

# WBI2

Stainless steel solenoid valves

## Technical Data Sheet



## Description

Membrane solenoid valve, indirect action except DN 1/8", 1/4" direct action normally closed, 2 ways.

- Optional : manual actuation, except DN 1/4"
- Absorbed power : see table below. Other power : consult us
- Viscosity : max 50cSt
- Ambient temperature : max. +40°C
- Protection : IP 65 with connector
- Solenoid valve delivered with standard coil 220/50 Hz ref 5290 or 24V/50Hz ref 5292 or 24VDC ref 5296, and with a connector



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| DN    |     | 220V/50Hz<br>12W | 24V/50Hz<br>9,5W | 24VDC<br>14W    | Weight<br>Kg |
|-------|-----|------------------|------------------|-----------------|--------------|
| "     | mm  |                  |                  |                 |              |
| 1/4   | 4,5 | <b>149B6742</b>  | <b>149B6750</b>  | <b>149B6758</b> | 0,36         |
| 1/2   | 15  | <b>149B6744</b>  | <b>149B6752</b>  | <b>149B6760</b> | 0,96         |
| 3/4   | 20  | <b>149B6745</b>  | <b>149B6753</b>  | <b>149B6761</b> | 1,16         |
| 1     | 25  | <b>149B6746</b>  | <b>149B6754</b>  | <b>149B6762</b> | 1,56         |
| 1 1/4 | 32  | <b>149B6747</b>  | <b>149B6755</b>  | <b>149B6763</b> | 2,16         |
| 1 1/2 | 40  | <b>149B6748</b>  | <b>149B6756</b>  | <b>149B6764</b> | 3,36         |

Every technical data concerns the standard coils.

All our solenoid valves can be delivered ON DEMAND with a different coil.

### Technical features

|   |   |
|---|---|
| Operating temperature                         | Mini. : 0 °C (except DN 1/4" : -10 °C to 100 °C)<br>Maxi. : 100 °C (except for water : 60 °C) |
| Permissible operating pressure (PFA) in water | See table p.4   |
| Connection                                    | Female/female, BSP thread   |
| Mediums                                       | Liquids and neutral or corrosive gas<br>(please consult our technical department)             |

### Nomenclature and materials

| Designation   |                  | Materials              | ANSI       |
|---------------|------------------|------------------------|------------|
| Body          | DN 1/4"          | Stainless steel 1.4404 | AISI 316L  |
|               | DN 1/2" - 1"1/2" | Stainless steel 1.4581 | AISI 318   |
| Armature      |                  | Stainless steel 1.4105 | AISI 430FR |
| Armature tube |                  | Stainless steel 1.4306 | AISI 304L  |
| Spring        |                  | Stainless steel 1.4310 | AISI 301   |
| Valve plate   |                  | FKM                    |            |
| Membrane      |                  | FKM                    |            |

## Approvals

### ACS

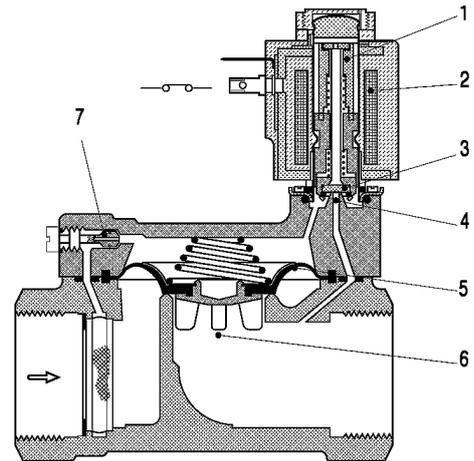
## Application

#### Coil voltage disconnected (closed)

When the voltage is disconnected, the valve plate (3) is pressed down against the pilot orifice (4) by the armature spring (2). The pressure across the diaphragm (5) is built up via the equalising orifice (7). The diaphragm closes the main orifice (6) as soon as the pressure across the diaphragm is equivalent to the inlet pressure. The valve will be closed for as long as the voltage to the coil is disconnected.

#### Coil voltage connected (open):

When voltage is applied to the coil (1), the pilot orifice (4) is opened. As the pilot orifice is larger than the equalising orifice (7), the pressure across the diaphragm (5) drops and therefore it is lifted clear of the main orifice (6). The valve is now open for unimpeded flow and will be open for as long as the minimum differential pressure across the valve is maintained, and for as long as there is voltage to the coil.



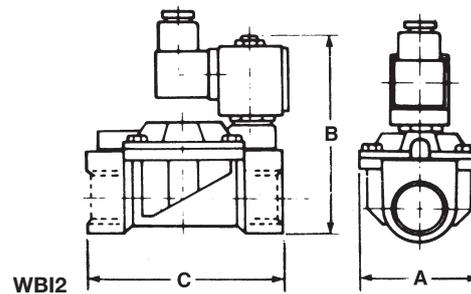
## Operation

| DN    | Maxi pressure<br>bar | Differential pressure in Bar |            | Time<br>to open<br>m/s* | Time<br>to close<br>m/s* | Kv<br>m <sup>3</sup> /h | Class |                     |
|-------|----------------------|------------------------------|------------|-------------------------|--------------------------|-------------------------|-------|---------------------|
|       |                      | Mini                         | Maxi       |                         |                          |                         |       |                     |
|       |                      |                              | Coil 9W ca | Coil 15W cc             |                          |                         |       |                     |
| 1/4   | 35                   | 0                            | 8          | 3,5                     | 20                       | 20                      | 0,55  | 4.3                 |
| 1/2   | 10                   | 0,3                          | 10         | 10                      | 40                       | 350                     | 4     | 4.3                 |
| 3/4   |                      |                              |            |                         | 40                       | 1000                    | 8     | 4.3                 |
| 1     |                      |                              |            |                         | 300                      | 1000                    | 11    | 4.3                 |
| 1 1/4 |                      |                              |            |                         | 1000                     | 2500                    | 18    | 4.3 Gas G1 excluded |
| 1 1/2 |                      |                              |            |                         | 1500                     | 4000                    | 24    | 4.3 Gas G1 excluded |

\* The indicated times concern the medium water - The exact time depends of pressure conditions.

## Sizing

| Connection FF | Passage | A  | B   | C   |
|---------------|---------|----|-----|-----|
| "             | mm      | mm | mm  | mm  |
| 1/4           | 4,5     | 35 | 87  | 35  |
| 1/2           | 15      | 52 | 114 | 80  |
| 3/4           | 20      | 58 | 121 | 90  |
| 1             | 25      | 70 | 135 | 109 |
| 1 1/4         | 32      | 82 | 147 | 120 |
| 1 1/2         | 40      | 95 | 161 | 130 |



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