



## 2/2 or 3/2-way Solenoid Valve, with pivoted armature and isolating diaphragm

- Lockable manual override as standard
- For liquid, gaseous and aggressive media
- Long service life, even in non-lube conditions
- Insensitive to contaminated fluids
- Analysis version available

Type 0330 can be combined with...



**Type 2508**

Cable plug



**Type 1078**

Timer unit

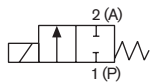


**Type 2511**

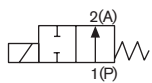
ASI cable plug

The Type 0330 is a direct-acting 2/2 or 3/2-way pivoted armature solenoid valve with a wide range of circuit functions. The magnetic system and the medium are separated by a diaphragm system. The valve is fast-acting and has a long service life, even in non-lube conditions.

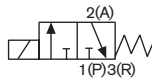
### Circuit functions



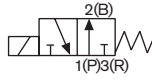
**A** 2/2-way valve NC



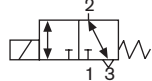
**B** 2/2-way valve NO



**C** 3/2-way valve NC



**D** 3/2-way valve NO



**T** 3/2-way valve, universal function, any flow direction

### Applications

- Water and gas analysis
- Pharmaceutical industry
- Food processing

| Technical data                 |   |
|--------------------------------|---|
| <b>Port connection</b>         | G 1/4 (G 1/8, NPT on request)   |
| <b>Orifice</b>                 | DN 2.0 - 4.0  |
| <b>Body and seat materials</b> | Brass and stainless steel 1.4401  |
| <b>Coil material</b>           | Epoxy   |
| <b>Coil insulation class</b>   | H   |
| <b>Seal material</b>           | NBR and FKM (EPDM, FFKM on request)   |
| <b>Media</b>                   | NBR<br>FKM<br>on request EPDM<br>on request FFKM  |
|                                | Neutral media, such as compressed air, water, hydraulic oil<br>Hot air, oxygen, hot oil, per-solution<br>Oil and fat-free media<br>Hot air, oxygen, hot oil, per-solution |
| <b>Media temperature</b>       | NBR<br>FKM<br>on request EPDM<br>on request FFKM  |
|                                | 0 to +80 °C<br>0 to +90 °C<br>-30 to +90 °C<br>+5 to +90 °C   |
| <b>Ambient temperature</b>     | max. +55 °C (min. temperature see media temp.)  |
| <b>Viscosity</b>               | max. 37 mm <sup>2</sup> /s  |
| <b>Operating voltage</b>       | 24 V DC, 24 V/50 Hz, 230 V/50 Hz<br>further on request  |
| <b>Voltage tolerance</b>       | ±10%  |
| <b>Duty cycle</b>              | 100% continuous rating  |
| <b>Electrical connection</b>   | Cable plug Type 2508 (DIN EN 175301-803 Form A) for Ø 7 mm cable (supplied as standard)   |
| <b>Protection class</b>        | IP 65 with cable plug   |
| <b>Weight [kg]</b>             | 0.47  |
| <b>Installation</b>            | As required, preferably with actuator upright   |

## Technical data, cont.

### Power ratings

| Orifice<br>[mm] | Power ratings     |                            |     |                         |
|-----------------|-------------------|----------------------------|-----|-------------------------|
|                 | Inrush AC<br>[VA] | Hold AC (hot coil)<br>[VA] | [W] | Hot/cold coil DC<br>[W] |
| 2-4             | 30                | 15                         | 8   | 8 / 11                  |

### Response times

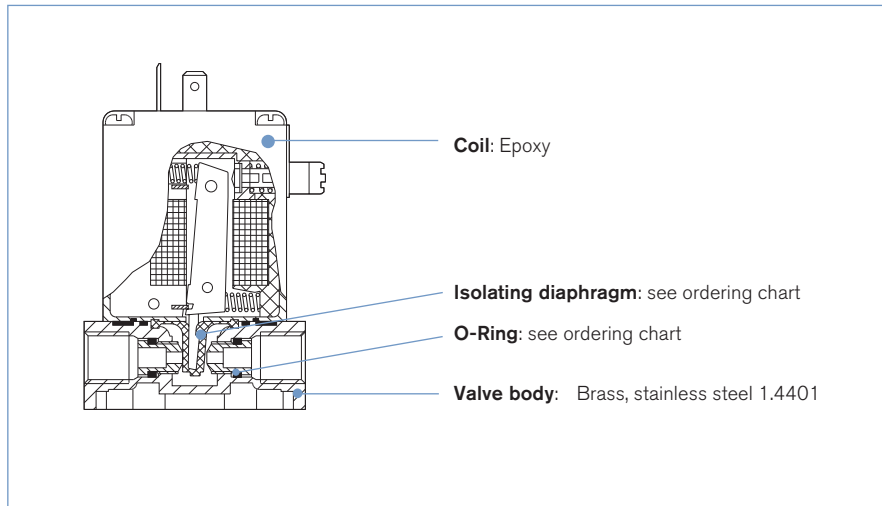
| Orifice<br>[mm] | Response times     |              |                    |              |
|-----------------|--------------------|--------------|--------------------|--------------|
|                 | AC<br>Opening [ms] | Closing [ms] | DC<br>Opening [ms] | Closing [ms] |
| 2-4             | 8-15               | 8-15         | 10-20              | 10-20        |

#### Response times [ms]:

Measured at valve outlet at 6 bar and +20 °C

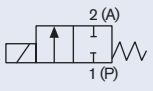
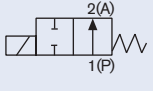
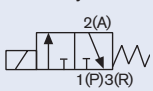
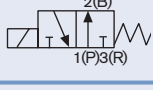
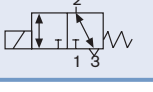
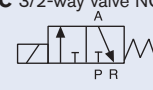
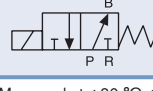
Opening: pressure build-up 0 to 90%, closing: pressure relief 100 to 10%

## Materials



## Ordering chart for valves (other versions on request)

Brass or stainless steel body, seal material NBR or FKM, manual override and cable plug included

| Circuit function  | Port connection threaded port | Orifice [mm] | Kv value water [m <sup>3</sup> /h] <sup>1), 4)</sup> |         | Pressure range [bar] <sup>2)</sup> | Seal material | Item no. per voltage/frequency [V/Hz] |         |         |
|---|-------------------------------|--------------|--|---------|------------------------------------|---------------|---------------------------------------|---------|---------|
|   |                               |              | DC   | AC      |                                    |               | 024/DC                                | 024/50  | 230/50  |
| <b>A</b> 2/2-way valve NC <sup>3)</sup><br>                          | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | 0-10                               | FKM           | 020 293                               | 022 883 | 124 909 |
|   |                               | 4.0          | 0.17   | 0.23    | 0-5                                | NBR           | 020 294                               | 086 553 | 024 902 |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | 0-10                               | FKM           | 024 019                               | 025 246 | 124 912 |
|   |                               | 4.0          | 0.17   | 0.23    | 0-5                                | NBR           | 025 084                               | –       | 046 007 |
|   | <b>Stainless steel body</b>   |              |  |         |                                    |               |                                       |         |         |
| G 1/4   | 3.0                           | 0.14         | 0.18   | 0-10    | FKM                                | 020 292       | 023 984                               | 024 563 |         |
|   | 4.0                           | 0.17         | 0.23   | 0-5     | FKM                                | 018 276       | 018 857                               | 020 873 |         |
| <b>B</b> 2/2-way valve NO <sup>3)</sup><br>                          | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | 0-10                               | FKM           | 141 917                               | 130 146 | 141 919 |
|   |                               | 4.0          | 0.17   | 0.23    | 0-5                                | FKM           | 141 920                               | 141 921 | 141 923 |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | 0-10                               | FKM           | 141 928                               | 141 929 | 141 931 |
|   |                               | 4.0          | 0.17   | 0.23    | 0-5                                | FKM           | 141 932                               | 141 933 | 141 935 |
|   | <b>Stainless steel body</b>   |              |  |         |                                    |               |                                       |         |         |
| G 1/4   | 3.0                           | 0.14         | 0.18   | 0-10    | FKM                                | 141 928       | 141 929                               | 141 931 |         |
|   | 4.0                           | 0.17         | 0.23   | 0-5     | FKM                                | 141 932       | 141 933                               | 141 935 |         |
| <b>C</b> 3/2-way valve NC<br>                                       | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 2.0          | 0.08   | 0.11    | 0-16                               | NBR           | 041 103                               | 042 129 | 041 105 |
|   |                               | 3.0          | 0.14   | 0.18    | 0-10                               |               | 041 107                               | 041 108 | 041 116 |
|   |                               | 4.0          | 0.17   | 0.23    | 0-5                                |               | 042 218                               | 042 695 | 042 329 |
|   | <b>Stainless steel body</b>   |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | 0-10                               | FKM           | 052 344                               | 045 024 | 052 059 |
| 4.0   |                               | 0.17         | 0.23   | 0-5     | FKM                                | 050 483       | 043 324                               | 050 979 |         |
| <b>D</b> 3/2-way valve NO<br>                                      | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 2.0          | 0.08   | 0.11    | 0-16                               | NBR           | 056 984                               | 041 858 | 041 137 |
|   |                               | 3.0          | 0.14   | 0.18    | 0-10                               |               | 041 139                               | 041 141 | 041 147 |
|   |                               | 4.0          | 0.17   | 0.23    | 0-5                                |               | 043 129                               | 042 696 | 042 903 |
|   | <b>Stainless steel body</b>   |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 2.0          | 0.08   | 0.11    | 0-12                               | FKM           | 124 922                               | 138 316 | 124 925 |
| 3.0   |                               | 0.14         | 0.18   | 0-8     | FKM                                | 124 927       | 124 928                               | 124 930 |         |
| <b>T</b> 3/2-way valve, universal function, any flow direction<br> | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 2.0          | 0.08   | 0.11    | 0-12                               | FKM           | 124 922                               | 138 316 | 124 925 |
|   |                               | 3.0          | 0.14   | 0.18    | 0-8                                |               | 124 927                               | 124 928 | 124 930 |
|   | <b>Stainless steel body</b>   |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 2.0          | 0.08   | 0.11    | 0-12                               | FKM           | 124 932                               | 124 933 | 124 935 |
|   |                               | 3.0          | 0.14   | 0.18    | 0-8                                | FKM           | 124 937                               | 124 938 | 124 940 |
| <b>Vacuum version</b>   |                               |              |  |         |                                    |               |                                       |         |         |
| <b>C</b> 3/2-way valve NC<br>                                      | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | Vac. -6                            | NBR           | 043 894                               | 046 815 | –       |
|   |                               | 4.0          | 0.17   | 0.23    | Vac. -3                            |               | 044 302                               | –       | 042 879 |
|   | G 1/4                         | 3.0          | 0.14   | 0.18    | Vac. -6                            | NBR           | 043 894                               | 046 815 | –       |
| 4.0   |                               | 0.17         | 0.23   | Vac. -3 | 044 302                            |               | –                                     | 042 879 |         |
| <b>D</b> 3/2-way valve NO<br>                                      | <b>Brass body</b>             |              |  |         |                                    |               |                                       |         |         |
|   | G 1/4                         | 4.0          | 0.17   | 0.23    | Vac. -3                            | NBR           | 052 680                               | 059 646 | 053 785 |

<sup>1)</sup> Measured at +20 °C, 1 bar<sup>2)</sup> pressure at valve inlet and free outlet. <sup>2)</sup> Pressure data [bar]: Overpressure with respect to atmospheric pressure

<sup>3)</sup> The listed Item no. and circuit functions have a valve body with a straight through channel (var. code AF02)

<sup>4)</sup> In DC-versions with orifice 3.0 and 4.0 the orifice diameter is reduced by about 0,5mm.

### **i** Further versions on request



#### Approvals

Explosion protection (Type 780), ATEX, UL, UR, FM - Ex Div. 1



#### Voltage

Non-standard voltages



#### Materials

Seal materials EPDM, FFKM



#### Circuit function

E (mixing) or F (distributing)



#### Port connection

NPT, G 1/8



#### Additional

Impulse version, optical or electrical position feedback (type 1060), further device combinations

## Technical data – Analysis version

|                                       |   |
|---------------------------------------|---|
| <b>Analysis version</b>               | Media flowing through is not contaminated, for pure media   |
| <b>Carbon residue threshold</b>       | < 0.2 mg/dm <sup>2</sup>  |
| <b>Permissible leakage rate Media</b> | 10 <sup>-4</sup> mbar l/sec<br><ul style="list-style-type: none"> <li>▪ neutral / aggressive Media, which do not attack the body and seal material</li> <li>▪ technical vacuum</li> </ul> |
| <b>Electrical connection</b>          | Tag connector acc. to DIN EN 175301-803 A (previously DIN43650) for cable plug Type 2508 (see accessories)  |
| <b>Mounting instruction</b>           | No oil, fat or silicon used whatsoever in mounting  |

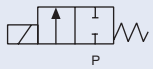
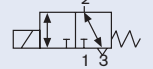
### Solenoid valve for higher requirements

This version is particularly suitable for switching from extremely pure gaseous and liquid media. All contaminated parts are subjected to additional purification processes, so that the media is not under any circumstances contaminated. The assembly takes place under cleanroom conditions.

Tightness tested on helium leak detector, 10<sup>-4</sup> mbar l/sec.

## Ordering chart for valves, analysis and vacuum version (other versions on request)

### Stainless steel body, seal material FKM or NBR, manual override and without cable plug (see Accessories)

| Circuit function  | Port connection threaded port | Orifice [mm] | Kv value water [m <sup>3</sup> /h] <sup>1) 4)</sup> |         | Pressure range [bar] <sup>2)</sup> | Seal material | Item no. per voltage/frequency [V/Hz] |        |         |
|---|-------------------------------|--------------|---|---------|------------------------------------|---------------|---------------------------------------|--------|---------|
|   |                               |              | DC  | AC      |                                    |               | (DC)                                  | 024/DC | 024/50  |
| <b>Analysis version</b>   |                               |              |   |         |                                    |               |                                       |        |         |
| <b>A 2/2-way valve NC<sup>3)</sup></b>  |                               |              |   |         |                                    |               |                                       |        |         |
|  | <b>Stainless steel body</b>   |              |   |         |                                    |               |                                       |        |         |
|   | G 1/4                         | 2.0          | 0.08  | 0.11    | Vac. -10                           | FKM           | 137 839                               | –      | 137 842 |
|   |                               | 3.0          | 0.14  | 0.18    | Vac. -6                            |               | 137 843                               | –      | 137 846 |
| 4.0   | 0.17                          | 0.23         | Vac. -3   | 122 101 | –                                  | 137 849       |                                       |        |         |
| <b>T 3/2-way valve, universal function, any flow direction</b>                      |                               |              |   |         |                                    |               |                                       |        |         |
|  | <b>Stainless steel body</b>   |              |   |         |                                    |               |                                       |        |         |
|   | G 1/4                         | 2.0          | 0.08  | 0.11    | Vac. -8                            | FKM           | 137 850                               | –      | 137 854 |
|   |                               | 3.0          | 0.14  | 0.18    | Vac. -5                            |               | 137 855                               | –      | 137 858 |
| 4.0   | 0.17                          | 0.23         | Vac. -3   | FKM     | 137 859                            | –             | 137 862                               |        |         |

<sup>1)</sup> Measured at +20 °C, 1 bar<sup>2)</sup> pressure at valve inlet and free outlet. <sup>2)</sup> Pressure data [bar]: Overpressure with respect to atmospheric pressure

<sup>3)</sup> The listed item nos. have a valve body with straight through channel <sup>4)</sup> In DC-versions with orifice 3.0 and 4.0 the orifice diameter is reduced by about 0.5mm.

**Please note** that the cable plug has to be ordered separately, see Accessories on next page and separate datasheet for Type 2508.


## Other circuit functions

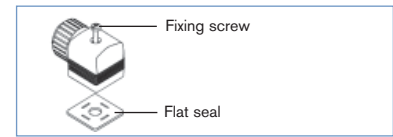
The valves are fitted with different springs. When used in other circuit functions the permissible operating pressure changes acc. to the following table.

| Circuit function | Max. operating pressure [bar] for valve use in other circuit functions |     |     |     |     |    |           |    |     |    |   |    |           |     |   |     |     |   |
|------------------|--|-----|-----|-----|-----|----|-----------|----|-----|----|---|----|-----------|-----|---|-----|-----|---|
|                  | Orifice 2  |     |     |     |     |    | Orifice 3 |    |     |    |   |    | Orifice 4 |     |   |     |     |   |
|                  | A  | B   | C   | D   | E   | F  | A         | B  | C   | D  | E | F  | A         | B   | C | D   | E   | F |
| C                | 16   | 1.5 | 16  | 1.5 | 1.5 | 16 | 10        | 1  | 10  | 1  | 1 | 10 | 5         | 0.8 | 5 | 0.8 | 0.8 | 5 |
| D                | 4  | 26  | 4.5 | 16  | 4   | 4  | 2.5       | 10 | 2.5 | 10 | 2 | 3  | 2         | 5   | 2 | 5   | 2   | 2 |
| T                | 8  | 8   | 10  | 10  | 10  | 8  | 6         | 6  | 6   | 6  | 6 | 6  | 3         | 3   | 3 | 3   | 3   | 3 |

## Ordering chart Accessory

## Cable plug acc. to DIN EN 175301-803 Form A

|  | Circuitry                                | Voltage / frequency | Item no. |
|---|--|---------------------|----------|
|   | None (standard)                          | 0 - 250 V AC/DC     | 008 376  |
|   | with LED                                 | 12 - 24 V AC/DC     | 008 360  |
|   | with LED and varistor                    | 12 - 24 V AC/DC     | 008 367  |
|   | with rectifier, LED and varistor         | 12 - 24 V AC/DC     | 008 363  |
|   | with LED                                 | 200 - 240 V         | 008 362  |
|   | with LED and varistor                    | 200 - 240 V         | 008 369  |
|   | further versions see datasheet Type 2508 |                     |          |



The delivery of a cable plug includes the flat seal and the fixing screw. For other cable plug versions acc. to DIN EN 175301-803 Form A (previously DIN 43650), see data-sheet Type 2508.

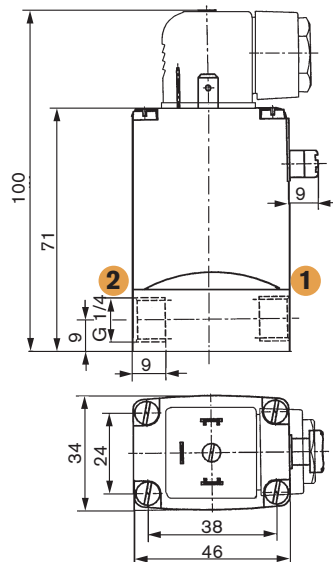
## Dimensions [mm]

| Possible body connections |    |   |    |
|---------------------------|----|---|----|
| Circuit function          | 1  | 2 | 3  |
| <b>A</b> <sup>1)</sup>    | P  | A | –  |
| <b>B</b> <sup>1)</sup>    | A  | P | –  |
| <b>C</b>                  | P  | A | R  |
| <b>D</b>                  | R  | B | P  |
| <b>E</b>                  | P1 | A | P2 |
| <b>F</b>                  | A  | P | B  |

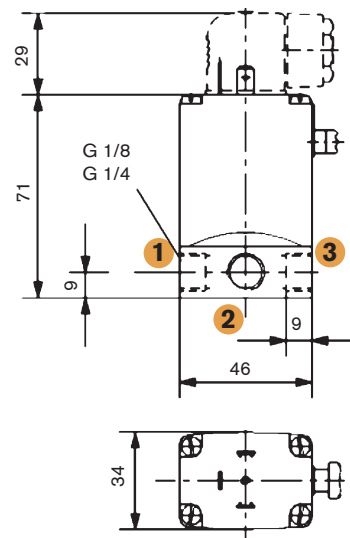
The connections marked with 1, 2 and 3 are labelled in the drawing according to the circuit function table on the left.

<sup>1)</sup> The listed Item no. and circuit functions have a valve body with a straight through channel (var. code AF02)

## 2/2-way valve



## 3/2-way valve



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