

### FEATURES

- 2/2 or 3/2 valves NC/NO designed for use in potentially explosive atmospheres in accordance with ATEX-Directive 2014/34/EU, category 2 or 3
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards EN 13463-1
- Recommended for applications in the chemical, oil, gas and paint coating industries etc.

### GENERAL / CONSTRUCTION / SPECIFICATIONS

Verify the compatibility of the category/zone with the selected valve.

| operator diameter | DN      | Pressure Operated Valves |       |       | category 2 | classification (zones) |     |             |            |                            |             |   |   |   |  |                        |
|-------------------|---------|--------------------------|-------|-------|------------|------------------------|-----|-------------|------------|----------------------------|-------------|---|---|---|--|------------------------|
|                   |         | see page                 |       |       |            | category 2             |     |             | category 3 |                            |             |   |   |   |  |                        |
|                   |         | (2/2)                    | (2/2) | (3/2) |            | dusts                  | gas | safety code | dusts      | gas                        | safety code |   |   |   |  |                        |
|                   |         | 15, 19, 23, 25, 27, 31   | 35    | 1     |            | IIA IIB IIC            |     |             |            |                            |             |   |   |   |  |                        |
| Ø 32 mm           | 10 → 20 |                          |       |       | 21         | 1                      | 1   |             |            | Ex II 2 GD c IIB T4 T135°C | 22          | 2 | 2 | 2 |  | Ex II 3 GD c T4 T135°C |
| Ø 50 mm           | 15 → 25 |                          |       |       | 21         | 1                      | 1   |             |            | Ex II 2 GD c IIB T4 T135°C | 22          | 2 | 2 | 2 |  | Ex II 3 GD c T4 T135°C |
| Ø 63 mm           | 15 → 50 |                          |       |       | 21         | 1                      | 1   |             |            | Ex II 2 GD c IIB T4 T135°C | 22          | 2 | 2 | 2 |  | Ex II 3 GD c T4 T135°C |
| Ø 90 mm           | 25 → 65 |                          |       |       | 21         |                        |     |             |            | Ex II 2 D c T135°C         | 22          | 2 | 2 | 2 |  | Ex II 3 GD c T4 T135°C |
| Ø 125 mm          | 32 → 65 |                          |       |       |            |                        |     |             |            |                            |             |   |   |   |  |                        |

### ORDERING

| Verify the compatibility of the category/zone with the selected valve. | suffix to be added to the valve's catalogue number <sup>(1)</sup> |            |
|--|---|------------|
|  | category 2  | category 3 |
|  | <b>GD2</b>  | <b>GD3</b> |

Example (see page 15):

Valve E290, DN 35, operator dia. 63 mm designed for use in zones 1 and 21 (category 2), catalogue number: **E290B010GD2**

### CHOICE OF OPTIONS AND ACCESSORIES

| construction type  | see page | catalogue page |    |    |    |    |    |    |                 | NC | NO | NC | operator dia. compatibility (mm) |                            |                            |    |    | body |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
|--|----------|----------------|----|----|----|----|----|----|-----------------|----|----|----|----------------------------------|----------------------------|----------------------------|----|----|------|----|-----|--------|-----------------|-----------|--|--|--|--|--|--|--|--|--|--|
|  |          | 15             | 19 | 23 | 25 | 27 | 31 | 35 | 1 (3/2 section) |    |    |    | fluid entry under the disc       | fluid entry under the disc | fluid entry above the disc | 32 | 50 | 63   | 90 | 125 | bronze | stainless steel | cast iron |  |  |  |  |  |  |  |  |  |  |
| 01  Signaling box, intrinsically safe inductive contacts NAMUR   | 45       |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
| 07  Adapter plate (stainless steel) for NAMUR pad-mount pilot  | 44       |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
| 08  Oxygen service (max. limits: 15 bar, +60°C)  | 44       |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
| 09  Vacuum applications up to 1.33 10 <sup>-3</sup> mbar   | 44       |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
| 10  NET-INOX treatment   | 44       |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
| 11  Conformity with Regulation (EC) 1935-2004  | 44       |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |
| 12  All stainless steel AISI 316L version (Recommended for aggressive environments) For valve catalogue numbers = contact us |          |                |    |    |    |    |    |    |                 |    |    |    |                                  |                            |                            |    |    |      |    |     |        |                 |           |  |  |  |  |  |  |  |  |  |  |

- Valves with female threaded ports.
- Valves with male threaded ports
- Valves with butt welding connection
- Valves with flange connection.
- Valves with CLAMP connection
- Valves with male threaded ports DIN 11851

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**CONSTRUCTION 07**

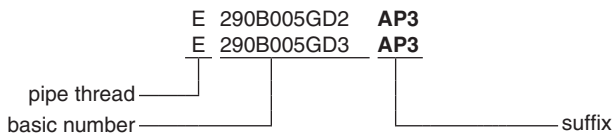
**Adapter plate for NAMUR pad-mount pilot**

- Adaptable on diameter Ø 63, 90 and 125 mm operators
- Stainless steel AISI 316L
- Solenoid pilot valves, series 551, 3/2 NC:
  - aluminium body, catalogue number **SCG551A001** ([www.asco.com](http://www.asco.com))
  - St. steel body, AISI316L, catalogue number **SCG551A409** ([www.asco.com](http://www.asco.com))

**TO ORDER:** (for compatibility: see page 43)

- Add suffix
  - stainless steel AISI 316L **AP3** (dia. 63 mm operator)
  - stainless steel AISI 316L **AP4** (dia. 90 and 125 mm operators)

**ORDERING EXAMPLES:**



**CONSTRUCTION 08**

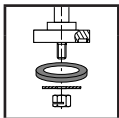
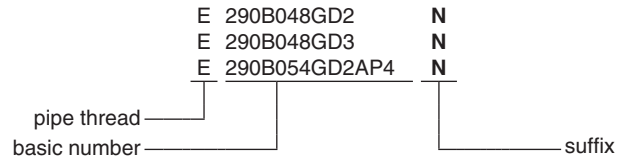
**Oxygen service**

- Special grease and cleaning
- **Pressure limited to 15 bar/temperature limited to +60°C**

**TO ORDER:** (for compatibility: see page 43)

- Add suffix **N**

**ORDERING EXAMPLES:**



**CONSTRUCTION 09**

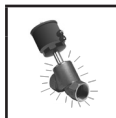
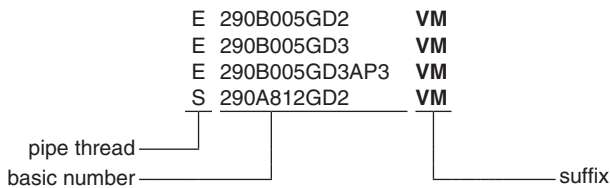
**Vacuum applications up to 1,33 10<sup>-3</sup> mbar**

- **FPM disc for use with medium vacuum**

**TO ORDER:** (for compatibility: see page 43)

- Add suffix **VM**

**ORDERING EXAMPLES:**



**CONSTRUCTION 10**

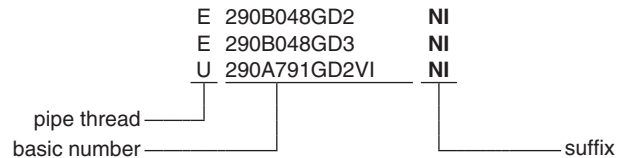
**NET-INOX treatment**

- **Stainless steel valve body pickled in nitric hydrofluoric acid bath**
- **Treatment recommended for aggressive environments**
- **Standard on valves with CLAMP-type connections**

**TO ORDER:** (for compatibility: see page 43)

- Add suffix **NI**

**ORDERING EXAMPLES:**



**CONSTRUCTION 11**

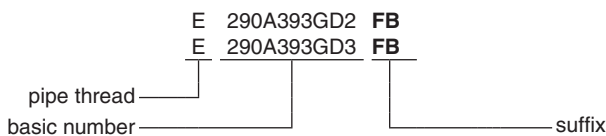
**Conformity with Regulation (EC) 1935-2004**

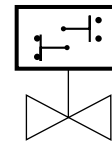
- **The material of the wetted parts are listed in the chart of the Annex I of Regulation (EC) 1935/2004**

**TO ORDER:** (for compatibility: see page 43)

- Add suffix **FB**

**ORDERING EXAMPLES:**





## FEATURES

- The signaling box fits all series 290 (2/2) and 390 (3/2) valves with 50 mm (NC) and 63 to 125 mm (NC/NO) operators to indicate whether the valve is open or closed
- The version with 2 intrinsically safe inductive NAMUR contacts is designed for use in potentially explosive atmospheres to ATEX-Directive 2014/34/EU
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with the International and European Standards EN 60079-0, EN 60079-11 and EN 60076-26
- The signaling box is supplied pre-installed and pre-adjusted on the valve. It is rotatable through 360°
- The signaling box complies with the EMC Directive 2014/30/EU

## OPERATION

At both end-of-travel positions (open and closed) of the valve stem, cams on the signaling box plunger operate contacts which provide an electrical signal indicating that the end position is reached.

## GENERAL

Ambient temperature range -10°C to +60°C

## CONSTRUCTION

Body, cover PA  
Degree of protection IP66  
Unit can be rotated through 360° around the centreline of the valve operator (set screw)

## ELECTRICAL CHARACTERISTICS

### intrinsically safe inductive NAMUR contacts

The protection rating of the installed signaling box depends on the type of selected valve (see page 1).

Contact characteristics:

- Power supply: 8,2 V DC
- Switching frequency: 800 Hz

Protection rating of contacts:

- II 1 G Ex ia IIB T6 Ga
- II 2 G Ex ia IIB T6 Gb
- II 1 D Ex ia IIC T90°C Da

• EC type examination certificate no.:  
**BVS 04 ATEX E153**  
**PTB 01 ATEX 2191**

• Recommended interfaces:  
*galvanic barrier*  
Pepperl & Fuchs type KFA6-SR2-EX1.W  
MTL instruments type MTL5011B  
*ZENER barrier*  
MTL instruments type MTL7742

| safety parameters |                |                |                |                |
|-------------------|----------------|----------------|----------------|----------------|
| U <sub>i</sub>    | I <sub>i</sub> | P <sub>i</sub> | L <sub>i</sub> | C <sub>i</sub> |
| 15 V              | 50 mA          | 120 mW         | 110 µH         | 80 nF          |

## Electrical connection

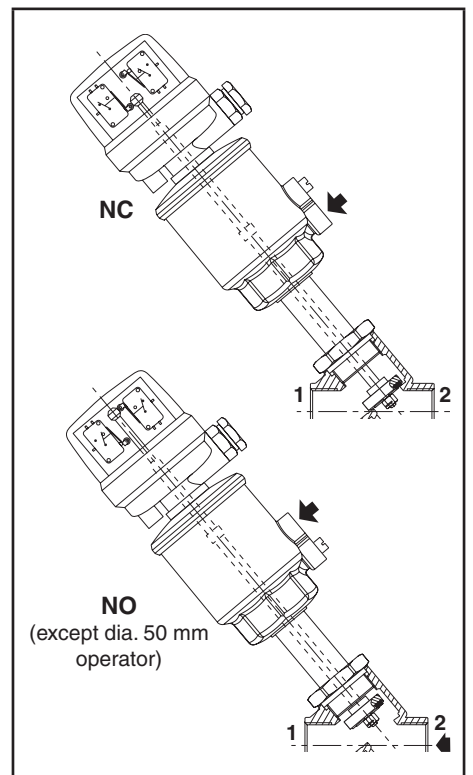
intrinsically safe inductive NAMUR contacts 2 terminal strips with 5 screw terminals  
Max. grip 2,5 mm<sup>2</sup>  
Cable entry 1 cable gland (cable Ø 5-10 mm)

## SPECIFICATIONS

| operator                                     | suffix <sup>(1)</sup><br>signaling box supplied installed on valve<br>2 intrinsically safe inductive contacts |
|--|---|
| dia. 50 mm (NC), dia. 63, 90, 125 mm (NC-NO) | SH2   |

<sup>(1)</sup> Add the appropriate suffix after the catalogue number of the selected valve, example:

- catalogue number of valve alone **E290B010**
- catalogue number of valve + pre-installed intrinsically safe inductive contacts box = **E290B010 SH2**

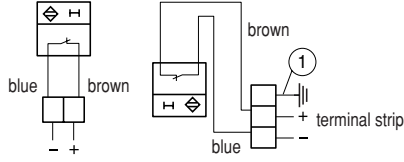


### OPTIONS

- Other types of contacts: contact us

### INSTALLATION

- The signaling box can be installed in any position
- Electrical connection:



① Electrical continuity terminal

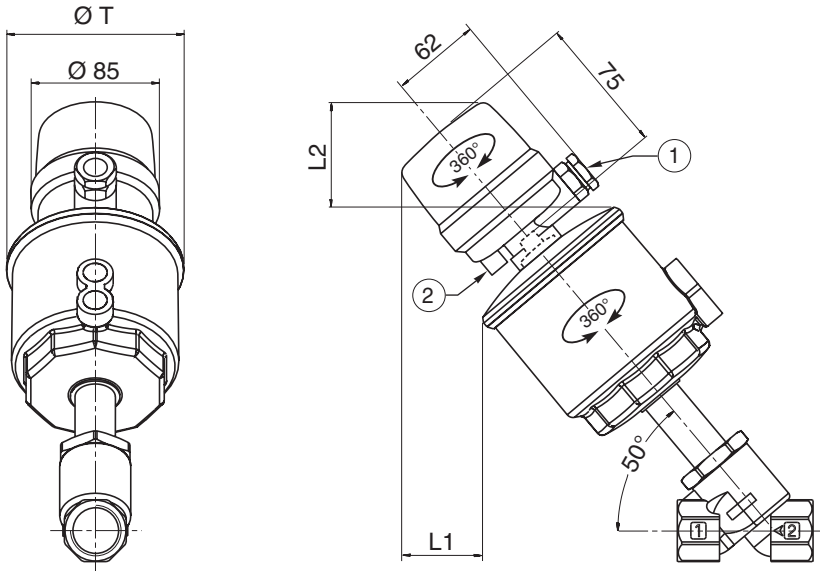
- Installation/maintenance instructions are included with each signaling box

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

Weight of unit alone: 0,310

### INSTALLATION ON SERIES 290 & 390

with dia 50 (NC), 63, 90 or 125 mm operator



| operator dia. | 50 mm | 63 mm | 90 mm | 125 mm |
|---------------|-------|-------|-------|--------|
| L1            | 53    | 46    | 35    | 32     |
| L2            | 75    | 70    | 56    | 50     |
| Ø T           | 65    | 85    | 118   | 156    |

- ① 1 cable gland (cable Ø 5-10 mm)
- ② Unit rotation lock set screw (orientable through 360°)