

# STAINLESS STEEL PNEUMATIC ACTUATED VALVE

## CHARACTERISTICS

The 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 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                   |

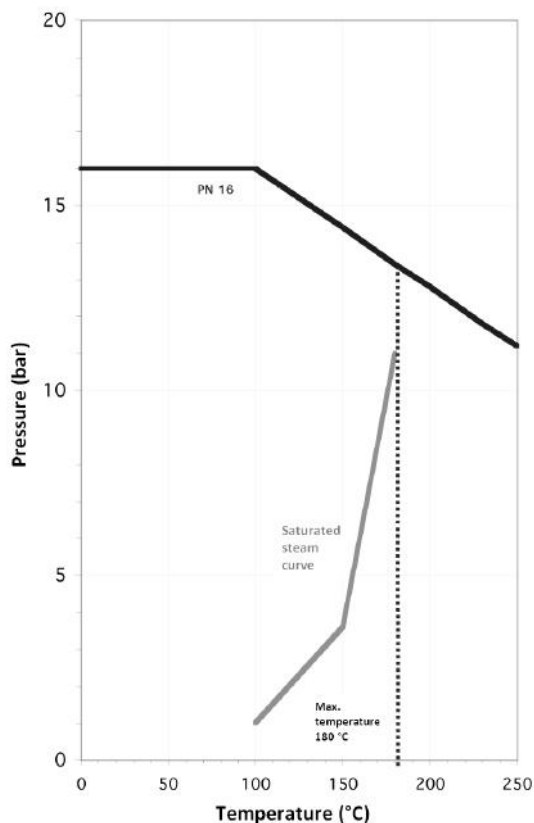
## AVAILABLE ITEMS

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

## KV VALUES (m<sup>3</sup>/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 valve can be installed in any position.

# STAINLESS STEEL PNEUMATIC ACTUATED VALVE

## 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

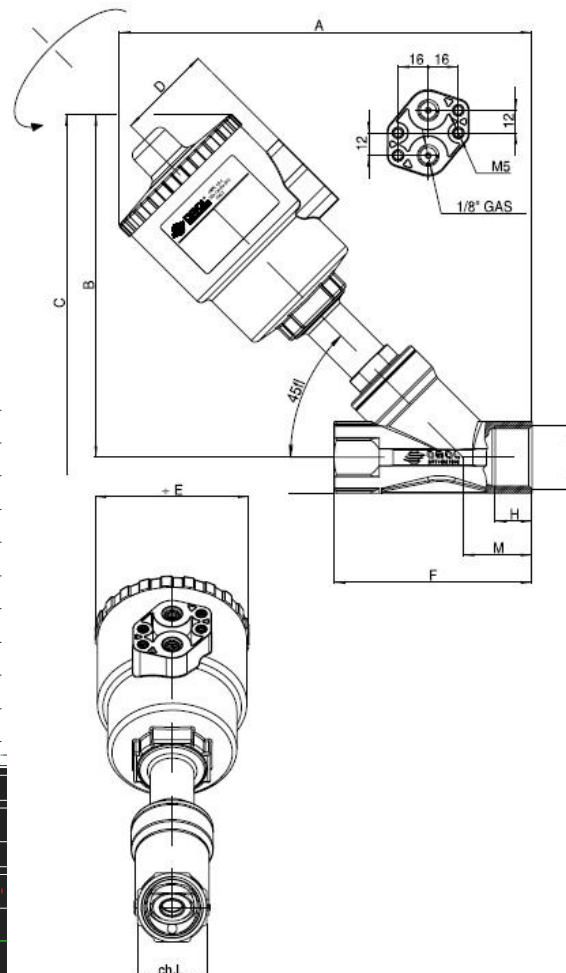
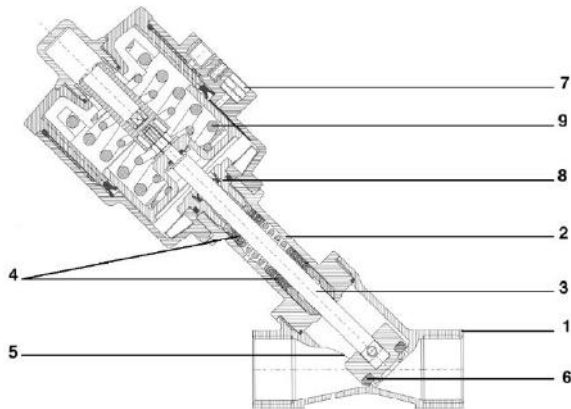
NPT connections  
 Solenoid pilot valve  
 Stroke limiter  
 Manual override  
 Limit switch box (Refer to FT1413 datasheet)

## 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      |
| 40 | 1 1/2" | 110      | 302 | 264   | 287   | 73,4 | 142,6 | 128 | 19   | 47    | 3,0    |
| 18 | 5/4    | 2,3      | 40  | 1 1/2 | 63    | 231  | 190   | 218 | 50,5 | 84,4  | 130    |
| 18 | 5/4    | 3,4      | 40  | 1 1/2 | 90    | 271  | 230   | 258 | 66,2 | 116,4 | 130    |
| 18 | 5/4    | 4        | 40  | 1 1/2 | 110   | 307  | 266   | 294 | 77,4 | 140,6 | 130    |
| 20 | 6/8    | 3,4      | 50  | 2"    | 63    | 245  | 200   | 233 | 50,5 | 84,4  | 150    |
| 20 | 6/8    | 4,3      | 50  | 2"    | 90    | 285  | 240   | 274 | 66,2 | 116,4 | 150    |
| 20 | 6/8    | 5,3      | 50  | 2"    | 110   | 321  | 276   | 310 | 77,4 | 140,6 | 150    |

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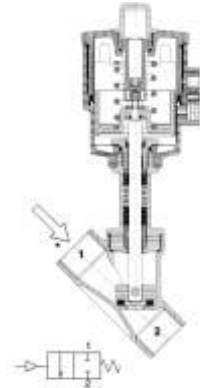
# STAINLESS STEEL PNEUMATIC ACTUATED VALVE

## 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 (m <sup>3</sup> /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.

# 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  | 34        | 120               | 4                     | 10                    | 11                               | 3           |   |
| 16   |       | 4   |           | 1"1/2             | 40                    | 46,5                  | 110                              | 4           | 8 |
| 10   |       | 5,3 |           | 2"                | 50                    | 67                    | 110                              | 4           | 8 |

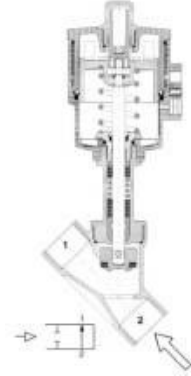
#### **B- For the fluid flow above the clack (from 1 to 2), please refer to the below diagrams**

The dotted lines indicate the items available on request.

# STAINLESS STEEL PNEUMATIC ACTUATED VALVE

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

### 1 NORMALLY OPEN SINGLE EFFECT VERSION



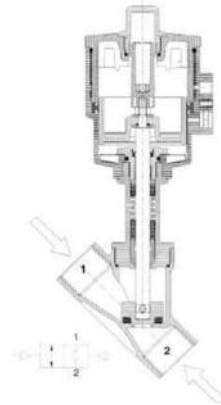
### CONTROL PRESSURES AND ALLOWABLE DIFFERENTIAL PRESSURES

| Code | BSP       | DN | Kv (m <sup>3</sup> /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.

# STAINLESS STEEL PNEUMATIC ACTUATED VALVE

## 1 DOUBLE EFFECT VERSION



### CONTROL PRESSURES AND ALLOWABLE DIFFERENTIAL PRESSURES

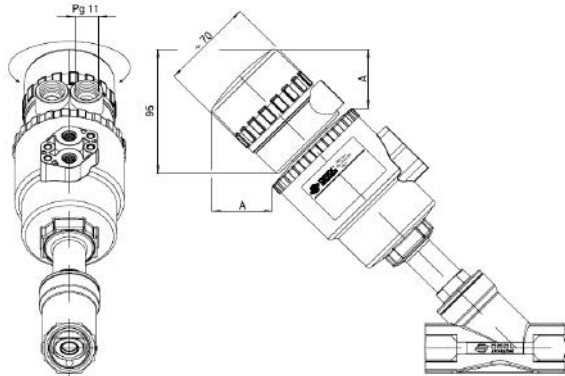
| Code | BSP      | DN | Kv (m <sup>3</sup> /h) | Electric actuator | Min. control pressure | Max. control pressure | Diagram to refer to | Weight (kg) |
|------|----------|----|------------------------|-------------------|-----------------------|-----------------------|---------------------|-------------|
|      | 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.

# STAINLESS STEEL PNEUMATIC ACTUATED VALVE

## ACCESSORIES

### 1- LIMIT SWITCH BOX



#### CHARACTERISTICS

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

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

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

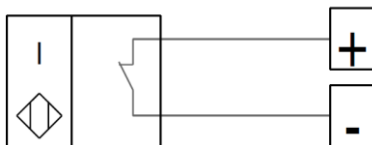
#### NAMUR EEx ia INDUCTIVE CONTACTS

|                              |         |
|------------------------------|---------|
| <b>Nominal voltage</b>       | 8 V DC  |
| <b>Start-up current</b>      | 1 mA    |
| <b>Maintained current</b>    | 3 mA    |
| <b>Min. room temperature</b> | -25 °C  |
| <b>Max. room temperature</b> | +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

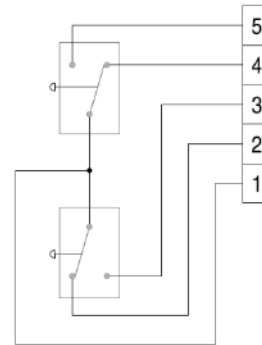


### MECHANICAL CONTACTS

|                        |              |
|------------------------|--------------|
| <b>Upper contact</b>   | valve open   |
| <b>Lower contact</b>   | valve closed |
| <b>Max. current AC</b> | 5 A / 250 V  |
| <b>Max. current DC</b> | 1 A / 250 V  |

##### Configuration

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



### 2- PILOT VALVE

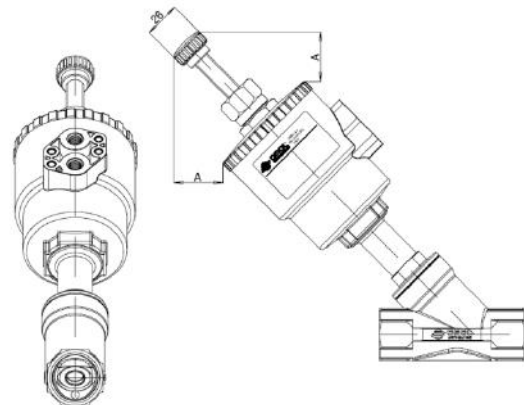
2 types of solenoid valves can be mounted:

- 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   |

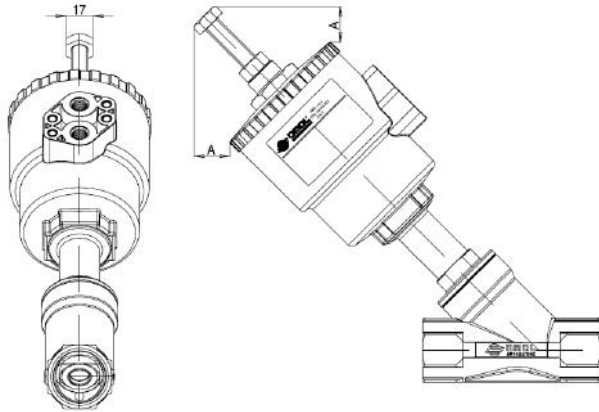


## STAINLESS STEEL PNEUMATIC ACTUATED VALVE

### 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    |



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