



















### GENERAL / CONSTRUCTION / SPECIFICATIONS

See catalogue pages "Pressure Operated Valves (2/2)": 15, 19, 23, 25, 27, 31, 35  
 "Pressure Operated Valves (3/2)": 1

### CHOICE OF OPTIONS AND ACCESSORIES

construction type	see page	catalogue page							NC	NO	NC	operator dia. compatibility (mm) Ø				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
 <b>01</b> Signaling box, with mechanical or inductive contacts	39	EE	EE	EE		II	II	II	II										///	///	///
 <b>02</b> Signaling unit for dia. 32 mm operators, with reed switch or magneto-resistive (MR) detectors	41	EE	EE	EE	EE	II	II	II	II										///	///	///
 <b>03</b> Signaling unit for dia. 50, 63, 90 and 125 mm operators, with reed switch or magneto-resistive (MR) detectors	39	EE	EE			II	II	II	II										///	///	///
 <b>04</b> Stroke limiter for opening	38	EE	EE			II	II	II	II										///	///	///
 <b>05</b> Manual safety device	38	EE	EE			II	II	II	II										///	///	///
 <b>06</b> Optical position indicator (Ø 32-50 mm) (Standard on dia. 63, 90 and 125 mm operators)	38	EE	EE	EE	EE	II	II	II	II										///	///	///
 <b>07</b> Adapter plate for NAMUR pad-mount pilot	38	EE	EE			II	II	II	II										///	///	///
 <b>08</b> Oxygen service (max. limits: 15 bar, +60°C)	38	EE		EE	EE	II	II		II	EE									///	///	///
 <b>09</b> Vacuum applications up to 1.33 10 <sup>-3</sup> mbar	38	EE		EE	EE	II	II		II	EE									///	///	///
 <b>10</b> NET-INOX treatment	38	EE	EE	EE		II	II												///	///	///
 <b>11</b> Conformity with Regulation (EC) 1935-2004	38		EE	EE	EE		II	II											///	///	///
 <b>12</b> All stainless steel AISI 316L version (Recommended for aggressive environments) For valve catalogue numbers = contact us																					

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



### CONSTRUCTION 04

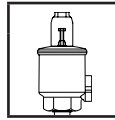
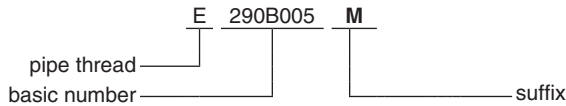
#### Stroke limiter for opening

- Fluid entry under the disc only
- Operator diameters 50 (NC), 63, 90 and 125 mm

**TO ORDER:** (for compatibility: see page 37)

- Add suffix **M**

#### ORDERING EXAMPLES:



### CONSTRUCTION 05

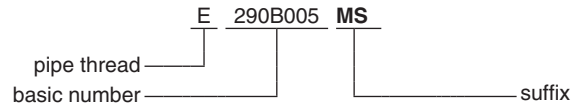
#### Manual safety device

- Allows opening of a de-energized valve
- For normally closed (NC) valves only

**TO ORDER:** (for compatibility: see page 37)

- Add suffix **MS**

#### ORDERING EXAMPLES:



### CONSTRUCTION 06

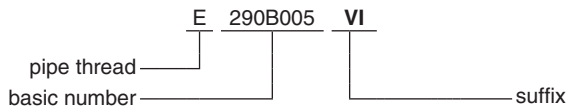
#### Optical position indicator

- Visual indication of open or closed position of NC valves with Ø 32 or 50 mm operator (standard with dia. 63, 90 and 125 mm operators)

**TO ORDER:** (for compatibility: see page 37)

- Add suffix **VI**

#### ORDERING EXAMPLES:



### CONSTRUCTION 07

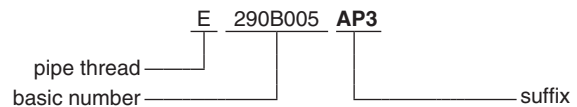
#### Adapter plate for NAMUR pad-mount pilot

- 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 37)

- 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

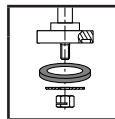
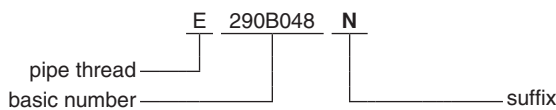
#### Oxygen service

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

**TO ORDER:** (for compatibility: see page 37)

- Add suffix **N**

#### ORDERING EXAMPLES:



### CONSTRUCTION 09

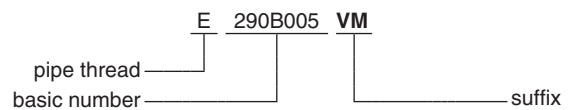
#### Vacuum applications up to 1,33 10<sup>-3</sup> mbar

- FPM disc for use with medium vacuum

**TO ORDER:** (for compatibility: see page 37)

- Add suffix **VM**

#### ORDERING EXAMPLES:



### CONSTRUCTION 10

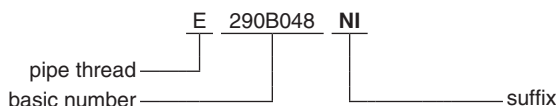
#### NET-INOX treatment

- 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 37)

- Add suffix **NI**

#### ORDERING EXAMPLES:



### CONSTRUCTION 11

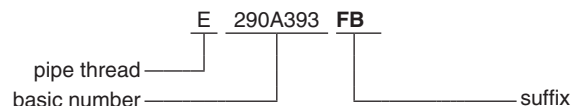
#### Conformity with Regulation (EC) 1935-2004

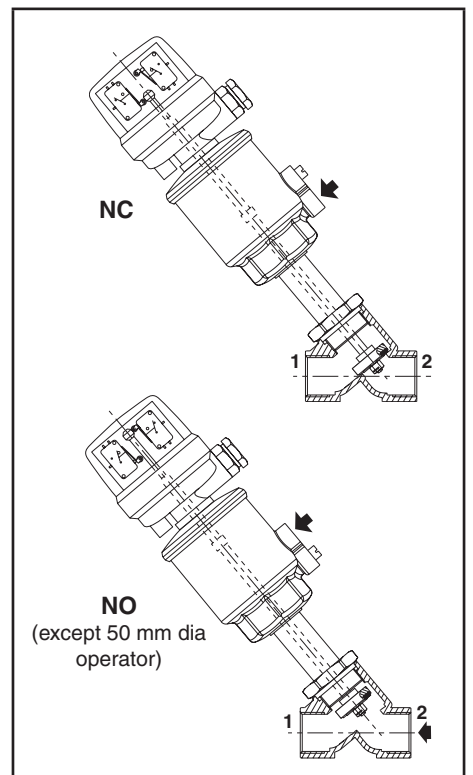
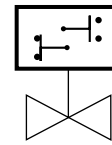
- The material of the wetted parts are listed in the chart of the Annex I of Regulation (EC) 1935/2004

**TO ORDER:** (for compatibility: see page 37)

- 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
- It is rotatable through 360° and equipped with two mechanical or inductive contacts
- The signaling box is supplied pre-installed and pre-adjusted on the valve. It can be delivered separately for on-site installation on any valve already in service
- The version with mechanical contacts can be used with up to max. 250 V AC and in magnetic field environments.

## GENERAL / 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.

## CONSTRUCTION

**Body** PA  
**Cover** PA, transparent  
**Protection rating** IP65  
**Unit can be rotated through 360° around the centreline of the valve operator (set screw)**

## ELECTRICAL CHARACTERISTICS

mechanical contacts	inductive contacts
Breaking capacity of contacts: • resistive circuit: 3,2 A at 250 V AC • inductive circuit: 1,8 A under 250 V AC (cos Ø= 0.8)	• 10 to 30 V DC power supply • load current 200 mA max. • built-in electrical protection

## Electrical connection

mechanical contacts 1 terminal strip with 6 screw terminals  
 inductive contacts 2 terminal strips with 2 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> signaling box supplied installed on valve	
	2 mechanical contacts	2 inductive contacts
Ø 50 mm (NC)	<b>SM2</b>	<b>SI2</b>
Ø 63, 90, 125 mm (NC-NO)		

<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 inductive contacts box = **E290B010 SI2** ;  
The inductive contacts box is supplied installed on the valve and pre-adjusted.

NOTE - The signaling box can be supplied separately for on-site installation on any valve already in service (contact us).

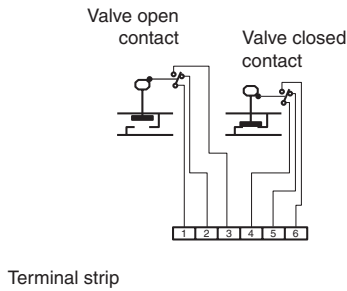
### OPTIONS

- Other types of contacts: contact us

### INSTALLATION

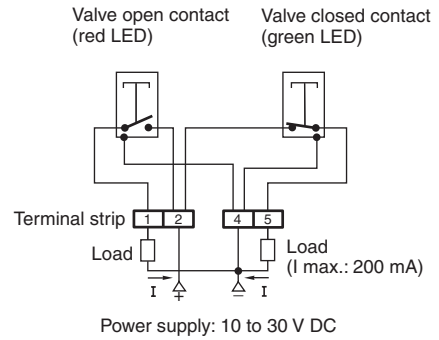
- The signaling box can be installed in any position
- Electrical connection:

#### mechanical contacts



#### inductive contacts

(valve closed)



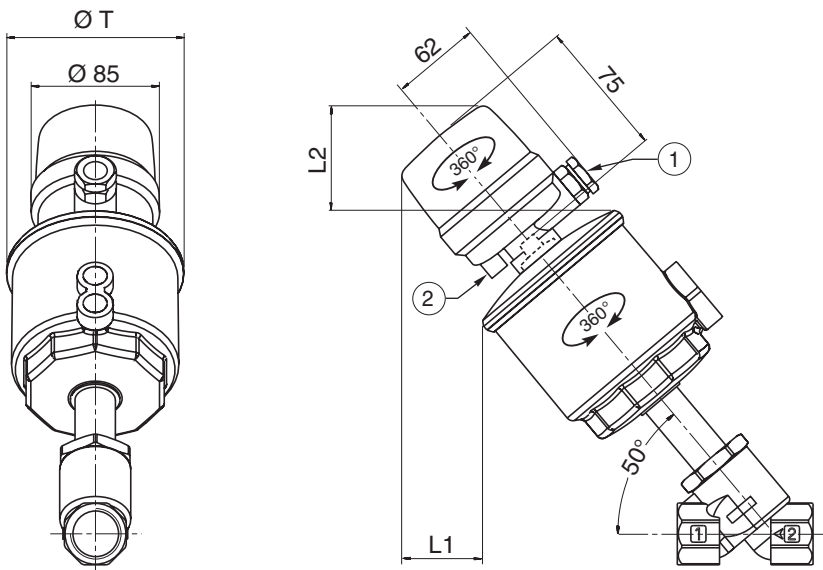
- Installation/maintenance instructions are included with each signaling box

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

Weight of unit alone: 0,310

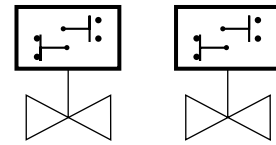
### INSTALLATION SUR SERIES 290 & 390

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°)



## FEATURES

- The signaling unit fits all 290 (2/2) and 390 (3/2) valves with 32 mm/50 mm (NC), 63 to 125 mm (NC/NO) operators and electrically and visually indicates whether the valve is open or closed
- Size and shape adapted for easy valve installation
- Detectors held in place by lateral grooves
- Incorporated detectors for enhanced protection
- One standard detector support suitable for both reed switch and magneto-resistive (MR) "T"-type detectors

## GENERAL / OPERATION

The magnet support of the compact signaling unit is attached to the stem of the valve and contains the permanent magnet. The extreme positions of the valve stem can therefore be detected by either the reed switch or the magneto-resistive detectors.

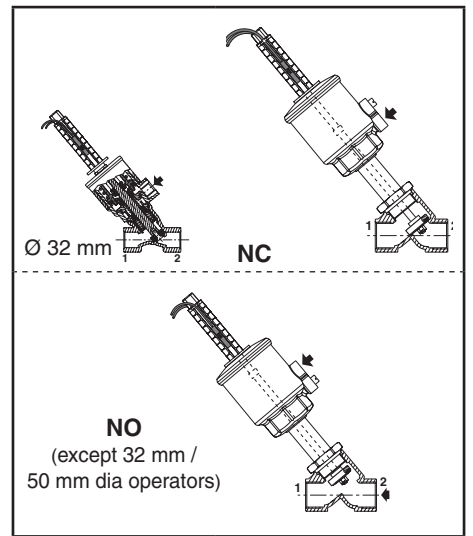
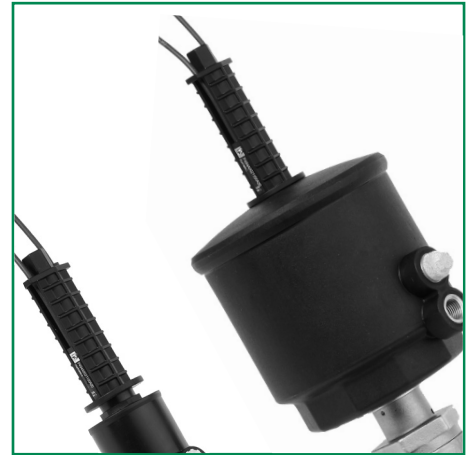
It is possible to install one or two detectors to monitor one or both extreme positions of a valve.

## CONSTRUCTION

**Support** PA  
**Detector encapsulation** PA + FV  
**Cable** PUR, resistant to cutting oils (PVC = M12, IP69K)

## CHARACTERISTICS

	Reed switch detector	Magneto-resistive detector
<b>Max. breaking power</b>	5 VA (AC) -5 W (DC)	3 W (DC)
<b>Switching voltage</b>	AC/DC: 5 to 120 V max.	10 to 30 V DC
<b>stripped ends connector</b>	AC: 5 to 50 V max. DC: 5 to 60 V max.	10 to 30 V DC
<b>Max. switching current</b>	100 mA	100 mA
<b>Short-circuit protection</b>	No	Yes
<b>Reverse polarity protection</b>	Yes (without LED function)	Yes
<b>Overload protection</b>	No	Yes
<b>Wiring</b>	-	PNP - NPN
<b>Voltage drop</b>	< 5 V	< 1,5 V (I = 50 mA) < 2,5 V (I = 100 mA)
<b>Breakdown voltage</b>	230 V DC	-
<b>Contact resistance</b>	max. 0,2 ohm	-
<b>Insulation resistance</b>	2.10 <sup>8</sup> ohm at 100 V	-
<b>Max. leakage current</b>	-	< 50 µA
<b>Max. allowable overvoltage</b>	-	32 V DC max. (100 ms)
<b>Sensitivity</b>	Min. 2,1 mTesla (21 Gauss)	Min. 2 mTesla (20 Gauss)
<b>Response time</b>		
<b>opening</b>	0,1 ms	110 µs
<b>closing</b>	0,6 ms	220 µs
<b>Repeatability</b>	< ± 0,2 mm	< 0,2 mm
<b>Temperature range</b>	-25°C to +70°C	-25°C to +85°C
<b>Degree of protection</b>	IP67	IP67 / IP69K
<b>Protection class</b>	Cable outlet, class II M8 + M12, class III	Class III
<b>Approval</b>	CE	CE (UL, cUL 2m + M8)
<b>Signal indication</b>	Yellow diode (LED) which lights up when contact is established	



## SPECIFICATIONS

### 1 SIGNALING SUPPORT

description	suffix
• Signaling support supplied installed on valve	<b>SU</b> <sup>(1)</sup>

### 2 MAGNETIC POSITION DETECTOR (Detectors are always delivered separately.)

description	IP	lead	catalogue number <sup>(1) (2)</sup>		
			reed switch detector	MR detector	
				PNP	NPN
• stripped ends	IP67	PUR  (0,14 mm <sup>2</sup> )	P494A0021300A00	-	-
			P494A0021100A00	-	-
			-	P494A0022300A00	P494A0022400A00
			-	P494A0022100A00	-
• 3-pin plug-in male connector and Ø M8	0,3 m	IP67 PUR 	P494A0021500A00	-	-
			P494A0021600A00	-	-
			-	P494A0022600A00	P494A0022700A00
			P494A0021700A00	-	-
• 3-pin screw-type male connector, Ø M12	0,3 m	IP67 PUR IP69K PVC 	-	P494A0022800A00	-
			-	P494A0022900A00	-
			-	-	-

<sup>(1)</sup> Add the suffix "SU" after the catalogue number of the selected valve.

Example: catalogue number of valve alone **E290A010** / catalogue number of valve + pre-installed signaling support **E290A010SU** + catalogue number of detector and required quantity

<sup>(2)</sup> Each catalogue number corresponds to one single detector.

### INSTALLATION

- Polarised magneto-resistive (MR) detector with output protected against possible short-circuits on load at an output current lower than or equal to 0,1 A. In case of inductive load, use a diode in parallel with the load
- Installation/maintenance instructions are supplied with each compact signaling unit

### ACCESSORIES

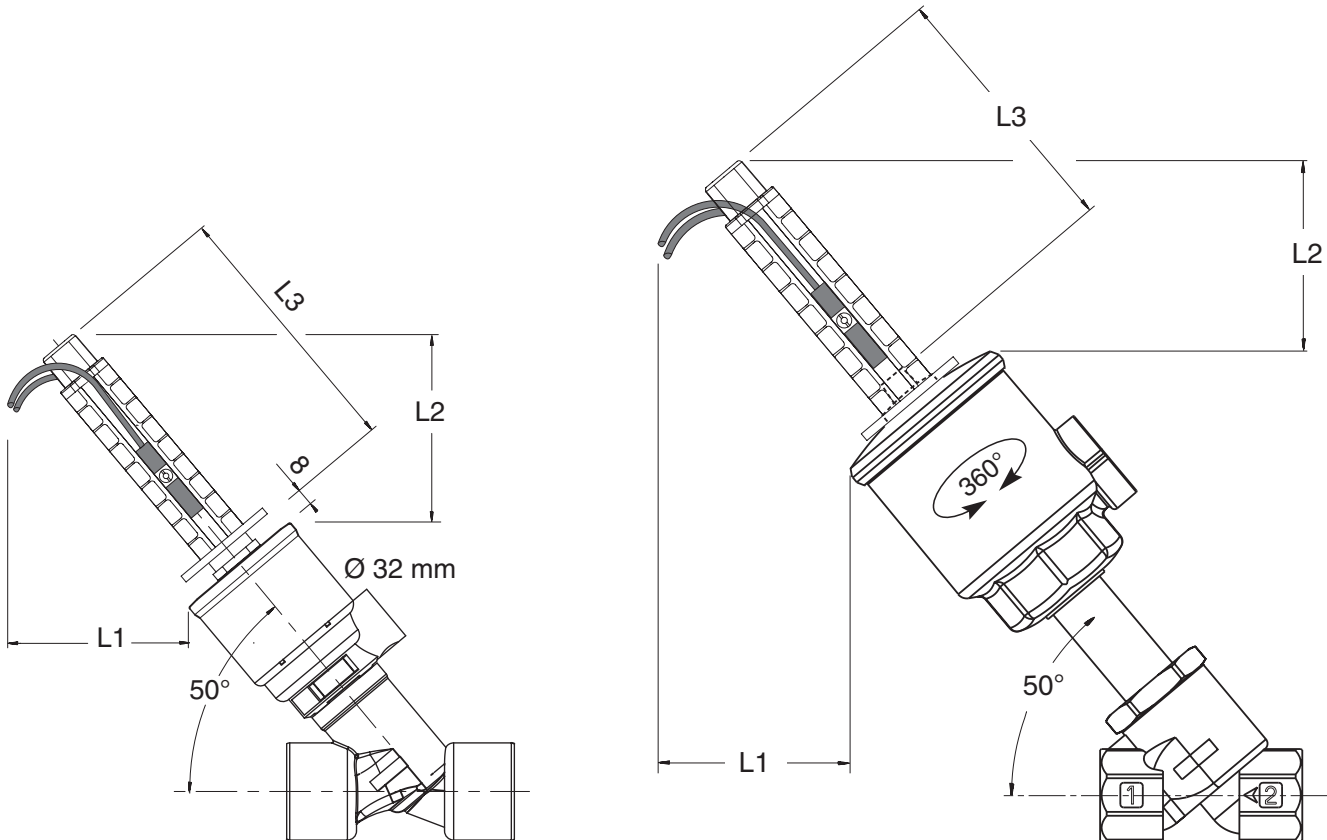
<ul style="list-style-type: none"> <li>• PVC extension cord, length 5 m, 3-wire conductors 0.25 mm<sup>2</sup> with 1 screw-type female M8 connector (other end plain)<sup>(1)</sup>, catalogue number <b>P4994406200N001</b></li> </ul>	
<ul style="list-style-type: none"> <li>• PVC extension cord, length 5 m, 3-wire conductors 0.25 mm<sup>2</sup> with 1 screw-type female M12 connector (other end plain)<sup>(1)</sup>, catalogue number <b>P4994406210N001</b></li> </ul>	
<ul style="list-style-type: none"> <li>• Straight 3-pin female connector Ø M8, IP67, catalogue number <b>P4994406220N001</b></li> </ul>	
<ul style="list-style-type: none"> <li>• Right angle 3-pin female connector Ø M8, orientable 90° x 90°, IP67, catalogue number <b>P4994406230N001</b></li> </ul>	
<ul style="list-style-type: none"> <li>• Block of memorizing position of adjustment detector, catalogue number <b>P4994406160N001</b></li> </ul>	

<sup>(1)</sup> Detector connection:  
**Magneto-resistive type:** brown wire = +, blue wire = -, black wire = load

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

Weight of signaling support: 0,25

Weight of one single detector: 0,007 to 0,050 depending on connector configuration and cable length



	operator dia.				
	32 mm (NC)	50 mm (NC)	63 mm	90 mm	125 mm
L1	60	67	60	47	33
L2	66	47	42	38	19
L3	86	70	70	70	70