

## Servo-assisted 2/2 way diaphragm valve



- Push-over solenoid system
- Energy-saving AC07 coil, max. DN13
- Body in plastic

Type 6228 can be combined with...



### Type 2516

Cable plug to DIN EN 175301-803 Form C<sup>1)</sup>



### Type 2507

Cable plug industrial standard Form B



### Type 2510

ASI cable plug

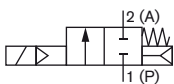
The Type 6228 is a servo-assisted 2/2 way solenoid valve with servo-diaphragm. It is particularly suited for neutral media.

Without electrical power, this solenoid valve is closed. Pressure builds up through the servo diaphragm, which pushes the latter downwards and thereby keeps the valve closed. On switching, the space above the servo-diaphragm will be relieved via the pilot valve.

As a result, the pressure of the medium lifts the servo-diaphragm, and the main valve opens. A minimum differential pressure of 0.5 bar is required for complete opening and closing. The special design and geometry of the internal parts of the valve produce a soft closing function with very low pressure peaks only.

It is very simple to extend the valve radially.

### Circuit function A



2/2 way servo-controlled solenoid valve, normally closed

| Technical data               |                                                                                                                                                                                                   |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Body material</b>         | PPE, PA                                                                                                                                                                                           |
| <b>Body cover</b>            | PPE, PA                                                                                                                                                                                           |
| <b>Valve internal parts</b>  | PPS, Ms                                                                                                                                                                                           |
| <b>Sealing material</b>      | NBR, EPDM, FPM                                                                                                                                                                                    |
| <b>Media</b>                 | Neutral media that does not attack the materials (e.g. compressed air, water, hydraulic oil, oils, greases without additives)                                                                     |
| <b>Medium temperature</b>    |                                                                                                                                                                                                   |
| <b>NBR</b>                   | 0 ... +50 °C                                                                                                                                                                                      |
| <b>EPDM</b>                  | -10 ... +50 °C                                                                                                                                                                                    |
| <b>FPM</b>                   | 0 ... +50 °C                                                                                                                                                                                      |
| <b>Ambient temperature</b>   | 0 ... +50 °C                                                                                                                                                                                      |
| <b>Port connection</b>       | Threaded ports G 3/8, G 1/2 (see Ordering charts Accessories)                                                                                                                                     |
| <b>Operating voltage</b>     | 24 V DC, 24 / 110 / 230 V / 50-60 Hz                                                                                                                                                              |
| <b>Voltage tolerance</b>     | ± 10 %                                                                                                                                                                                            |
| <b>Duty cycle</b>            | 100 % continuous rating                                                                                                                                                                           |
| <b>Electrical connection</b> | <ul style="list-style-type: none"> <li>▪ Tag connectors sideways</li> <li>▪ To DIN EN 175301-803 Form C<sup>1)</sup> for cable plug Type 2516 / 2510 (see Ordering charts Accessories)</li> </ul> |
| <b>Installation</b>          | As required, preferably with actuator upright                                                                                                                                                     |
| <b>Mass</b>                  | 130 g (DN10), 180 g (DN13)                                                                                                                                                                        |
| <b>Protection class</b>      | IP65 with cable plug                                                                                                                                                                              |

<sup>1)</sup> so far DIN 43650

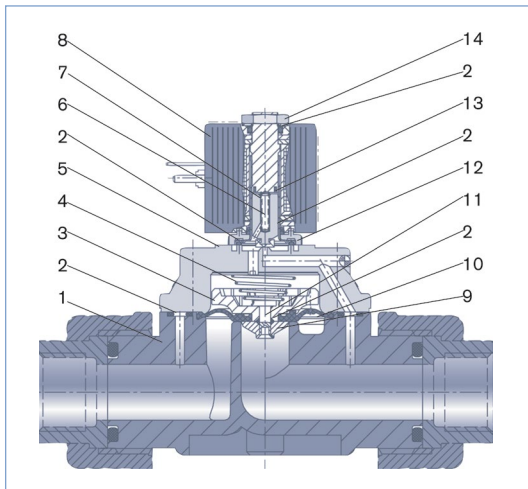
## Response times

| Orifice<br>[mm] | K <sub>v</sub> value water<br>[m <sup>3</sup> /h] | Port connection | Pressure range | Power consumption |        |           |        | Response times  |                 |
|-----------------|---------------------------------------------------|-----------------|----------------|-------------------|--------|-----------|--------|-----------------|-----------------|
|                 |                                                   |                 |                | Pick up           |        | Operation |        | Opening<br>[ms] | Closing<br>[ms] |
|                 |                                                   |                 |                | AC [VA]           | DC [W] | AC [VA]   | DC [W] |                 |                 |
| 10              | 1.8                                               | G 3/8           | 0.5 - 10       | 9                 | 4      | 6         | 4      | 30              | 150             |
| 13              | 3.2                                               | G 1/2           | 0.5 - 10       | 9                 | 4      | 6         | 4      | to 60           | to 300          |

<sup>1)</sup> Pressure data [bar]: Overpressure with respect to atmospheric pressure

- K<sub>v</sub> value [m<sup>3</sup>/h]: Flow rate value for water, measured at +20 °C and 1 bar<sup>1)</sup> pressure differential over a fully opened valve.
- Response times [ms]: measured at valve outlet at 6 bar<sup>1)</sup> and +20 °C  
Opening: pressure build-up 0...90%, closing: pressure relief 100...10%

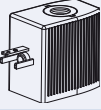
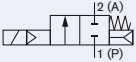
























## Material



|    |                                      |                                |
|----|--------------------------------------|--------------------------------|
| 1  | Body                                 | PPE / PA                       |
| 2  | O-ring                               | NBR, FPM, EPDM                 |
| 3  | Diaphragm support                    | PPS                            |
| 4  | Spring                               | 1.4310                         |
| 5  | Body cover                           | PPE / PA                       |
| 6  | Core                                 | 1.4105                         |
| 7  | Spring                               | 1.4310                         |
| 8  | Coil                                 |                                |
|    | DIN EN 175301-803 C                  | PA                             |
|    | DIN 43650 B<br>(industrial standard) | Epoxy                          |
| 9  | Diaphragm support                    | Brass, PPS                     |
| 10 | Diaphragm                            | NBR, FPM, EPDM                 |
| 11 | Bolts                                | 1.4401                         |
| 12 | Flange                               | Zn3glcC (surface)              |
| 13 | Shading ring                         | Cu                             |
| 14 | Nut                                  | 9SMnPb28K<br>(surface Zn5glcA) |

## Ordering charts

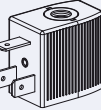
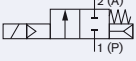
























Type 6228 solenoid valve complete with coil according to DIN EN 175301-803 Form C<sup>2)</sup> for cable plug Type 2516

|  | Valve operation | Orifice [mm]                                                                                 | K <sub>v</sub> value Water [m <sup>3</sup> /h] | Pressure range [bar] <sup>1)</sup> | Sealing material | Voltage/frequency [V/Hz] | Article no.                                                                                  |
|-----------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------|------------------|--------------------------|----------------------------------------------------------------------------------------------|
|  | A               | 10                                                                                           | 1.8                                            | 0.5-10                             | NBR              | 24/DC                    | 142220    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 142221    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 142222    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 142223    |
|                                                                                   |                 |                                                                                              |                                                |                                    | EPDM             | 24/DC                    | 142224    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 142225    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 142226    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 142227    |
|                                                                                   |                 |                                                                                              |                                                |                                    | FPM              | 24/DC                    | 142228    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 142229    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 142230    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 142231    |
|                                                                                   |                 | 13                                                                                           | 3.2                                            | 0.5-10                             | NBR              | 24/DC                    | 142232    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 142233    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 142234    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 142235    |
|                                                                                   |                 |                                                                                              |                                                |                                    | EPDM             | 24/DC                    | 142236    |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 142237   |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 142238  |
|                                                                                   |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 142239  |
| FPM                                                                               | 24/DC           | 142240  |                                                |                                    |                  |                          |                                                                                              |
|                                                                                   | 24/50-60        | 142241  |                                                |                                    |                  |                          |                                                                                              |
|                                                                                   | 110/50-60       | 142242  |                                                |                                    |                  |                          |                                                                                              |
|                                                                                   | 230/50-60       | 142243  |                                                |                                    |                  |                          |                                                                                              |

<sup>1)</sup> Pressure data [bar]:  
Overpressure with respect to atmospheric pressure

<sup>2)</sup> so far DIN 43650

Type 6228 solenoid valve complete with Form B coil (industrial standard) for cable plug Type 2507








|  | Valve operation | Orifice [mm]                                                                                 | K <sub>v</sub> value Water [m <sup>3</sup> /h] | Pressure range [bar] <sup>1)</sup> | Sealing material | Voltage/frequency [V/Hz] | Article no.                                                                                  |
|-------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------|------------------|--------------------------|----------------------------------------------------------------------------------------------|
|  | A               | 10                                                                                           | 1.8                                            | 0.5-10                             | NBR              | 24/DC                    | 163660  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 163671  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 163672  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 163673  |
|                                                                                     |                 |                                                                                              |                                                |                                    | EPDM             | 24/DC                    | 163674  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 163675  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 163676  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 163677  |
|                                                                                     |                 |                                                                                              |                                                |                                    | FPM              | 24/DC                    | 163678  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 163679  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 163680  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 163681  |
|                                                                                     |                 | 13                                                                                           | 3.2                                            | 0.5-10                             | NBR              | 24/DC                    | 163682  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 163683  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 163684  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 163685  |
|                                                                                     |                 |                                                                                              |                                                |                                    | EPDM             | 24/DC                    | 163686  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 24/50-60                 | 163687  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 110/50-60                | 163688  |
|                                                                                     |                 |                                                                                              |                                                |                                    |                  | 230/50-60                | 163689  |
| FPM                                                                                 | 24/DC           | 163690  |                                                |                                    |                  |                          |                                                                                              |
|                                                                                     | 24/50-60        | 163691  |                                                |                                    |                  |                          |                                                                                              |
|                                                                                     | 110/50-60       | 163692  |                                                |                                    |                  |                          |                                                                                              |
|                                                                                     | 230/50-60       | 163693  |                                                |                                    |                  |                          |                                                                                              |

<sup>1)</sup> Pressure data [bar]:  
Overpressure with respect to atmospheric pressure

- All valves in PPE/PA body, without appliance plug and without connector set (see Accessory Ordering charts)
- Other Versions on request.






## Accessory ordering charts

### Three-part connector set from PPE/PA

|  | Orifice [mm] | Port connection | Sealing material (O-ring)                                                                  | Article no.                                                                                |
|-----------------------------------------------------------------------------------|--------------|-----------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|                                                                                   | 10           | G 3/8           | NBR                                                                                        | 142425  |
|                                                                                   |              |                 | FPM                                                                                        | 142426  |
|                                                                                   |              |                 | EPDM                                                                                       | 142427  |
|                                                                                   | 13           | G 1/2           | NBR                                                                                        | 142428  |
|                                                                                   |              |                 | FPM                                                                                        | 142429  |
| EPDM                                                                              |              |                 | 142430  |                                                                                            |






- You require two connector sets for one valve.
- The connector set is not included in the standard delivery. It must be ordered separately.

### Cable plug Type 2516 to DIN EN 175301-803 Form C\*)

|  | Circuitry                        | Features        | Article no.                                                                                |
|-----------------------------------------------------------------------------------|----------------------------------|-----------------|--------------------------------------------------------------------------------------------|
|                                                                                   | none (standard)                  | 0 - 250 V AC/DC | 303141  |
|                                                                                   | with LED                         | 12 - 24 V AC/DC | 303145  |
|                                                                                   | with LED and varistor            | 12 - 24 V AC/DC | 303148  |
|                                                                                   | with rectifier, LED and varistor | 12 - 24 V AC/DC | 303142  |






- Supplied with cable plug: flat seal and fixing screw.
- Other versions of cable plug with circuitry to DIN EN 175301-803 Form C\*) see Datasheet Type 2516.

### Cable plug Type 2507 to DIN 43650 Form B (industrial standard)

|  | Circuitry                        | Features        | Article no.                                                                                  |
|-------------------------------------------------------------------------------------|----------------------------------|-----------------|----------------------------------------------------------------------------------------------|
|                                                                                     | none (standard)                  | 2 - 250 V AC/DC | 423845  |
|                                                                                     | with LED                         | 24 V AC/DC      | 423849  |
|                                                                                     | with LED and freewheeling diode  | 12 - 24 V DC    | 423851  |
|                                                                                     | with rectifier, LED and varistor | 12 - 24 V AC/DC | 423853  |

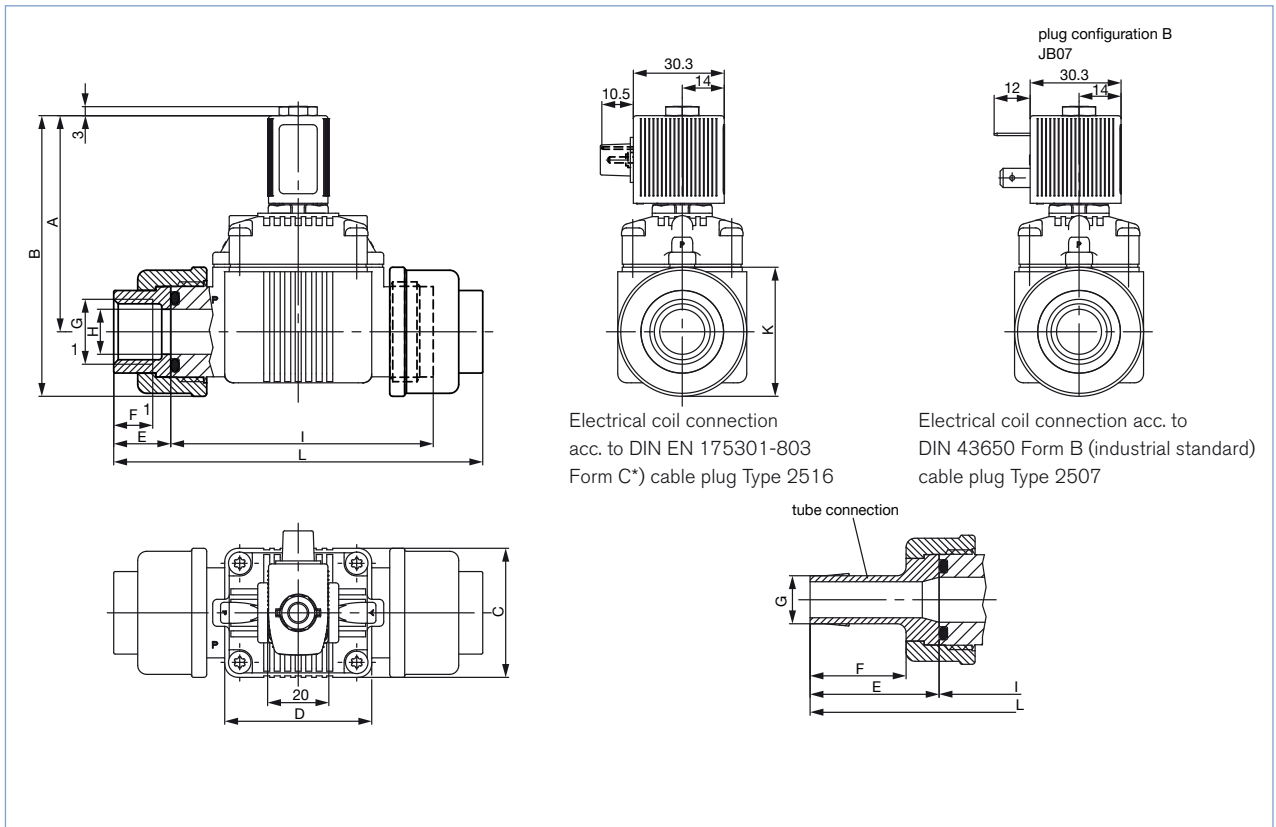
- Supplied with cable plug: flat seal and fixing screw.
- Other versions of cable plug with circuitry to DIN 43650 Form B (industrial standard) see Datasheet Type 2507.

### ASI appliance plug Type 2510 according to DIN EN 175301-803 Form C\*)

|  | Voltage         | Current rating | Article no.                                                                                  |
|-------------------------------------------------------------------------------------|-----------------|----------------|----------------------------------------------------------------------------------------------|
|                                                                                     | bus supplied    | without        | 142693  |
|                                                                                     |                 | with           | 142692  |
|                                                                                     | external supply | without        | 142689  |
|                                                                                     |                 | with           | 142688  |

\*) so far DIN 43650

Dimensions [mm]



<sup>\*)</sup> so far DIN 43650

| Hose-Ø | DN | Threaded connection |      |    |    |    |                 |                  |                 |                  |     | Tube connection |    |     |     |     |     |    |
|--------|----|---------------------|------|----|----|----|-----------------|------------------|-----------------|------------------|-----|-----------------|----|-----|-----|-----|-----|----|
|        |    | A                   | B    | C  | D  | E  | F2 <sup>1</sup> | G 2 <sup>1</sup> | F3 <sup>1</sup> | G 3 <sup>1</sup> | L   | E               | F  | G   | L   | H   | K   | I  |
| 14     | 10 | 65.5                | 83   | 32 | 32 | 17 | 13              | G 3/8            | 12              | NPT 3/8          | 107 | 42              | 32 | Ø14 | 157 | Ø10 | Ø35 | 73 |
| 16     | 13 | 72                  | 93.5 | 43 | 49 | 19 | 13              | G 1/2            | 14              | NPT 1/2          | 123 | 43              | 32 | Ø16 | 171 | Ø15 | Ø43 | 85 |

<sup>1</sup> For G-thread the values F2 and G 2 are valid  
 For NPT-thread the values F3 and G 3 are valid

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