

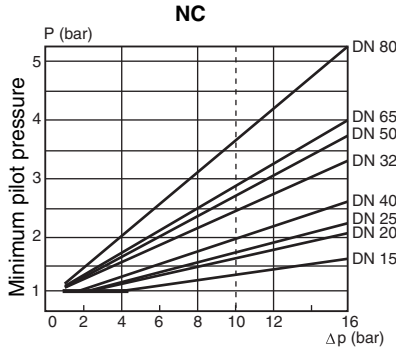
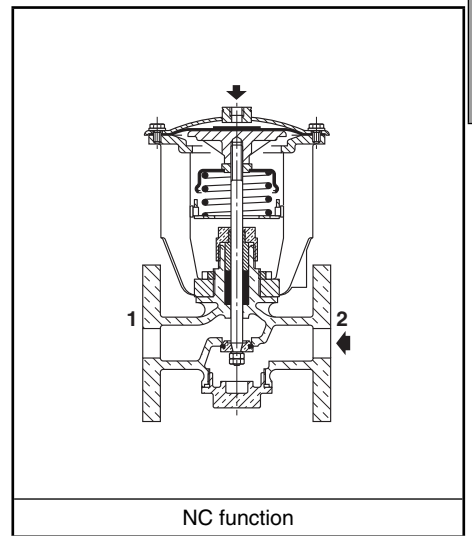
### FEATURES

- Differential-action valve for high-pressure fluid control at reduced piloting pressure
- Heavy-duty valve recommended for demanding applications
- Available with several accessories and options to handle the majority of industrial applications
- The valves satisfy Pressure Equipment Directive 97/23/EC, category 1 (DN > 25) or article 3.3 (DN ≤ 25)

### GENERAL

| fluids (*)  | temperature range | disc seal (*) |
|---|-------------------|---------------|
| DN ≤ 50: air and gas groups 1 & 2<br>DN > 50: air and gas group 2<br>all DN: water, oil, liquids groups 1 & 2 and steam | - 10°C to + 184°C | PTFE          |

|                                   |  |
|-----------------------------------|--|
| <b>Differential pressure</b>      | 0 to 16 bar [1 bar = 100 kPa]            |
| Steam                             | 0 to 10 bar                              |
| <b>Maximum allowable pressure</b> | 16 bar                                   |
| <b>Ambient temperature range</b>  | -5°C to +60°C                            |
| <b>Maximum viscosity</b>          | 5000 cSt (mm <sup>2</sup> /s)            |
| <b>Response time</b>              | See overleaf                             |
| <b>Pilot fluid</b>                | Water, air, filtered                     |
| <b>Max. pilot pressure</b>        | 10 bar                                   |
| <b>Min. pilot pressure</b>        | See graphs (lower pressure: see Options) |



### CONSTRUCTION

|                         |                                   |
|-------------------------|-----------------------------------|
| <b>Connection</b>       | Flange type 21 (ISO 7005) - PN 16 |
| <b>Facing</b>           | Type A                            |
| <b>Pilot connection</b> | G 1/4                             |

### MATERIALS IN CONTACT WITH FLUID

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

|                          |                 |
|--------------------------|-----------------|
| <b>Valve body</b>        | Bronze          |
| <b>Stem</b>              | Stainless steel |
| <b>Disc</b>              | Brass           |
| <b>Stuffing-box seal</b> | Braided PTFE    |
| <b>Disc seal</b>         | PTFE            |
| <b>Valve body seal</b>   | FPM             |
| <b>Plug body</b>         | Brass or bronze |

### OTHER MATERIALS

|                             |       |
|-----------------------------|-------|
| <b>Diaphragm (operator)</b> | NBR   |
| <b>Bonnet (operator)</b>    | Steel |

### SPECIFICATIONS

| DN | flow coefficient Kv |      | maximum allowable pressure | pilot pressure (bar) |    | NC normally closed |           |
|----|---------------------|------|----------------------------|----------------------|----|--------------------|-----------|
|    |                     |      |                            |                      |    | catalogue number   | reference |
| 15 | 4,5                 | 75   | 16                         | *                    | 10 | <b>16500093</b>    | 2503-BBT  |
| 20 | 7,2                 | 120  | 16                         | *                    | 10 | <b>16500094</b>    | 2504-BBT  |
| 25 | 12                  | 200  | 16                         | *                    | 10 | <b>16500095</b>    | 2505-BBT  |
| 32 | 18                  | 300  | 16                         | *                    | 10 | <b>16500096</b>    | 2506-BBT  |
| 40 | 31,8                | 530  | 16                         | *                    | 10 | <b>16500097</b>    | 2507-BBT  |
| 50 | 39                  | 650  | 16                         | *                    | 10 | <b>16500098</b>    | 2508-BBT  |
| 65 | 63                  | 1050 | 16                         | *                    | 10 | <b>16500099</b>    | 2510-BBT  |
| 80 | 99                  | 1650 | 16                         | *                    | 10 | <b>16500100</b>    | 2511-BBT  |

\* The minimum pilot pressure varies according to the differential pressure across the valve. See pilot graphs above.

### OPTIONS AND ACCESSORIES

- Guard mounted on valves, DN 15-20: catalogue number **210555** / DN 25-32: catalogue number **210556** / DN 40-50: catalogue number **210557** / DN 65-80: catalogue number **210558**
- Valves DN 15 to 80 to ATEX 94/9/EC for categories 2 (II 2 GD c T6 T85°C) and 3 (II 3 GD c T6 T85°C X)
- Dry IP66 contacts
- Explosionproof switch with contact(s) for potentially explosive atmospheres to ATEX  
1 switch: DN 25-32: cat. no. **260651** / DN 40-50-65-80: cat. no. **260652** / 2 switches: DN 25-32: cat. no. **260654** / DN 40-50-65-80: cat. no. **260655**
- Inductive M18 switch, IP66
- Inductive M18 switch, intrinsically safe to ATEX, II 1 GD EEx ia IIC T6 IP66 T85°C
- Manual override on the bonnet of the operator
- Accessories for adjustable response time (flow control, quick exhaust etc.)
- Anti-waterhammer device available with air-oil exchanger
- Backpressure applications possible by off-setting the yoke and using a reinforced spring
- Low pressure control (min. 1 bar) by off-setting the yoke
- Other types of stuffing-boxes are available depending on the nature of the fluid used
- Modifications for special environments (cold, hot, aggressive, marine etc.)
- Other standardised flange forms
- Oxygen service, catalogue number **970509** (except DN 65 and 80), pressure/temperature limited to 15 bar / + 60°C
- Valve body degreased during assembly, catalogue number **970523**

### INSTALLATION

- The valves can be mounted in any position, except with the operator downwards
- Be sure to observe the direction of fluid flow (NC from 2 to 1 ; NO from 1 to 2)
- Pipe connection (G) has standard thread according to ISO 228/1

### SPARE PARTS KIT & ACCESSORIES

| DN | spare parts kit no. |   |                   |               | guard catalogue number |
|----|---------------------|---|-------------------|---------------|------------------------|
|    | stem and disc unit  |   | stuffing-box unit | NBR diaphragm |                        |
|    | NC                  | - |                   |               |                        |
| 15 | 97701319            | - | 97701320          | 97700017      | 88200035               |
| 20 | 97701321            | - | 97701320          | 97700017      | 88200035               |
| 25 | 97701322            | - | 97701320          | 97700018      | 88200036               |
| 32 | 97701323            | - | 97701324          | 97700018      | 88200036               |
| 40 | 97701325            | - | 97701324          | 97700019      | 88200037               |
| 50 | 97701326            | - | 97701327          | 97700019      | 88200037               |
| 65 | 97701328            | - | 97701329          | 97700045      | 88200038               |
| 80 | 97701330            | - | 97701329          | 97700045      | 88200038               |

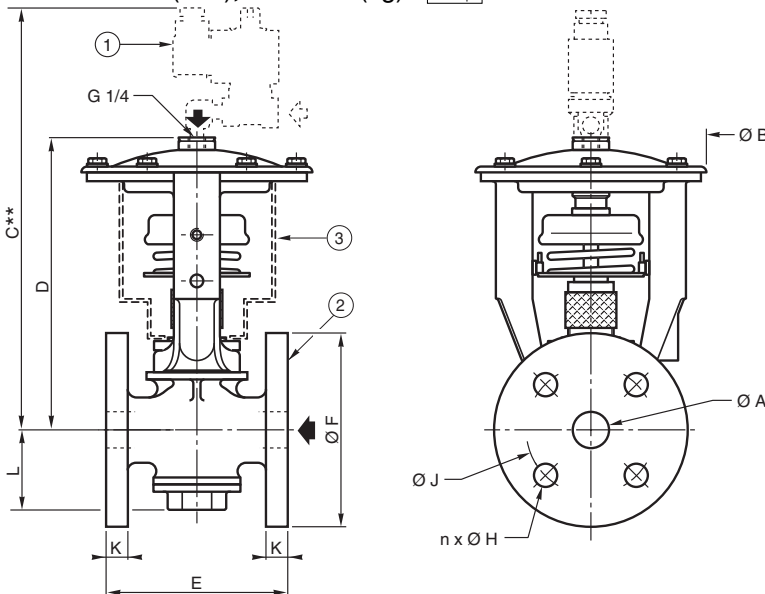
### ORDERING EXAMPLES:

|              |          |               |
|--------------|----------|---------------|
| 16500093     | 16500094 | <b>210555</b> |
| basic number |          | options       |

### ORDERING EXAMPLES KITS:

|              |          |
|--------------|----------|
| 97701319     | 97700017 |
| basic number |          |

### DIMENSIONS (mm), WEIGHT (kg)



| ØA<br>(mm) | ØB  | C** |   | D   | E | ØF  | n x ØH | ØJ      | K   | L  |      | weight <sup>(1)</sup> |     |
|------------|-----|-----|---|-----|---|-----|--------|---------|-----|----|------|-----------------------|-----|
|            |     | NC  | - |     |   |     |        |         |     | NC | -    |                       |     |
| 15         | 127 | 284 | - | 165 | - | 90  | 95     | 4 x Ø14 | 65  | 10 | 39   | -                     | 4,5 |
| 20         | 127 | 289 | - | 170 | - | 100 | 105    | 4 x Ø14 | 75  | 12 | 44   | -                     | 5,5 |
| 25         | 156 | 306 | - | 187 | - | 110 | 115    | 4 x Ø14 | 85  | 12 | 48   | -                     | 7   |
| 32         | 156 | 311 | - | 192 | - | 130 | 140    | 4 x Ø18 | 100 | 14 | 55   | -                     | 9   |
| 40         | 200 | 343 | - | 224 | - | 140 | 150    | 4 x Ø18 | 110 | 14 | 60   | -                     | 14  |
| 50         | 200 | 353 | - | 234 | - | 160 | 165    | 4 x Ø18 | 125 | 16 | 70   | -                     | 17  |
| 65         | 250 | 405 | - | 270 | - | 170 | 185    | 4 x Ø18 | 145 | 16 | 92,5 | -                     | 24  |
| 80         | 250 | 413 | - | 278 | - | 205 | 200    | 8 x Ø18 | 160 | 18 | 100  | -                     | 30  |

<sup>(1)</sup> Weight of valve without pilot.

\*\* Maximum value given for reference and related to choice of electric pilot.

### Response time (in sec.) for a valve with NC function

| ØA<br>(mm) | pilot fluid (6 bar) |     |       |    |
|------------|---------------------|-----|-------|----|
|            | air                 |     | water |    |
|            | O                   | C   | O     | C  |
| 15         | 0,3                 | 1   | 0,7   | 2  |
| 20         | 0,3                 | 1   | 0,7   | 2  |
| 25         | 0,4                 | 1,5 | 1,5   | 4  |
| 32         | 0,4                 | 1,5 | 1,5   | 4  |
| 40         | 0,6                 | 2,5 | 3     | 9  |
| 50         | 0,6                 | 2,5 | 3     | 9  |
| 65         | 0,8                 | 4   | 5     | 9  |
| 80         | 0,8                 | 4   | 5     | 15 |

- ① Solenoid pilot valves: see V480
- ② Flange type 21 with flat faces, type A (ISO 7005)
- ③ Guard available as accessory, supplied separately or mounted on valve

- Response time is directly related to the Kv of the solenoid pilot valve. The time indicated at opening (O) and closing (C) of the valve is determined by a pilot (dia. 3 mm) with a Kv of 3,5.
- Consult us for shorter cycle times.