2* | Cap o-ring | 2 | Nitrilic rubber |
| 3 | Plate (optional) | 1 | Stainless steel |
| 4 | NAMUR plate | 1 | Stainless steel |
| 5 | Shaft | 1 | Stainless steel |
| 6 | Screw | 6 | Stainless steel |
| 7 | Cap | 2 | Stainless steel |
| 8 | Nut | 2 | Stainless steel |
| 9 | Spring loading screw | 2 | Stainless steel |
| 10 | Spring cap | 2 | Steel alloy |
| 11 | Spring | 2 | Steel alloy |
| 12* | O-ring | 2 | Nitrilic rubber |
| 13 | Screw | 4 | Stainless steel |
| 14 | Seeger | 1 | Stainless steel |
| 15 | Washer | 1 | Stainless steel |
| 16 | Scotch yoke | 1 | Steel alloy |
| 17 | Upper shaft support | 1 | Acetalic resin |
| 18 | Lower shaft support | 1 | Acetalic resin |
| 19 | Support bush | 2 | Acetalic resin |
| 20 | External elastic pin of the yoke | 1 | Steel alloy |
| 21 | Internal elastic pin of the yoke | 1 | Steel alloy |
| 22 | Piston | 2 | Aluminium alloy |
| 23* | Piston's support | 4 | P.T.F.E. carbo-graphite filled |
| 24* | Dynamic seal | 2 | Polyurethane |
| 25* | Piston o-ring | 2 | Nitrilic rubber |
| 26 | Rotative sleeve | 2 | Steel alloy |
| 27 | Bush | 2 | Steel alloy |
| 28 | O-ring | 1 | FKM |
| 29 | O-ring | 1 | FKM |
| 30 | External support ring | 1 | Acetalic resin |
| 31 | NAMUR o-ring | 2 | Nitrilic rubber |
| * Components of spare part kit | | | |

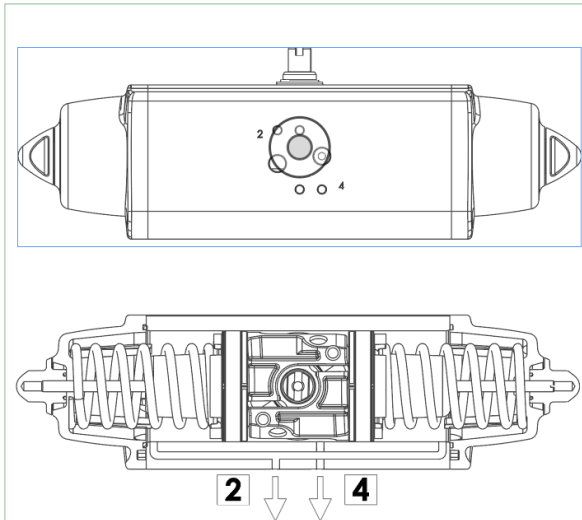
CASTING CF8M SPRING RETURN PNEUMATIC ACTUATOR COMPONENTS SIZE: GS30-GS240



| MATERIALS GS30-GS240 | | | |
|-----------------------------|------------------------------|-------------|--------------------------------|
| Pos | Denomination | Q.ty | Material |
| 1 | Cylinder | 1 | Stainless steel |
| 2* | Cap o-ring | 2 | Nitrilic rubber |
| 3 | Shaft | 1 | Stainless steel |
| 4 | Screw | 6 | Stainless steel |
| 5 | Cap | 2 | Stainless steel |
| 6 | Spring loading screw | 2 | Stainless steel |
| 7 | Nut | 2 | Stainless steel |
| 8 | Spring cap | 2 | Steel alloy |
| 9 | Spring | 2 | Steel alloy |
| 10* | O-ring | 2 | Nitrilic rubber |
| 11 | Seeger | 1 | Steel alloy |
| 12 | Washer | 1 | Steel alloy |
| 13 | Lower support bush | 1 | Acetalic resin |
| 14 | Upper support bush | 1 | Acetalic resin |
| 15 | Lower shaft support | 1 | Acetalic resin |
| 16 | Upper shaft support | 1 | Acetalic resin |
| 17 | Scotch yoke | 1 | Steel alloy |
| 18 | External elastic pin of yoke | 1 | Steel alloy |
| 19 | Internal elastic pin of yoke | 1 | Steel alloy |
| 20 | O-ring upper sealing shaft | 1 | FKM |
| 21 | O-ring low sealing shaft | 1 | FKM |
| 22 | Piston | 2 | Aluminium alloy |
| 23* | Piston's support | 4 | P.T.F.E. carbo-graphite filled |
| 24* | Dynamic seal | 2 | Polyurethane |
| 25 | Rotative sleeve | 2 | Steel alloy |
| 26 | Bush | 2 | Steel alloy |
| 27* | Piston o-ring | 2 | Nitrilic rubber |
| 28 | External support o-ring | 1 | Acetalic resin |

* Components of spare part kit

GS PNEUMATIC ACTUATOR OPERATING DIAGRAM

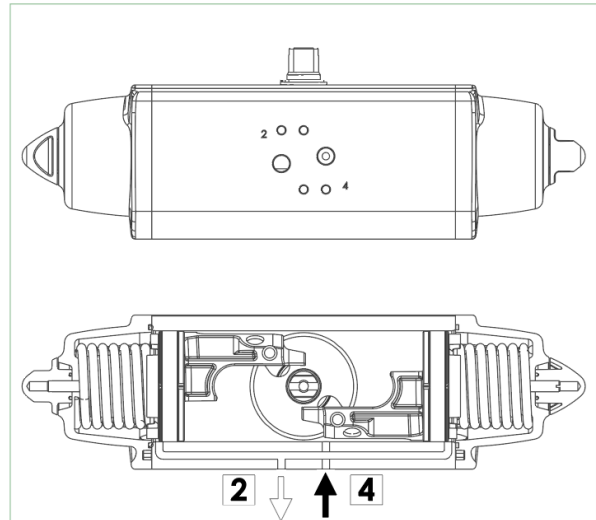


SCHEMA DI FUNZIONAMENTO

Senza pressione di alimentazione, nella versione semplice effetto, l'attuatore torna automaticamente in posizione di riposo compiendo una rotazione oraria e la posizione finale è quella rappresentata nel disegno. Sul foro 2 è consigliato montare un filtrino onde evitare che polvere o particelle solide possano entrare nella camera del cilindro senza tuttavia impedire il passaggio dell'aria.

WORKING PLANE

Without air supply, the spring return actuator returns to its resting position, rotating in a clockwise direction. The drawing shows its final position. We assembling a small filter on the air connection 2 to prevent dust and particles into the cylinder chamber without, however, preventing the passage of air.



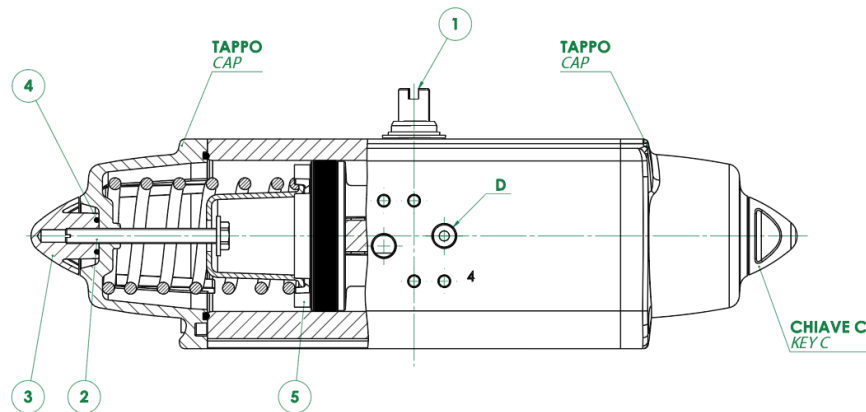
SCHEMA DI FUNZIONAMENTO

Immettendo aria nel foro 4 di alimentazione, i pistoni si muovono verso l'esterno comprimendo le molle, si ha una rotazione antioraria e la posizione finale è quella rappresentata nel disegno.

WORKING PLANE

Supplying air through the air connection 4, the pistons move outwards pressing the spring. An anticlockwise rotation takes place and the final position is shown above.

ATTUATORE REGOLABILE-ISTRUZIONI PER L' UTILIZZO ACTUATOR WITH STROKE ADJUSTMENT-INSTRUCTIONS

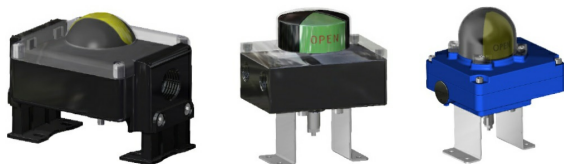


- A) Verificare che le molle siano in posizione di riposo osservando la chiave dell'albero (part. n°1) come da disegno e controllando che nel foro "D" non ci sia pressione.
- B) Togliere i controdadi (part. n°3) agendo sulla chiave C.
- C) Con un cacciavite avvitare le viti (part. n°2) in senso orario ed effettuare la limitazione di corsa desiderata.
- N.B. La corsa può essere limitata per un massimo di 10° da 80° a 90°
- D) Immettere aria nel foro "D" e verificare che entrambe le viti (part. n°2) siano a battuta contro i pistoni (part. n°5).
- E) Bloccare i controdadi (part. n°3) muniti di O-ring (part. n°4) per la tenuta tra controdado, tappo e vite.
- N.B. queste spiegazioni sono indicative, per le istruzioni operative, vedere il manuale.

- A) The springs must be at rest position, the shaft (part. 1) must be as shown in the drawing. Air connection D must not be supplied with air.
- B) Remove the counter-nuts (part. 3), acting on C key.
- C) By means of a screwdriver turn screws (part. 2) in a clockwise direction until you obtain the requested end-stroke regulation.
- Note: maximum adjusting stroke 10°, ranging from 80° to 90°.
- D) Supply connection D with air pressure and check that both adjusting screws (part. 2) stop the pistons (part. 5).
- E) Screw the counter-nuts (part. 3) and their O-ring (part. 4) to keep nut and cap tight.
- N.B. these explanations are indicative, for operating instructions, see the manual.

accessories

LIMIT SWITCH BOX



MANUAL OVERRIDE WITH HAND WHEEL



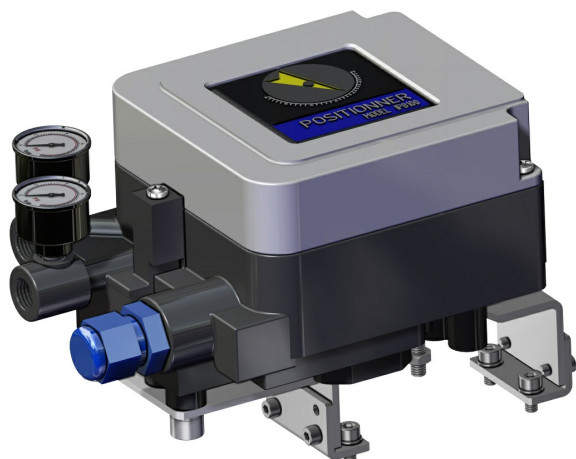
NAMUR SOLENOID VALVES



SOLENOID VALVES



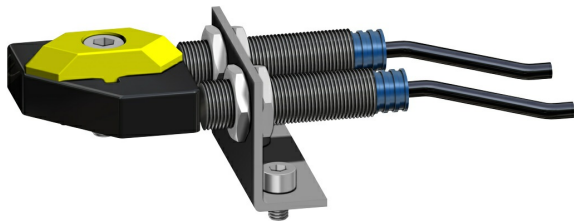
ELECTROPNEUMATIC POSITIONER (INTRINSICALLY SAFE)



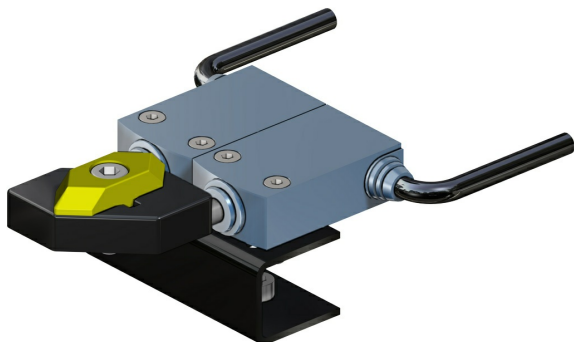
PNEUMATIC POSITIONER



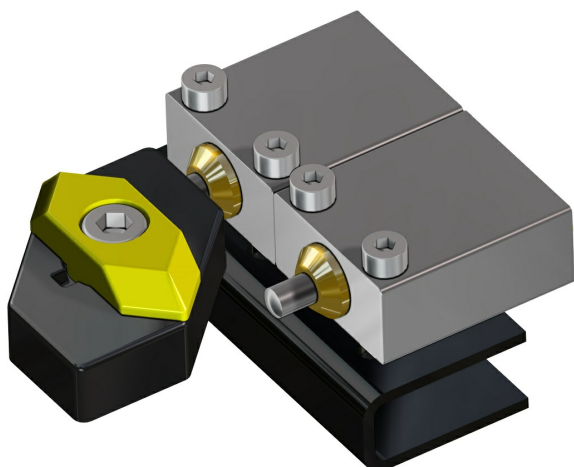
PROXIMITY LIMIT SWITCHES



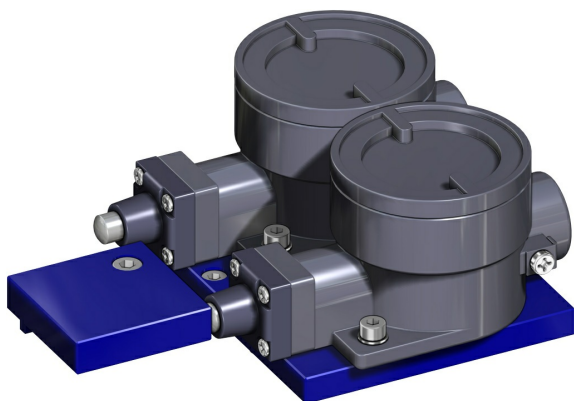
ELECTROMECHANICAL LIMIT SWITCHES



PNEUMATIC LIMIT SWITCHES



EXPLOSION PROOF LIMIT SWITCHES II2GD ExdIIC



For more information check the ACTUATECH Accessories Catalogue.

documents

Catalogs

ATTUATORI INOX

Certificates

AKNOWLEDGEMENT OF RECEIPT - EC - ATEX

SIL CERTIFICATE GS

Datasheet

GS0030F03F05INOX

GS0240F07F10INOX

GS0120F05F07INOX

GS0015F03INOX_OPT

GS0060F05F07INOX

GS0015F03INOX