OMAL S.p.A. Società Benefit
Headquarters: Via Ponte Nuovo 11, Rodengo Saiano (Brescia) Italy
Production site: Via Brognolo 12, Passirano (Brescia) Italy
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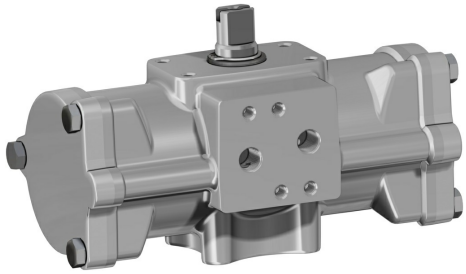
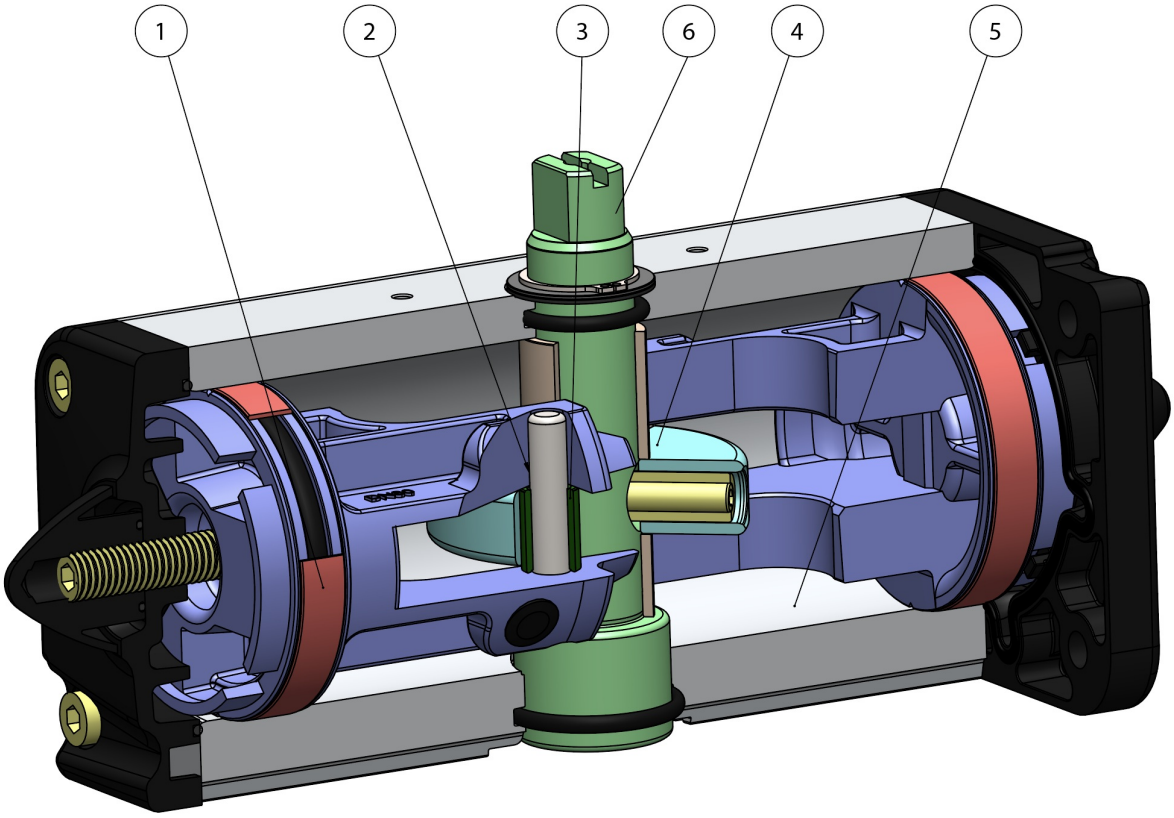
AGO CF8M - DA type inox precision casting CF8M



Macro Pneumatic actuators

Category AGO CF8M - Inox precision casting CF8M actuators

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 teeths/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 DAN15, 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 480 Nm.
Mounting flange according to ISO 5211; F03 - F05 - F07 - F10
In compliance with EN 15714-3.
Rotation angle: 92° (-1°, +91°)
Torque: directly proportional to the air supply (see table - general catalogue pneumatic actuator DA).
The code numbers after the DA letters, always correspond to the breakaway torque in
Nm by 5,6 bar air supply.
Sizes from DA 60 direct connection with NAMUR solenoid valve.
Sizes DA15 - DA30 can be provided with NAMUR plate on request.
ATEX version in conformity with directive 2014/34/EU. Please add YX at the end of the code for ATEX version.

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.

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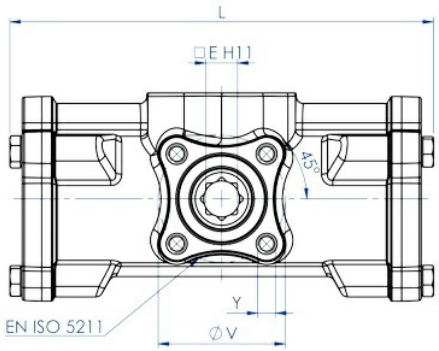
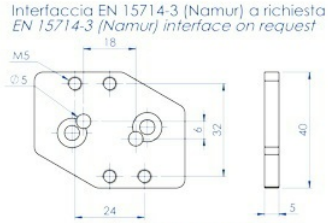
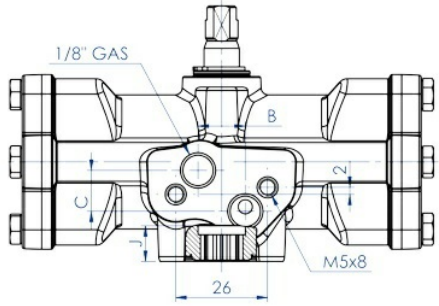
dimensions

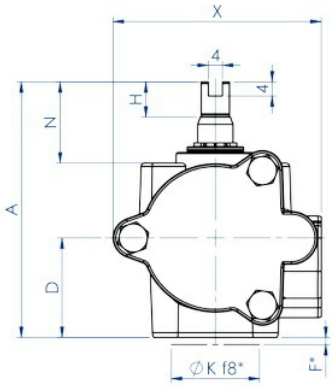
DA 15 ÷ DA 30



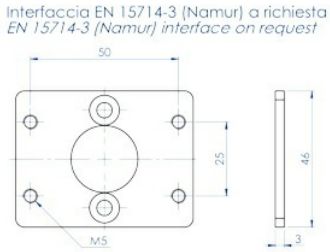


Optional Code KBNI4015





*Anello di centraggio
Centering ring



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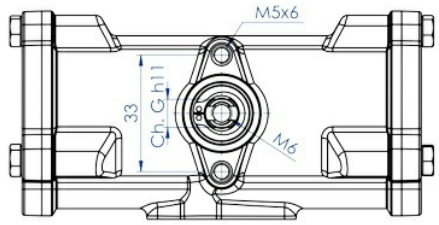

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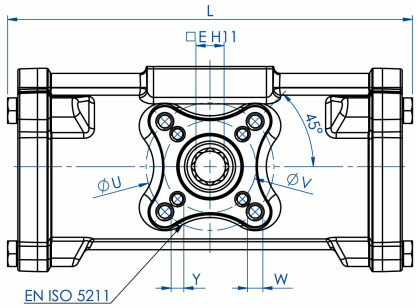
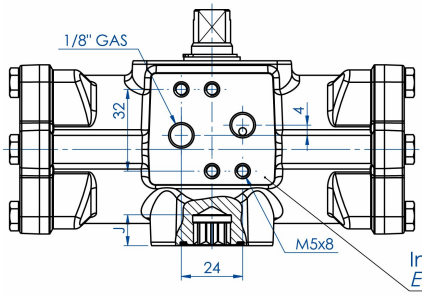
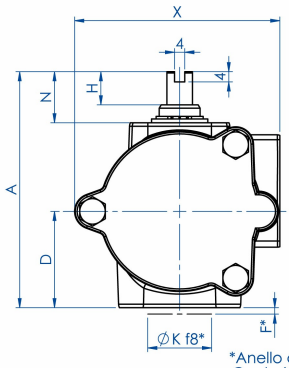
DA 60 ÷ DA 480

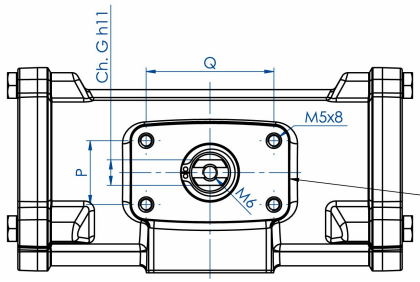




Interfaccia EN 15714-3 (Namur)
EN 15714-3 (Namur) interface



*Anello di centraggio
Centering ring



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

*Accessories interface
EN 15714-3 (VDI/VDE 3845)*

DATA SHEET						
Code	**DA015516S**	**DA030516S**	**DA060516S**	**DA120516S**	**DA240516S**	**DA480516S**
Spare seals	KGXI0112	KGXI0114	KGXI0116	KGXI0118	KGXI0120	KGXI0122
Size	**DA 15 F03**	**DA 30 F03**	**DA 60 F03-F05**	**DA 120 F05-F07**	**DA 240 F05-F07**	**DA 480 F07-F10**
L mm.	120	134,6	158,4	192,9	246,8	298,4
A mm.	72,4	80,4	92,5	116,5	136,4	160
B mm.	13,4	11,6	-	-	-	-
C mm.	12	13	-	-	-	-
D mm.	28,2	32,7	37,7	46,2	56,2	68
E mm.	9	9	11	14	17	22
F mm.	2	2	2	3	3	3
Ch. G mm.	8	9	10	12	15	19
H mm.	10	10	13	13	17	19
N mm.	23	23	20	30	30	30
X mm.	59	68	80,3	94,4	117	139,7
J mm.	10,2	10,2	12,2	16,3	19,3	24,3
ØK mm.	25	25	25	35	35	55
Q mm.	50	50	50	80	80	80
P mm.	25	25	25	30	30	30
ØU mm.	-	-	50	70	70	102
ØV mm.	36	36	36	50	50	70
Y x prof. depth mm.	M5x9	M5x9	M5x9	M6x11	M6x11	M8x13
W x prof. depth mm.	-	-	M6x11	M8x15	M8x13	M10x22
air dm3/cycle	0,079	0,148	0,28	0,59	1,18	2,38
weight Kg.	0,8	1,2	1,8	3,3	5,6	9,5

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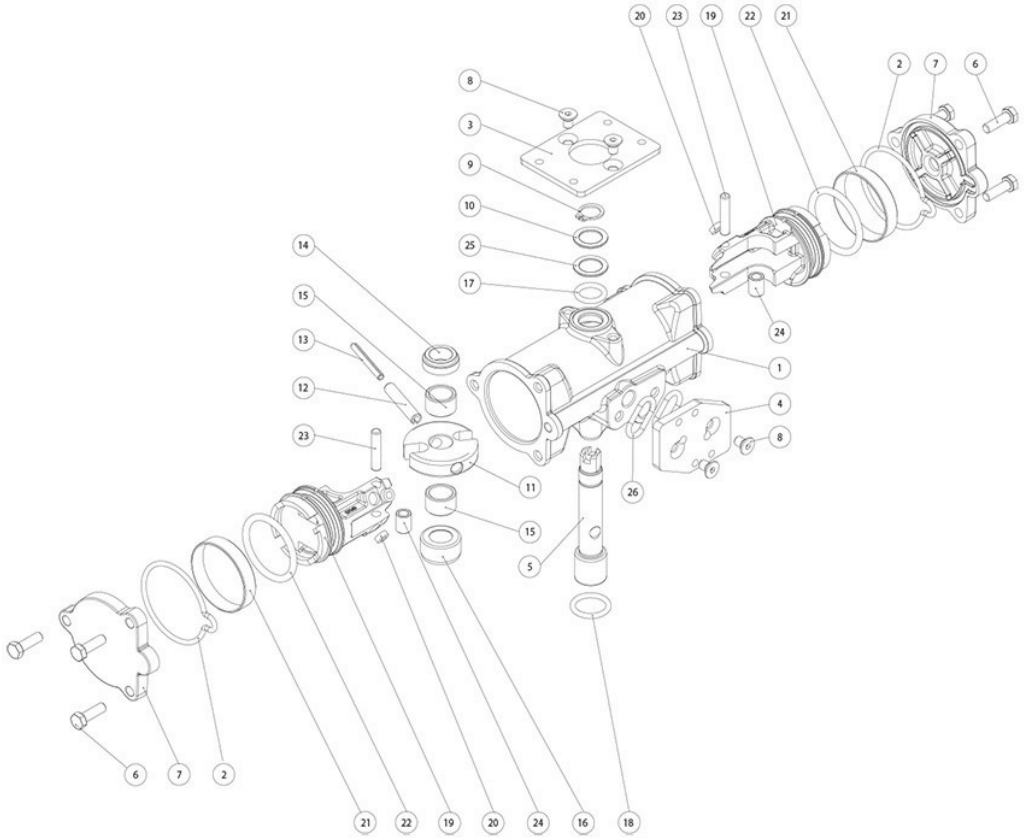
materials

CASTING CF8M DOUBLE ACTING PNEUMATIC ACTUATOR COMPONENTS SIZE: DA 15-DA 30



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MATERIALS: DA 15 ÷ DA 30			
Pos	**Denomination**	**Q.ty**	**Material**
1	Cylinder	1	Stainless steel CF8M
2*	Cap o-ring	2	Nitrilic rubber
3	Plate	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	Screw (optional)	4	Stainless steel
9	Seeger	1	Stainless steel
10	Washer	1	Stainless steel
11	Scotch yoke	1	Steel alloy
12	External elastic pin of the yoke	1	Steel alloy
13	Internal elastic pin of the yoke	1	Steel alloy
14	Upper shaft support	1	Acetalic resins
15	Support bush	2	Acetalic resins
16	Lower shaft support	1	Acetalic resins
17*	O-ring (upper sealing shaft)	1	FKM
18*	O-ring (low sealing shaft)	1	FKM
19	Piston	2	Aluminium alloy
20*	Piston's support	4	P.T.F.E. carbo-graphite filled
21*	Dynamic seal (piston)	2	Polyurethane
22*	Piston o-ring	2	Nitrilic rubber
23	Rotative sleeve	2	Steel alloy
24	Bush	2	Steel alloy
25*	External support ring	1	Acetalic resins
26	O-ring (optional)	2	Nitrilic rubber
* Components of spare part kit			

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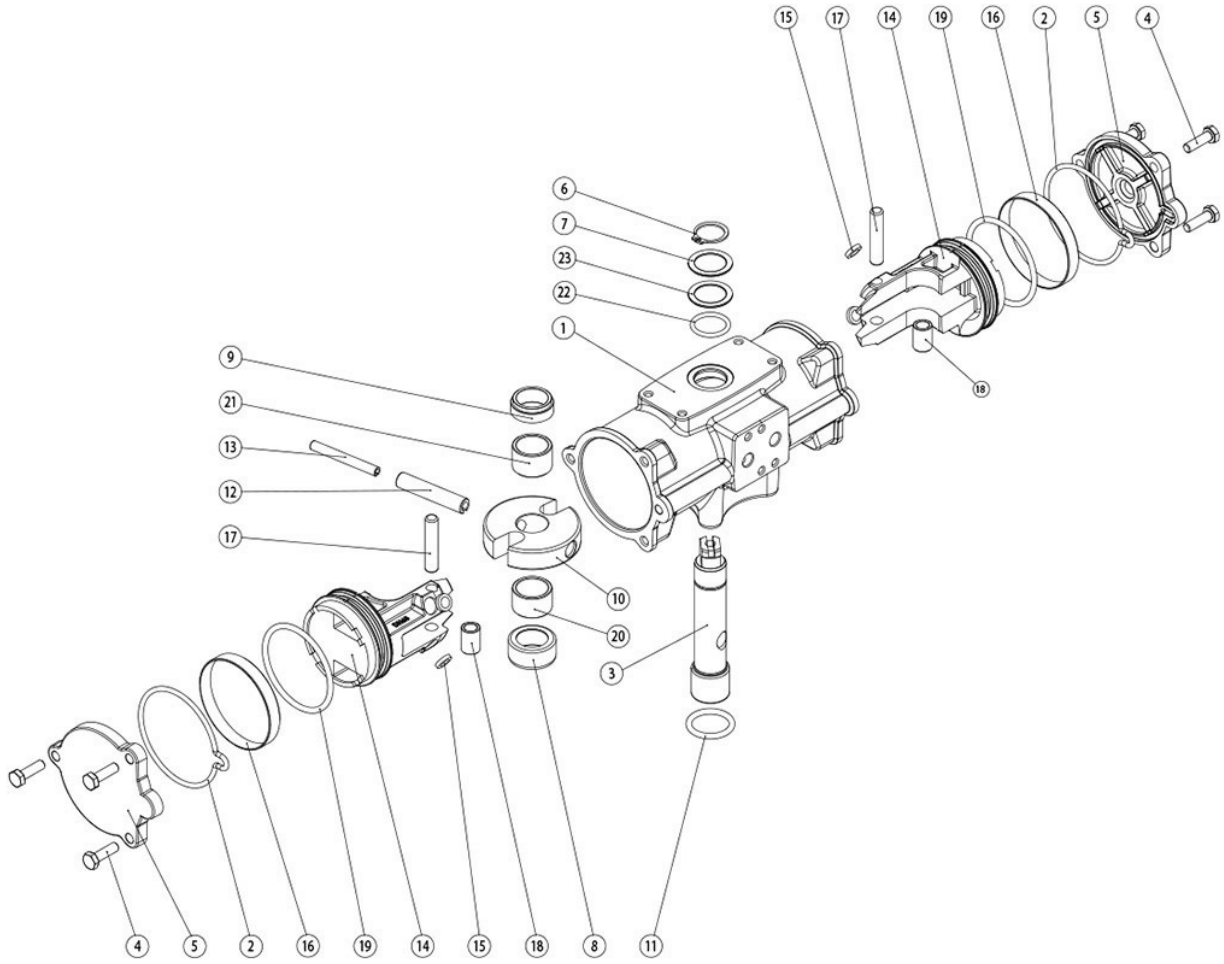
CASTING CF8M DOUBLE ACTING PNEUMATIC ACTUATOR COMPONENTS SIZE: DA60-DA480



MATERIALS			
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	Seeger	1	Stainless steel
7	Washer	1	Stainless steel
8	Lower shaft support	1	Acetalic resins
9	Upper shaft support	1	Acetalic resins
10	Scotch yoke	1	Steel alloy
11*	O-ring (low sealing shaft)	1	FKM
12	External elastic pin of the yoke	1	Steel alloy
13	Internal elastic pin of yoke	1	Steel alloy
14	Piston	2	LAluminium alloy
15*	Piston's support	4	P.T.F.E. carbo-graphite filled
16*	Dynamic seal (piston)	2	Polyurethane
17	Rotative sleeve	2	Steel alloy
18	Bush	2	Steel alloy
19*	Piston o-ring	2	Nitrilic rubber
20	Suwer support bush	1	Acetalic resins
21	Upper support bush	1	Acetalic resins
22*	O-ring (upper sealing shaft)	1	FKM
23*	External support ring	1	Acetalic resins
*Components of spare part kit			

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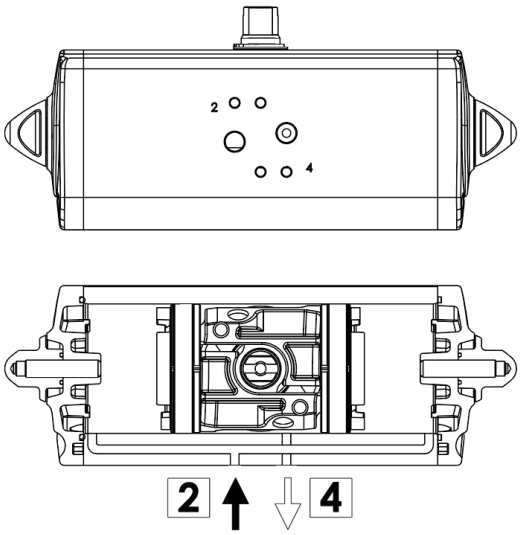
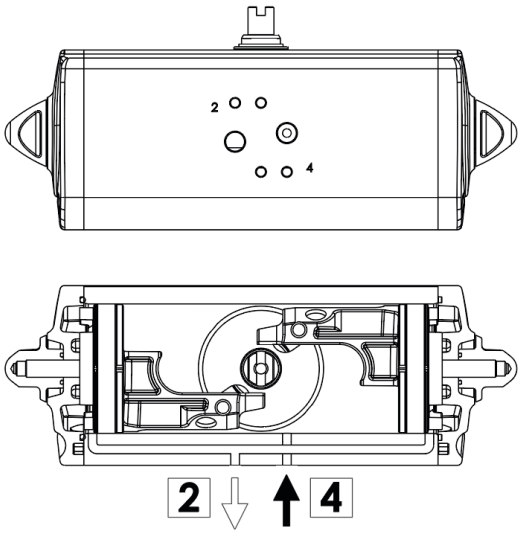
specifications

WORKING PLANE PNEUMATIC ACTUATOR "DA" TYPE



SCHEMA DI FUNZIONAMENTO
Immettendo aria nel foro 2 di alimentazione, i pistoni si muovono verso il centro e si ha una rotazione antioraria, la posizione finale è quella rappresentata nel disegno.

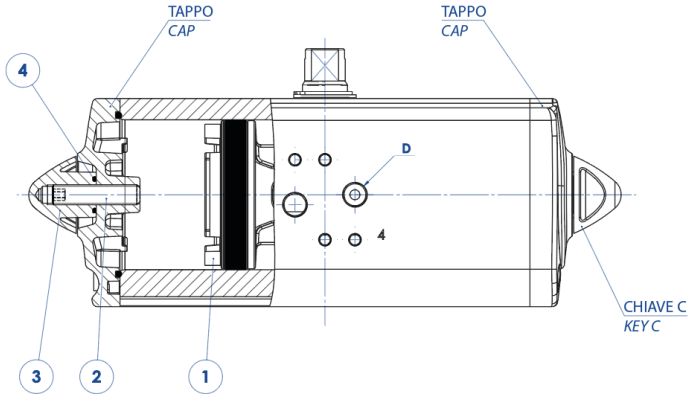
WORKING PLANE
Supplying air through the air connection 2, the pistons move towards the center in an anticlockwise direction. The above drawing shows the final position.



SCHEMA DI FUNZIONAMENTO
Immettendo aria nel foro 4 di alimentazione, i pistoni si muovono verso l'esterno e si ha una rotazione oraria, la posizione finale è quella rappresentata nel disegno.

WORKING PLANE
Supplying air through the air connection 4, the pistons move outwards in a clockwise direction. The above drawing shows the final position.

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



A) Immettere aria nel foro "D" in modo che i pistoni (part. n°1) si vengano a trovare in posizione di finecorsa verso i tappi.
B) Togliere il controdado (part. n°3) agendo sulla chiave C.
C) Togliere l'aria di alimentazione.
D) Con una chiave a brugola agire sulle viti (part. n°2) ed effettuare la limitazione di corsa desiderata.
N.B. La corsa può essere limitata per un massimo di 10° da 80° a 90°. Altre regolazioni disponibili a richiesta.
E) Mettere aria nel foro "D", verificare che entrambe le viti (part. n°2) siano a battuta contro i pistoni.
F) Mettere il controdado (part. n°3) munito di O-ring (part. n°4) per la tenuta tra dado e tappo.

A) *Supply air through the air connection D so that the pistons (Part. 1) move to the end-stroke position, towards the caps.*
B) *Remove the counter nut (part. 3) acting on the C key.*
C) *Shut off the air supply.*
D) *Adjust the end stroke as desired, acting on the screws (part 2) with an hexagonal key.*
Note: *maximum adjusting stroke 10°, ranging from 80° to 90°. Other regulations on request.*
E) *Supply air through the air connection D and check that both screws stop the pistons.*
F) *Screw the counter-nut (part 3) and its o-ring (part 4) to keep nut and cap tight.*

documents

Certificati

ATEX - Pneumatic Actuators
SIL EN 61508 - Actuators: SR, SRN, DA, DAN
Type Approval Certificate for Marine and machinery systems and equipment

Istruzioni

ISTRUZIONI ATEX UITG0G01ATX
ISTRUZIONI USO 8_0842

Manuali

MANUALE UMA800081B