

# Technical Data Sheet

## Type 54

2/2-Way solenoid valve  
 Valve normally closed (NC).  
 When energized the solenoid opens the pilot hole thus reducing the pressure above the diaphragm. The pressure under the diaphragm becomes higher and lifts it from the valve seat. The specified minimum pressure must always be available as pressure difference.

■ Solenoid valve for clean, neutral, gaseous and liquid media

### TECHNICAL SPECIFICATIONS

Type of control:	Pilot operated
Design:	Piston design
Connection:	Flanges acc. to EN 1092-1 Form B1/B2 Other flange connections like ASME or JIS on request
Installation:	Actuator in any position, preferable upright
Pressure:	0,5-40 bar (see table page 2)
Medium:	Clean, neutral, gaseous and liquid medium
Viscosity:	22 mm <sup>2</sup> /s
Temperature range:	Medium: -20 °C up to +80 °C Ambient: -20 °C up to +50 °C In consideration of the restrictions described on page 4
Body material:	Cast iron EN-GJL-250 Cast steel GP240 GH Stainless steel 1.4581
Metallic inner parts:	Brass and stainless steel
Sealing:	NBR, FKM, PTFE, EPDM
Supply voltage:	AC~ 24V, 110V, 230V DC= 12V, 24V, 110V Other supply voltages on request
Voltage tolerance:	-10% / +10%
Power consumption:	.182 = DC 6,8 Watt, AC 14,5 VA / 10,5 VA .032 = DC 11 Watt, AC 24 VA / 15 VA .148 = DC 10 Watt, AC 8,5 VA .178 = DC 5,2 Watt, AC 5,3 VA
Protection class:	IP65 according to DIN 60529
Duty factor:	100% ED-VDE 0580
Connection type:	Plug
Ex-proof:	Ex m II T4 Further Ex-proof on request.

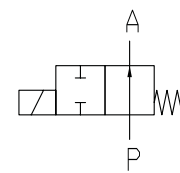
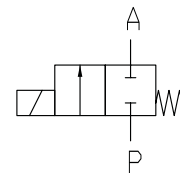
### VALVE FEATURES

- Pressure difference is required
- High life time
- Simple compact valve design
- Low weight
- High-quality materials
- Reliable and sturdy sealing elements
- Long-term availability of spare parts

### FUNCTION

NC - non energized closed

NO - non energized open



### CERTIFICATES




In special design also available for temperatures **up to +200 °C**.  
 Specifications and drawings on request.

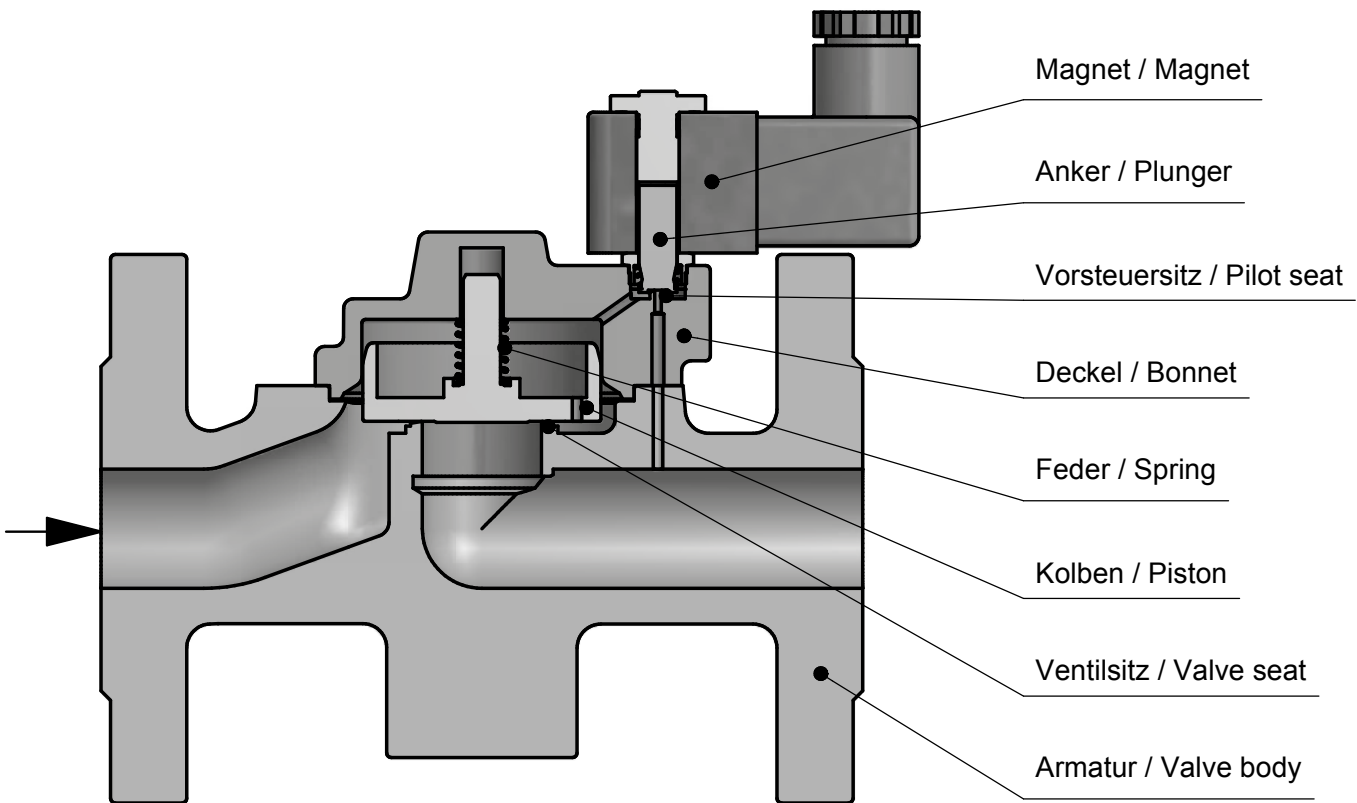
### ORDERING SYSTEM

		Coil system		Valve options	
.	54	02	/	04	04 / . 03 2 - N O
<b>Connection</b>		<b>Body</b>		<b>Seal</b>	
01	DN15	04	Cast iron EN-GJL-250	01	NBR
02	DN20	05	Cast steel GP240 GH	02	FKM
03	DN25	06	Stainless steel 1.4301	04	PTFE
04	DN32			06	EPDM
05	DN40				
06	DN50				

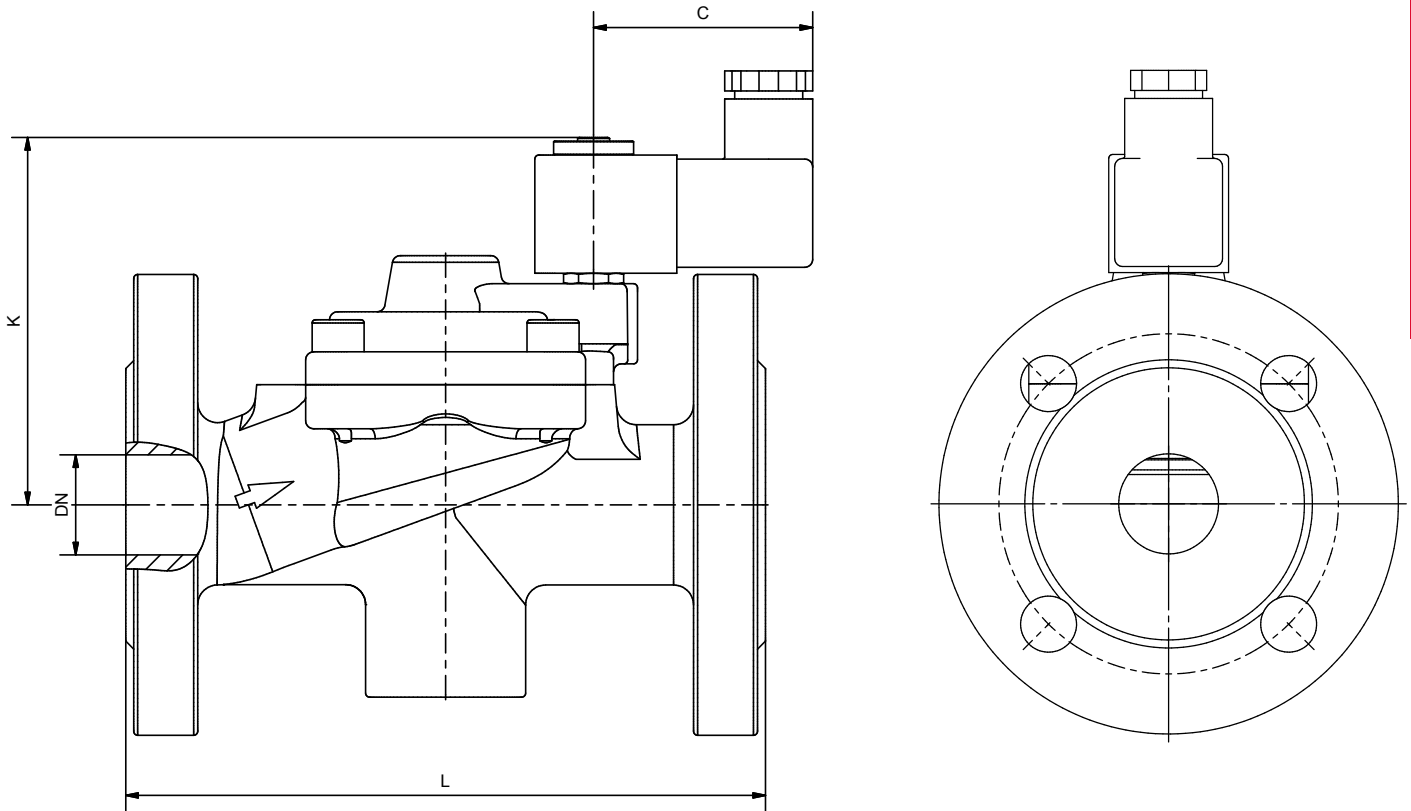
# TECHNICAL FEATURES

DN	Seat Ø mm	Kv-value m³/h	Standard type	max. pressure			
				.182	.032*	ATEX 	
						.148	.178
15	15	5,0	.5401/0.01/....	0,5-40 (0,5-16)	0,5-40 (0,5-16)	0,5-40 (0,5-16)	0,5-12
20	20	11,0	.5402/0.01/....	0,5-40 (0,5-16)	0,5-40 (0,5-16)	0,5-40 (0,5-16)	0,5-12
25	25	13,0	.5403/0.01/....	0,5-40 (0,5-16)	0,5-40 (0,5-16)	0,5-40 (0,5-16)	0,5-12
32	32	28,0	.5404/0.01/....	-	0,5-40 (0,5-16)	0,5-40 (0,5-16)	-
40	40	30,0	.5405/0.01/....	-	0,5-40 (0,5-16)	0,5-40 (0,5-16)	-
50	50	46,0	.5406/0.01/....	-	0,5-40 (0,5-16)	0,5-40 (0,5-16)	-

The flow rate mentioned in the table applies to the \*marked coil.  
 Specifications in ( ) are valid for EN-GJL-250 housing with PN16.



## DIMENSIONS



**Type 54**

Coil	.182			.032						.148					
Type	5401	5402	5403	5401	5402	5403	5404	5405	5406	5401	5402	5403	5404	5405	5406
DN	15	20	25	15	20	25	32	40	50	15	20	25	32	40	50
C	55	55	55	59	59	59	59	59	59	54	54	54	54	54	54
K	80	92	92	91	106	106	139	139	152	91	106	106	139	139	152
L	130	150	160	130	150	160	180	200	230	130	150	160	180	200	230
kg	2,5	3,6	4,2	2,5	3,6	4,2	7	7,5	10,7	2,5	3,6	4,2	7	7,5	10,2

Flange dimensions acc. to EN 1092-1 and DIN 3202-F1

\*Differing dimension "C" for ATEX-coils

## INFORMATION

- 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 +40 °C. This specification applies for the maximum allowable operating pressure specified in the data sheet of the corresponding valve 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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