

GENERAL / CONSTRUCTION / SPECIFICATIONS

See catalogue pages

Section D (2/2) : V405, V410, V412, V414, V420, V431, V432, V438
Section F (3/2) : V703

CHOICE OF OPTIONS AND ACCESSORIES

construction type	see page	leaflet							NC	NO	NC	operator dia. compatibility (mm)				body				
		V405	V410	V412	V414	V420	V431	V438	V703	fluid entry under the disc	fluid entry under the disc	fluid entry above the disc	32	50	63	90	125	bronze	stainless steel	all AISI 316L
 01 Signaling box, with mechanical or inductive contacts	3	EE	EE	EE		II	II			•		•		•			///	///	///	
 02 Compact signaling unit for dia. 32 mm operators, with reed switch or magneto-resistive (MR) detectors	5		EE	EE	EE	II	II		II	•		•		•				///	///	
 03 Compact signaling unit for dia. 50 to 125 mm operators, with reed switch or magneto-resistive (MR) detectors	7	EE	EE	EE		II	II			•		•		•			///	///	///	
 04 Stroke limiter for opening	2	EE	EE	EE		II	II		II	•		•		•			///	///	///	
 05 Manual safety device	2	EE	EE			II	II		II	•		•		•			///	///	///	
 06 Optical position indicator (Standard on dia. 63, 90 and 125 mm operators)	2	EE	EE	EE	EE	II	II		II	•		•		•			///	///	///	
 07 Adapter plate for NAMUR pad-mount pilot	2	EE	EE			II	II		II	•		•		•			///	///	///	
 08 Oxygen service (max. limits: 15 bar, +60°C)	2		EE	EE	EE	II	II		II	•		•		•			///	///	///	
 09 Vacuum applications up to 1.33 10 ³ mbar	2		EE	EE	EE	II	II		II	•		•		•			///	///	///	
 10 NET-INOX treatment	2		EE	EE	EE	II	II		II	•		•		•			///	///	///	
 11 All stainless steel AISI 316L version (Recommended for aggressive environments) For valve catalogue numbers = see catalogue pages	2	EE	EE	EE	EE	II	II		II	•		•		•			///	///	///	

D

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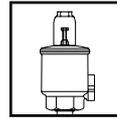
 Valves with female threaded ports
  Valves with butt welding connection
  Valves with CLAMP connection
 Valves with male threaded ports
  Valves with flange connection
  Valves with male threaded ports DIN 11851



CONSTRUCTION 04

Stroke limiter for opening

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



CONSTRUCTION 05

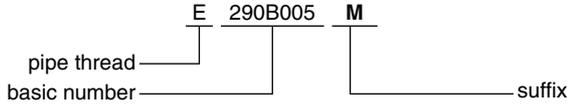
Manual safety device

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

TO ORDER (compatibility, see page 1):

- Add suffix **M**

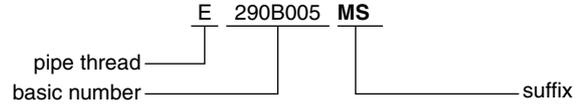
ORDERING EXAMPLE:



TO ORDER (compatibility, see page 1):

- Add suffix **MS**

ORDERING EXAMPLE:



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)



CONSTRUCTION 07

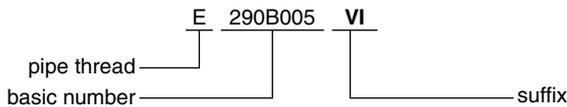
Adapter plate for NAMUR pad-mount pilot

- Adaptable on diameter Ø 63, 90 and 125 mm operators
- Aluminium or stainless steel AISI 316L
- Solenoid pilot valves, series 551, 3/2 NC :
 - aluminium body, catalogue number **SCG551A001** (V860, sect. G)
 - St. steel body, AISI316L, catalogue number **SCG551A409**⁽¹⁾

TO ORDER (compatibility, see page 1):

- Add suffix **VI**

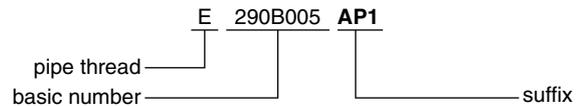
ORDERING EXAMPLE:



TO ORDER (compatibility, see page 1):

- Add suffix
 - aluminium **AP1** (dia. 63 mm operator)
 - aluminium **AP2** (dia. 90 and 125 mm operators)
 - stainless steel AISI 316L **AP3** (dia. 63 mm operator)
 - stainless steel AISI 316L **AP4** (dia 90 and 125 mm operators)

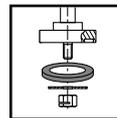
ORDERING EXAMPLE:



CONSTRUCTION 08

Oxygen service

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



CONSTRUCTION 09

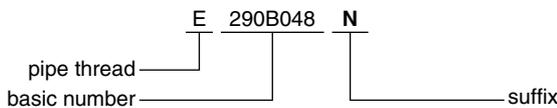
Vacuum applications up to 1,33 10⁻³ mbar

- FPM disc for use with medium vacuum

TO ORDER (compatibility, see page 1):

- Add suffix **N**

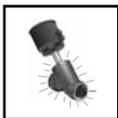
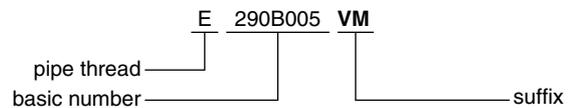
ORDERING EXAMPLE:



TO ORDER (compatibility, see page 1):

- Add suffix **VM**

ORDERING EXAMPLE:



CONSTRUCTION 10

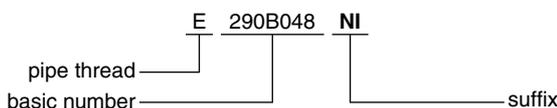
NET-INOX treatment

- Stainless steel valve body pickled in nitric hydrofluoric acid bath
- Treatment recommended for aggressive environments
- Standard on valves with CLAMP-type connections and all stainless steel AISI 316L valves

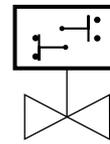
TO ORDER (compatibility, see page 1):

- Add suffix **NI**

ORDERING EXAMPLE:



⁽¹⁾ Consult our catalogue «Pilot Valves for the Process Industry» at: www.asconumatics.eu



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. 250V 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

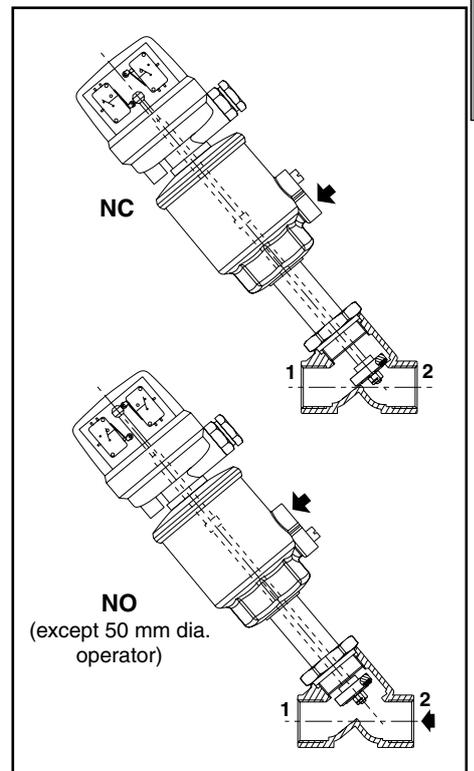
mechanical contacts 1 terminal strip with 6 screw terminals
 inductive contacts 2 terminal strips with 2 screw terminals
Max. grip 2,5 mm²
Cable entry 1 cable gland (cable Ø 5-10 mm)

SPECIFICATIONS

operator	suffix ⁽¹⁾	
	2 mechanical contacts	2 inductive contacts
Ø 50 mm (NC)	SM2	SI2
Ø 63, 90, 125 mm (NC-NO)		

- ⁽¹⁾ 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).



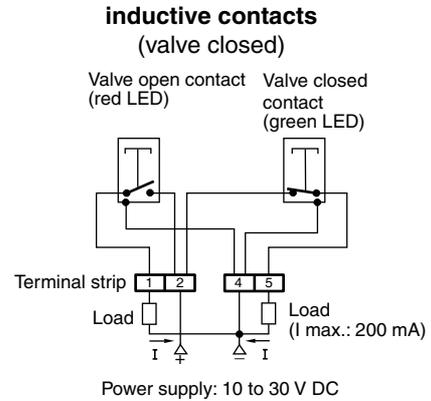
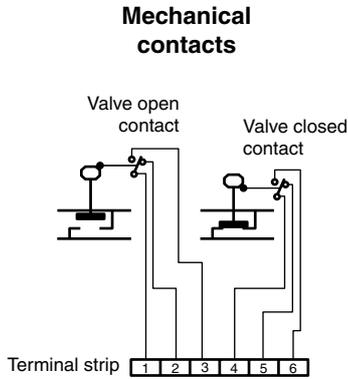
D

OPTIONS

- Other types of contacts: consult us

INSTALLATION

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



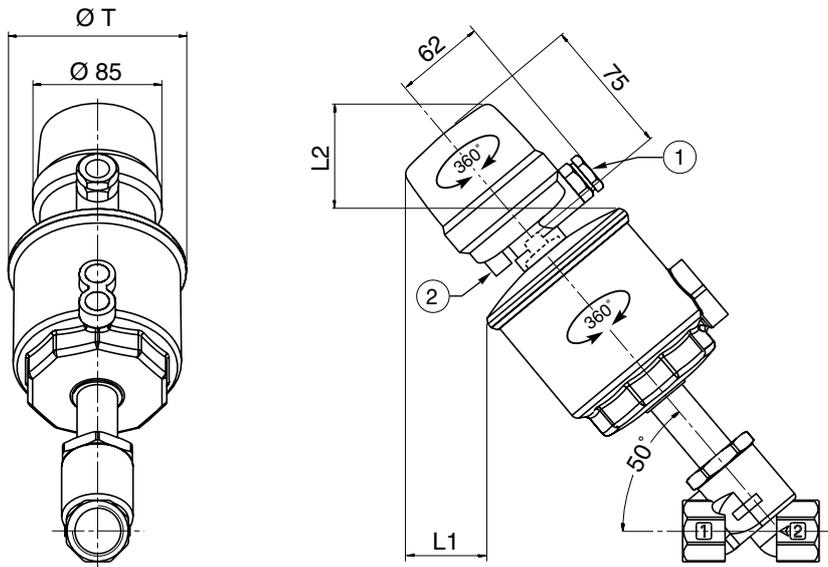
- Installation/maintenance instructions are included with each signaling box

DIMENSIONS (mm), WEIGHT (kg)

Weight of unit alone: 0,310

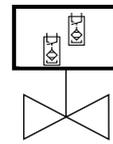
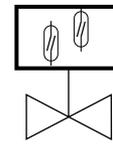
INSTALLATION ON SERIES 290 & 390

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 (Pg 11P)
- ② Unit rotation lock set screw (orientable through 360°)



FEATURES

- The compact signaling unit fits all 290 (2/2 NC) valves with **32 mm** operator and electrically and visually indicates whether the valve is open or closed
- Due to its small size, the signaling unit fits in confined spaces
- Easy installation without the need of any special tools
- One standard detector support is suitable for both reed switch and magneto-resistive (MR) COMPACT-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.

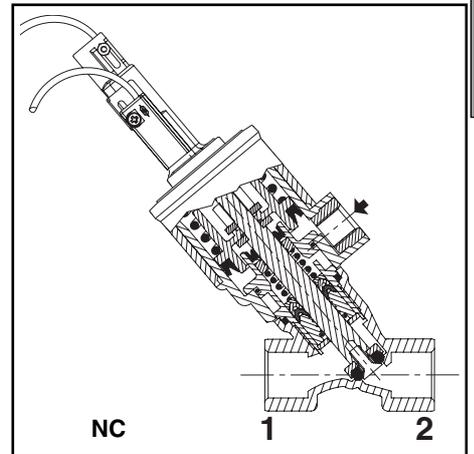
It is possible to install one or two detectors to monitor one or both extreme positions of a valve.

CONSTRUCTION

Support PA, transparent
Detector encapsulation PA, epoxy moulded

CHARACTERISTICS

	Reed switch detector	Magneto-resistive detector
Max. breaking power	10VA (AC) - 3W (DC)	3W (DC)
Switching voltage	12 to max. 30 V DC / AC	10 to 30 V DC
Max. switching current	100 mA	100 mA
Voltage drop (EN 60947-5-2)	< 2,6 V (I = 100 mA)	< 1,1 V (I = 50 mA) < 1,2 V (I = 100 mA)
Insulation resistance	2.10 ¹⁰ ohm at 500 V	20.10 ¹⁰ ohm at 500 V
Contact resistance	max. 0,1 ohm	-
Max. leakage current	-	10 µA
Max. allowable overvoltage	-	max. 40 V (10 sec.)
Dielectric strength	AC/DC = 140V	-
Sensitivity	min. 2 mTesla (20 Gauss)	min. 2 mTesla (20 Gauss)
Response time		
opening	0,2 ms	0,2 ms
closing	0,5 ms	0,1 ms
Repeatability	± 0,5 mm	± 0,1 mm
Life	2.10 ⁷ operations	5.10 ⁷ operations
Temperature range	-25°C to +70°C	-25°C to +70°C
Degree of protection (IEC 529)	IP67	IP67
Signal indication	Yellow diode (LED) which lights up when contact is established	



CHOICE OF EQUIPMENT

Indicate when ordering a compact signaling unit:

- **suffix of signaling support** (delivered mounted on valve) **1**
- **catalogue number of detector and required quantity** (depending on model) **2**

1 SIGNALING SUPPORT

description	suffix
• Signaling support supplied installed on valve series 290 (2/2) with 32 mm dia operator (NC only)	SU ⁽¹⁾

2 MAGNETIC POSITION DETECTOR

description	(C)	catalogue number ⁽²⁾	
		reed switch detector	MR detector
• 2 m PVC cable, 0,14 mm ² conductors, stripped ends	1	88144201	88144205
• 5 m PVC cable, 0,14 mm ² conductors, stripped ends	1	88144202	88144206
• 0,8 m PVC cable, 3-pin M8 plug-in male connector	2	88144203	88144207
• 0,8 m PVC cable, 3-pin M8 screw-type male connector	3	88144209	88144210
• 0,8 m PUR ⁽³⁾ cable, 3-pin M12 screw-type male connector	4	88144204	88144208

⁽¹⁾ For the support alone, delivered mounted on the valve, add the suffix "SU" after the catalogue number of the selected valve.

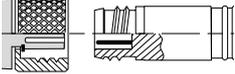
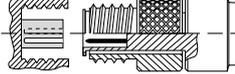
Example :- catalogue number of valve alone **E290A793**
- catalogue number of valve + pre-installed signaling support **E290A0793SU**

⁽²⁾ Each catalogue number corresponds to one single detector.

⁽³⁾ PUR cable resistant to cutting fluids.

(C) Type of construction, configuration: see following page.

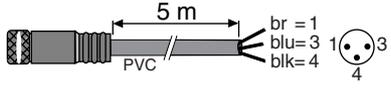
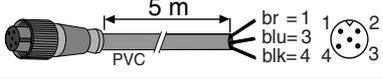
TYPE OF AVAILABLE DETECTOR CONNECTIONS

Construction 1	Construction 2	Construction 3	Construction 4
PVC lead, 2 or 5 m long, 2 wires 0,14 mm ² , stripped ends	0,8 m PVC lead + 3-pin plug-in male connector and Ø M8	0,8 m PVC lead + 3-pin screw-type male connector, Ø M8	0,8 m PUR lead + 3-pin screw-type male connector, Ø M12
			
			

INSTALLATION

- To avoid disturbance, do not install compact signaling unit in areas with a large magnetic field
- Mounting screws and nuts for detectors are supplied with the signaling support
- 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"> • PVC extension cord, length 5 m, 3-wire conductors 0.25 mm² with 1 screw-type female M8 connector (other end plain) ^{(1) (2)}, catalogue number 88100239 	
<ul style="list-style-type: none"> • PVC extension cord, length 5 m, 3-wire conductors 0.25 mm² with 1 screw-type female M12 connector (other end plain) ⁽²⁾, catalogue number 88100238 	
<ul style="list-style-type: none"> • Straight 3-pin female connector Ø M8, IP67, catalogue number 88100202 	
<ul style="list-style-type: none"> • Right angle 3-pin female connector Ø M8, orientable 90° x 90°, IP67, catalogue number 88100203 	

⁽¹⁾ Extension for integral M8 connector detectors. Coupling to plug-in dia. 8 male connectors is **not advised**.

⁽²⁾ Detector connection

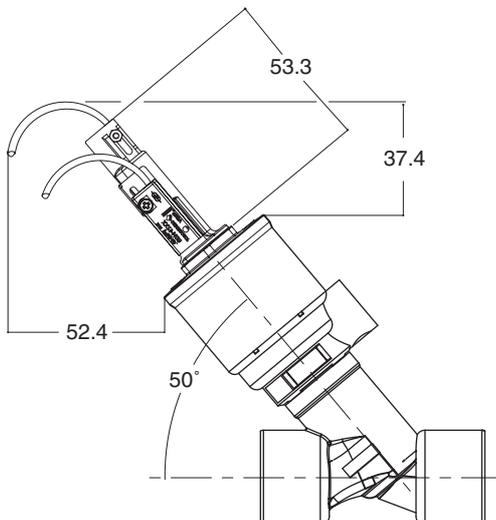
Reed switch type: brown wire and black wire (non-polarised detector), blue wire not used

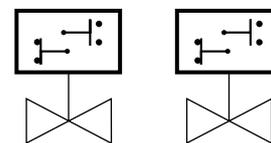
Magneto-resistive type: brown wire = +, blue wire = -, black wire = load

DIMENSIONS (mm), WEIGHT (kg)

Weight of signaling support: 0,300

Weight of one single detector: 0,023 to 0,061 depending on connector configuration and cable length





FEATURES

- The compact signaling unit fits all 290 (2/2 NC) and 390 (3/2) valves with **32 mm (NC), 63 to 125 mm (NC/NO)** operators and electrically and visually indicates whether the valve is open or closed
- Due to its small size, the signaling unit fits in confined spaces
- Easy installation without the need of any special tools
- One standard detector support is suitable for both reed switch and magneto-resistive (MR) UNI-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 PPS

CHARACTERISTICS

	Reed switch detector	Magneto-resistive detector
Max. breaking power	12VA (AC) -10W (DC)	6W (DC)
Switching voltage	10 to 60 V max. ⁽³⁾	10 to 30 V DC
Max. switching current	500 mA	200 mA
Voltage drop	< 2,7 V (I = 200 mA) < 2,9 V (I = 500 mA)	< 1,1 V (I = 50 mA) < 1,4 V (I = 200 mA)
Insulation resistance	10 ¹⁰ ohm	10 ¹⁰ ohm
Contact resistance	max. 0,1 ohm	-
Max. leakage current	-	10 µA
Max. allowable overvoltage	-	50 V (10 seconds)
Dielectric strength	AC = 600V - DC = 470V	-
Sensitivity	min. 3 mTesla (30 Gauss)	min. 3 mTesla (30 Gauss)
Response time		
	opening 0,2 ms	0,2 ms
	closing 0,6 ms	0,1 ms
Repeatability	± 0,1 mm	± 0,1 mm
Life	10 ⁷ operations	>10 ⁷ operations
Temperature range	-20°C to +70°C	-20°C to +70°C
Degree of protection	IP67	IP67
Signal indication	Green diode (LED) which lights up when contact is established	

CHOICE OF EQUIPMENT

Indicate when ordering a compact signaling unit:

- **suffix of signaling support** (delivered mounted on valve or alone) **1**
 - **catalogue number of detector and required quantity** (depending on model) **2**
- Detectors are always delivered separately.

1 SIGNALING SUPPORT

description	suffix
• Signaling support supplied installed on valve 290 (2/2) with dia 50 mm (NC only), 63, 90 or 125 mm (NC/NO) operator 390 (3/2) with dia. 63, 90 or 125 mm operator	SU ⁽¹⁾

2 MAGNETIC POSITION DETECTOR

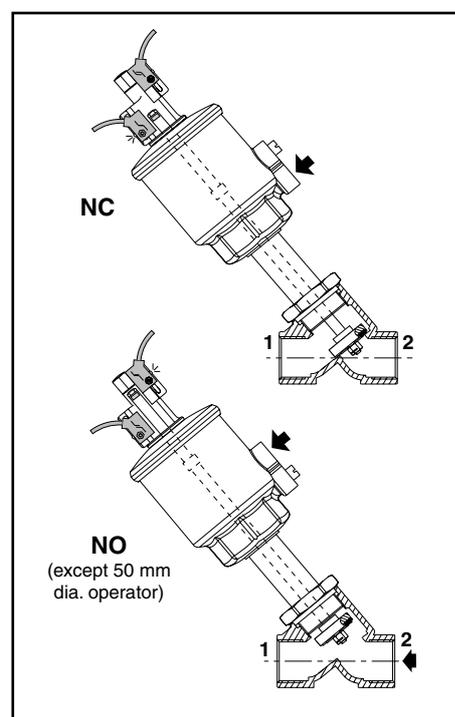
description	(C)	catalogue number ⁽²⁾	
		reed switch	MR detector
• Integral 3-pin M8 screw-type male connector	1	88100140	88100141
• 2 m PVC cable, 0,14 mm ² conductors, stripped ends	2	88100142	88100143
• 5 m PVC cable, 0,14 mm ² conductors, stripped ends	2	88100144	88100145
• 0,8 m PVC cable, 3-pin M8 plug-in male connector	3	88100146	88100147
• 0,8 m PUR ⁽³⁾ cable, 3-pin M12 screw-type male connector	4	88100148	88100149
• 5 m PVC cable, 3-pin M8 screw-type male connector	5	88100594	88100595

⁽¹⁾ For the support alone, delivered mounted on the valve, 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 **E290A010 SU**

⁽²⁾ Each catalogue number corresponds to one single detector.

⁽³⁾ Max. 230 V AC/DC (50 mA - 11,5 VA) version with 2 m PUR cable on request, catalogue number: **88100418**

(C) Type of construction, configuration: see following page



D

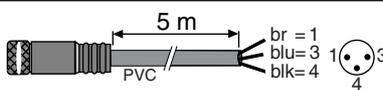
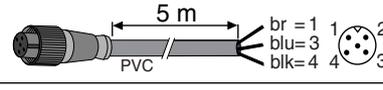
TYPE OF AVAILABLE DETECTOR CONNECTIONS

integral connector	45° cable outlet protected by grommet			
Construction 1	Construction 2	Construction 3	Construction 4	Construction 5
3-pin screw-type male connector, Ø M8	PVC cable, 2 or 5 m long, 2 or 3 wires 0,14 mm ² , with stripped ends	0,8 m PVC cable + 3-pin plug-in male connector, Ø 8	0,8 m PVC cable + 3-pin screw-type male connector, Ø M12	5 m PVC cable + 3-pin screw-type male connector, Ø M8
				

INSTALLATION

- To avoid disturbance, do not install compact signaling unit in areas with a large magnetic field
- Mounting screws and nuts for detectors are supplied with the signaling support
- Installation/maintenance instructions are supplied with each compact signaling unit

ACCESSORIES

<ul style="list-style-type: none"> • PVC extension cord, length 5 m, 3-wire conductors 0.25 mm² with 1 screw-type female M8 connector (other end plain) ⁽¹⁾ ⁽²⁾, catalogue number 88100239 	
<ul style="list-style-type: none"> • PVC extension cord, length 5 m, 3-wire conductors 0.25 mm² with 1 screw-type female M12 connector (other end plain) ⁽²⁾, catalogue number 88100238 	
<ul style="list-style-type: none"> • Straight 3-pin female connector Ø M8, IP67, catalogue number 88100202 	
<ul style="list-style-type: none"> • Right angle 3-pin female connector Ø M8, orientable 90° x 90°, IP67, catalogue number 88100203 	

⁽¹⁾ Extension for integral M8 connector detectors. Coupling to plug-in dia. 8 male connectors is **not advised**.

⁽²⁾ Detector connection

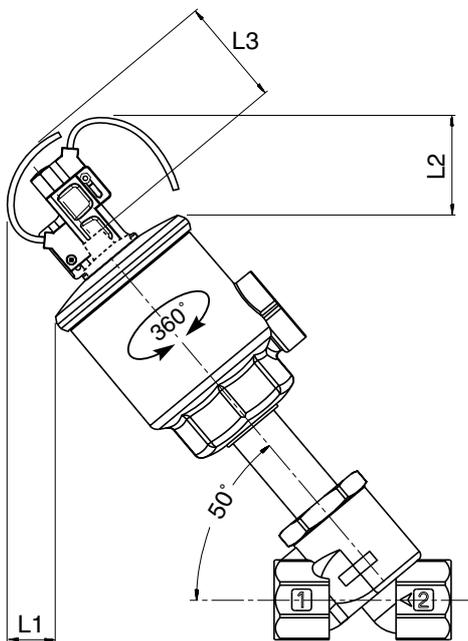
Reed switch type: brown wire and black wire (non-polarised detector), blue wire not used

Magneto-resistive type: brown wire = +, blue wire = -, black wire = load

DIMENSIONS (mm), WEIGHT (kg)

Weight of signaling support: 0,300

Weight of one single detector: 0,006 to 0,086 depending on connector configuration and cable length



Reed switch/magneto-resistive detectors with cable entry (with or without connector)				
operator dia.	50 mm (NC)	63 mm	90 mm	125 mm
L1	27	20	10	0
L2	51	45	35	22
L3	68	50	50	50

Reed switch/magneto-resistive detectors with integral M8 connector				
operator dia.	50 mm (NC)	63 mm	90 mm	125 mm
L1	58	50	40	0
L2	81	75	65	52
L3	98	80	80	80