OMAL S.p.a.
Via Ponte Nuovo, 11 - 25050 Rodengo Saiano (BS) ITALY
Phone +39 0308900145 - Fax +39 0308900423
Booked in the Enterprise Register of: Brescia number 1661640175
Share capital completely deposited: € 500.000,00

Angle seat valves

Threaded end



features
features and benefits
methods of use
materials, dimensions and diagram
codes
accessories

Features

GENERAL FEATURES

Threaded valve ends, as per ISO 228/1 and ISO 7/1 – other types available on request.

Assembling is possible in all positions: upright, flat or angled.

Range available from 3/8” to 2” in the Double Acting versions, Spring Return N.C. from above and below the plug, Spring Return N.O. from below the plug.

According to 97/23 EC “PED”

ATEX version in conformity with directive 94/9/EC (to request at time of order)

The variations in the actioning of the valve, the several combinations and the possibility to intercept the fluid from above or below the plug, originate multiple versions of the automatic valve.

In the table below are indicated the standard versions with the main parameters.

On the basis of the kind of valve and the variations of pressure ?P that must be intercepted, the necessary control pressure can be individuated, and consequently, the code for the corresponding valve.

Operating media

Air,water, alcohol, oil, petroleum products, saline solutions, steam, etc. (as long as compatible with AISI 316 or Bronze RG5).

Pressure from 0 to 16 / 25 bar (steam from 180°C, from 0 to 10 bar) depending on the size and model chosen (see following pages).

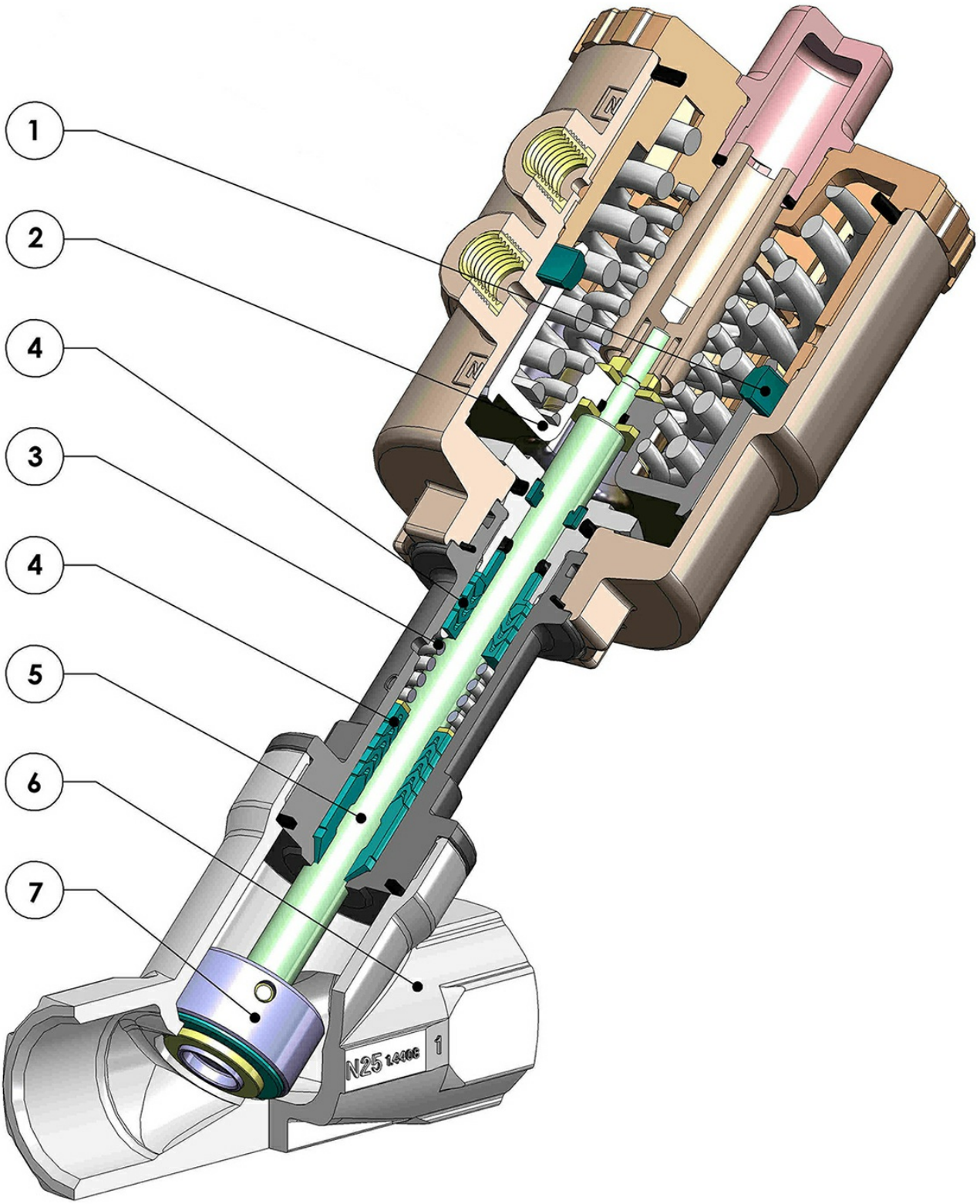
Temperature from –10°C to 180°C.

Max. viscosity 600 cst (mm2/s).

Control media

Driving media: compressed air, lubricated or dry, gas or neutral media.

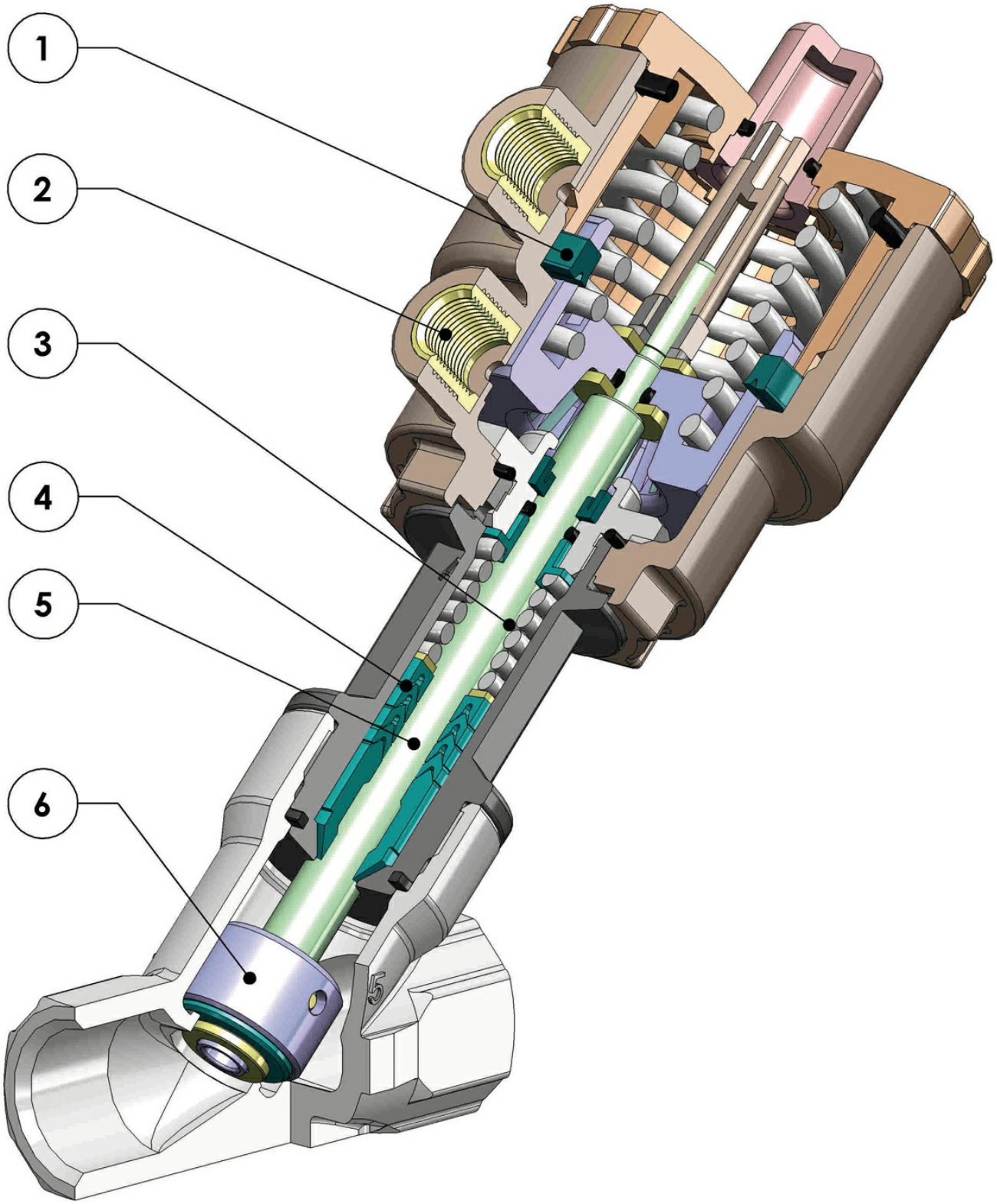
Ambient temperature: -10°C to +60°C



FEATURES & BENEFITS		
1	Lip seal placed in the cylinder rather than on the piston	Longer stroke of the actuator and shutter will be achieved, granting higher flow rate (less flow loss)
		Minor usura della guarnizione Less wear of the seal

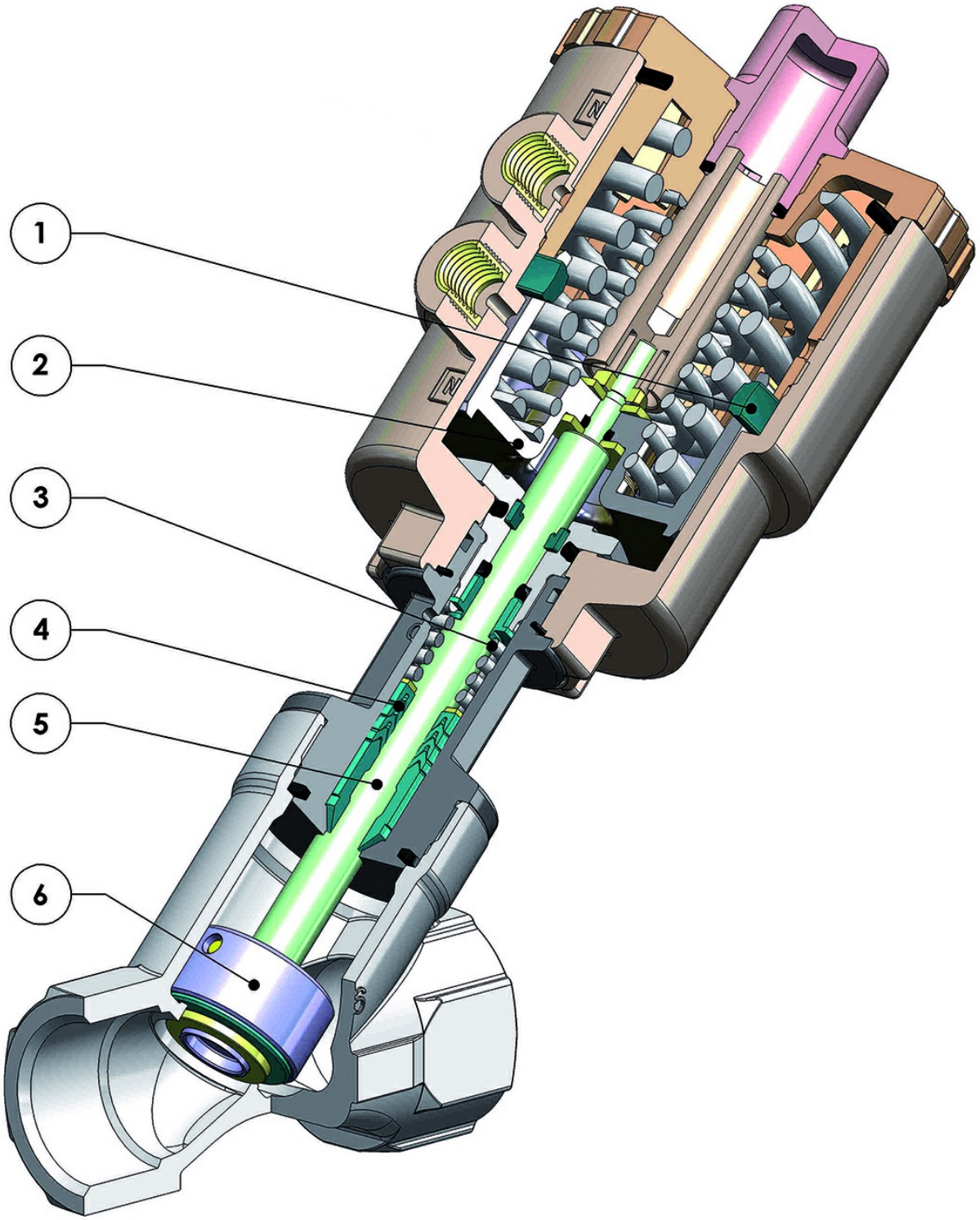
2	Starting from DN63 metal piston with CHEMICAL NICKEL coating (10-15 micron)	Reduces the wear of the piston due to the achievement of a greater surface hardness (700-750 HV)
3	Seals pre-loaded by spring	Guarantee of the recovery of the gap due to the wear caused by the sliding of the shaft avoiding leakage towards the outside part.
		Allow to maintain energized the "chevron" seals (V) compensating the dimensional changes even in case of huge temperature excursions
4	CHEVRON seals (V shape) with 5 seals in the lower part of the spring and 3 seals in the upper part	It ensures a perfect tightness even after a high number of cycles
5	Rolled shaft	Less wear of the seals due to the low roughness (0,1 micron Ra) which facilitate the sliding of the shaft
6	Longer face to face	Better fluidodynamic with reduction of the turbulences
7	Oscillating / self-aligning shutter	It fits perfectly to the valve body ensuring the maximum tightness
	ATEX Certificate	Installation is allowed in a potential explosive environment
	PED Certificate	Full compliance with European Safety Standards for Pressure Equipment

Features and benefits – Atena



FEATURES & BENEFITS		
1	Lip seal placed in the cylinder rather than on the piston	Longer stroke of the actuator and shutter will be achieved, granting higher flow rate (less flow loss)
		Less wear of the seal
2	Piloting head inserts in AISI 316	Increases considerably the corrosion resistance caused by external agents

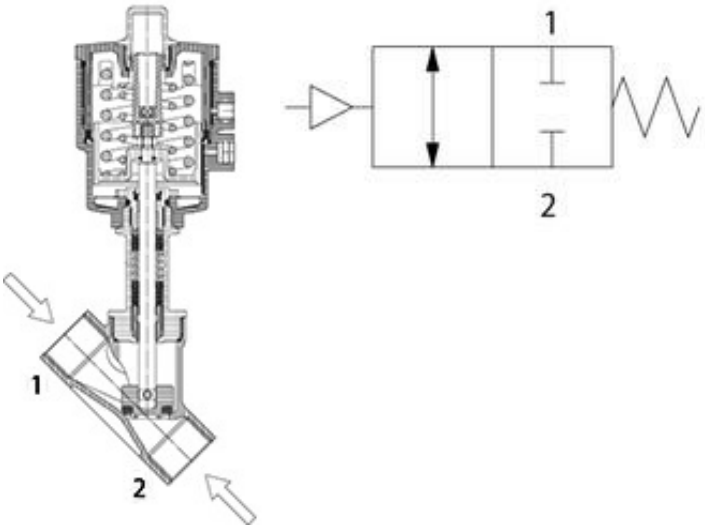
3	Seals pre-loaded by spring	Guarantee of the recovery of the gap due to the wear caused by the sliding of the shaft avoiding leakage towards the outside part.
		Allow to maintain energized the "chevron" seals (V) compensating the dimensional changes even in case of huge temperature excursions
4	CHEVRON seals (V shape) with 4 seals in the part towards the fluid	It ensures a perfect tightness even after a high number of cycles
5	Rolled shaft	Less wear of the seals due to the low roughness (0,1 micron Ra) which facilitate the sliding of the shaft
6	Oscillating / self-aligning shutter	It fits perfectly to the valve body ensuring the maximum tightness
	ATEX Certificate	Installation is allowed in a potential explosive environment



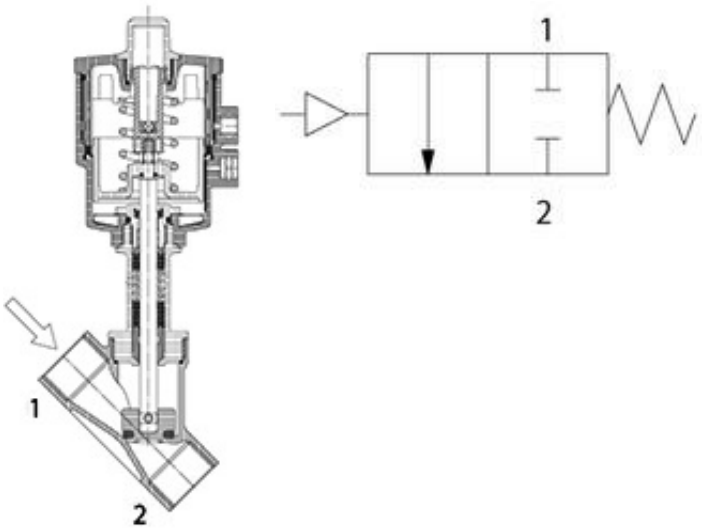
FEATURES & BENEFITS		
1	Lip seal placed in the cylinder rather than on the piston	Longer stroke of the actuator and shutter will be achieved, granting higher flow rate (less flow loss)
		Minor usura della guarnizione Less wear of the seal

2	Starting from DN63 metal piston with CHEMICAL NICKEL coating (10-15 micron)	Reduces the wear of the piston due to the achievement of a greater surface hardness (700-750 HV)
3	Seals pre-loaded by spring	Guarantee of the recovery of the gap due to the wear caused by the sliding of the shaft avoiding leakage towards the outside part.
		Allow to maintain energized the "chevron" seals (V) compensating the dimensional changes even in case of huge temperature excursions
4	CHEVRON seals (V shape) with 4 seals in the lower part	It ensures a perfect tightness even after a high number of cycles
5	Rolled shaft	Less wear of the seals due to the low roughness (0,1 micron Ra) which facilitate the sliding of the shaft
6	Oscillating / self-aligning shutter	It fits perfectly to the valve body ensuring the maximum tightness
	ATEX Certificate	Installation is allowed in a potential explosive environment
	PED Certificate	Full compliance with European Safety Standards for Pressure Equipment

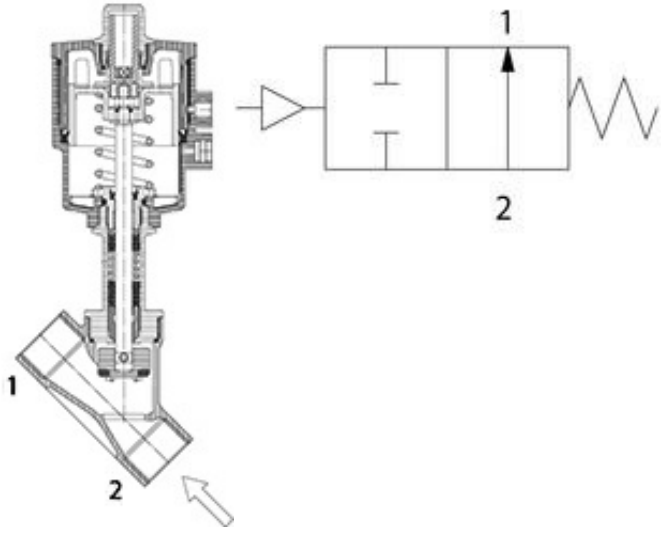
Methods of use



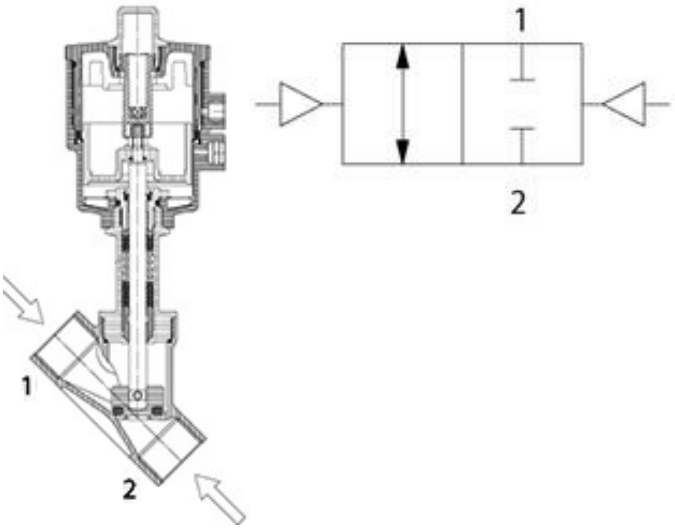
N.C. Normally Closed bidirectional. With the flow coming from below the plug you avoid water hammering.
Flow from above the plug for condensable media.



N.C. Normally Closed with the flow from above the plug.
Flow from above the plug for condensable media.



N.O. Normally Open with flow from below the plug.



Double Acting bidirectional

ANGLE SEATS VALVES CODE PLAN

J	4 / 9	-	P	G	-	-	-	-	Y	X

Version
4 = **ARES - ATENA**
9 = **ZEUS**

Version
P = Standard
X = For oxygen

ø control heads
14 = Ø 40
16 = Ø 50
18 = Ø 63
21 = Ø 90
23 = Ø 110

YX only for ATEX version

Versione *Version*
S = N.C. *below the plug anti water hammer*
C = N.C. *above the plug*
A = N.A. - *N.O.*
D = *double acting*

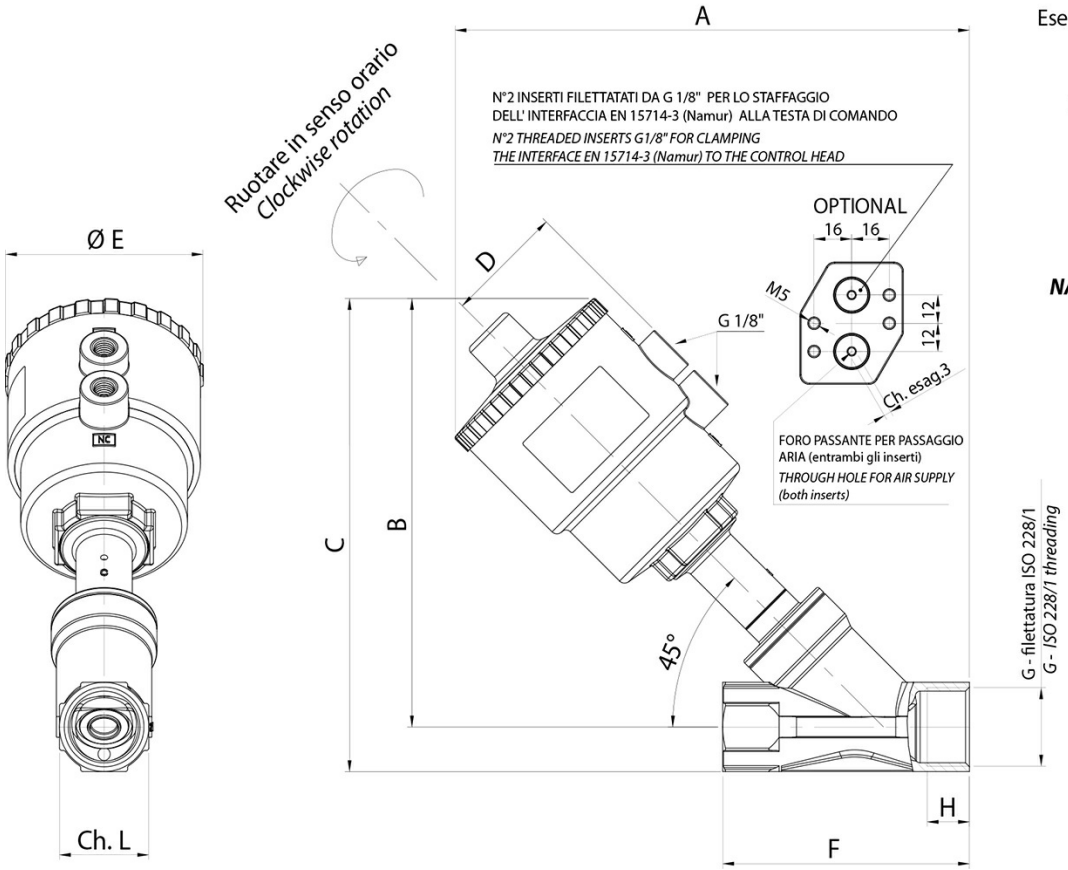
Connection types
0 = *ISO 228/1 and ISO 7/1 threaded*
4 = *NPT thereaded*
For other thread see "Ares with special ends"

Valve size
4=DN 15; **5**=DN 20; **6**=DN 25; **7**=DN 32; **8**=DN 40; **9**=DN 50

On request version for vacuum

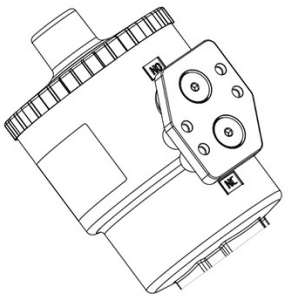
Materials, dimensions and diagram – Ares

Testa di comando orientabile a 360°
Control head adjustable at 360°



Esempio dell'interfaccia EN 15714-3 (Namur) assemblata alla testa di comando
Da fornire A RICHIESTA nel caso di pilotaggio di elettrovalvola NAMUR
Codice: KBNJ0001

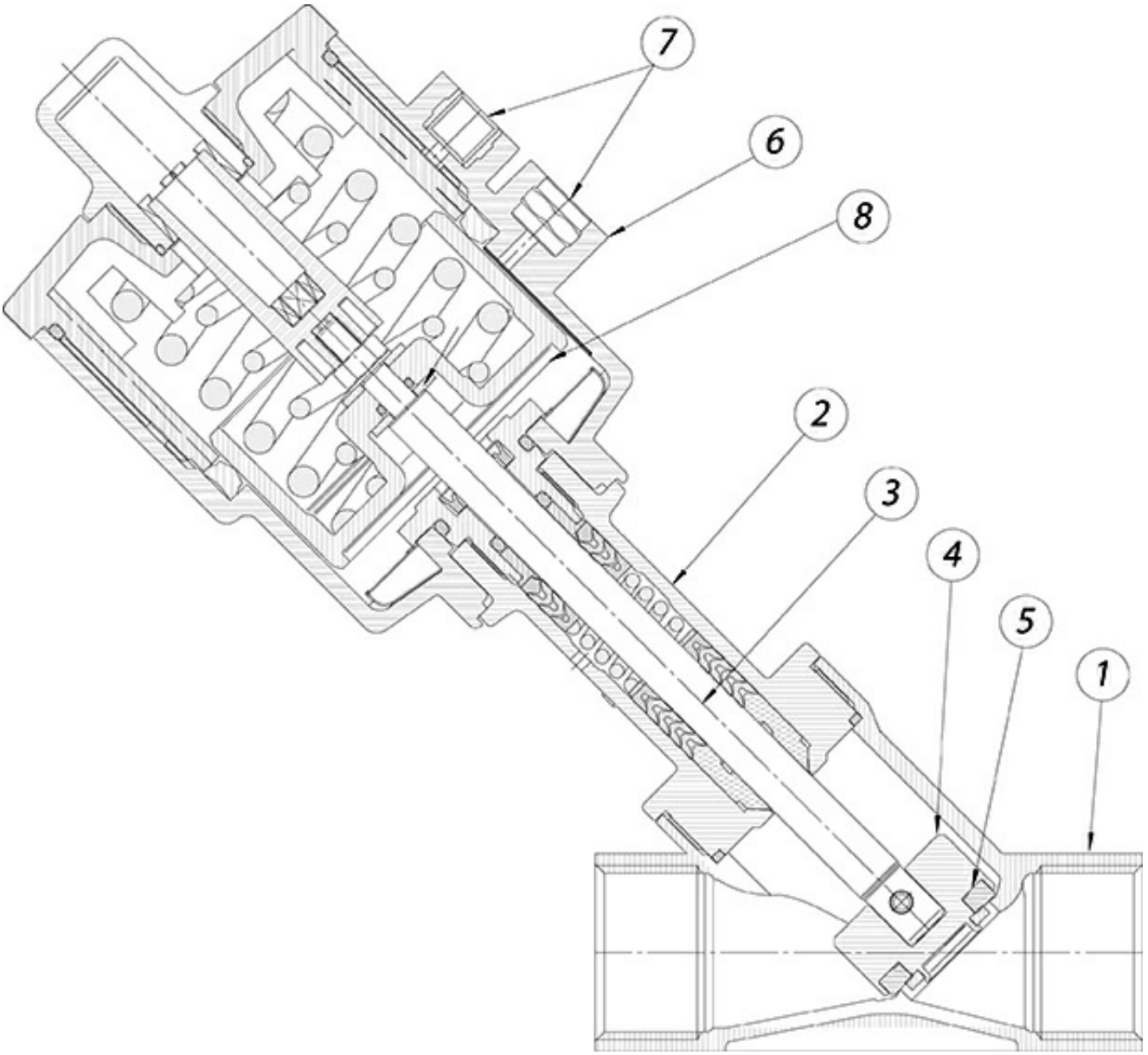
Example of NAMUR plate EN 15714-3 to be assembled on the control head
To be supplied ON REQUEST once NAMUR Solenoid valve should be needed
Code: KBNJ0001



DIMENSIONAL TABLE

DN	G *	Actuator	A	B	C	D	øE	F	ch. L	H
15	3/8”	ø 50	190	156.5	169	44	70	85	25	12
15	1/2”	ø 50	190	156.5	169	44	70	85	25	15
20	3/4”	ø 50	195	160.5	176	44	70	95	31	16.3
20	3/4”	ø 63	213	178.5	194,4	50,5	84,4	95	31	16,3
25	1”	ø 50	200	164	183	44	70	105	38	19.5
25	1”	ø 63	219	183	202	50,5	84,4	105	38	19.5
25	1”	ø 90	259	223	242	66,2	116,4	105	38	19
32	11/4”	ø 50	208	167.5	191	44	70	120	47	19
32	11/4”	ø 63	226	185.5	209	50,5	84,4	120	47	19
32	11/4”	ø 90	266	225.5	249	66,2	116,4	120	47	18
32	11/4”	ø 110	302	261.5	285	77,4	140,6	120	47	18
40	11/2”	ø 63	231	91	218	50,5	84,4	130	54	18
40	11/2”	ø 90	271	231	258	66,2	116,4	130	54	20
40	11/2”	ø 110	307	266	294	77,4	140,6	130	54	20
50	2”	ø 63	245	200	233	50,5	84,4	150	66	20
50	2”	ø 90	285	241	274	66,2	116,4	150	66	
50	2”	ø 110	321	276	310	77,4	140,6	150	66	

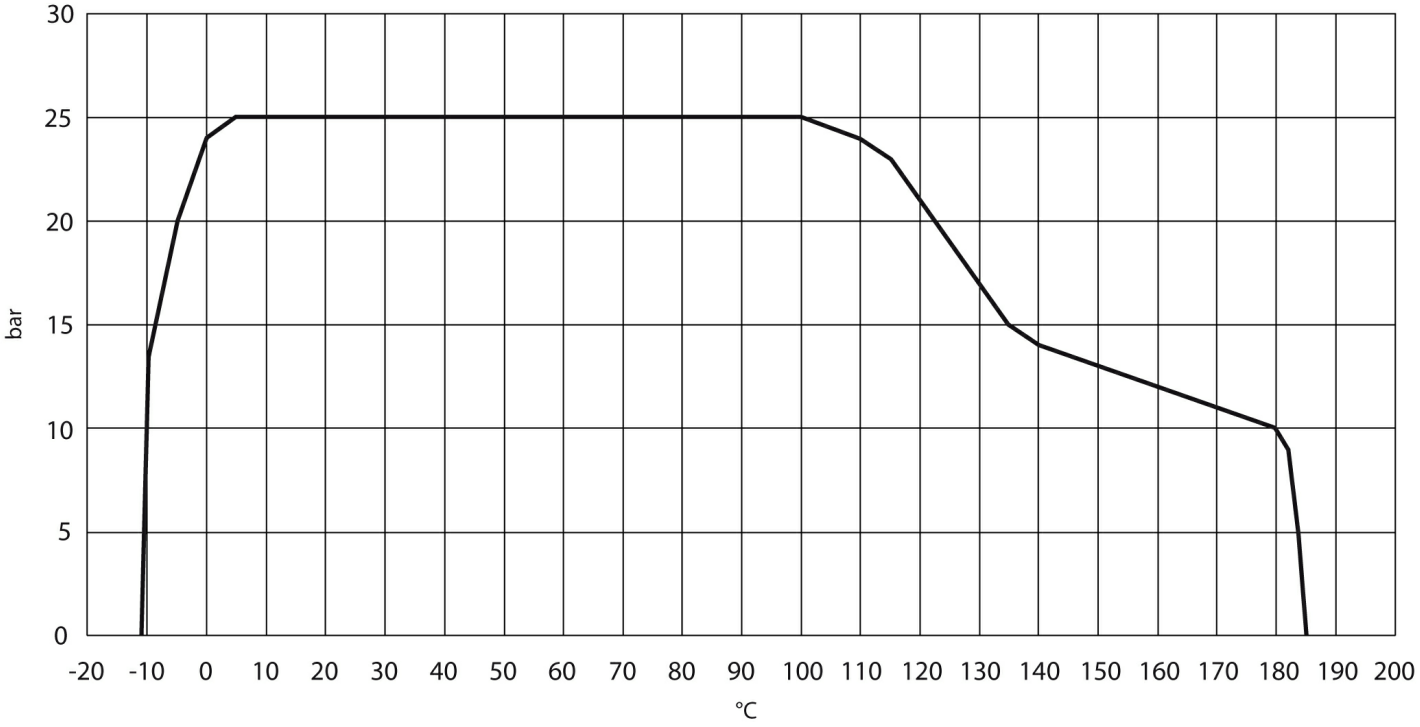
* On request NPT-threading



MATERIALS SPECIFICATIONS

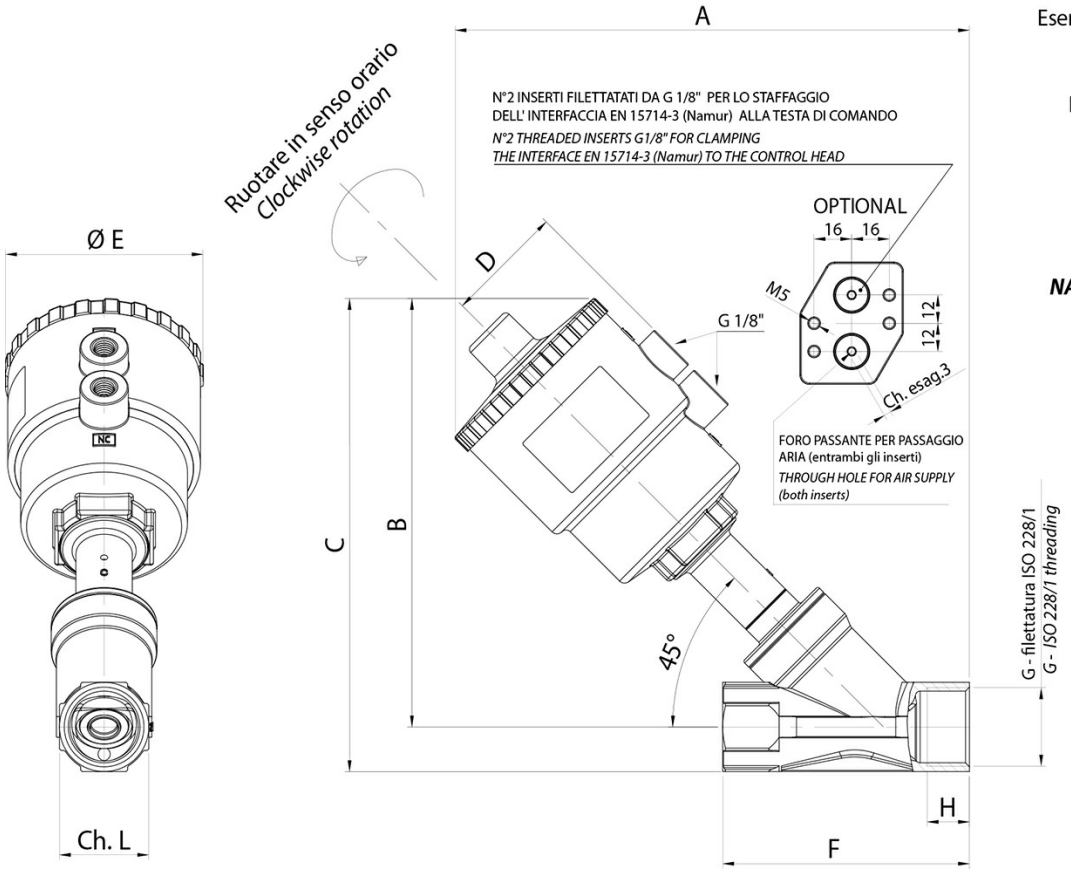
1	Valve body	AISI 316 (CF8M)
2	Sleeve	AISI 316 (CF8M)
3	Stem	AISI 316L
4	Plug	AISI 316L
5	Plug seals	PTFE
6	Actuator cylinder	Poliamide PA 66 + GF 30%
7	Threading inserts	AISI 303
8	Piston	Brass chem-nickel (PBT + GF 30% testa/head∅40 -∅50)

PRESSURE/TEMPERATURE DIAGRAM


30
25
20
15
10
5
0
bar
-20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
°C

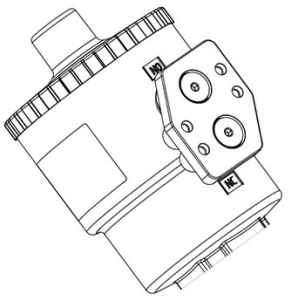
Materials, dimensions and diagram – Atena

Testa di comando orientabile a 360°
Control head adjustable at 360°



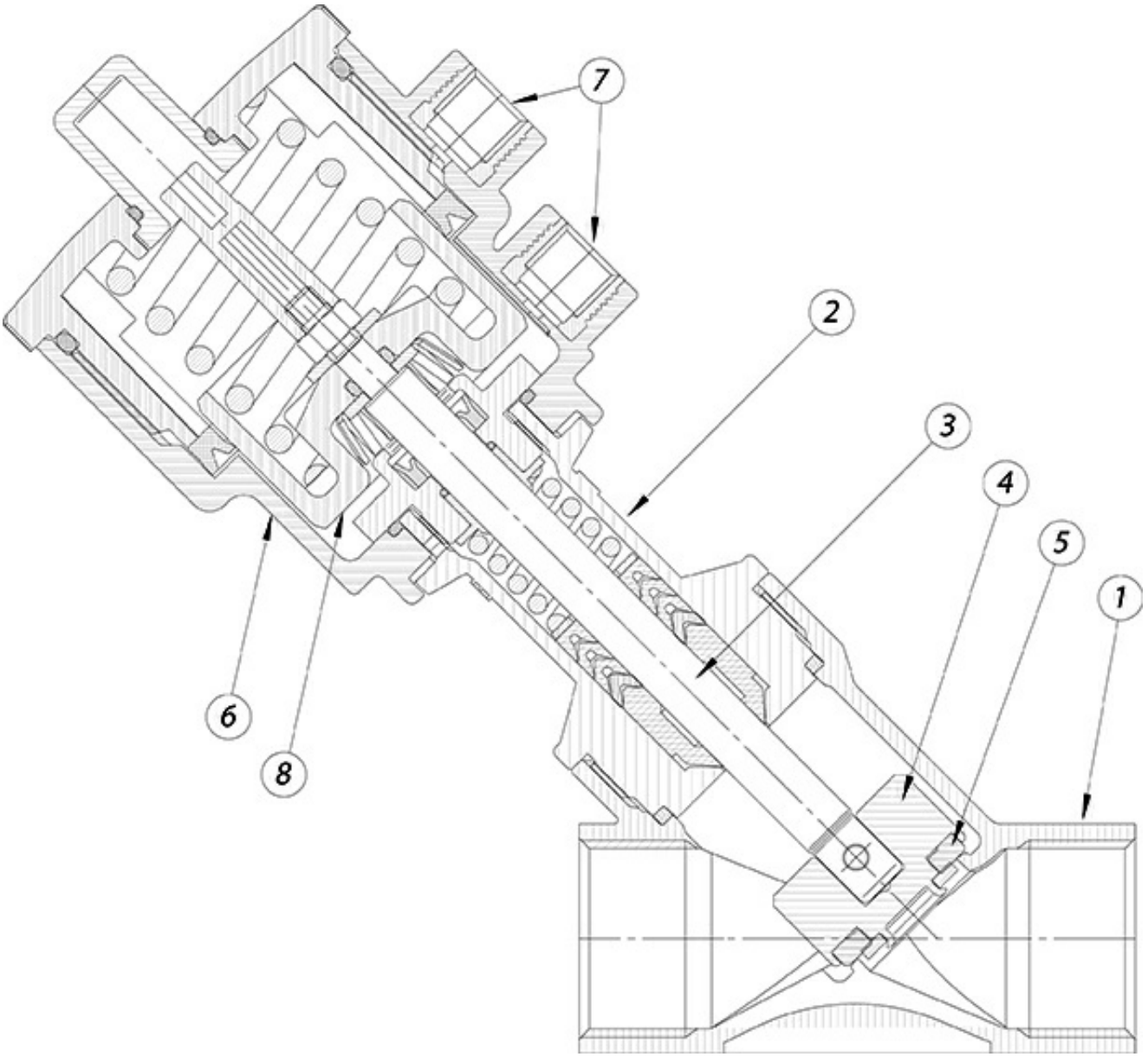
Esempio dell'interfaccia EN 15714-3 (Namur) assemblata alla testa di comando
Da fornire A RICHIESTA nel caso di pilotaggio di elettrovalvola NAMUR
Codice: KBNJ0001

Example of NAMUR plate EN 15714-3 to be assembled on the control head
To be supplied ON REQUEST once NAMUR Solenoid valve should be needed
Code: KBNJ0001



DIMENSIONAL TABLE

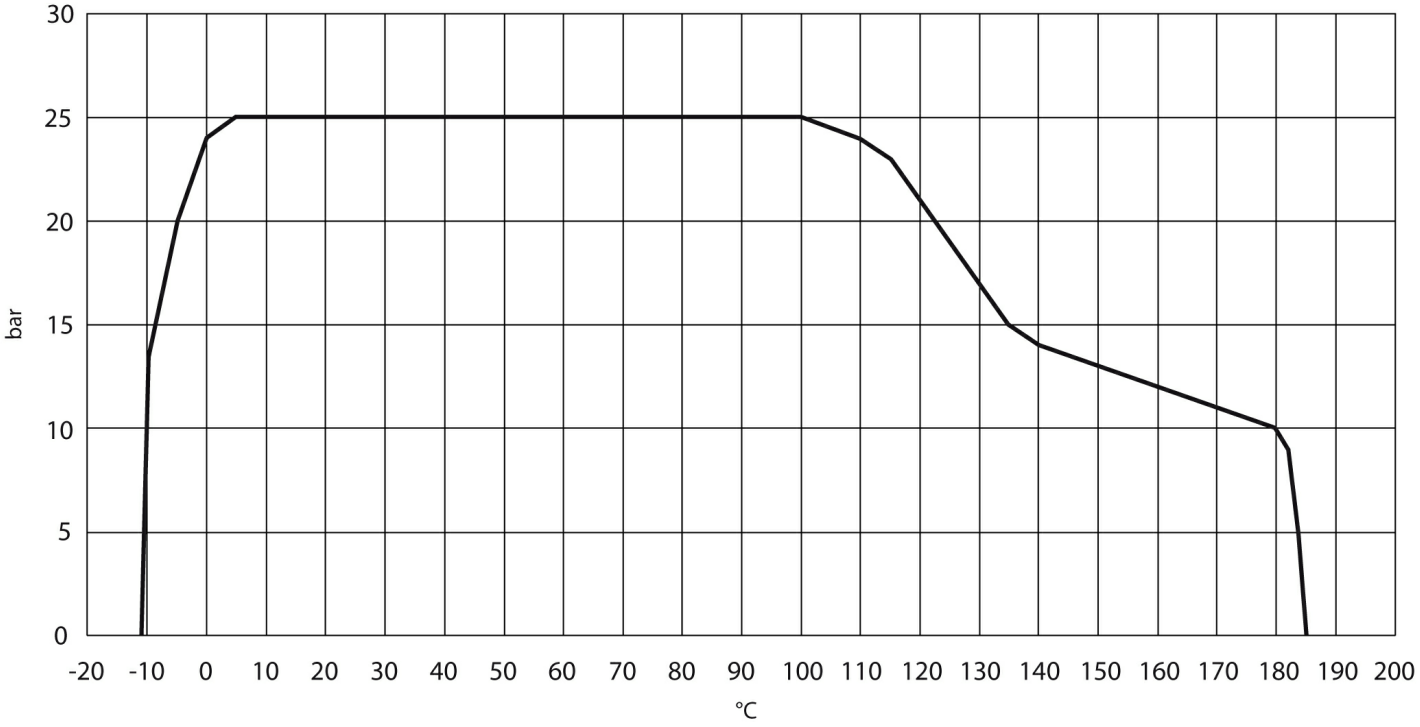
AISI 316 version										
DN	G *	Actuator	A	B	C	H	35	ø61	F	ch. L
15	3/8”	ø 40**	146	120.5	133,5	12	35	61	65	25
15	1/2”	ø 40**	146	120.5	133,5	13	35	61	65	25
20	3/4”	ø 40**	153	127.5	141,5	14.3	35	61	75	31
** Control cylinder without NAMUR interface										



MATERIALS SPECIFICATION

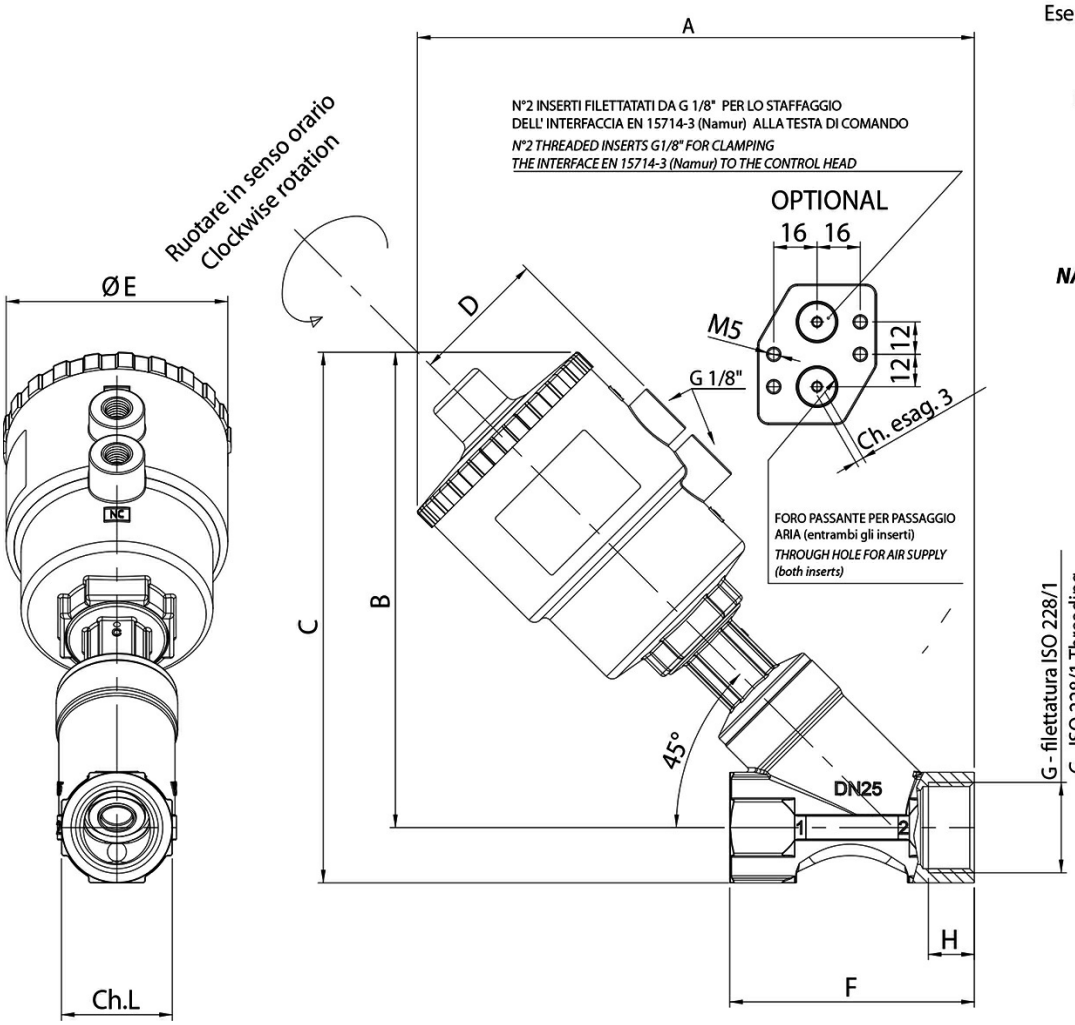
N°	Main materials	
1	Valve body	AISI 316 (CF8M)
2	Sleeve	AISI 316 (CF8M)
3	Stem	AISI 316L
4	Plug	AISI 316L
5	Plug seals	PTFE
6	Actuator cylinder	Poliamide PA 66 + GF 30%
7	Threading inserts	AISI 303
8	Piston	PBT + GF 30%head?40

PRESSURE/TEMPERATURE DIAGRAM


30
25
20
15
10
5
0
bar
-20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
°C

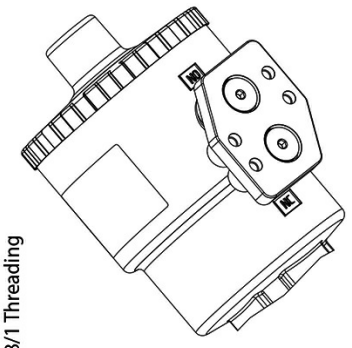
Materials, dimensions and diagram – Zeus

Testa di comando orientabile a 360°
Control head adjustable at 360°



Esempio dell'interfaccia EN 15714-3 (Namur) assemblata alla testa di comando
Da fornire A RICHIESTA nel caso di pilotaggio di elettrovalvola NAMUR
Codice: KBNJ0001

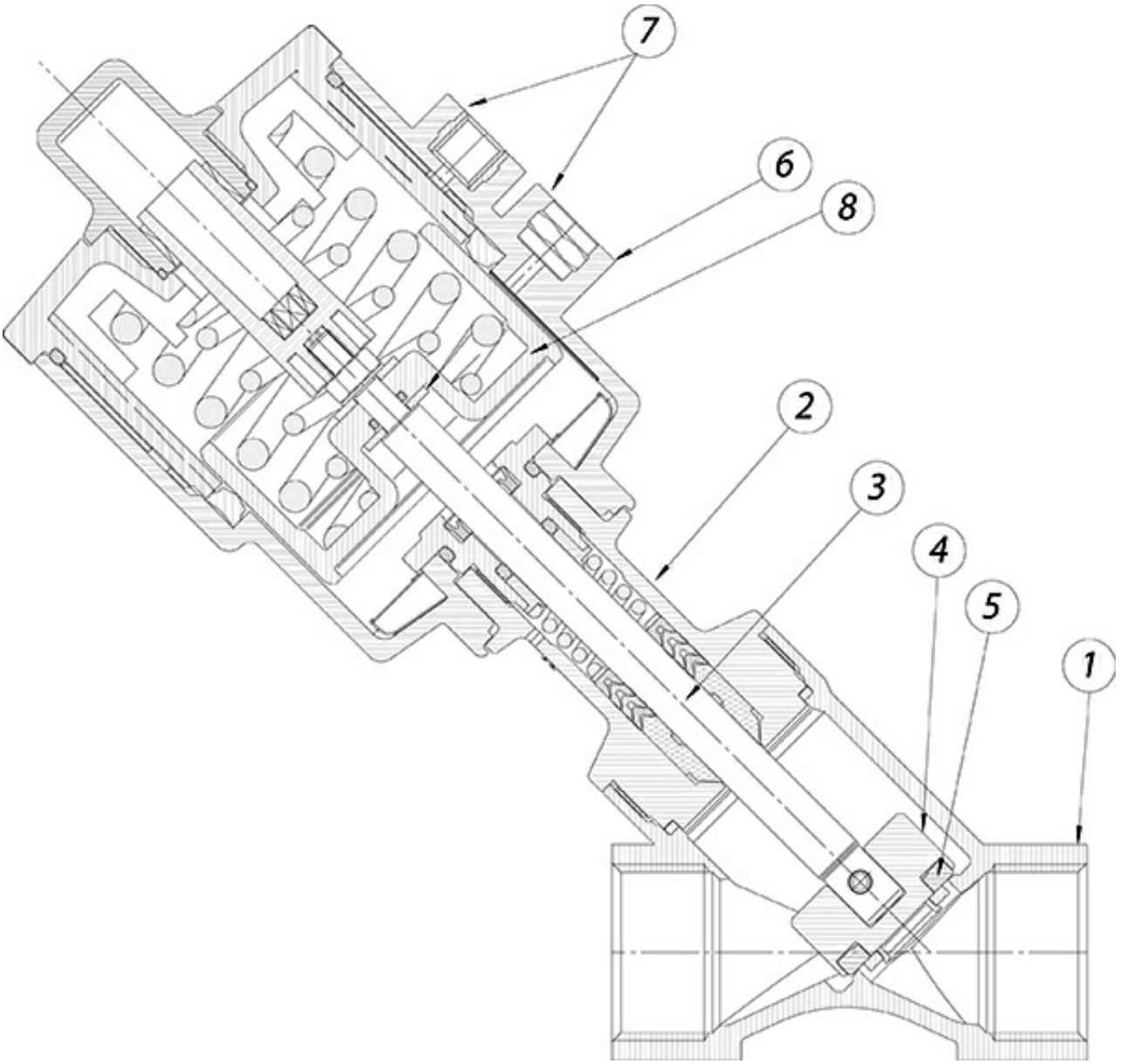
Example of NAMUR plate EN 15714-3 to be assembled on the control head
To be supplied ON REQUEST once NAMUR Solenoid valve should be needed
Code: KBNJ0001



DIMENSIONALS TABLE

DN	G *	Actuator	A	B	C	D	øE	F	ch. L	H
15	3/8”	ø 50	166	143	156,5	44	70	65	27	12
15	1/2”	ø 50	166	143	156,5	44	70	65	27	13
20	3/4”	ø 50	174	148,5	165	44	70	75	33	14,3
20	3/4”	ø 63	192,5	167	183,5	50,5	84,4	75	33	14,3
25	1”	ø 50	---	175,5	---	---	---	---	---	17,5
25	1”	ø 63	206	225	196	50,5	84,4	90	41	17,5
25	1”	ø 90	254,5	180	245,5	66,2	116,4	90	41	19
32	11/4”	ø 50	---	231	---	---	---	---	---	19
32	11/4”	ø 63	215	235	205	50,5	84,4	110	50	18
32	11/4”	ø 90	267	271	256	66,2	116,4	110	50	18
32	11/4”	ø 110	---	240	---	---	---	---	---	20
40	11/2”	ø 63	---	276	---	---	---	---	---	20
40	11/2”	ø 90	270		264	66,2	116,4	120	58	
40	11/2”	ø 110	306		300	77,4	140,6	120	58	
50	2”	ø 63	---		---	---	---	---	---	

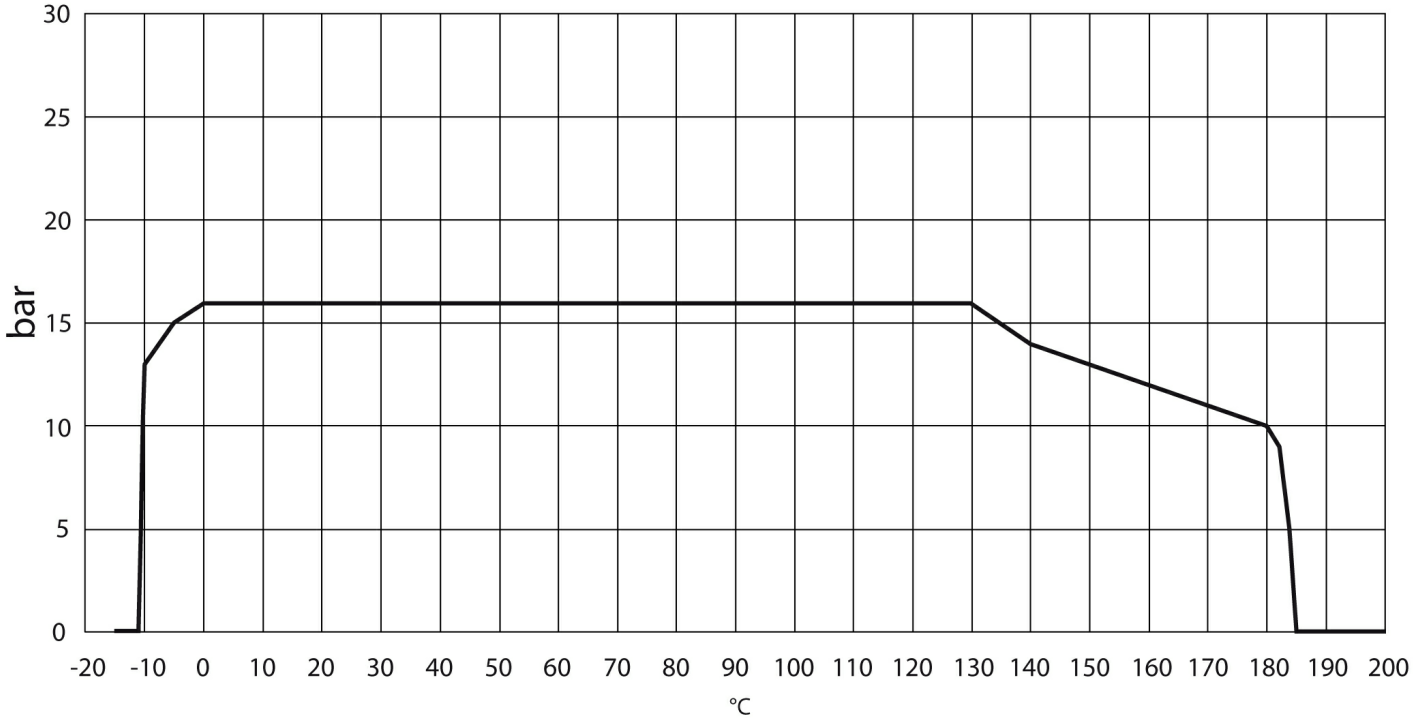
50	2”	ø 90	280		275	66,2	116,4	150	70	
50	2”	ø 110	316		311	77,4	140,6	150	70	
* * On request NPT-threading										



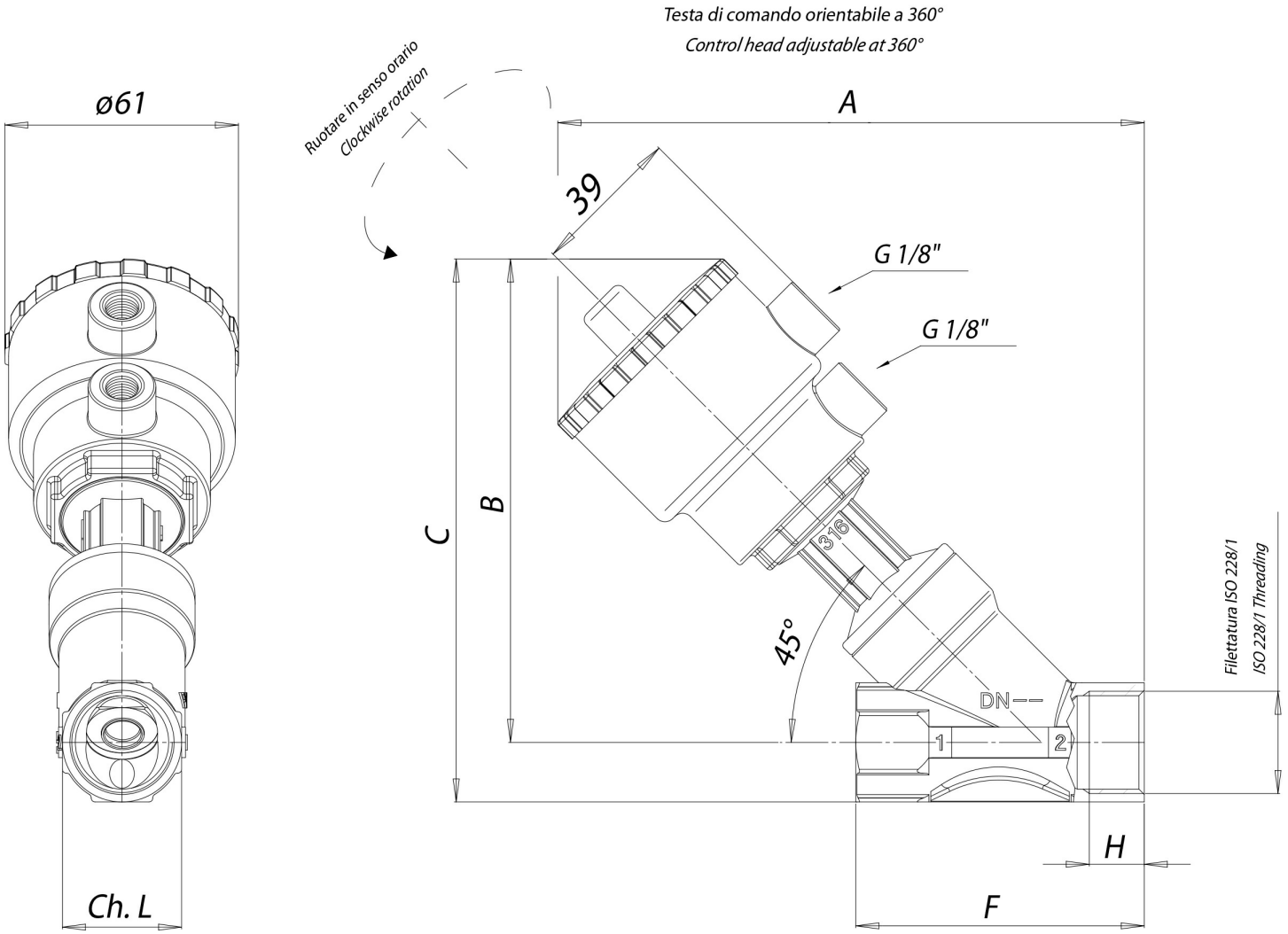
MATERIALS SPECIFICATION

N°	Main materials	
1	Valve body	BronzeCUSN5ZN5PB5-B
2	Sleeve	Brass CW617N
3	Stem	AISI 316L
4	Plug	AISI 316L
5	Plug seals	PTFE
6	Actuator cylinder	Poliamide PA 66 + GF 30%
7	Threading inserts	AISI 303
8	Piston	Brass chem-nickel (PBT + GF 30%headDN 40 - DN 50)

PRESSURE/TEMPERATURE DIAGRAM

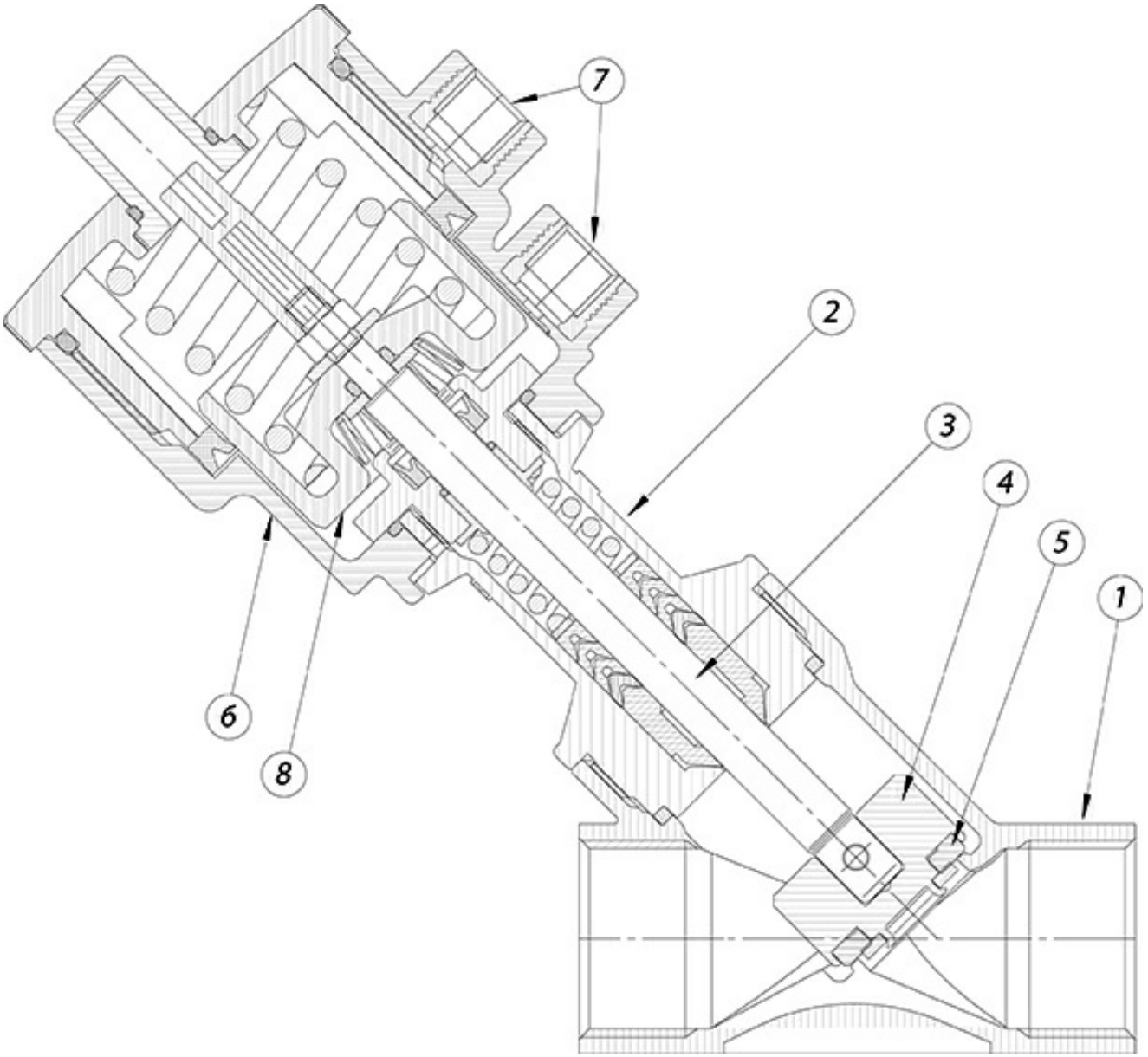

30
25
20
bar
15
10
5
0
-20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
°C

Materials, dimensions and diagram - Zeus40



DIMENSIONAL TABLE

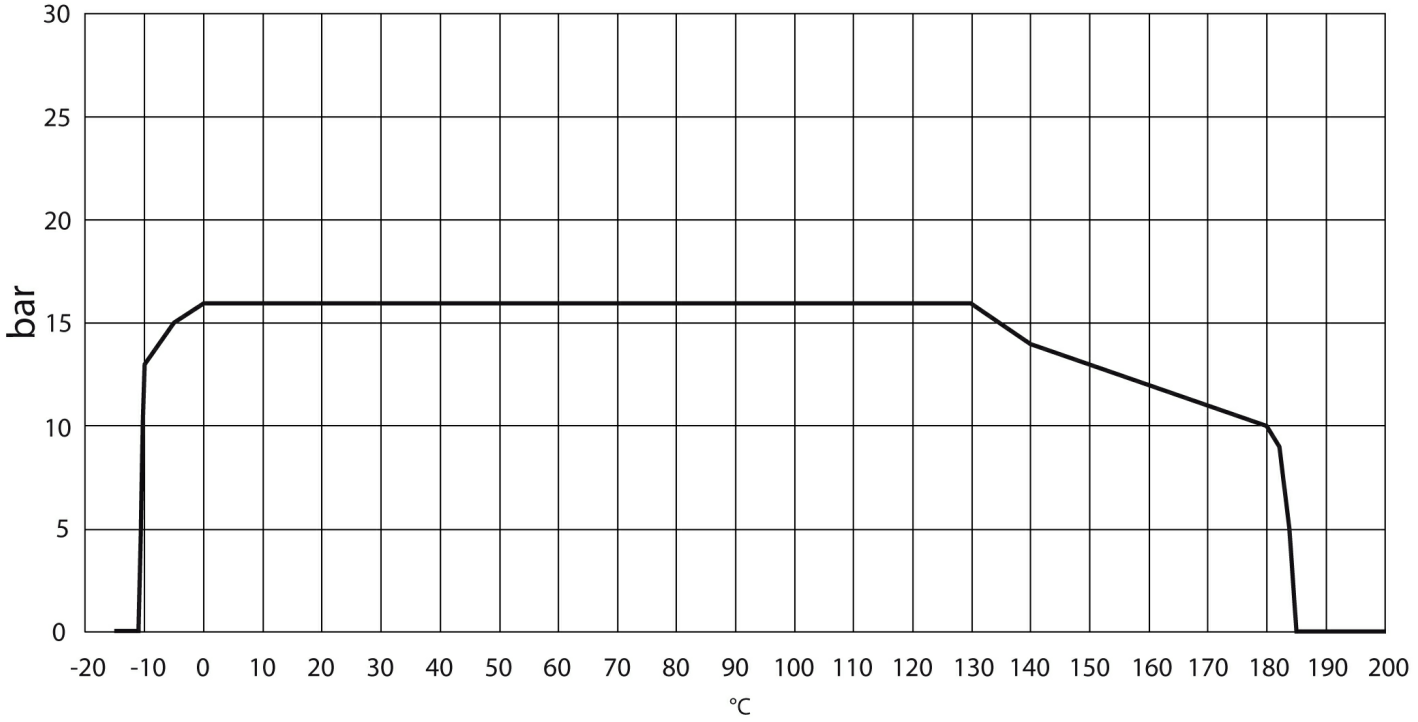
Bronze version										
DN	**G ***	**Actuator**	**A**	**B**	**C**	**H**	**35**	**ø61**	**F**	**ch. L**
15	3/8”	ø 40**	144	120,5	134	12	35	61	65	27
15	1/2”	ø 40**	144	120,5	134	13	35	61	65	27
20	3/4”	ø 40**	151	127,5	142,5	14,3	35	61	75	33
**Control cylinder without NAMUR interface										



MATERIALS SPECIFICATION

N°	Main materials	
1	Valve body	BronzeCUSN5ZN5PB5-B
2	Sleeve	Brass CW617N
3	Stem	AISI 316L
4	Plug	AISI 316L
5	Plug seals	PTFE
6	Actuator cylinder	Poliamide PA 66 + GF 30%
7	Threading inserts	AISI 303
8	Piston	PBT + GF 30%

PRESSURE/TEMPERATURE DIAGRAM


30
25
20
bar
15
10
5
0
-20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
°C

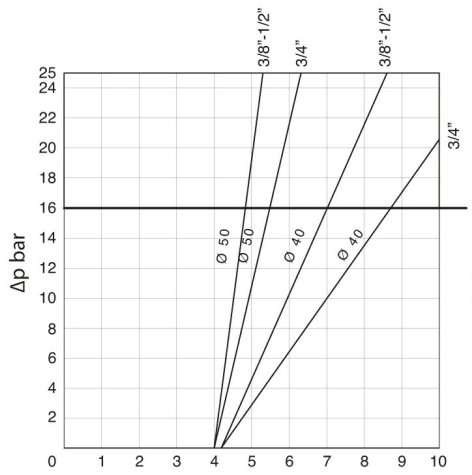


diagramma 1
diagram 1
testa *head*
Ø40-Ø50

ø40: aria 0,031 dm³/cilclo
ø50: aria 0,051 dm³/cilclo
ø40: air 0,031 dm³/cycle
ø50: air 0,051 dm³/cycle

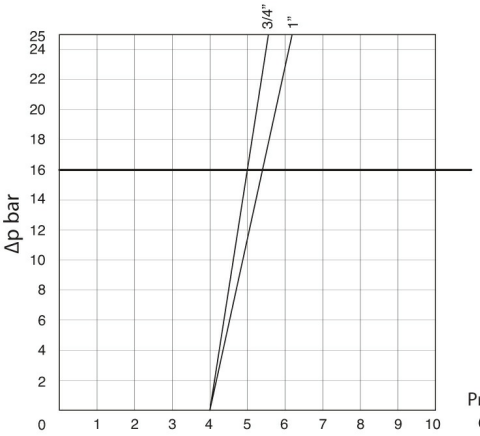


diagramma 2
diagram 2
testa *head*
Ø63

aria 0,108 dm³/cilclo
air 0,108 dm³/cycle

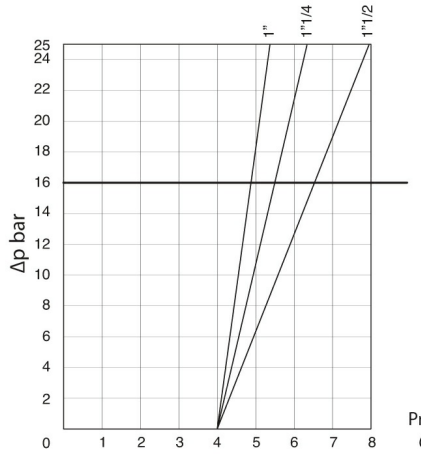


diagramma 3
diagram 3
testa *head*
Ø90

aria 0,238 dm³/cilclo
air 0,238 dm³/cycle

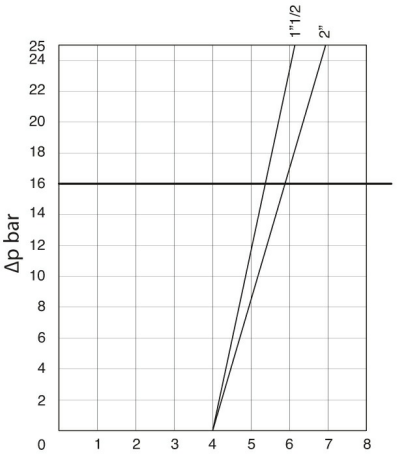


diagramma 4
diagram 4
testa *head*
Ø110

aria 0,505 dm³/cilclo
air 0,505 dm³/cycle

ARES ATHENA NORMALLY CLOSED

N.C. Normally Closed bidirectional. With the flow coming from below the plug you avoid water hammering.

With the flow from below the plug

code aisi 316	Threading	DN	Kv m^3/h	øcontrol head	p control bar Min	Max	p operating ΔP max. bar	Weight Kg. AISI 316	PLUG SPARE KIT	HEAD SPARE KIT
J4SPG1403	3/8”	15	4,5	40 (ATENA)	4,2	10	16	1	KGJP1303	J4SPG14R3
J4SPG1603	3/8”	15	4,9	50	4	10	16	1,1	KGJP1003	J4SPG16R3
J4SPG1404	1/2”	15	5,3	40 (ATENA)	4,2	10	16	1	KGJP1303	J4SPG14R4
J4SPG1604	1/2”	15	5,7	50	4	10	16	1	KGJP1003	J4SPG16R4
J4SPG1405	3/4”	20	9,2	40 (ATENA)	4,2	10	8	1,2	KGJP1305	J4SPG14R5
J4SPG1605	3/4”	20	10,5	50	4	10	10	1,2	KGJP1005	J4SPG16R5
J4SPG1805	3/4”	20	10,8	63	4	10	16	1,2	KGJP1005	J4SPG18R5
J4SPG1806	1”	25	20	63	4	10	11	1,6	KGJP1006	J4SPG18R6
J4SPG2106	1”	25	20	90	4	8	16	1,7	KGJP1106	J4SPG21R6
J4SPG2107	11/4”	32	29	90	4	8	14	3	KGJP1107	J4SPG21R7
J4SPG2108	11/2”	40	46	90	4	8	11	3,4	KGJP1108	J4SPG21R8
J4SPG2308	11/2”	40	46,5	110	4	8	16	4	KGJP1108	J4SPG23R8

J4SPG2309	2”	50	67	110	4	8	10	5,8	KGJP1109	J4SPG23R9

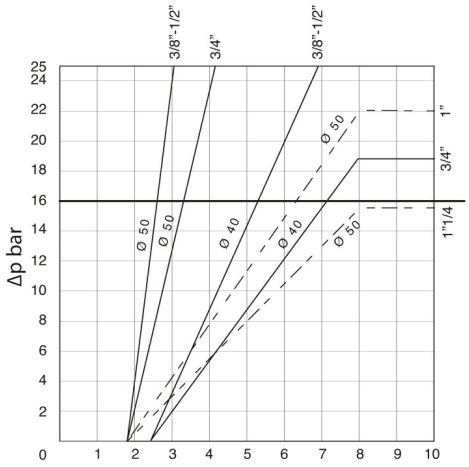
With the flow from above the plug see diagrams below

The “piloting head replacement Kit” includes the complete item without the valve body only

The shutter “replacement Kit” includes the shutter and the necessary seals

Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request

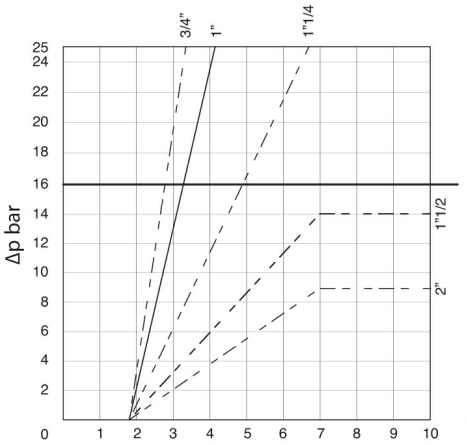
diagramma 5
diagram 5
testa *head*
Ø40-Ø50



ø40: aria 0,031 dm³/cilclo
ø50: aria 0,051 dm³/cilclo
ø40: air 0,031 dm³/cycle
ø50: air 0,051 dm³/cycle

Pressione di comando
Control pressure bar

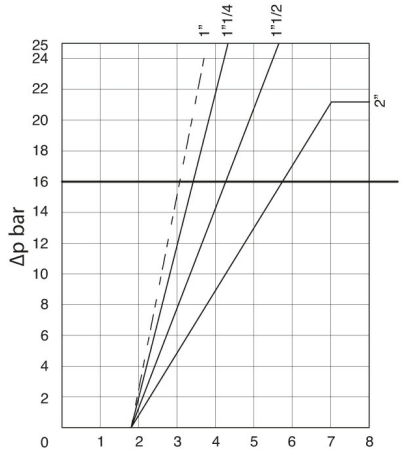
diagramma 6
diagram 6
testa *head*
Ø63



aria 0,108 dm³/cilclo
air 0,108 dm³/cycle

Pressione di comando
Control pressure bar

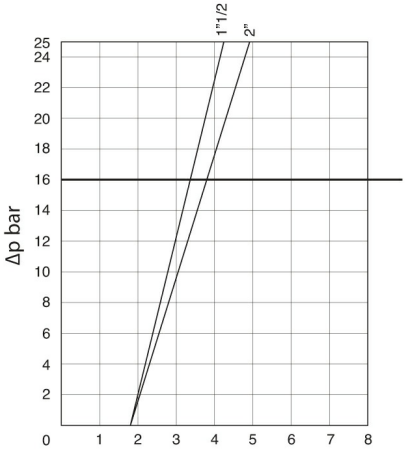
diagramma 7
diagram 7
testa *head*
Ø90



aria 0,238 dm³/cilclo
air 0,238 dm³/cycle

Pressione di comando
Control pressure bar

diagramma 8
diagram 8
testa *head*
Ø110



aria 0,505 dm³/cilclo
air 0,505 dm³/cycle

Pressione di comando
Control pressure bar

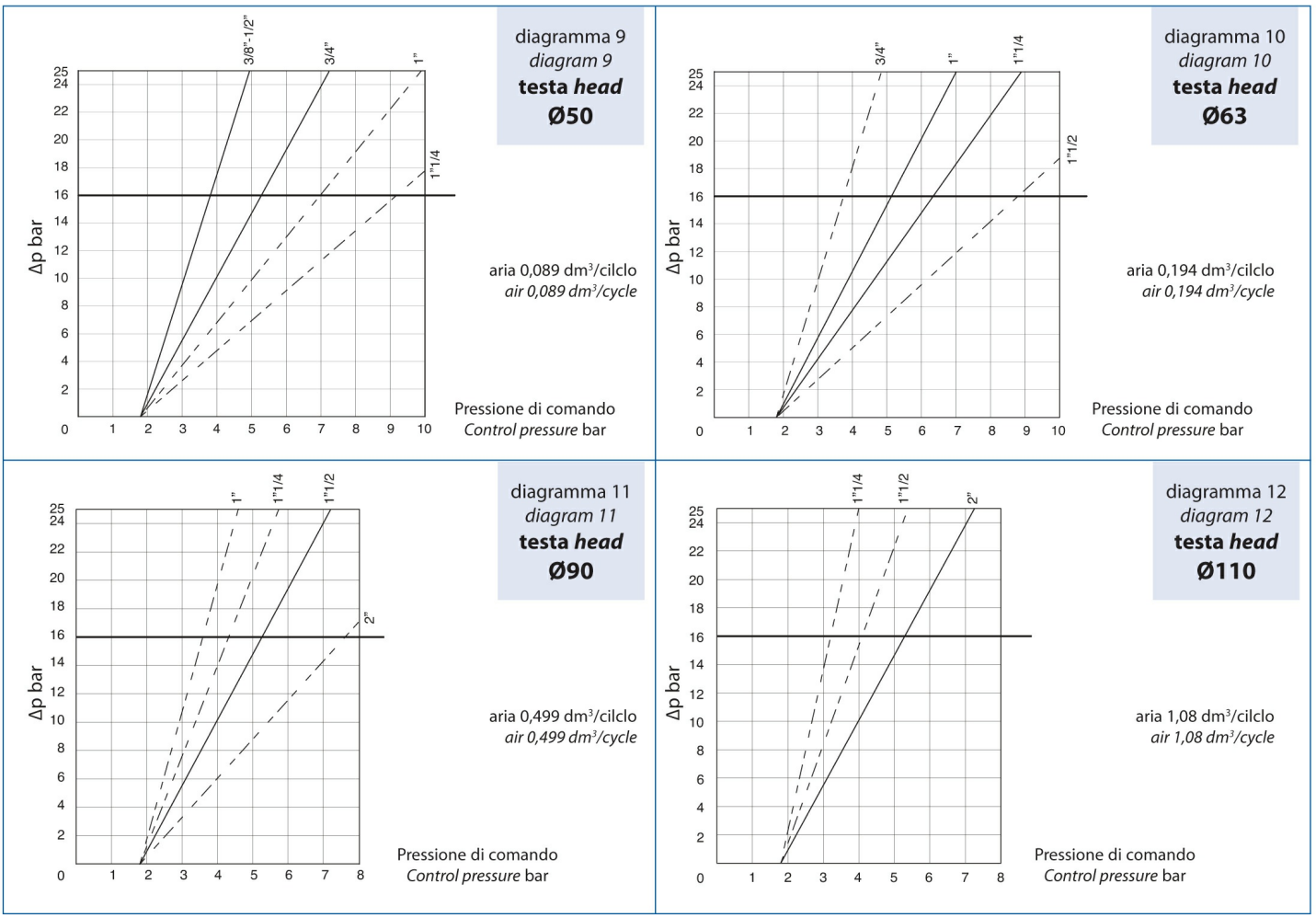
ARES AND ATENA NORMALLY CLOSED

N.C. Normally Closed with the flow coming from above the plug.

code aisi 316	Threading	DN	Kv m^3/h	øcontrol head	p control bar Min	Max	p operating ΔP max. bar	Weight Kg. AISI 316	PLUG SPARE KIT	HEAD SPARE KIT
J4CPG1403	3/8”	15	4,5	40 (ATENA)	2,5	10	DIAGRAM N° 5	1	KGJP1303	J4CPG14R3
J4CPG1603	3/8”	15	4,9	50	1,8	10	DIAGRAM N° 5	1	KGJP1003	J4CPG16R3
J4CPG1404	1/2”	15	5,3	40 (ATENA)	2,,5	10	DIAGRAM N° 5	1	KGJP1303	J4CPG14R4
J4CPG1604	1/2”	15	5,7	50	1,8	10	DIAGRAM N° 5	1	KGJP1003	J4CPG16R4
J4CPG1405	3/4”	20	9,2	40 (ATENA)	2,5	10	DIAGRAM N° 5	1,2	KGJP1305	J4CPG14R5

J4CPG1605	3/4”	20	10,5	50	1,8	10	DIAGRAM N° 5	1,2	KGJP1005	J4CPG16R5
J4CPG1806	1”	25	20	63	1,8	10	DIAGRAM N° 6	1,6	KGJP1006	J4CPG18R6
J4CPG2107	11/4”	32	29	90	1,8	8	DIAGRAM N° 7	3	KGJP1107	J4CPG21R7
J4CPG2108	11/2”	40	46	90	1,8	8	DIAGRAM N° 7	3,7	KGJP1108	J4CPG21R8
J4CPG2308	11/2”	40	46,5	110	1,8	8	DIAGRAM N° 8	4,6	KGJP1108	J4CPG23R8
J4CPG2109	2”	50	59	90	1,8	8	DIAGRAM N° 7	4,4	KGJP1109	J4CPG21R9
J4CPG2309	2”	50	67	110	1,8	8	DIAGRAM N° 8	5,6	KGJP1109	J4CPG23R9
The “piloting head replacement Kit” includes the complete item without the valve body only										
The shutter “replacement Kit” includes the shutter and the necessary seals										

Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request



ARES NORMALLY OPEN WITH FLOW FROM BELOW THE PLUG

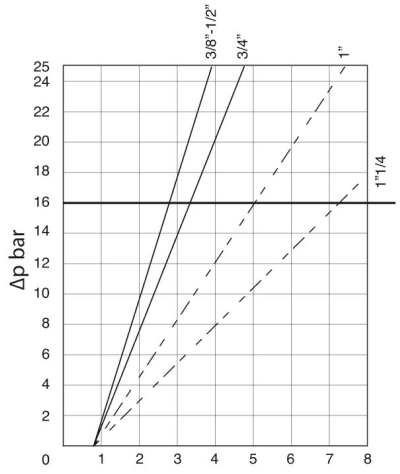
code aisi 316	Threading	DN	Kv m3/h	ø control head	p control bar Min	Max	p operating P max. bar	Weight Kg. AISI 316	PLUG SPARE KIT	HEAD SPARE KIT
J4APG1603	3/8”	15	4,9	50	1,8	10	DIAGRAM N° 9	1	KGJP1003	J4APG16R3
J4APG1604	1/2”	15	5,7	50	1,8	10	DIAGRAM N° 9	1	KGJP1003	J4APG16R4
J4APG1605	3/4”	20	10,5	50	1,8	10	DIAGRAM N° 9	1,2	KGJP1005	J4APG16R5
J4APG1806	1”	25	20	63	1,8	10	DIAGRAM N° 10	1,6	KGJP1006	J4APG18R6
J4APG1807	11/4”	32	28,5	63	1,8	10	DIAGRAM N° 10	2	KGJP1007	J4APG18R7
J4APG2108	11/2”	40	46	90	1,8	8	DIAGRAM N° 11	3,7	KGJP1108	J4APG21R8
J4APG2309	2”	50	67	110	1,8	8	DIAGRAM N° 12	5,6	KGJP1109	J4APG23R9

The “piloting head replacement Kit” includes the complete item without the valve body only

The shutter “replacement Kit” includes the shutter and the necessary seals

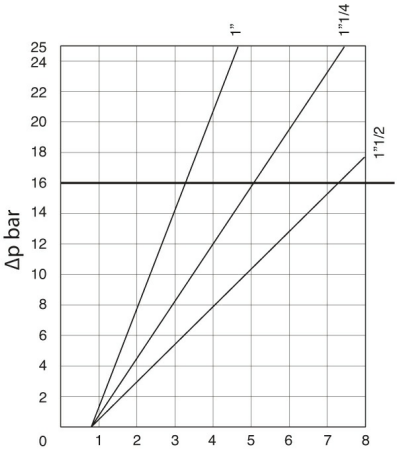
Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request

diagramma 13
diagram 13
testa *head*
Ø50



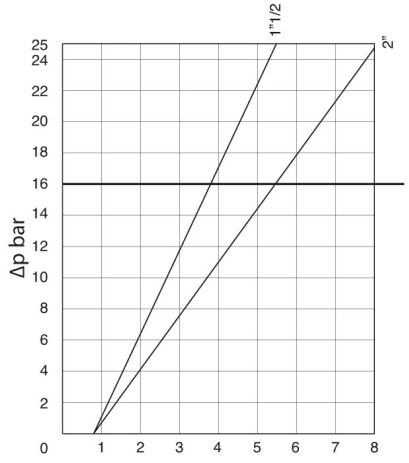
aria 0,14 dm³/cilclo
air 0,14 dm³/cycle

diagramma 14
diagram 14
testa *head*
Ø63



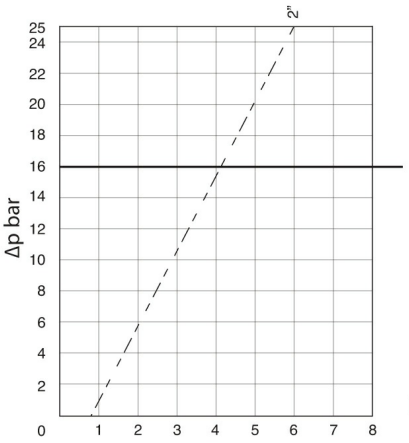
aria 0,302 dm³/cilclo
air 0,302 dm³/cycle

diagramma 15
diagram 15
testa *head*
Ø90



aria 0,737 dm³/cilclo
air 0,737 dm³/cycle

diagramma 16
diagram 16
testa *head*
Ø110



aria 1,585 dm³/cilclo
air 1,585 dm³/cycle

CODES ARES DOUBLE ACTING BIDIRECTIONAL

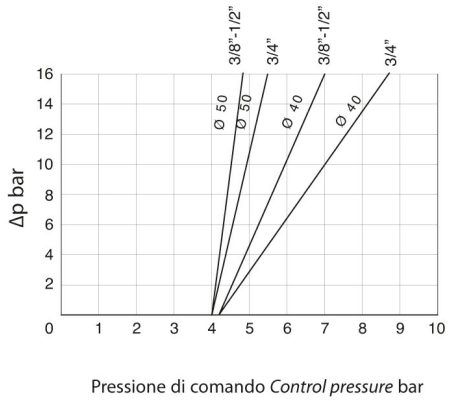
code AISI 316	Threading	DN	Kv m^3/h	øcontrol head	p control bar Min	Max	p operating ΔP max. bar	Weight Kg. AISI 316	PLUG SPARE KIT	HEAD SPARE KIT

J4DPG1603	3/8”	15	4,9	50	0,8	8	diagram n° 13	1	KGJP1003	J4DPG16R3
J4DPG1604	1/2”	15	5,7	50	0,8	8	diagram n° 13	1	KGJP1003	J4DPG16R4
J4DPG1605	3/4”	20	10,5	50	0,8	8	diagram n° 13	1,2	KGJP1005	J4DPG16R5
J4DPG1806	1”	25	20	63	0,8	8	diagram n° 14	1,6	KGJP1006	J4DPG18R6
J4DPG1807	11/4”	32	28,5	63	0,8	8	diagram n° 14	1,9	KGJP1007	J4DPG18R7
J4DPG1808	11/2”	40	35	63	0,8	8	diagram n° 14	2,3	KGJP1008	J4DPG18R8
J4DPG2108	11/2”	40	46	90	0,8	8	diagram n° 15	3,6	KGJP1108	J4DPG21R8
J4DPG2109	2”	50	59	90	0,8	8	diagram n° 15	4,3	KGJP1009	J4DPG21R9

The “piloting head replacement Kit” includes the complete item without the valve body only.
The shutter “replacement Kit” includes the shutter and the necessary seals.

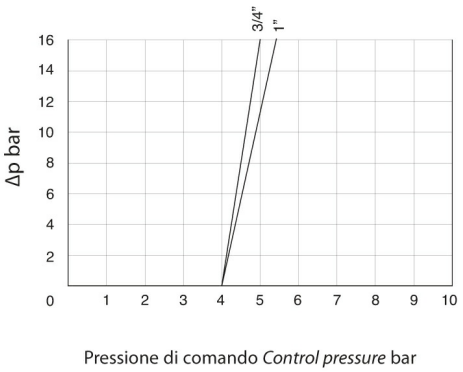
Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request

diagramma 1
diagram 1
testa *head*
Ø40-Ø50



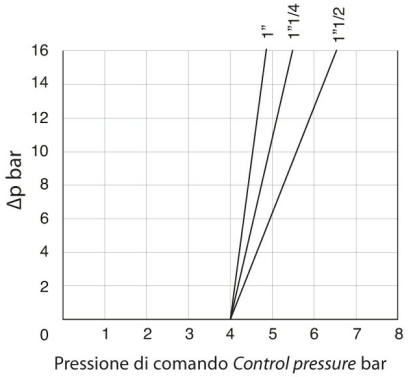
ø40: aria 0,031 dm³/cilclo
ø50: aria 0,051 dm³/cilclo
ø40: air 0,031 dm³/cycle
ø50: air 0,051 dm³/cycle

diagramma 2
diagram 2
testa *head*
Ø63



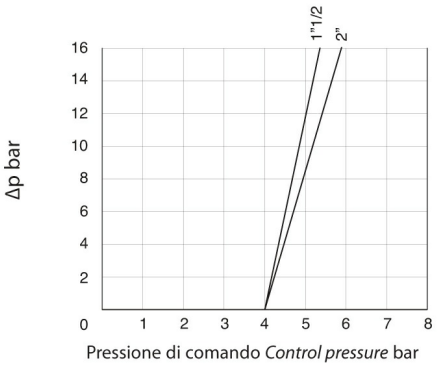
aria 0,108 dm³/cilclo
air 0,108 dm³/cycle

diagramma 3
diagram 3
testa *head*
Ø90



aria 0,238 dm³/cilclo
air 0,238 dm³/cycle

diagramma 4
diagram 4
testa *head*
Ø110



aria 0,505 dm³/cilclo
air 0,505 dm³/cycle

CODES ZEUS NORMALLY CLOSED

Normally closed bidirectional. With the flow coming from below the plug you avoid water hammering

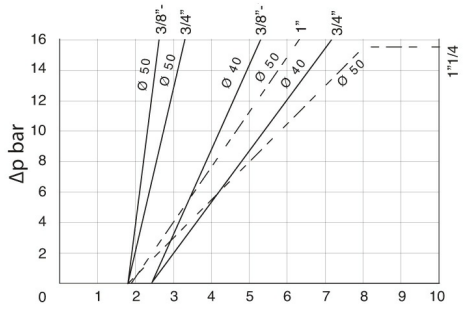
code BRONZE	Threading	DN	Kv m3/h	ø control head	p control bar Min Max		p operating ?P max. bar	Weight Kg. BRONZO	PLUG SPARE KIT	HEAD SPARE KIT
J9SPG1403	3/8”	15	4,5	40	4,2	10	16	1,1	KGJP2303	J9SPG14R3
J9SPG1603	3/8”	15	4,9	50	4	10	16	1,1	KGJP2003	J9SPG16R3
J9SPG1404	1/2”	15	5,3	40	4,2	10	16	1	KGJP2303	J9SPG14R4
J9SPG1604	1/2”	15	5,7	50	4	10	16	1	KGJP2003	J9SPG16R4
J9SPG1405	3/4”	20	9,2	40	4,2	10	8	1,2	KGJP2305	J9SPG14R5
J9SPG1605	3/4”	20	10,5	50	4	10	10	1,2	KGJP2005	J9SPG16R5
J9SPG1805	3/4”	20	10,8	63	4	10	16	1,2	KGJP2005	J9SPG18R5
J9SPG1806	1”	25	20	63	4	10	11	1,6	KGJP2005	J9SPG18R6
J9SPG2106	1”	25	20	90	4	8	16	1,7	KGJP2106	J9SPG21R6
J9SPG2107	11/4”	32	29	90	4	8	14	3	KGJP2107	J9SPG21R7
J9SPG2108	11/2”	40	46	90	4	8	11	3,4	KGJP2108	J9SPG21R8
J9SPG2308	11/2”	40	46,5	110	4	8	16	4	KGJP2108	J9SPG23R8
J9SPG2309	2”	50	67	110	4	8	10	5,8	KGJP2109	J9SPG23R9

The “piloting head replacement Kit” includes the complete item without the valve body only

The shutter “replacement Kit” includes the shutter and the necessary seals

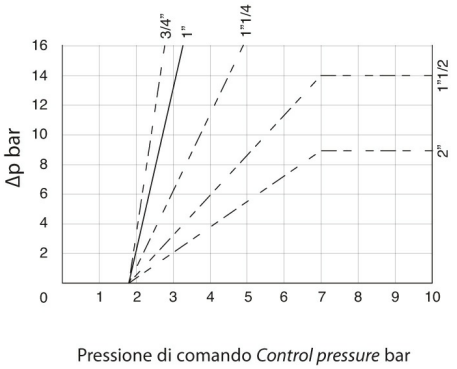
Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request

diagramma 5
diagram 5
testa *head*
Ø40-Ø50



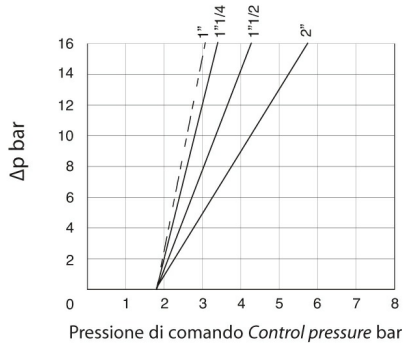
ø40: aria 0,031 dm³/cilclo
ø50: aria 0,051 dm³/cilclo
ø40: air 0,031 dm³/cycle
ø50: air 0,051 dm³/cycle

diagramma 6
diagram 6
testa *head*
Ø63



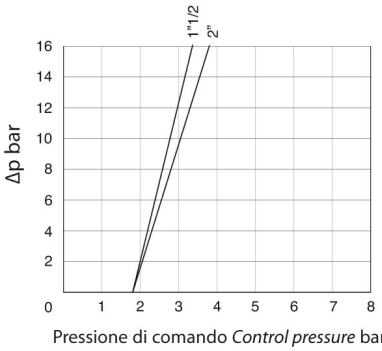
aria 0,108 dm³/cilclo
air 0,108 dm³/cycle

diagramma 7
diagram 7
testa *head*
Ø90



aria 0,238 dm³/cilclo
air 0,238 dm³/cycle

diagramma 8
diagram 8
testa *head*
Ø110



aria 0,505 dm³/cilclo
air 0,505 dm³/cycle

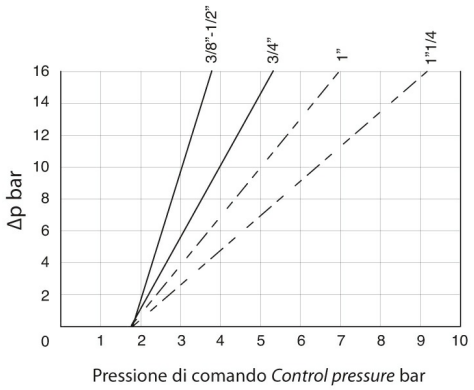
CODES ZEUS NORMALLY CLOSED WITH FLOW FROM ABOVE THE PLUG

code BRONZE	Threading	DN	Kv m3/h	ø control head	p control bar Min Max		p operating ?P max. bar	Weight Kg. BRONZO	PLUG SPARE KIT	HEAD SPARE KIT
J9CPG1403	3/8”	15	4,5	40	2,5	10	DIAGRAM N° 5	1	KGJP2303	J9CPG14R3
J9CPG1603	3/8”	15	4,9	50	1,8	10	DIAGRAM N° 5	1	KGJP2003	J9CPG16R3
J9CPG1404	1/2”	15	5,3	40	2,,5	10	DIAGRAM N° 5	1	KGJP2303	J9CPG14R4
J9CPG1604	1/2”	15	5,7	50	1,8	10	DIAGRAM N° 5	1	KGJP2003	J9CPG16R4
JPCPG1405	3/4”	20	9,2	40	2,5	10	DIAGRAM N° 5	1,2	KGJP2305	J9CPG14R5
J9CPG1605	3/4”	20	10,5	50	1,8	10	DIAGRAM N° 5	1,2	KGJP2005	J9CPG16R5
J9CPG1806	1”	25	20	63	1,8	10	DIAGRAM N° 6	1,6	KGJP2006	J9CPG18R6
J9CPG2107	11/4”	32	29	90	1,8	8	DIAGRAM N° 7	3	KGJP2107	J9CPG21R7
J9CPG2108	11/2”	40	46	90	1,8	8	DIAGRAM N° 7	3,7	KGJP2108	J9CPG21R8

J9CPG2308	11/2”	40	46,5	110	1,8	8	DIAGRAM N° 8	4,6	KGJP2108	J9CPG23R8
J9CPG2109	2”	50	59	90	1,8	8	DIAGRAM N° 7	4,4	KGJP2109	J9CPG21R9
J9CPG2309	2”	50	67	110	1,8	8	DIAGRAM N° 8	5,6	KGJP2109	J9CPG23R9
The “piloting head replacement Kit” includes the complete item without the valve body only										
The shutter “replacement Kit” includes the shutter and the necessary seals										

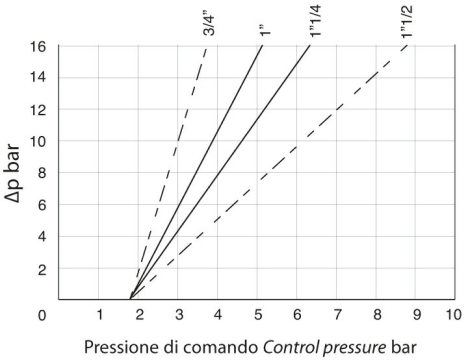
Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request

diagramma 9
diagram 9
testa *head*
Ø50



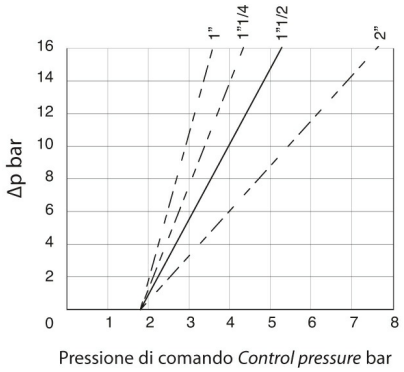
aria 0,089 dm³/cilclo
air 0,089 dm³/cycle

diagramma 10
diagram 10
testa *head*
Ø63



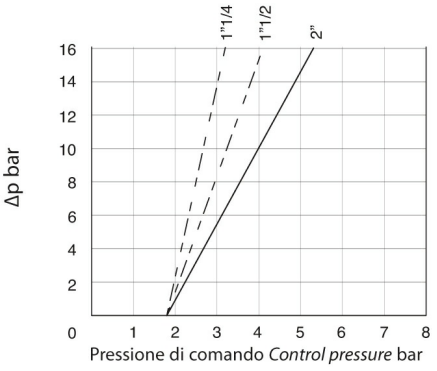
aria 0,194 dm³/cilclo
air 0,194 dm³/cycle

diagramma 11
diagram 11
testa *head*
Ø90



aria 0,499 dm³/cilclo
air 0,499 dm³/cycle

diagramma 12
diagram 12
testa *head*
Ø110



aria 1,08 dm³/cilclo
air 1,08 dm³/cycle

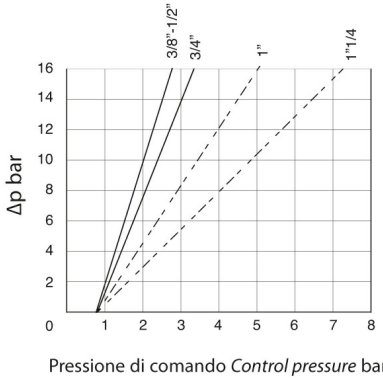
CODES ZEUS NORMALLY OPEN WITH FLOW FROM BELOW THE PLUG

code BRONZE	Threading	DN	Kv m3/h	ø control head	p control bar Min	Max	p operating ΔP max. bar	Weight Kg. BRONZO	PLUG SPARE KIT	HEAD SPARE KIT
J9APG1603	3/8”	15	4,9	50	1,8	10	DIAGRAM N° 9	1	KGJP2003	J9APG16R3
J9APG1604	1/2”	15	5,7	50	1,8	10	DIAGRAM N° 9	1	KGJP2003	J9APG16R4
J9APG1605	3/4”	20	10,5	50	1,8	10	DIAGRAM N° 9	1,2	KGJP2005	J9APG16R5
J9APG1806	1”	25	20	63	1,8	10	DIAGRAM N° 10	1,6	KGJP2006	J9APG18R6

J9APG1807	11/4”	32	28,5	63	1,8	10	DIAGRAM N° 10	2	KGJP2007	J9APG18R7
J9APG2108	11/2”	40	46	90	1,8	8	DIAGRAM N° 11	3,7	KGJP2108	J9APG21R8
J9APG2309	2”	50	67	110	1,8	8	DIAGRAM N° 12	5,6	KGJP2109	J9APG23R9
The “piloting head replacement Kit” includes the complete item without the valve body only										
The shutter “replacement Kit” includes the shutter and the necessary seals										

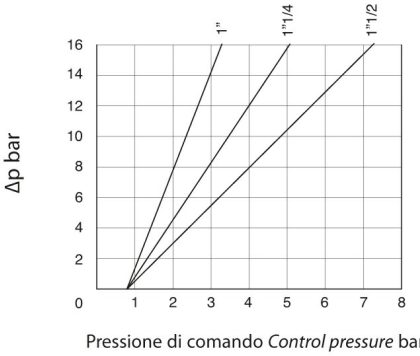
Nei diagrammi le linee tratteggiate indicano le versioni disponibili a richiesta
In the diagrams, the dash lines indicate versions available on request

diagramma 13
diagram 13
testa *head*
Ø50



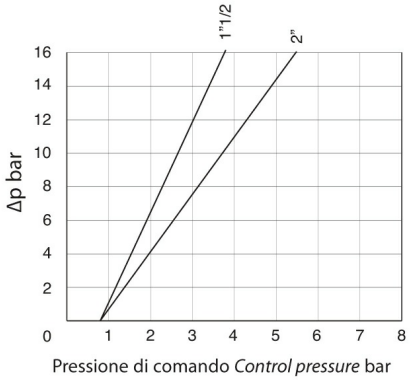
aria 0,14 dm³/cilclo
air 0,14 dm³/cycle

diagramma 14
diagram 14
testa *head*
Ø63



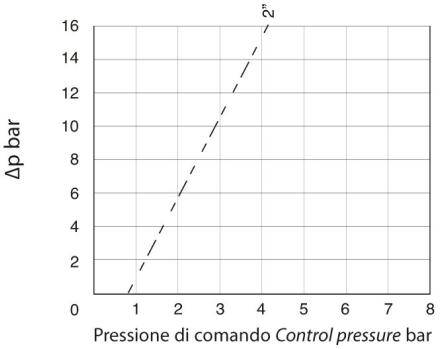
aria 0,302 dm³/cilclo
air 0,302 dm³/cycle

diagramma 15
diagram 15
testa *head*
Ø90



aria 0,737 dm³/cilclo
air 0,737 dm³/cycle

diagramma 16
diagram 16
testa *head*
Ø110



aria 1,585 dm³/cilclo
air 1,585 dm³/cycle

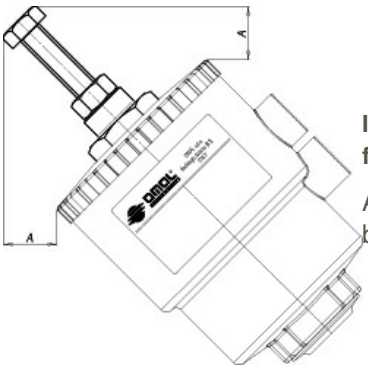
CODES ZEUS DOUBLE ACTING BIDIRECTIONAL

code BRONZE	Threading	DN	Kv m3/h	ø control head	p control bar Min Max		p operating ?P max. bar	Weight Kg. BRONZO	PLUG SPARE KIT	HEAD SPARE KIT
J9DPG1603	3/8”	15	4,9	50	0,8	8	DIAGRAM N° 13	1	KGJP2003	J9DPG16R3
J9DPG1604	1/2”	15	5,7	50	0,8	8	DIAGRAM N° 13	1	KGJP2003	J9DPG16R4
J9DPG1605	3/4”	20	10,5	50	0,8	8	DIAGRAM N° 13	1,2	KGJP2005	J9DPG16R5
J9DPG1806	1”	25	20	63	0,8	8	DIAGRAM N° 14	1,6	KGJP2006	J9DPG18R6
J9DPG1807	11/4”	32	28,5	63	0,8	8	DIAGRAM N° 14	1,9	KGJP2007	J9DPG18R7

J9DPG1808	11/2”	40	35	63	0,8	8	DIAGRAM N° 14	2,3	KGJP2008	J9DPG18R8
J9DPG2108	11/2”	40	46	90	0,8	8	DIAGRAM N° 15	3,6	KGJP2108	J9DPG21R8
J9DPG2109	2”	50	59	90	0,8	8	DIAGRAM N° 15	4,3	KGJP2009	J9DPG21R9
The “piloting head replacement Kit” includes the complete item without the valve body only										
The shutter “replacement Kit” includes the shutter and the necessary seals										

Accessories

Stroke limiter

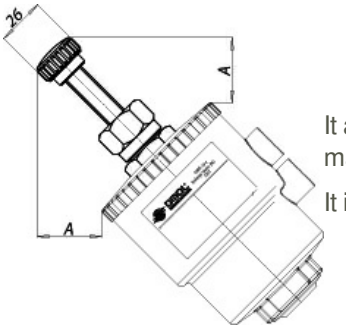


It allows to limit the plug run in opening phase, therefore it regulates the flow.

Available on all versions. In spring return normally open version it can be used as an emergency control

Control	A mm
∅ 50	25,5
∅ 63	21,5
∅ 90	5,2
∅ 110	5,9

Emergency manual override

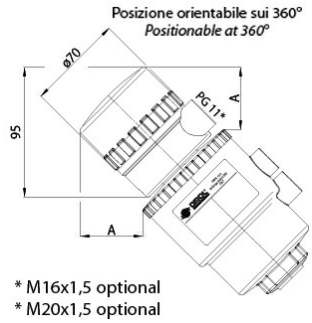


It allows to open the valve in emergency cases (lack of pilot fluid, machinery damaged, lack of piloting signal)

It is available on all normally closed valves.

Control	A mm
∅ 50	35,8
∅ 63	35,8
∅ 90	29,5
∅ 110	29,5

Limit switch box



The control box to check the open/close positions with two mechanical limit switches is suitable for assembling on all the range of valves with actuators ?50 - ?63 - ?90 - ?110.

The terminals to connect the solenoid valve and the visual indicators provided with led are optional.

Level of protection: IP 65.

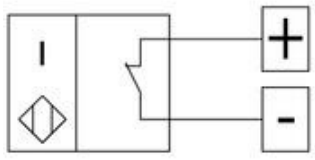
Room temperature: from –20° C to +70°C.

Access lead nr. 2 PG11.

Body material: polyamide (cap in polymethacrylate).

Control	A mm
∅ 50	52,1
∅ 63	47,5
∅ 90	37,7
∅ 110	29,5

Inductive limit switches NAMUR EExia



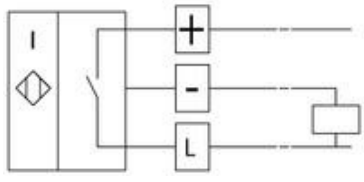
Nominal voltage: 8 Vdc

Consumes: working ≤1mA; resting ≥3 mA

Working temperature: from –20°C to +100°C

Configuration	Code
1 Limit switch at the top: open valve	KSIN9A0XX
1 Limit switch at the bottom: close valve	KSIN9C0XX
2 Limit switch open and close valve	KSIN920XX

Proximity limit switches



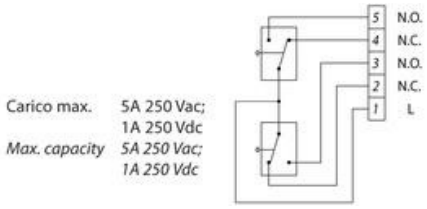
Nominal voltage: 10÷30 Vdc

Consumes: 15mA;

Working temperature: from –20°C to +70°C

Configuration	Code
1 Limit switch at the top: open valve	KSI09A0XX
1 Limit switch at the bottom: close valve	KSI09C0XX
2 Limit switch open and close valve	KSI0920XX

Mechanical limit switches



Limit switch at the bottom: close valve

Limit switch at the top: open valve

Configuration	Code
2 limit switch	KSM0C20XX

Control solenoid valve

Electro-pilot 3/2 for direct assembling.

Body and reel positionable at 360°.

Standard manual control.

Solenoid valve (NAMUR) sets for selection between function 5/3 or 3/2, achievable by rotating the interconnecting plate to 180°.

Room temperature: from –10°c to +50°C.

Voltage	24 Vac	115 Vac	230 Vac	12 Vdc	24 Vdc
Electropilot	EP415024	EP415110	EP415220	EP412010	EP412024
Voltage	24 Vac	115 Vac	230 Vac	12 Vdc	24 Vdc
NAMUR solenoid valve*	ER8188A2	ER8188A4	ER8188A5	ER8188C1	ER8188C2
NAMUR interface	KBNJ0001				
* To be used only with NAMUR interface only					