

- > Port size: DN 8 ... 50, 1/4" ... 2" (ISO G/NPT)
- > High flow rate
- > For robust industry solutions
- > Damped operation
- > Suitable for vacuum
- > For systems with low or fluctuating pressure
- > Valve operates without differential pressure
- > Solenoid interchangeable without tools (*Click-on®*) up to G 1 thread

**OBSOLETE DOCUMENT**  
 Technical Reference Only

*Click-on®*



## Technical features

### Medium:

Slightly aggressive gases and liquids

### Switching function:

Normally closed

### Operation:

Solenoid actuated, with forced lifting

### Mounting:

Optional, preferably solenoid vertical on top

### Flow direction:

Determined

### Port size:

G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

1/4 NPT, 3/8 NPT, 1/2 NPT, 3/4 NPT, 1 NPT, 1 1/4 NPT, 1 1/2 NPT, 2 NPT

### Operating pressure:

0 ... 25 bar (0 ... 362 psi)

### Fluid temperature:

–20° ... +90°C (–4° ... +194°F)

### Ambient temperature:

–20° ... +50°C (–4° ... +122°F)

### Material:

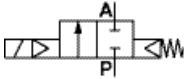
Body: Stainless steel (1.4408)

Seat seal: NBR

Internal parts: Stainless steel, PTFE / Carbon

For contaminated fluids insertion of a strainer is recommended.

## Technical data - standard models

| Symbol                                                                              | Port size | Orifice (mm) | Flow kv value *1) (m³/h) | Operating pressure *2) (bar) | Weight (kg) | Model Solenoid in V d.c. | Model Solenoid in V a.c. |
|-------------------------------------------------------------------------------------|-----------|--------------|--------------------------|------------------------------|-------------|--------------------------|--------------------------|
|  | G1/4      | 8            | 2,2                      | 0 ... 25                     | 2,4         | 8574000.9401.xxxxx       | 8574000.9404.xxxxx       |
|                                                                                     | 1/4 NPT   | 8            | 2,2                      | 0 ... 25                     | 2,4         | 8575000.9401.xxxxx       | 8575000.9404.xxxxx       |
|                                                                                     | G3/8      | 10           | 3,4                      | 0 ... 25                     | 2,4         | 8574100.9401.xxxxx       | 8574100.9404.xxxxx       |
|                                                                                     | 3/8 NPT   | 10           | 3,4                      | 0 ... 25                     | 2,4         | 8575100.9401.xxxxx       | 8575100.9404.xxxxx       |
|                                                                                     | G1/2      | 12           | 4,4                      | 0 ... 25                     | 2,5         | 8574200.9401.xxxxx       | 8574200.9404.xxxxx       |
|                                                                                     | 1/2 NPT   | 12           | 4,4                      | 0 ... 25                     | 2,5         | 8575200.9401.xxxxx       | 8575200.9404.xxxxx       |
|                                                                                     | G3/4      | 20           | 7                        | 0 ... 25                     | 2,7         | 8574300.9401.xxxxx       | 8574300.9404.xxxxx       |
|                                                                                     | 3/4 NPT   | 20           | 7                        | 0 ... 25                     | 2,7         | 8575300.9401.xxxxx       | 8575300.9404.xxxxx       |
|                                                                                     | G1        | 25           | 10,5                     | 0 ... 25                     | 3,1         | 8574400.9401.xxxxx       | 8574400.9404.xxxxx       |
|                                                                                     | 1 NPT     | 25           | 10,5                     | 0 ... 25                     | 3,1         | 8575400.9401.xxxxx       | 8575400.9404.xxxxx       |
|                                                                                     | G1 1/4    | 32           | 25                       | 0 ... 25                     | 5,6         | 8574500.8401.xxxxx       | 8574500.8404.xxxxx       |
|                                                                                     | 1 1/4 NPT | 32           | 25                       | 0 ... 25                     | 5,6         | 8575500.8401.xxxxx       | 8575500.8404.xxxxx       |
|                                                                                     | G1 1/2    | 40           | 27                       | 0 ... 25                     | 5,4         | 8574600.8401.xxxxx       | 8574600.8404.xxxxx       |
|                                                                                     | 1 1/2 NPT | 40           | 27                       | 0 ... 25                     | 5,4         | 8575600.8401.xxxxx       | 8575600.8404.xxxxx       |
|                                                                                     | G2        | 50           | 43                       | 0 ... 25                     | 6,8         | 8574700.8401.xxxxx       | 8574700.8404.xxxxx       |
|                                                                                     | 2 NPT     | 50           | 43                       | 0 ... 25                     | 6,8         | 8575700.8401.xxxxx       | 8575700.8404.xxxxx       |

xxxxx Please insert voltage and frequency codes

\*1) Cv-value (US) ≈ kv value x 1,2

\*2) For gases and liquid fluids up to 25 mm²/s (cSt)

## Option selector

857\*\*\*\*\*

| Thread form                                                                                                                                                             | Substitute |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| ISO G                                                                                                                                                                   | 4          |
| NPT                                                                                                                                                                     | 5          |
| Port size                                                                                                                                                               | Substitute |
| 1/4                                                                                                                                                                     | 0          |
| 3/8                                                                                                                                                                     | 1          |
| 1/2                                                                                                                                                                     | 2          |
| 3/4                                                                                                                                                                     | 3          |
| 1                                                                                                                                                                       | 4          |
| 1 1/4                                                                                                                                                                   | 5          |
| 1 1/2                                                                                                                                                                   | 6          |
| 2                                                                                                                                                                       | 7          |
| Valve options                                                                                                                                                           | Substitute |
| Normally open (NO),<br>Mounting position:<br>solenoid vertical on top,<br>only with solenoid 8400                                                                       | 01         |
| Manual override                                                                                                                                                         | 02         |
| Seat seal FPM,<br>Fluid temperature -10 ... +110°C *3)                                                                                                                  | 03         |
| Seat seal PTFE,<br>max. fluid temperature +110°C *3)                                                                                                                    | 06         |
| Seat seal EPDM, for hot water,<br>max. fluid temperature +110°C                                                                                                         | 14         |
| Normally open (NO), Seat seal FPM,<br>Fluid temperature -10 ... +110°C *3),<br>Mounting position:<br>solenoid vertical on top,<br>only with solenoid 8400               | 17         |
| Max. operating pressure 40 bar                                                                                                                                          | 22         |
| Electrical position indicator with<br>2 limit switches (Reed contact)<br>only with solenoid 8400                                                                        | 23         |
| Seat seal FPM, with larger bleed orifices<br>in the piston, for fluids such as fuel and<br>oil , viscosity max. 80 mm²/s (cSt),<br>Fluid temperature -10 ... +110°C *3) | 25         |
| Designed for ammonia,<br>Seat seal CR                                                                                                                                   | 75         |
| Version for drinking water on request                                                                                                                                   |            |

| Frequency                          | Substitute |
|------------------------------------|------------|
| See table frequency codes          | xx         |
| Voltage                            | Substitute |
| See Voltage codes                  | xxx        |
| Solenoid options                   | Substitute |
| G1/4 ... 1<br>Solenoid in V d.c.   | 9401       |
| G1 1/4 ... 2<br>Solenoid in V d.c. | 8401       |
| G1/4 ... 1<br>Solenoid in V a.c.   | 9404       |
| G1 1/4 ... 2<br>Solenoid in V a.c. | 8404       |

## Standard solenoid systems

| Voltage and Frequency Solenoid 9401/9404 *1) |                |            |              |                          |         |
|----------------------------------------------|----------------|------------|--------------|--------------------------|---------|
| Code Voltage                                 | Code Frequency | Voltage    | Frequency    | Power consumption Inrush | Holding |
| 024                                          | 00             | 24 V d.c.  | -            | 38 W                     | 38 W    |
| 024                                          | 49             | 24 V a.c.  | 40 ... 60 Hz | 42 VA                    | 42 VA   |
| 110                                          | 49             | 110 V a.c. | 40 ... 60 Hz | 42 VA                    | 42 VA   |
| 120                                          | 49             | 120 V a.c. | 40 ... 60 Hz | 42 VA                    | 42 VA   |
| 230                                          | 49             | 230 V a.c. | 40 ... 60 Hz | 42 VA                    | 42 VA   |
| Voltage and Frequency Solenoid 8401/8404     |                |            |              |                          |         |
| 024                                          | 00             | 24 V d.c.  | -            | 40 W                     | 40 W    |
| 024                                          | 49             | 24 V a.c.  | 40 ... 60 Hz | 45 VA                    | 45 VA   |
| 110                                          | 49             | 110 V a.c. | 40 ... 60 Hz | 45 VA                    | 45 VA   |
| 120                                          | 49             | 120 V a.c. | 40 ... 60 Hz | 45 VA                    | 45 VA   |
| 230                                          | 49             | 230 V a.c. | 40 ... 60 Hz | 45 VA                    | 45 VA   |

\*1) r coil only (with the exception of solenoid 94xx up to 41 V a.c.)

Further versions on request!

## Electrical details for all solenoid systems

|                  |                                             |
|------------------|---------------------------------------------|
| Design           | DIN VDE 0580                                |
| Voltage range    | ±10%                                        |
| Duty cycle       | 100% ED                                     |
| Protection class | EN 60529 IP65                               |
| Socket           | Form A acc. to DIN EN 175301-803 (included) |

According to DIN VDE 0580 at a solenoid temperature of +20°C.  
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.



## Additional solenoid systems

| ATEX category | Protection class                                               | Solenoid | Standard Voltages                 |
|---------------|----------------------------------------------------------------|----------|-----------------------------------|
| II2G          | Ex me II T3 T 140°C                                            | 8441     | 24 V d.c., 110 V a.c., 230 V a.c. |
| II3G<br>II3D  | Ex II 3G Ex nA IIB T4 Gc<br>Ex II 3D Ex tc IIB T130 °C Dc IP65 | 9426 *2) | 24 V d.c., 110 V a.c., 230 V a.c. |
| II3G<br>II3D  | Ex II 3G Ex nA IIB T4 Gc<br>Ex II 3D Ex tc IIB T130 °C Dc IP65 | 8426 *2) | 24 V d.c., 110 V a.c., 230 V a.c. |

### Attention!

The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

\*2) d.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxx.8441

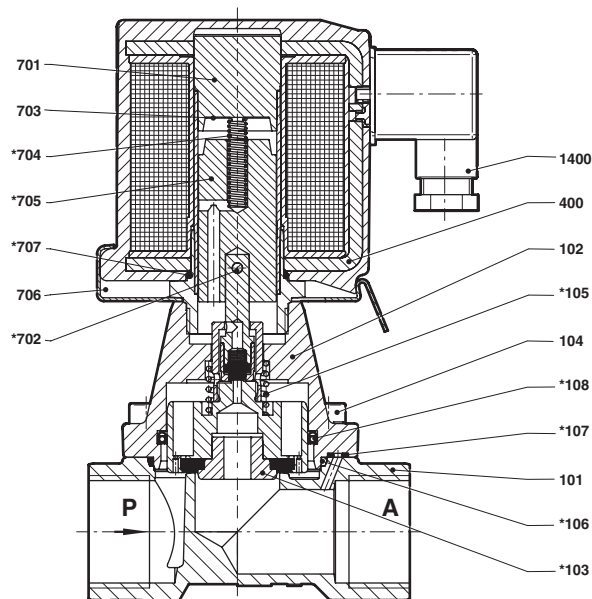
\*3) Up to max. 200°C fluid temperature with solenoid for higher temperature



## Section View

G1/4 ... 1

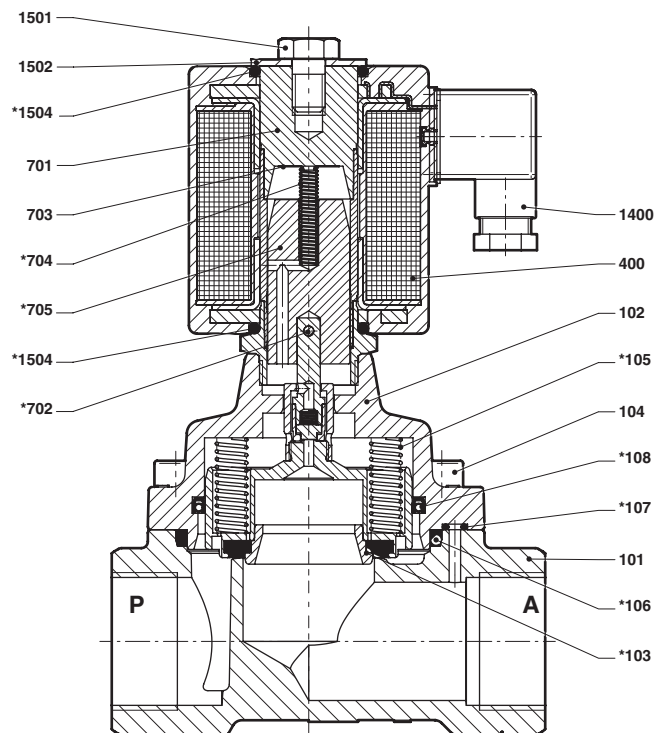
1/4 ... 1 NPT



| No.  | Description           |
|------|-----------------------|
| 101  | Valve body            |
| 102  | Valve cover           |
| *103 | Valve piston          |
| 104  | Socket head cap screw |
| *105 | Pressure spring       |
| *106 | O-ring                |
| *107 | O-ring                |
| *108 | Grooved ring          |
| 400  | Solenoid              |
| 701  | Core tube             |
| *702 | Straight pin          |
| 703  | Round plate           |
| *704 | Pressure spring       |
| *705 | Core                  |
| 706  | Spring clip           |
| *707 | O-ring                |
| 1400 | Socket (included)     |

G1 1/4 ... 2

1 1/4 ... 2 NPT



| No.   | Description           |
|-------|-----------------------|
| 101   | Valve body            |
| 102   | Valve cover           |
| *103  | Valve piston          |
| 104   | Socket head cap screw |
| *105  | Pressure spring (2x)  |
| *106  | O-ring                |
| *107  | O-ring                |
| *108  | Grooved ring          |
| 400   | Solenoid              |
| 701   | Core tube             |
| *702  | Straight pin          |
| 703   | Round plate           |
| *704  | Pressure spring       |
| *705  | Core                  |
| 1400  | Socket (included)     |
| 1501  | Hexagon screw         |
| 1502  | Round plate           |
| *1504 | O-ring(2x)            |

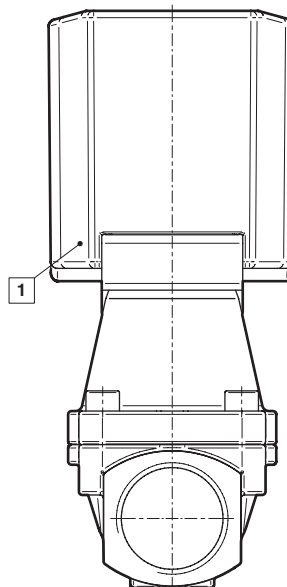
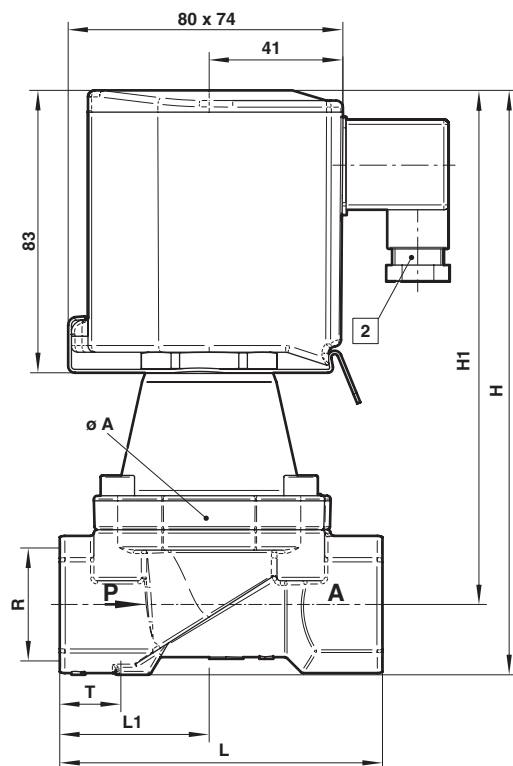
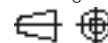
\* These individual parts form a complete wearing unit.

When ordering spare parts please state Model No. and Series No.

## Dimensions

G1/4 ... 1  
1/4 ... 1 NPT

Abmessungen in mm  
Projection/First angle



- 1 Solenoid rotatable 360°
- 2 Socket turnable 4 x 90°  
(Socket included)

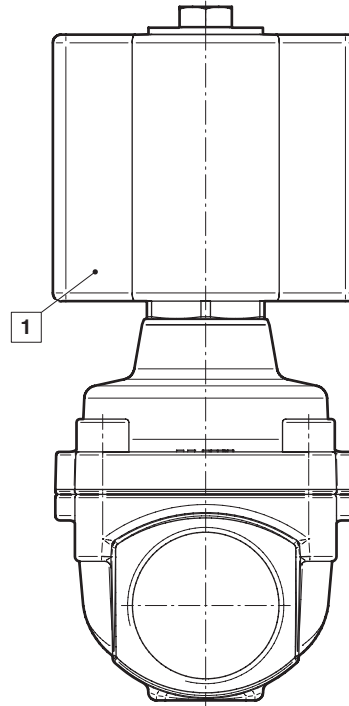
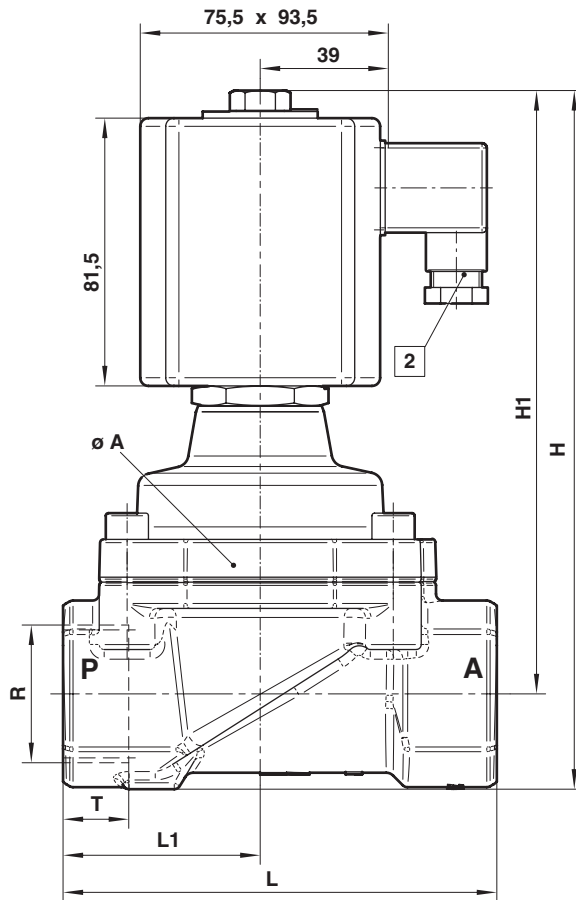
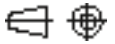
| Port size R | ø A | H     | H1    | L  | L1 | T    | Model              |
|-------------|-----|-------|-------|----|----|------|--------------------|
| G1/4        | 44  | 152   | 140,5 | 60 | 60 | 12   | 8574000.940x.xxxxx |
| 1/4 NPT     | 44  | 152   | 140,5 | 60 | 60 | 10   | 8575000.940x.xxxxx |
| G3/8        | 44  | 152   | 140,5 | 60 | 60 | 12   | 8574100.940x.xxxxx |
| 3/8 NPT     | 44  | 152   | 140,5 | 60 | 60 | 10,5 | 8575100.940x.xxxxx |
| G1/2        | 44  | 154,5 | 140,5 | 67 | 67 | 14   | 8574200.940x.xxxxx |
| 1/2 NPT     | 44  | 154,5 | 140,5 | 67 | 67 | 13,5 | 8575200.940x.xxxxx |
| G3/4        | 50  | 162   | 146,5 | 80 | 80 | 16   | 8574300.940x.xxxxx |
| 3/4 NPT     | 50  | 162   | 146,5 | 80 | 80 | 14   | 8575300.940x.xxxxx |
| G1          | 62  | 183   | 162   | 95 | 95 | 18   | 8574400.940x.xxxxx |
| 1 NPT       | 62  | 183   | 162   | 95 | 95 | 17   | 8575400.940x.xxxxx |



## Dimensions

G1 1/4 ... 2  
1 1/4 ... 2 NPT

Abmessungen in mm  
Projection/First angle



- 1 Solenoid rotatable 360°
- 2 Socket turnable 4 x 90°  
(Socket included)

| Port size R | ø A | H     | H1    | L   | L1  | T    | Model              |
|-------------|-----|-------|-------|-----|-----|------|--------------------|
| G1 1/4      | 92  | 212,5 | 183,5 | 132 | 132 | 20   | 8574500.840x.xxxxx |
| 1 1/4 NPT   | 92  | 212,5 | 183,5 | 132 | 132 | 17   | 8575500.840x.xxxxx |
| G1 1/2      | 92  | 212,5 | 183,5 | 132 | 132 | 22   | 8574600.840x.xxxxx |
| 1 1/2 NPT   | 92  | 212,5 | 183,5 | 132 | 132 | 17   | 8575600.840x.xxxxx |
| G2          | 109 | 226,5 | 192   | 160 | 160 | 24   | 8574700.840x.xxxxx |
| 2 NPT       | 109 | 226,5 | 192   | 160 | 160 | 17,5 | 8575700.840x.xxxxx |

### Note to Pressure Equipment Directive (PED)

The valves of this series, including the connection size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries. The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (7) No.1.4 applies

The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this

device will be available on request.

### Note to Electromagnetic Compatibility Directive (EMC)

The valves shall be provided with an electrical circuit which ensures the limits of the harmonized standards EN 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Directive (2004/108/EG) satisfied.