

ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

CHARACTERISTICS

The ARES stainless steel pneumatic actuated valve is dedicated to the automatic shut-off of fluid pipework. The full bore angle body and the great flow rates permit to have very limited pressure drops. The ARES valve stainless steel body and internal parts permit its use on many fluids until a 16 bar pressure and 180 °C.

This PA pneumatic actuator can easily be oriented and has a NAMUR interface for the connection to single or double effect solenoid pilot valve.

The different allowable differential pressures vary depending on the electric actuator size and type and on the compressed air supply. Please refer to the diagrams for each application.



LIMITS OF USE

Max. body pressure	PN 16
Max. differential pressures	Refer to the below tables
Min. / max. allowable temperature (TS)	-10 °C / +180 °C
Room temperature	-10 °C / +60 °C
Max. fluid viscosity	600 cst

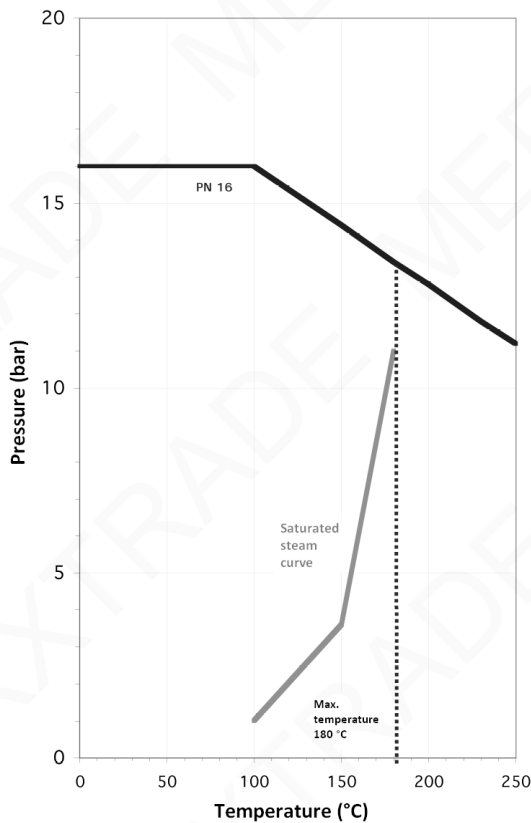
AVAILABLE ITEMS

3/8" to 2" stainless steel, single effect NC and NO, double effect

KV VALUES (m³/h)

DN	3/8"	1/2"	3/4"	1"	1" 1/4	1" 1/2	2"
Kv	4,9	5,7	10,5	20	29	46	67

PRESSURE / TEMPERATURE DIAGRAM



ALLOWABLE DIFFERENTIAL PRESSURES

NC single effect version: refer to FT1411 datasheet
 NO single effect version: refer to FT1412 datasheet
 Double effect version: refer to FT1412 datasheet

PILOT FLUIDS

Dry or lubricated compressed air, neutral fluids
 Maximum pressure: 10 bar
 Maximum temperature 60 °C

SOLENOID PILOT VALVE

Single effect 3/2 solenoid pilot valve
 Double effect 5/2 solenoid pilot valve
 Standard NAMUR interface
 1/8" BSP connection

INSTALLATION

The ARES valve can be installed in any position.

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CONSTRUCTION

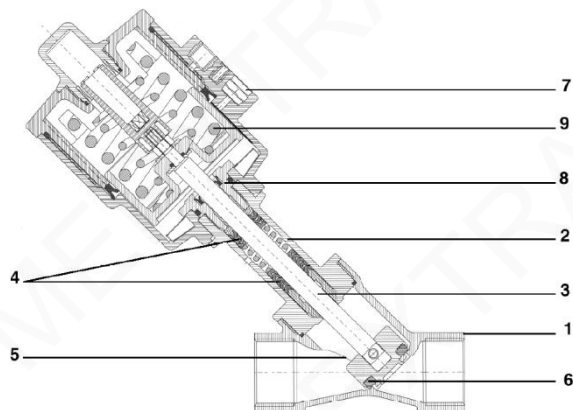
1	Body	AISI 316 stainless steel
2	Bonnet	AISI 316 stainless steel
3	Stem	AISI 316 stainless steel
4	Gland packing	PTFE-Graphite
5	Clack	AISI 316 stainless steel
6	Bearing	PTFE
7	Actuator	PA 66 + fiberglass 30%
8	Guide	AISI 303
9	Piston	Chromium-plated brass

OPTIONS

NPT connections
Solenoid pilot valve
Stroke limiter
Manual override
Limit switch box (Refer to FT1413 datasheet)

MOUNTING AND MAINTENANCE DATASHEET

Refer to NO1410 datasheet

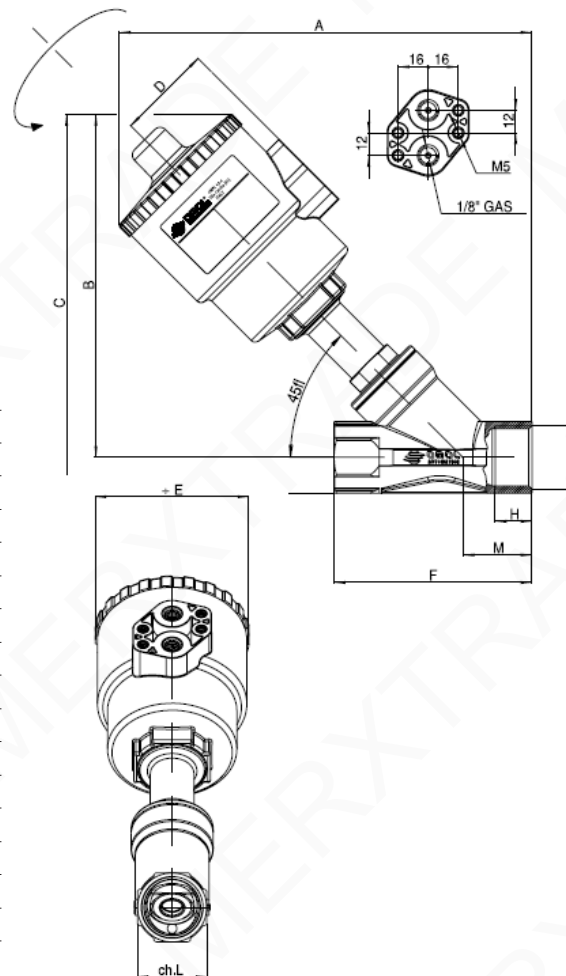


SPARE PARTS

Refer to NO1410 datasheet

DIMENSIONS (mm) AND WEIGHT (kg)

DN	G	Cylinder	A	B	C	D	E	F	H	Ch L	Weight
10	3/8"	50	190	156	169	44	70	85	12	25	1,1
15	1/2"	50	190	156	169	44	70	85	15	25	1
20	3/4"	50	195	160	176	44	70	95	16,3	31	1,2
20	3/4"	63	213	178	194,4	50,5	84,4	95	16,3	31	1,2
25	1"	50	200	164	183	44	70	105	19,5	38	1,6
25	1"	63	219	182	202	50,5	84,4	105	19,5	38	1,6
25	1"	90	259	222	242	66,2	116,4	105	19,5	38	1,7
32	1 1/4"	50	208	168	191	44	70	120	19	47	2
32	1 1/4"	63	226	186	209	50,5	84,4	120	19	47	2
32	1 1/4"	90	266	226	249	66,2	116,4	120	19	47	3
32	1 1/4"	110	302	261	285	77,4	140,6	120	19	47	3,6
40	1 1/2"	63	231	190	218	50,5	84,4	130	18	54	2,3
40	1 1/2"	90	271	230	258	66,2	116,4	130	18	54	3,4
40	1 1/2"	110	307	266	294	77,4	140,6	130	18	54	4
50	2"	63	245	200	233	50,5	84,4	150	20	66	3,4
50	2"	90	285	240	274	66,2	116,4	150	20	66	4,3
50	2"	110	321	276	310	77,4	140,6	150	20	66	5,3

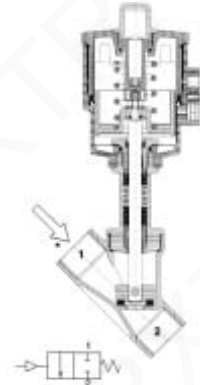


ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

DIFFERENTIAL PRESSURES FOR NORMALLY CLOSED (NC) SINGLE EFFECT VERSION

1. NC SINGLE EFFECT VERSION WITH FLUID INLET ABOVE THE CLACK

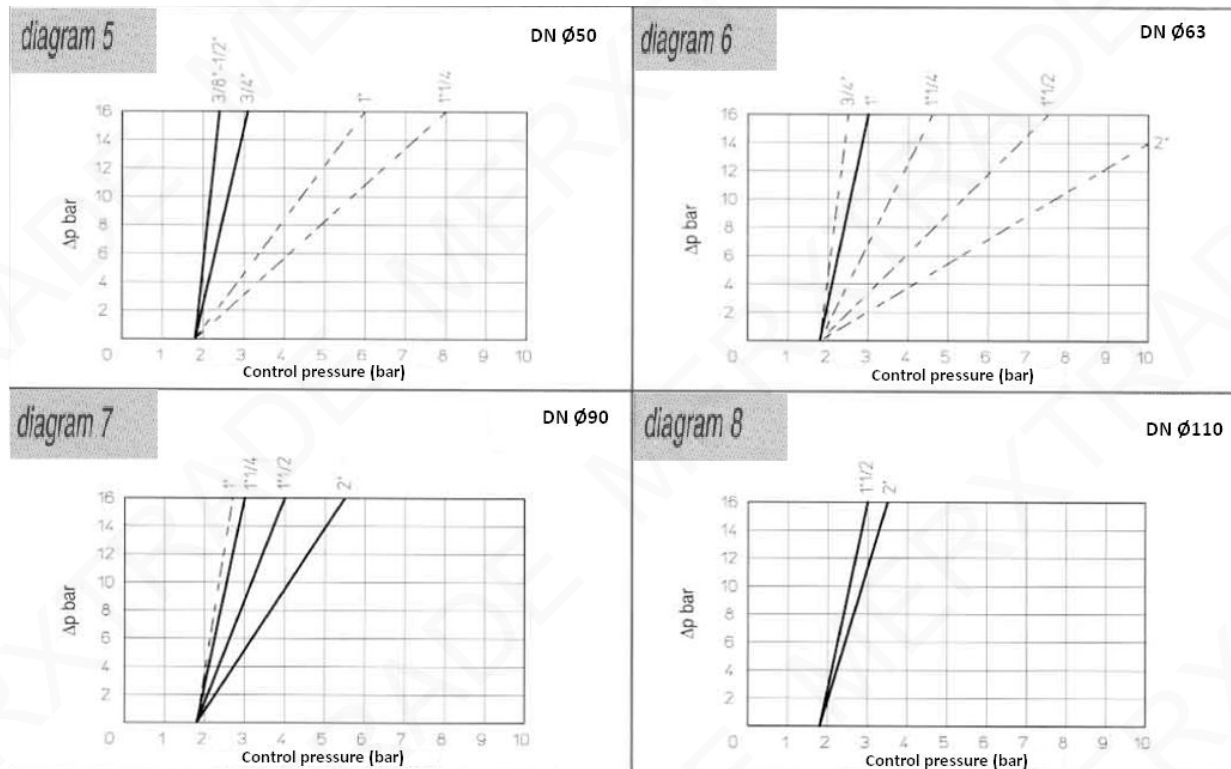
This version is recommended on compressible fluids, such as steam.
This version is not recommended on liquids as it generates water hammers.



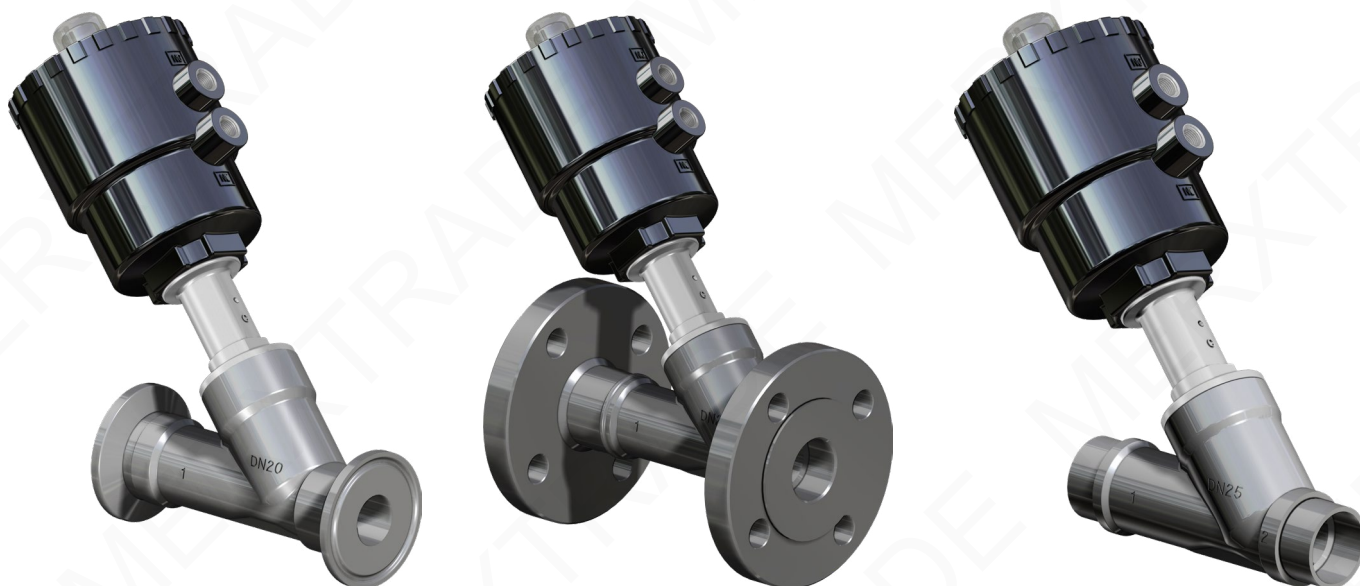
CONTROL PRESSURES AND ALLOWABLE DIFFERENTIAL PRESSURES (FROM 1 TO 2)

Code	BSP	DN	Kv (m3/h)	Electric actuator	Min. control pressure	Max. control pressure	Diagram to refer to	Weight (kg)
	3/8"	10	4,9	50	4	10	5	1
	1/2"	15	5,7	50	4	10	5	1
	3/4"	20	10,5	50	4	10	5	1,2
	3/4"	20	10,8	63	4	10	6	1,6
	1"	25	20	63	4	10	7	3,1
	1 1/4	32	29	90	4	10	7	3,7
	1 1/2	40	46	90	4	8	8	4,6
	1 1/2	40	46,5	110	4	8	7	4,4
	2"	50	67	110	4	8	8	7,6

The dotted lines indicate the items available on request.



ARES WITH SPECIAL ENDS



GENERAL FEATURES

- Body valve material: A351-CF3M (316L S.S.).
- Valve ends: see code plan.
- Assembling is possible in all positions: upright, flat or angled.
- Range available from DN 15 to DN 50 in the Double Acting versions, Spring Return N.C. from above and below the plug, Spring Return N.O. from below the plug.
- The performance and the pressure's diagrams are the same as per Standard versions but limited at PN16.
- On request: versions for vacuum and oxygen service.
- 2014/34/EU ATEX configuration to request at time of order.

CONTROL MEDIA

- Driving media: compressed air, lubricated or dry, gas or neutral media.
- Ambient temperature: -10°C to +60°C.

OPERATING MEDIA

- Air, water, alcohol, oil, petroleum products, saline solutions, steam, etc. (as long as compatible with CF3M (316L S.S.) or PTFE).
- Pressure from 0 to 16 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).

FLANGED UNI EN 1092-1

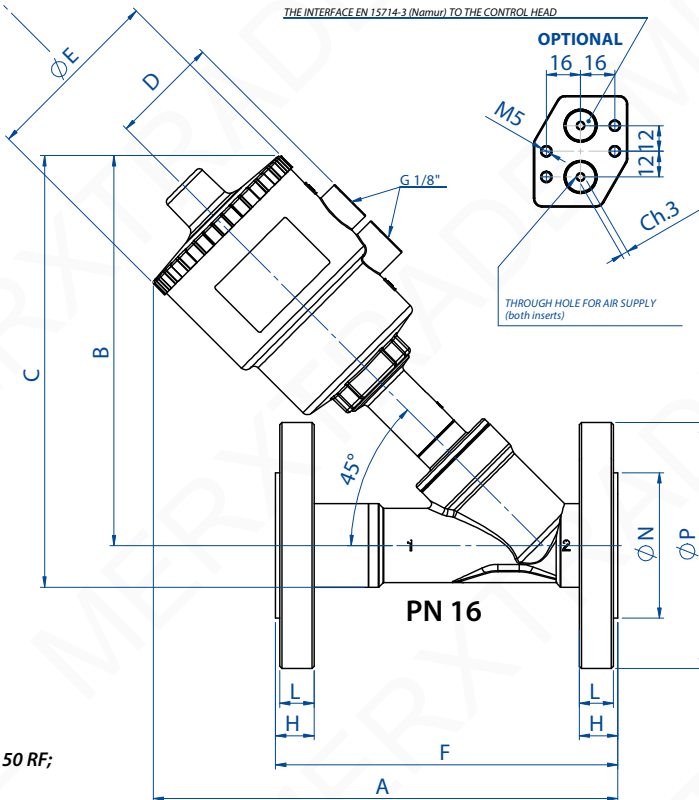
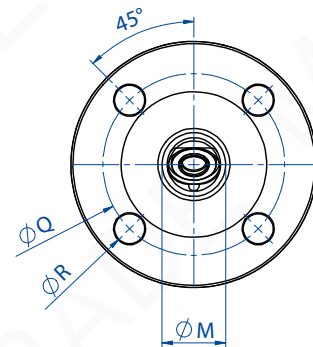
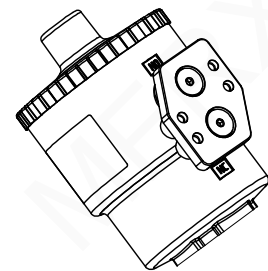
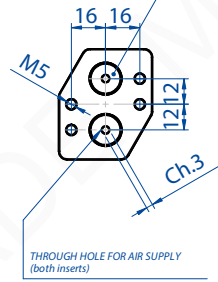
Control head adjustable at 360°

Ruotare in senso orario
Clockwise rotation

N°2 THREADED INSERTS G 1/8" FOR CLAMPING

THE INTERFACE EN 15714-3 (Nimur) TO THE CONTROL HEAD

OPTIONAL



A richiesta versioni:
flangiate ASME 150 RF;
flangiate ridotte

On request versions:
flanges according to ASME 150 RF;
reduced flanges

ANSI 150RF FLANGED VALVE FACE TO FACE ASME B16.10 A1							
DN [mm]	H	L	ØN	ØP	ØQ	ØR	F
15	12	10,4	35	89	61	16	108
20	13	11,4	43	98	70	16	117,5
25	15	13,4	51	108	80	16	127
32	16	14,4	64	118	89	16	140
40	18	16,4	73	127	99	16	165
50	19	17,4	93	152	121	19	178

REDUCED FLANGES VALVES					
DN [mm]	H	ØP	ØQ	ØR	F
15	7	70	50	7	104,5
20	8	75	55	9	119,5
25	9	80	60	9	134,5
32	9	90	70	9	149,5
40	10	100	80	9	164,5
50	10	110	90	11	179,5

DIMENSIONS

DN [mm]	Control head	A	B	C	D	ØE	F	H	L	ØM	ØN	ØP	ØQ	ØR
15	Ø 50	182,5	156	203,5	44	70	130	16	14	18,1	45	95	65	14
20	Ø 50	192,3	160	212,5	44	70	150	18	16	23,7	58	105	75	14
20	Ø 63	210,3	178	230,5	50,5	84,4	150	18	16	23,7	58	105	75	14
25	Ø 50	197,36	164	221,5	44	70	160	18	16	29,7	68	115	85	14
25	Ø 63	216,36	182	239,5	50,5	84,4	160	18	16	29,7	68	115	85	14
25	Ø 90	256,36	222	279,5	66,2	116,4	160	18	16	29,7	68	115	85	14
32	Ø 50	202,5	168	238	44	70	180	18	16	38,4	78	140	100	18
32	Ø 63	220,5	186	256	50,5	84,4	180	18	16	38,4	78	140	100	18
32	Ø 90	260,5	226	296	66,2	116,4	180	18	16	38,4	78	140	100	18
32	Ø 110	296,5	261	331	77,4	140,6	180	18	16	38,4	78	140	100	18
40	Ø 63	228,6	190	265	50,5	84,4	200	18	15	44,3	88	150	110	18
40	Ø 90	268,6	230	305	66,2	116,4	200	18	15	44,3	88	150	110	18
40	Ø 110	304,2	266	341	77,4	140,6	200	18	15	44,3	88	150	110	18
50	Ø 63	241,87	200	282,5	50,5	84,4	230	18	15	55,7	102	165	125	18
50	Ø 90	281,87	240	322,5	66,2	116,4	230	18	15	55,7	102	165	125	18
50	Ø 110	317,87	276	358,5	77,4	140,6	230	18	15	55,7	102	165	125	18

Suggested executions are in bold. Other combinations on request.

ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

2. NC SINGLE EFFECT VERSION WITH FLUID INLET BELOW THE CLACK

This version is recommended on liquids to prevent water hammers.



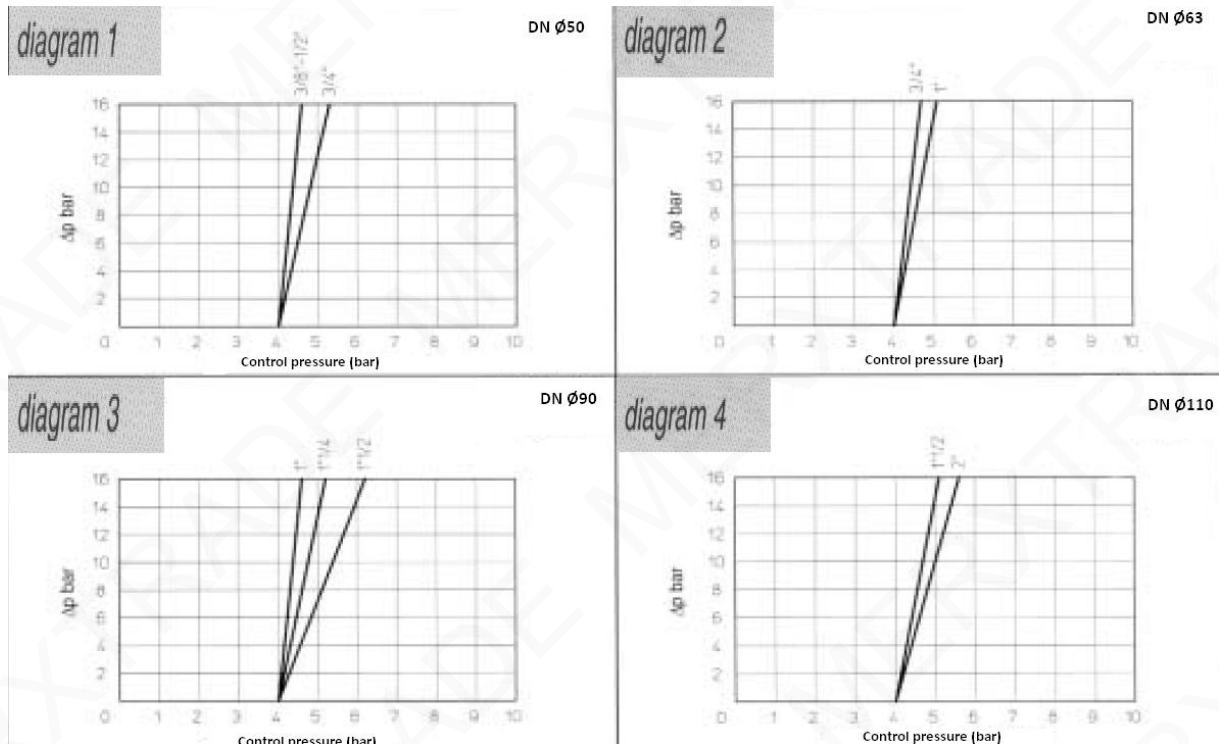
CONTROL PRESSURES AND ALLOWABLE DIFFERENTIAL PRESSURES

A- For the fluid flow below the clack (from 2 to 1)

Code	BSP	DN	Kv (m3/h)	Electric actuator	Min. control pressure	Max. control pressure	Max. differential pressure (bar)	Weight (kg)
	3/8"	10	4,9	50	4	10	16	1,1
	1/2"	15	5,7	50	4	10	16	1
	3/4"	20	10,5	50	4	10	10	1,2
	3/4"	20	10,8	63	4	10	16	1,2
	1"	25	20	63	4	10	11	1,6
	1"	25	20	90	4	8	16	1,7
	1 1/4"	32	29	90	4	10	14	3
	1 1/2"	40	46	90	4	8	11	3,4
	1 1/2"	40	46,5	110	4	8	16	4
	2"	50	67	110	4	8	10	5,3

B- For the fluid flow above the clack (from 1 to 2), please refer to the below diagrams

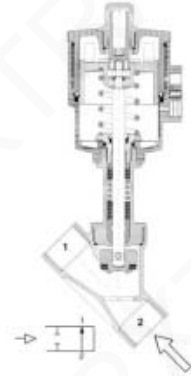
The dotted lines indicate the items available on request.



ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

DIFFERENTIAL PRESSURES FOR NORMALLY OPEN (NO) SINGLE AND DOUBLE EFFECT VERSIONS

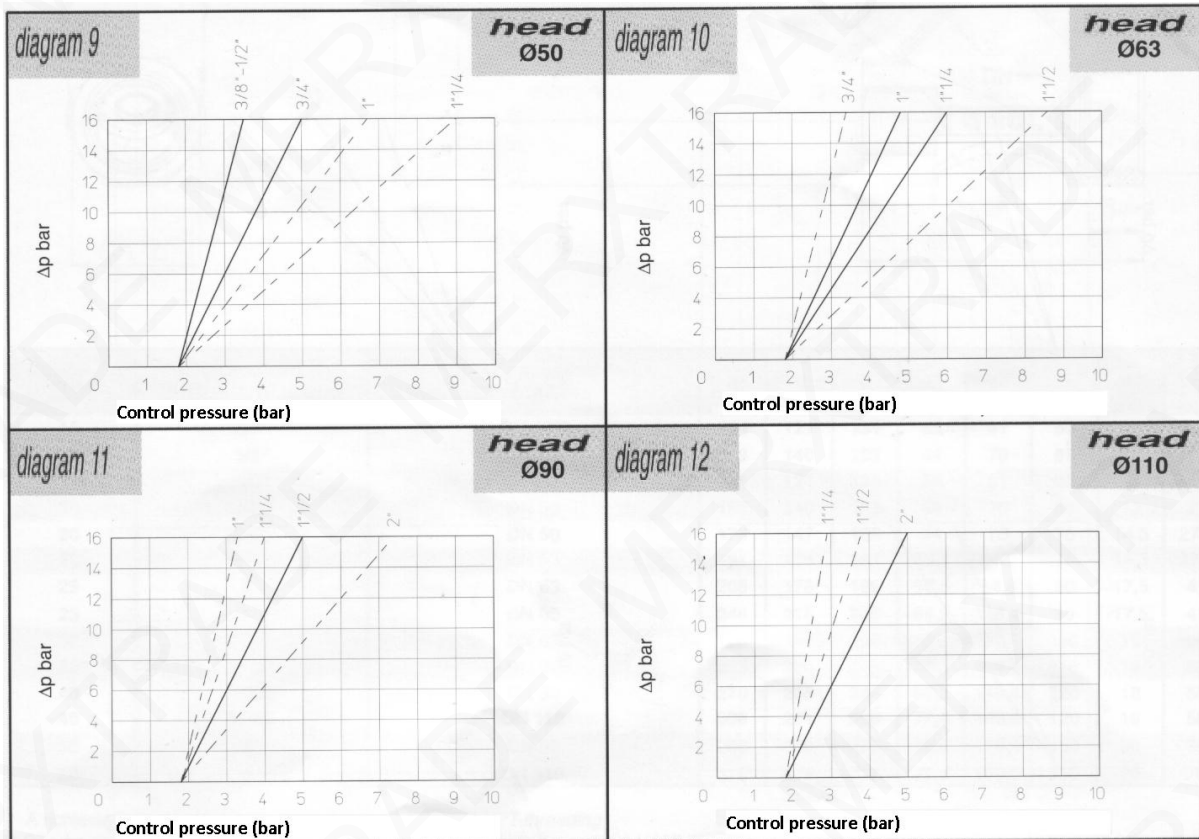
1 NORMALLY OPEN SINGLE EFFECT VERSION



CONTROL PRESSURES AND ALLOWABLE DIFFERENTIAL PRESSURES

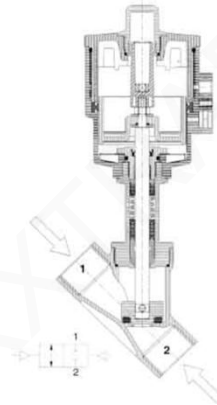
Code	BSP	DN	Kv (m3/h)	Electric actuator	Min. control pressure	Max. control pressure	Diagram to refer to	Weight (kg)
	3/8"	10	4,9	50	1,8	10	9	1
	1/2"	15	5,7	50	1,8	10	9	1
	3/4"	20	10,5	50	1,8	10	9	1,2
	1"	25	20	63	1,8	10	10	1,6
	1" 1/4	32	28,5	63	1,8	10	10	2
	1" 1/2	40		90	1,8	8	11	3,7
	2"	50	46,5	110	1,8	8	12	7,6

The dotted lines indicate the items available on request.



ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

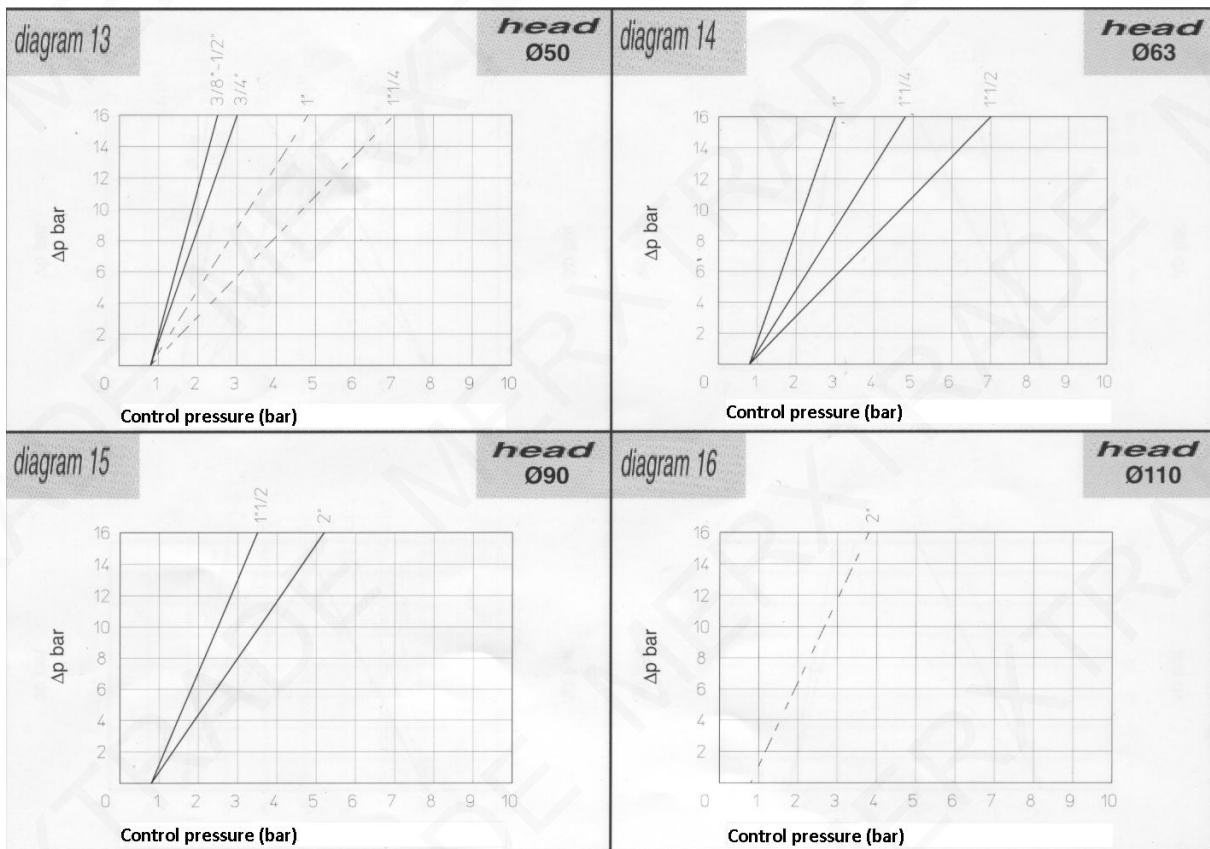
1 DOUBLE EFFECT VERSION



CONTROL PRESSURES AND ALLOWABLE DIFFERENTIAL PRESSURES

Code	BSP	DN	Kv (m3/h)	Electric actuator	Min. control pressure	Max. control pressure	Diagram to refer to	Weight (kg)
	3/8"	10	4,9	50	0,8	8	13	1,1
	1/2"	15	5,7	50	0,8	8	13	1
	3/4"	20	10,5	50	0,8	8	13	1,2
	1"	25	20	63	0,8	8	14	1,6
	1" 1/4	32	28,5	90	0,8	8	14	3
	1" 1/2	40	35	63	0,8	8	14	3,4
	1" 1/2	40	46	90	0,8	8	15	4
	2"	50	59	90	0,8	8	15	5,3

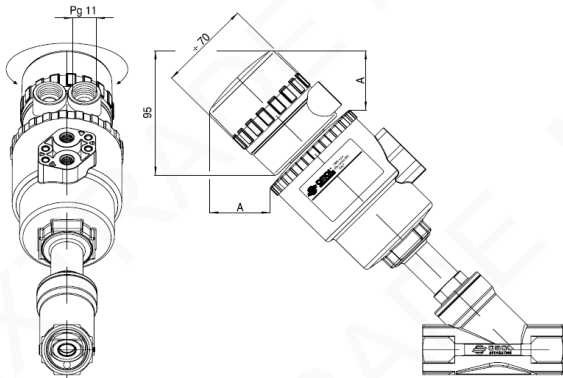
The dotted lines indicate the items available on request.



ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

ACCESSORIES

1- LIMIT SWITCH BOX



CHARACTERISTICS

This NC/NO limit switch box can be adapted on any ARES valve. It can be equipped with 2 types of contacts: mechanical dry contacts or inductive contacts (see below):

Body material	PA
Protection	IP 65
Min. room temperature	-20 °C
Max. room temperature	+70 °C
Electrical connection	2 x PG 11

Electric actuator	A (mm)
DN 50	52.1
DN 63	47.5
DN 90	37.7
DN 110	29.5

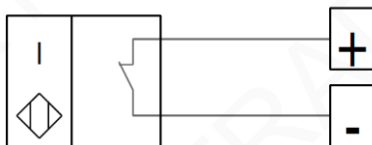
NAMUR EEx ia INDUCTIVE CONTACTS

Nominal voltage	8 V DC
Start-up current	1 mA
Maintained current	3 mA
Min. room temperature	-25 °C
Max. room temperature	+100 °C

DIFFERENT POSSIBLE CONFIGURATIONS

Configuration

- 1 contact for "valve open" position
- 1 contact for "valve closed" position
- 2 contacts for "valve open" / "valve closed" positions

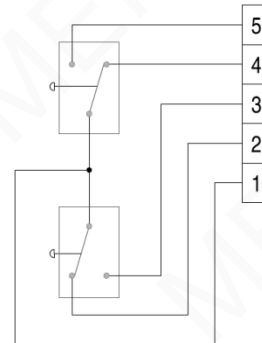


MECHANICAL CONTACTS

Upper contact	valve open
Lower contact	valve closed
Max. current AC	5 A / 250 V
Max. current DC	1 A / 250 V

Configuration

2 contacts for "valve open" / "valve closed" positions



2- PILOT VALVE

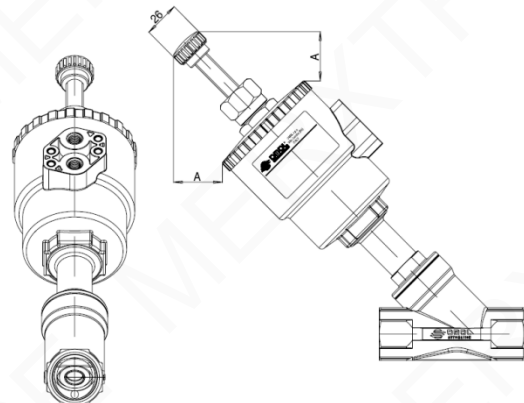
2 types of solenoid valves can be mounted:

- 3/2 solenoid valve with BSP 1/8" connections
- 3/2 or 5/2 solenoid valve with NAMUR interface

3- MANUAL OVERRIDE

This accessory permits to open the valve in case of emergency (failure of the pilot pressure, command signal loss). It is available on every NF version.

Electric actuator	A (mm)
DN 50	35.8
DN 63	35.8
DN 90	29.5
DN 110	29.5



ARES type STAINLESS STEEL PNEUMATIC ACTUATED VALVE

4- STROKE LIMITER

This accessory permits to limit the electric actuator piston movement in the opening phase and thus to control the flow rate. It is available on every version. On NO simple effect version, it can be used as a manual override.

Electric actuator	A (mm)
DN 50	25.5
DN 63	21.5
DN 90	5.2
DN 110	5.9

