



Technical Data Sheet

Type 55



2/2-way solenoid valve
 NC - Valve normally closed (as standard)
 NO - Valve normally open (as option)

Direct operated piston design. No differential pressure is necessary for operation. When energized, the valve seat is opened directly. In standard (NC) the valve closes with spring power.

■ Solenoid valve for high pressure applications

Type 55

TECHNICAL SPECIFICATIONS

| | |
|-----------------------|--|
| Type of control: | Direct operated |
| Design: | Piston design |
| Connection: | Threaded G1/4 DIN ISO 228 (BSP) <i>Other connections like NPT on request</i> |
| Installation: | Preferable with actuator upright |
| Pressure range: | 0 - 900 bar (see table on pages 2 & 3) |
| Medium: | Clean, neutral, liquid or gaseous |
| Viscosity: | 22 mm ² /s |
| Temperature range: | Medium -40 °C bis +80 °C Ambient -40 °C bis +50 °C <i>The max.ambient temperature depends on the combined operating conditions.</i> |
| Body material: | Brass 2.0401 Stainless steel 1.4301 Stainless steel 1.4462 Stainless steel 1.4571 |
| Metallic inner parts: | Brass and stainless steel |
| Sealing: | PTFE, PEEK, PCTFE, XHPU |
| Supply voltage: | AC~ 24V, 110V, 230V DC= 12V, 24V, 110V <i>Other supply voltages on request</i> |
| Voltage tolerance: | -10% / +10% |
| Power consumption: | .032 = 11 Watt .148 = 10 Watt .012 = 18 Watt .702 = 25 Watt .692 = 25 Watt .802 = 24 Watt .808 = 24 Watt .322 = 30 Watt .328 = 24 Watt .242 = 46 Watt .248 = 30 Watt |
| Protection class: | IP65 acc. to DIN EN 60529 |
| Duty factor: | 100% ED-VDE 0580 |
| Connection type: | Plug, terminal box |
| Ex-proof: | acc. to 2014/34/EG (ATEX) |

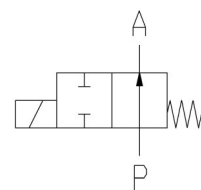
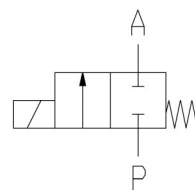
VALVE FEATURES

- For high pressure application 900 bar
- No pressure difference required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC - non energized closed

NO - non-energized open



CERTIFICATES



ORDERING SYSTEM

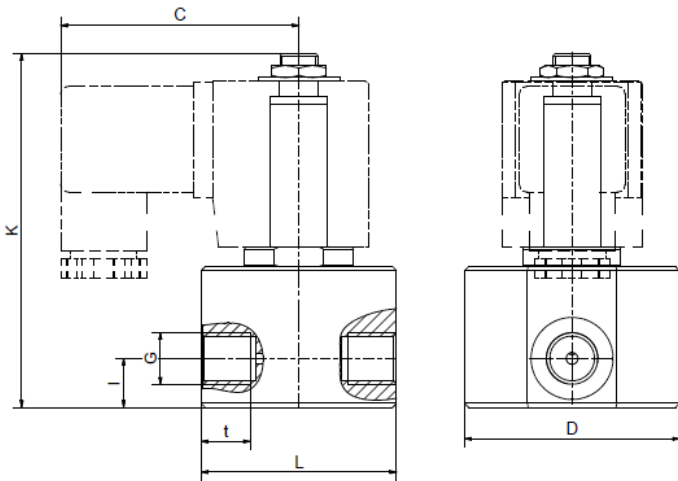
| Type | Conn. | Housing | Seal | Coil | Option |
|------|--------|---------|---------------|------|--|
| . 5 | 5 | 4 | G | / 0 | 8 |
| | | | | 1 | 5 |
| | | | | / . | 0 |
| | | | | 1 | 2 |
| | | | | - | N |
| | | | | | O |
| 4 . | G 1/4 | 06 | 1.4301 | 2 | Standard IP65 |
| . E | 0,5 mm | 08 | 1.4462/1.4571 | 8 | Explosion proof acc. to directive 2014/34/EU |
| . G | 0,7 mm | 10 | Brass 2.0401 | | |
| . H | 0,8 mm | | | 04 | PTFE |
| . 0 | 1,0 mm | | | 15 | PEEK/PTCFE |
| . L | 1,2 mm | | | 19 | XHPU |
| . 1 | 1,5 mm | | | | |
| . 2 | 2,0 mm | | | | |
| . 3 | 2,5 mm | | | | |
| . 4 | 3,0 mm | | | | |
| . 5 | 4,0 mm | | | | |
| . 6 | 5,0 mm | | | | |

TECHNICAL FEATURES // DIMENSIONS

[with coils .032 // .012 // .148]

Type 55

| Seat mm | Kv-value m ³ /h | Standard type | max. pressure for coils | | | | | |
|------------|-------------------------------|-------------------|-------------------------|-------|--------|-------|---------------|-------|
| | | | .032-S | | .012-S | | .148-S (ATEX) | |
| | | | NC | NO | NC | NO | NC | NO |
| 0,5 | 0,015 | .554E/0615/ | 0-300 | 0-300 | - | - | 0-250 | 0-250 |
| 0,7 | 0,02 | .554G/0615/ | 0-210 | 0-210 | 0-500 | 0-500 | 0-170 | 0-170 |
| 0,8 | 0,025 | .554H/1004(0615)/ | 0-170 | - | 0-250 | 0-250 | 0-170 | 0-170 |
| 1,0 | 0,06 | .5540/1004(0604)/ | - | - | 0-200 | 0-200 | - | - |



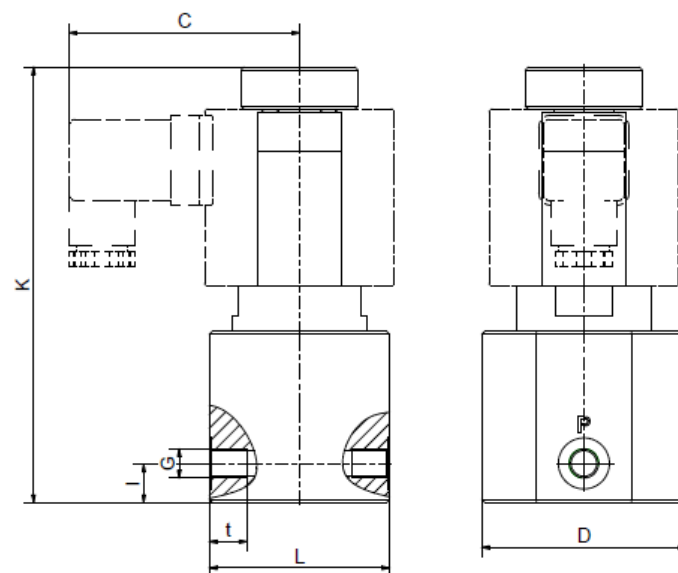
| Coil | .032-S | .012-S / .148-S* |
|------|--------|------------------|
| G | 1/4 | 1/4 |
| C | 59 | 61 |
| D | 68 | 68 |
| K | 90,5 | 90,5 |
| I | 12,5 | 12,5 |
| L | 60 | 60 |
| t | 12,5 | 12,5 |
| kg | 0,9 | 0,9 |

* Different dimension „C“ for ATEX coils

TECHNICAL FEATURES // DIMENSIONS

[with coils .802 // .808]

| Seat mm | Kv-value m ³ /h | Standard type | max. pressure for coils | |
|------------|-------------------------------|---------------|-------------------------|-------------|
| | | | .802 | .808 (ATEX) |
| | | | NC | NC |
| 0,5 | 0,015 | .554E/0815/ | 0-900 | 0-900 |
| 0,7 | 0,02 | .554G/0815/ | 0-600 | 0-500 |
| 0,8 | 0,025 | .554H/0815/ | 0-450 | 0-350 |



| Coil | .802 / .808* |
|------|--------------|
| G | 1/4 |
| C | 70 |
| D | 68 |
| K | 122 |
| I | 12,5 |
| L | 60 |
| t | 12,5 |
| kg | 1,9 |

* Different dimension „C“ for ATEX coils

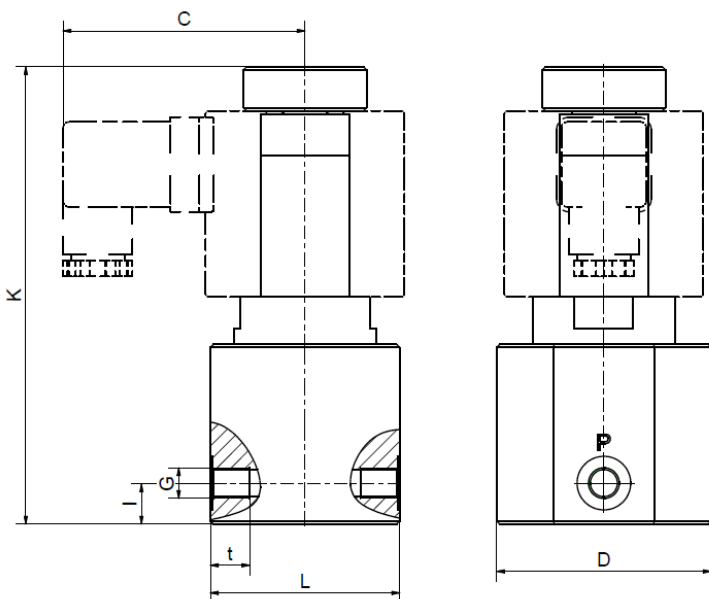
TECHNICAL FEATURES // DIMENSIONS

[with coils .702 // .692-NO // .802 // .322 // .242]
 [with coils acc. to ATEX // .808 // .328 // .248]

Type 55

| Brass | | | max. pressure for coils | | | | | | | | | | | | | |
|------------|-------------------------------|------------------|-------------------------|------|-------|-------|-------------|-------|-------|-------|-------------|------|-------|-------|-------------|-------|
| Seat mm | Kv-value m ³ /h | Standard type | .702 / .692 | | .802 | | .808 (ATEX) | | .322 | | .328 (ATEX) | | .242 | | .248 (ATEX) | |
| | | | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO |
| 1,0 | 0,06 | .5540/1004/ | - | - | 0-200 | 0-100 | 0-200 | 0-100 | 0-200 | 0-200 | - | - | - | - | - | - |
| 1,5 | 0,09 | .5541/1004/ | 0-100 | 0-80 | 0-140 | 0-80 | 0-140 | 0-80 | 0-200 | 0-180 | 0-120 | 0-80 | - | - | - | - |
| 2,0 | 0,13 | .5542/1004/ | 0-80 | 0-40 | 0-100 | 0-50 | 0-100 | 0-50 | 0-180 | 0-160 | 0-90 | 0-70 | 0-200 | 0-200 | 0-200 | 0-200 |
| 2,5 | 0,16 | .5543/1004/ | 0-50 | 0-28 | 0-50 | 0-40 | 0-50 | 0-40 | 0-110 | 0-110 | 0-60 | 0-60 | 0-200 | 0-180 | 0-200 | 0-100 |
| 3,0 | 0,2 | .5544/1004/ | 0-35 | 0-20 | 0-40 | 0-25 | 0-40 | 0-25 | 0-80 | 0-100 | 0-40 | 0-40 | 0-150 | 0-120 | 0-150 | 0-70 |
| 4,0 | 0,35 | .5545/1004/ | 0-16 | 0-12 | 0-25 | 0-15 | 0-25 | 0-15 | 0-40 | 0-35 | 0-25 | 0-25 | 0-100 | 0-60 | 0-80 | 0-60 |
| 5,0 | 0,5 | .5546/1004/ | 0-12 | 0-6 | 0-16 | 0-9 | 0-16 | 0-9 | 0-28 | 0-20 | 0-12 | 0-12 | 0-60 | 0-40 | 0-40 | 0-30 |
| 6,0 | 0,75 | .5547/1004/ | 0-10 | 0-4 | 0-12 | 0-6 | 0-10 | 0-6 | 0-20 | 0-14 | 0-10 | 0-10 | 0-45 | 0-30 | 0-25 | 0-20 |

| Stainless steel | | | max. pressure for coils | | | | | | | | | | | | | |
|-----------------|-------------------------------|------------------|-------------------------|------|-------|-------|-------------|-------|-------|-------|-------------|-------|-------|-------|-------------|-------|
| Seat mm | Kv-value m ³ /h | Standard type | .702 / .692 | | .802 | | .808 (ATEX) | | .322 | | .328 (ATEX) | | .242 | | .248 (ATEX) | |
| | | | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO | NC | NO |
| 1,0 | 0,06 | .5540/06../ | - | - | 0-350 | 0-100 | 0-200 | 0-100 | 0-350 | 0-350 | 0-300 | 0-200 | 0-450 | 0-400 | 0-450 | 0-350 |
| 1,5 | 0,09 | .5541/06../ | 0-100 | 0-80 | 0-140 | 0-80 | 0-140 | 0-80 | 0-330 | 0-180 | 0-120 | 0-80 | 0-410 | 0-300 | 0-320 | 0-250 |
| 2,0 | 0,13 | .5542/06../ | 0-80 | 0-40 | 0-100 | 0-50 | 0-100 | 0-50 | 0-180 | 0-160 | 0-90 | 0-70 | 0-300 | 0-200 | 0-250 | 0-200 |
| 2,5 | 0,16 | .5543/0604/ | 0-50 | 0-28 | 0-50 | 0-40 | 0-50 | 0-40 | 0-110 | 0-110 | 0-60 | 0-60 | 0-200 | 0-180 | 0-200 | 0-100 |
| 3,0 | 0,2 | .5544/0604/ | 0-35 | 0-20 | 0-40 | 0-25 | 0-40 | 0-25 | 0-80 | 0-100 | 0-40 | 0-40 | 0-150 | 0-120 | 0-150 | 0-70 |
| 4,0 | 0,35 | .5545/0604/ | 0-16 | 0-12 | 0-25 | 0-15 | 0-25 | 0-15 | 0-40 | 0-35 | 0-25 | 0-25 | 0-100 | 0-60 | 0-80 | 0-60 |
| 5,0 | 0,5 | .5546/0604/ | 0-12 | 0-6 | 0-16 | 0-9 | 0-16 | 0-9 | 0-28 | 0-20 | 0-12 | 0-12 | 0-60 | 0-40 | 0-40 | 0-30 |
| 6,0 | 0,75 | .5547/0604/ | 0-10 | 0-4 | 0-12 | 0-6 | 0-10 | 0-6 | 0-20 | 0-14 | 0-10 | 0-10 | 0-45 | 0-30 | 0-25 | 0-20 |



| Coil | .702 / .692 | .802 / .808* | .322 / .328 | .242 / .248 |
|------|-------------|--------------|-------------|-------------|
| G | 1/4 | 1/4 | 1/4 | 1/4 |
| C | 67 | 70 | 77 | 92,5 |
| D | 68 | 68 | 68 | 68 |
| K | 109 | 113 | 145 | 166 |
| I | 12,5 | 12,5 | 13 | 13 |
| L | 60 | 60 | 60 | 60 |
| t | 12,5 | 12,5 | 12,5 | 12,5 |
| kg | 1,9 | 2,0 | 3,0 | 4,4 |

* Different dimension „C“ for ATEX coils

- It is imperative to observe the installation and safety instructions in our operating and service manuals.
- For information on our GSR ordering code, please refer to our catalogs. If you have any questions, we will be glad to assist you.
- Required ordering information: valve type, function NC/NO, pressure range, connection, nominal width, medium, flow rate, medium and ambient temperatures, connection voltage.
- **Detailed production-specific drawings and other technical information will be made available when an order is placed.**

Please note

Each individual application decides which valve type is required, the main factor being the resistance of the materials to the operating medium. The correct selection of materials requires knowledge of the concentration, temperature and degree of contamination of the medium. Other criteria include the operating pressure and max. volumetric flow, since, in addition to high temperatures, high pressures and high flow rates must also be taken into account when selecting the materials.

All materials used for our valves, be it housing, seals or magnets, will be carefully selected in view of the different application areas. Any information given is non-binding and serves for orientation only. No claims under warranty can be derived therefrom.

Heating and power of solenoid coils

The GSR default solenoid valves are designed for continuous operation (100% ED = power-on time) under normal operating conditions. The pulling force of a solenoid coil is basically influenced by three elements:

- The self-heating of the magnetic coil
- The medium temperature
- The ambient temperature

GSR solenoid coils are by default designed for a maximum ambient temperature of +35 °C. This specification applies for the maximum allowable operating pressure specified in the data sheet of the corresponding valve, 100% duty cycle and a medium temperature of +80 °C.

A higher ambient temperature is possible, when lower values are applied for the other influencing parameters. When the max. operation pressure and max. ambient temperature of +50 °C is given the medium temperature is not allowed to be higher than max. +50 °C. In addition to that, deviations from the default design temperature range are possible, e.g. when temperature coils or other constructive measures are used. Please contact the GSR headquarters to discuss the specific application.

More precise specifications and technical data with regard to the operating conditions can be found in the data sheets of the solenoid coils and the solenoid valve regarded. Please observe that the surface temperature of a permanently loaded coil can amount up to +120 °C, solely by the self-heating of the coil. The power consumption of our default solenoid valves was calculated to DIN VDE 05820 for a coil temperature of +20 °C.

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