

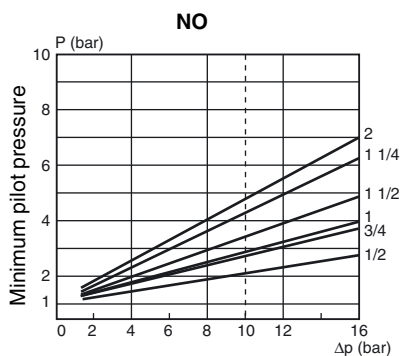
### FEATURES

- 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 (*) |
|--|-------------------|---------------|
| air and gas groups 1 & 2<br>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) |



### 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>Third flange connection</b> | Brass or bronze |

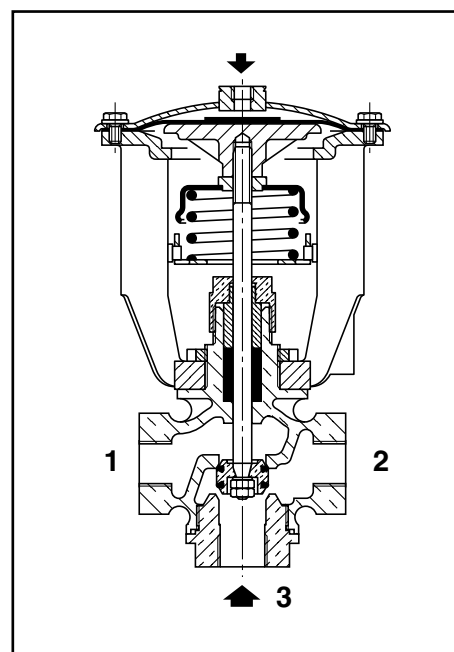
### OTHER MATERIALS

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

### SPECIFICATIONS

| piping (ISO 6708)         |    | flow coefficient Kv               |     |                                   |     | maximum allowable pressure (bar) | pilot pressure (bar) |      | catalogue number | reference   |
|---------------------------|----|-----------------------------------|-----|-----------------------------------|-----|----------------------------------|----------------------|------|------------------|-------------|
| pipe size (G*)            | DN | 2 → 1 (m <sup>3</sup> /h) (l/min) |     | 3 → 2 (m <sup>3</sup> /h) (l/min) |     |                                  | min.                 | max. |                  |             |
| <b>NO - Normally open</b> |    |                                   |     |                                   |     |                                  |                      |      |                  |             |
| 1/2                       | 15 | 4,5                               | 75  | 6                                 | 100 | 16                               | ※                    | 10   | <b>16600025</b>  | 2703-TBT-D2 |
| 3/4                       | 20 | 7,2                               | 120 | 9,6                               | 160 | 16                               | ※                    | 10   | <b>16600026</b>  | 2704-TBT-D2 |
| 1                         | 25 | 12                                | 200 | 16,2                              | 270 | 16                               | ※                    | 10   | <b>16600027</b>  | 2705-TBT-D2 |
| 1 1/4                     | 32 | 18                                | 300 | 24                                | 400 | 16                               | ※                    | 10   | <b>16600028</b>  | 2706-TBT-D2 |
| 1 1/2                     | 40 | 31,8                              | 530 | 42,9                              | 715 | 16                               | ※                    | 10   | <b>16600029</b>  | 2707-TBT-D2 |
| 2                         | 50 | 39                                | 650 | 52,8                              | 880 | 16                               | ※                    | 10   | <b>16600030</b>  | 2708-TBT-D2 |

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



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### OPTIONS AND ACCESSORIES

- Guard mounted on valves, 1/2 - 3/4: catalogue number **210555** / 1 - 1 1/4: catalogue number **210556** / 1 1/2 - 2: catalogue number **210557**
- Valves DN 15 to 50 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
- 2 explosionproof switches with contacts for potentially explosive atmospheres to ATEX:
 

| switch ambient temperature range | number of contacts | DN 15..32 catalogue number | DN 40..50 catalogue number |
|----------------------------------|--------------------|----------------------------|----------------------------|
| -20°C to +80°C                   | 1                  | <b>260657</b>              | <b>260658</b>              |
| -20°C to +80°C                   | 2                  | <b>260660</b>              | <b>260661</b>              |
| -55°C to +82°C                   | 1                  | <b>260663</b>              | <b>260664</b>              |
- 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.)
- Oxygen service, catalogue number **970509**, pressure/temperature limited to 15 bar / + 60°C
- Valve body degreased during assembly, catalogue number **970523**

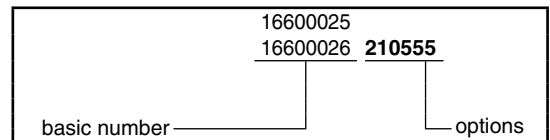
### INSTALLATION

- The valves can be mounted in any position, except with the operator downwards
- Pipe connections (G\*) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connection (G) has standard thread according to ISO 228/1

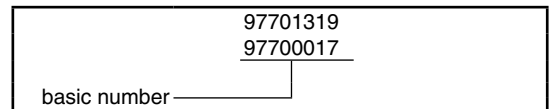
### SPARE PARTS KIT & ACCESSORIES

| DN | spare parts kit no. |                   |                 | guard catalogue number |
|----|---------------------|-------------------|-----------------|------------------------|
|    | stem and disc unit  | stuffing-box unit | NBR diaphragm   |                        |
| 15 | <b>97701319</b>     | <b>97701320</b>   | <b>97700017</b> | <b>88200035</b>        |
| 20 | <b>97701321</b>     | <b>97701320</b>   | <b>97700017</b> | <b>88200035</b>        |
| 25 | <b>97701322</b>     | <b>97701320</b>   | <b>97700018</b> | <b>88200036</b>        |
| 32 | <b>97701323</b>     | <b>97701324</b>   | <b>97700018</b> | <b>88200036</b>        |
| 40 | <b>97701325</b>     | <b>97701324</b>   | <b>97700019</b> | <b>88200037</b>        |
| 50 | <b>97701326</b>     | <b>97701327</b>   | <b>97700019</b> | <b>88200037</b>        |

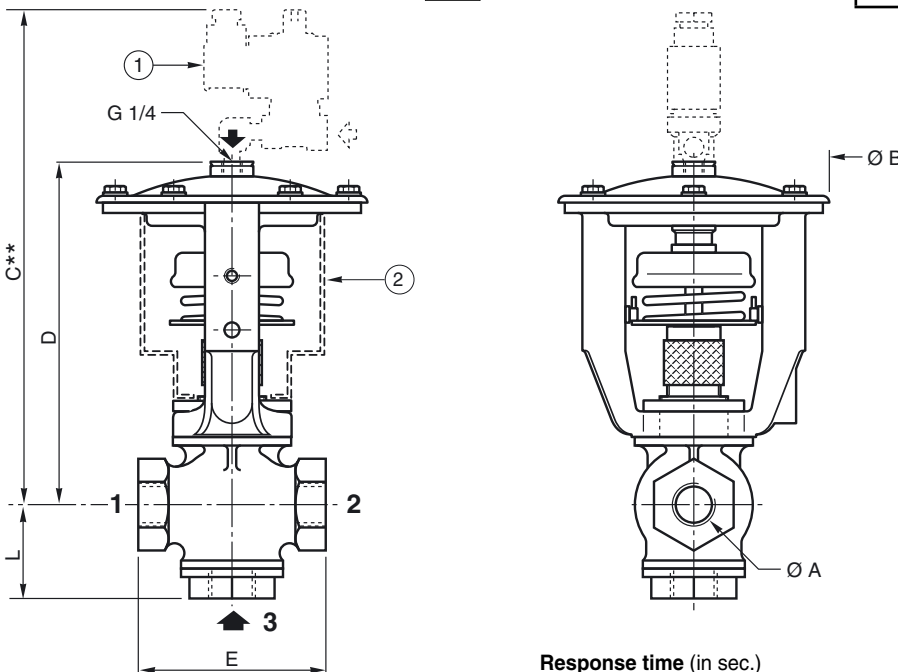
### ORDERING EXAMPLES:



### ORDERING EXAMPLES KITS:



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



| ØA (G*) | ØB  | C** | D   | E   | L  | weight <sup>(1)</sup> |
|---------|-----|-----|-----|-----|----|-----------------------|
| 1/2     | 127 | 284 | 165 | 68  | 39 | 3,5                   |
| 3/4     | 127 | 289 | 170 | 84  | 44 | 4                     |
| 1       | 156 | 306 | 187 | 92  | 52 | 6                     |
| 1 1/4   | 156 | 311 | 192 | 110 | 57 | 6,5                   |
| 1 1/2   | 200 | 343 | 224 | 125 | 63 | 12                    |
| 2       | 200 | 353 | 234 | 145 | 71 | 15                    |

### Response time (in sec.)

| ØA (G*) | pilot fluid (6 bar) |     |       |   |
|---------|---------------------|-----|-------|---|
|         | air                 |     | water |   |
|         | C                   | O   | C     | O |
| 1/2     | 0,3                 | 1   | 0,7   | 2 |
| 3/4     | 0,3                 | 1   | 0,7   | 2 |
| 1       | 0,4                 | 1,5 | 1,5   | 4 |
| 1 1/4   | 0,4                 | 1,5 | 1,5   | 4 |
| 1 1/2   | 0,6                 | 2,5 | 3     | 9 |
| 2       | 0,6                 | 2,5 | 3     | 9 |

- ③ Solenoid pilot valves: see V480
- ④ Guard available as accessory, supplied separately or mounted on valve

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

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

- 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.