Technical Data Sheet
Type K35

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type K35

TECHNICAL SPECIFICATIONS

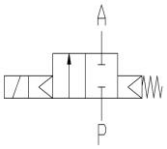
Type of control	Force-pilot operated
Design	Piston design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -60 °C up to +80 °C Ambient: -55 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts	Brass and Stainless steel
Sealing	PTFE
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	W802 = 24 Watt .808 = 24 Watt (Ex) W322 = 30 Watt .328 = 24 Watt (Ex) .242 = 46 Watt .248 = 30 Watt (Ex) .272 = 100 Watt .278 = 47 Watt (Ex)
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box
Ex-proof	acc. to 2014/34/EU (ATEX) Further Ex-proof on request

VALVE FEATURES

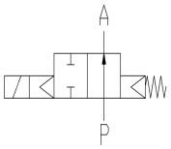
- For cold media to -60 °C
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.			Housing		Seal		Coil			Option	
K	3	5	2	3	/	1	0	0	4	/ W	8	0	2	- H A

Conn.	
21	G 1/4
22	G 3/8
23	G 1/2
24	G 3/4
25	G 1
26	G 1 1/4
27	G 1 1/2
28	G 2

Housing	
10	Brass 2.0402
08	St.steel 1.4581

Seal	
04	PTFE

Coil	
.	Standard
W	w/ terminal box

Option	
2	Standard IP65
8	Explosion proof acc. to directive 2014/34/EU (ATEX)

TECHNICAL FEATURES

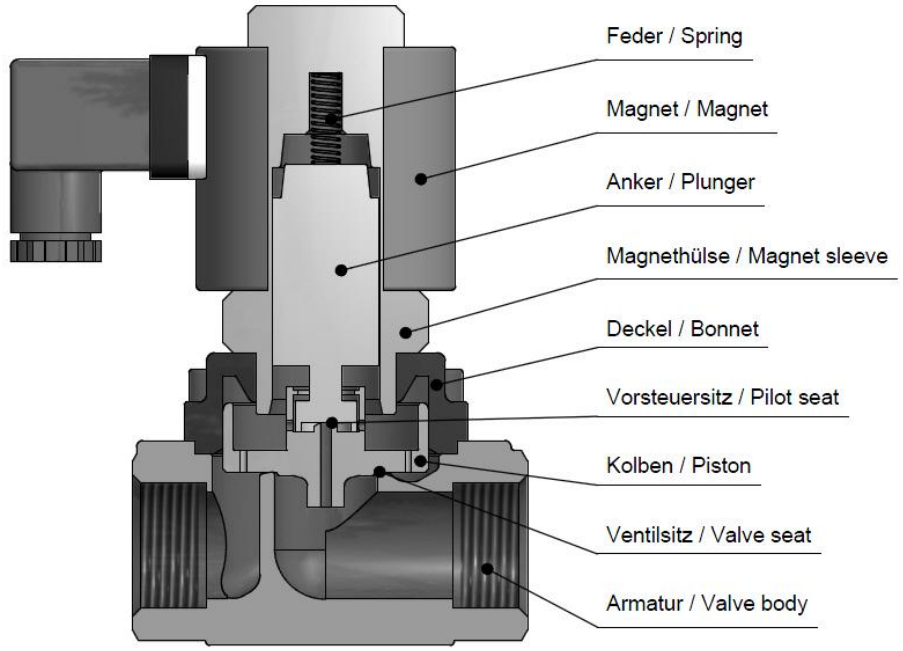
Type K35

G	Seat Ø mm	Kv-value m³/h	Standard type	max. pressure for coils							
				.802		.322*		.242		.272	
				NC	NO	NC	NO	NC	NO	NC	NO
1/4	13,5	1,8	.3521/..04/	0-40	0-30	0-40	0-40	-	-	-	-
3/8	13,5	4,0	.3522/..04/	0-40	0-30	0-40	0-40	-	-	-	-
1/2	13,5	4,5	.3523/..04/	0-40	0-30	0-40	0-40	-	-	-	-
3/4	27,5	11,5	.3524/..04/	0-16	0-12	0-40	0-25	0-40	0-40	-	-
1	27,5	13,0	.3525/..04/	0-16	0-12	0-40	0-25	0-40	0-40	-	-
1 1/4	40	29,0	.3526/..04/	-	-	0-25	0-16	0-40	0-40	0-40	0-40
1 1/2	40	33,0	.3527/..04/	-	-	0-25	0-10	0-40	0-40	0-40	0-40
2	50	49,0	.3528/..04/	-	-	0-6	-	0-16	0-16	0-40	0-40

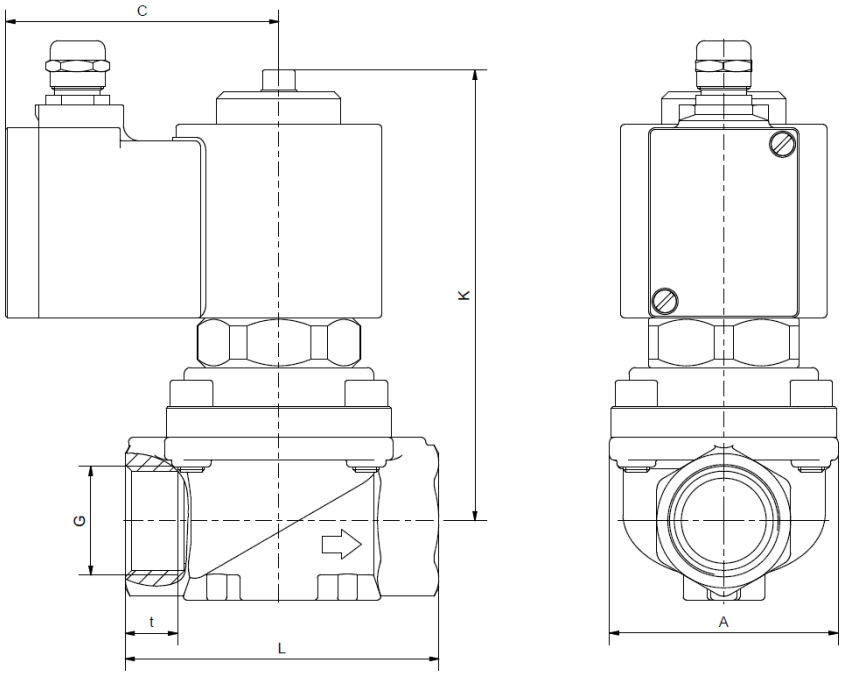
The flow rate mentioned in the table applies to the strongest coil.
*** Pressure ratings with options like manual override or position indicator may be lower.**

G	Seat Ø mm	Kv-value m³/h	Standard type	max. pressure for coils ATEX			
				.808	.328*	.248	.278
1/4	13,5	1,8	.3521/..04/	0-30	0-40	-	-
3/8	13,5	4,0	.3522/..04/	0-30	0-40	-	-
1/2	13,5	4,5	.3523/..04/	0-30	0-40	-	-
3/4	27,5	11,5	.3524/..04/	0-12	0-25	0-40	-
1	27,5	13,0	.3525/..04/	0-12	0-25	0-40	-
1 1/4	40	29,0	.3526/..04/	-	0-16	0-25	0-40
1 1/2	40	33,0	.3527/..04/	-	0-16	0-25	0-40
2	50	49,0	.3528/..04/	-	0-2	0-10	0-16

The flow rate mentioned in the table applies to the strongest coil.
*** Pressure ratings with options like manual override or position indicator may be lower.**



DIMENSIONS



Coil	W802 / .808					W322 / .328				
Type	K3521	K3522	K3523	K3524	K3525	K3521	K3522	K3523	K3524	K3525
G	1/4	3/8	1/2	3/4	1	1/4	3/8	1/2	3/4	1
A	48	48	48	70	70	48	48	48	70	70
C	70	70	70	70	70	77	77	77	77	77
K	104	104	104	122	122	148	148	148	138	138
L	67	67	67	96	96	67	67	67	96	96
t	12	12	12	16	16	12	12	12	16	16
kg	1,5	1,5	1,4	2,3	2,2	2,4	2,3	2,3	3,1	3,0

Coil	W322/ .328		.242 / .248					.272 / .278		
Type	K3526	K3527	K3524	K3525	K3526	K3527	K3528	K3526	K3527	K3528
G	1 1/4	1 1/2	3/4	1	1 1/4	1 1/2	2	1 1/4	1 1/2	2
A	96	96	70	70	96	96	112	96	96	112
C	77	77	93	93	93	93	93	107	107	107
K	148	148	178	178	188	188	186	218	218	239
L	140	140	96	96	140	140	168	140	140	168
t	22	22	16	16	22	22	22	22	22	22
kg	4,8	4,7	4,7	4,6	6,5	6,3	7,6	10,1	10,0	11,5

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 +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.

Stand: 01.19, MK-MG, Version 1.

Technical Data Sheet
Type K24

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type K24

TECHNICAL SPECIFICATIONS

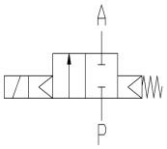
Type of control	Force pilot operated no pressure difference required
Design	Piston design
Connection	Flanges DN65 - DN100 EN 1092-1 Form B1/B2 Other flange connections like ASME on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -60 °C up to +80 °C Ambient: -55 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Stainless steel 1.4581
Metallic inner parts	Stainless steel
Sealing	PTFE
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	.242 = 46 Watt .248 = 30 Watt Ex .272 = 100 Watt .278 = 47 Watt Ex .352 = 150 Watt .358 = 75 Watt Ex
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box
Ex-proof	acc. to 2014/34/EU (ATEX) Further Ex-proof on request

VALVE FEATURES

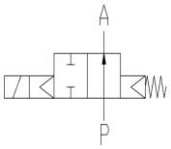
- For cold media to -60 °C
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing		Seal		Coil			Option
K	2	4	0	7	/ 0	8	0	4	/ .	2	4	2 -	

Conn.	
07	DN65
08	DN80
09	DN100

Housing	
08	St.steel 1.4408

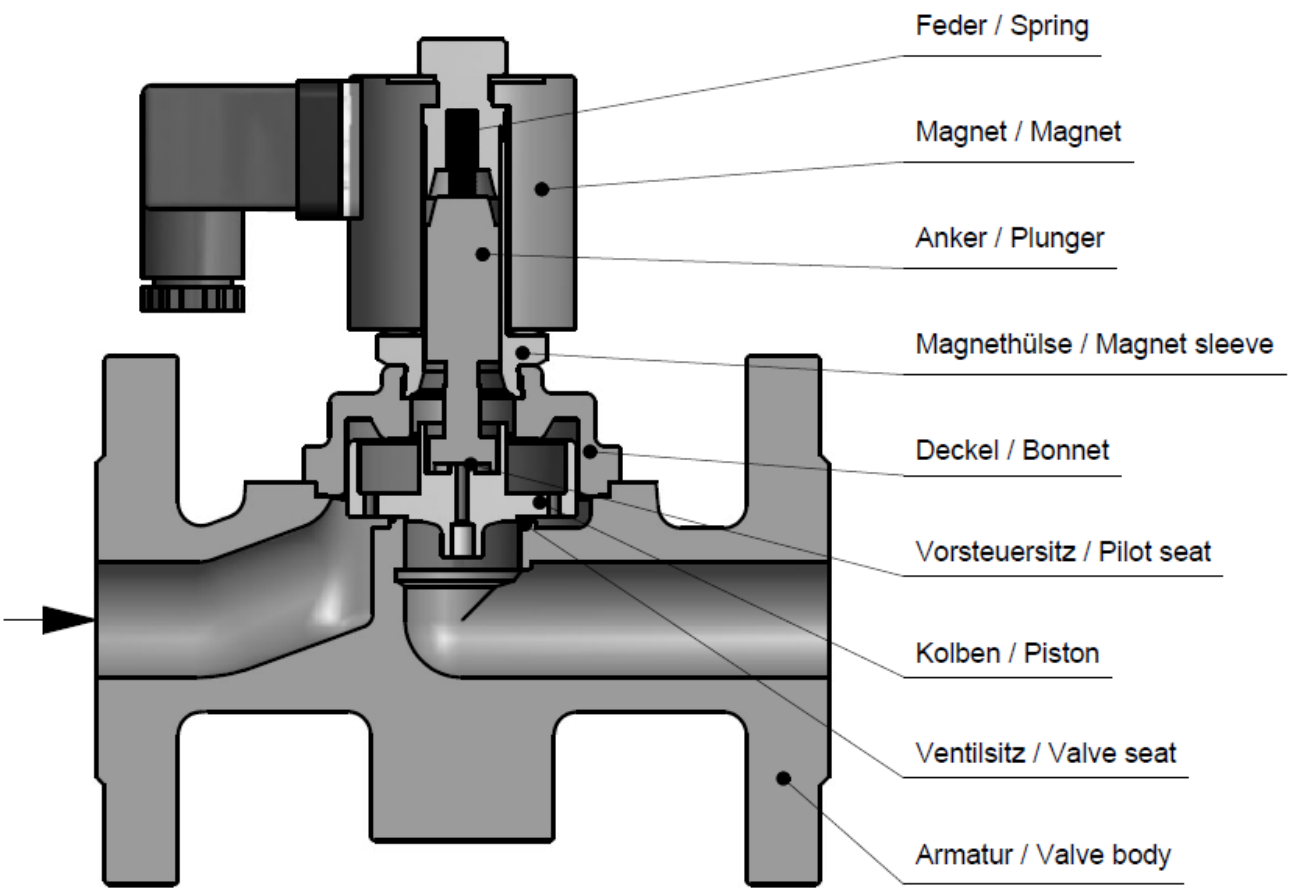
Seal	
04	PTFE

Coil	
2	Standard IP65
8	Explosion proof acc. to directive 2014/34/EU (ATEX)

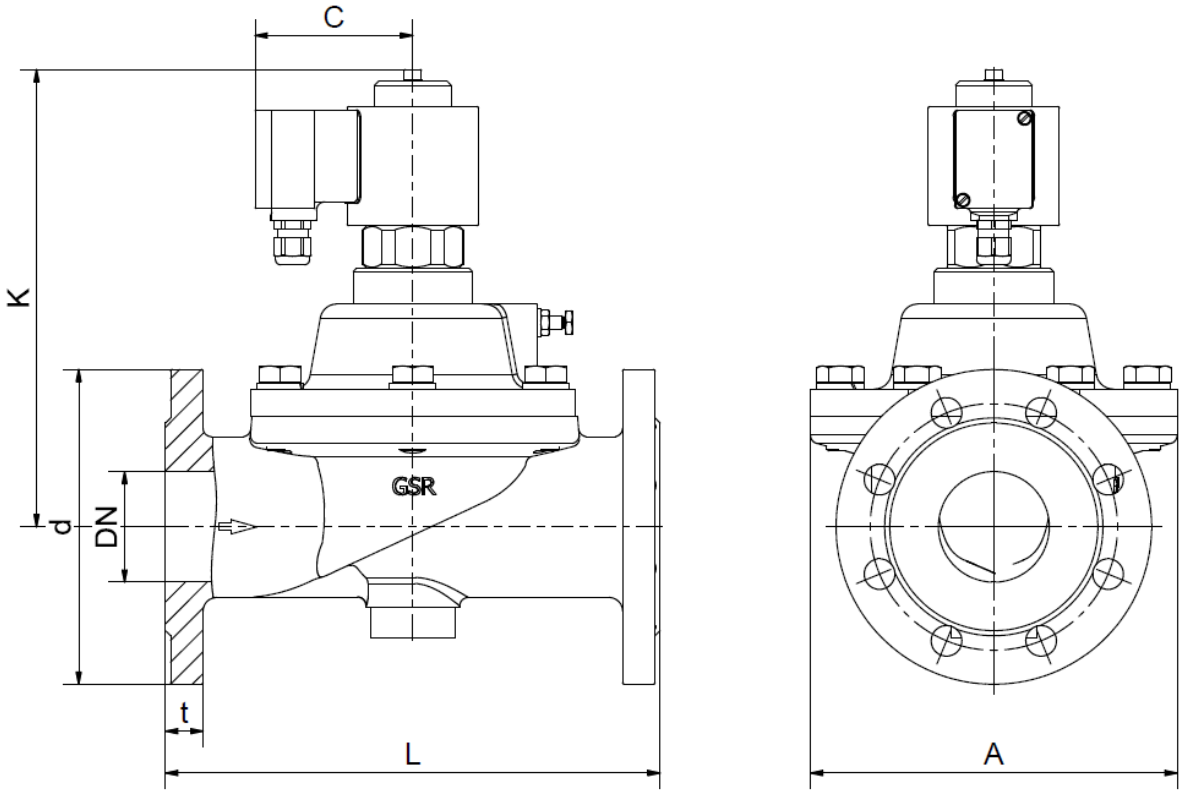
TECHNICAL FEATURES

			max. pressure for coils			max. pressure for coils ATEX		
DN	Kv-value m³/h	Standard type	.242	.272	.352.	.248	.278	.358
65	75,0	K2407/0804/	0-10	0-30	0-40	-	0-16	0-30
80	97,0	K2408/0804/	0-10	0-21	0-40	-	0-12	0-21
100	143,0	K2409/0804/	-	0-12	0-40	-	0-6	0-12

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS



Coil	.242/.248		.272/.278			.352 / .358		
Type	K2407	K2408	K2407	K2408	K2409	K2407	K2408	K2409
DN	65	80	65	80	100	65	80	100
A	215	245	215	245	270	215	245	270
C	93	93	107	107	107	127	127	127
d	185	200	185	200	235	185	200	235
K	252	252	284	316	294	344	355	380
L	290	310	290	310	350	290	310	350
t	22	24	22	24	24	22	24	24
kg	29,0	25,4	32,7	30,3	42,7	43,0	41,0	52,0

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 +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.

Stand: 02.18, MK-MG, Version 1.

Technical Data Sheet Type 91K

GSR Ventiltechnik

2/2-Way solenoid valve
Valve normally closed (NC).
When energized the solenoid first opens the pilot hole and then lifts directly or supported by a pressure difference the piston from the valve seat. The valve is closed by spring power.

■ **Solenoid valve for cryogenic fluids**

Type 91K

TECHNICAL SPECIFICATIONS

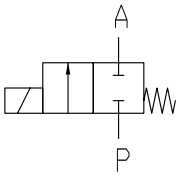
Type of control:	Force pilot operated, no pressure difference required
Design:	Piston design
Connection:	Threaded G1/4-G2 DIN ISO 228 (BSP), Welding ends similar to ISO 4200 (see table page 4) Other connections like NPT on request
Installation:	Actuator in upright position Lying position of actuator on request
Pressure:	0-16 bar (see table page 2)
Medium:	Clean, neutral, gaseous and liquid medium
Viscosity:	22 mm^2/s
Temperature range:	Medium: -196 °C up to +80 °C Ambient: -55 °C up to +50 °C In consideration of the restrictions described on page 4
Body material:	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts:	Brass and stainless steel
Sealing:	PTFE
Supply voltage:	AC~ 24V, 110V, 230V DC= 12V, 24V, 110V Other supply voltages on request
Voltage tolerance:	-10% / +10%
Power consumption:	W802 = 24 Watt W322 = 30 Watt .242 = 46 Watt .272 = 100 Watt
Protection class:	IP65 according to DIN EN 60529
Duty factor:	100% ED DIN VDE 0580
Connection type:	Terminal box

VALVE FEATURES

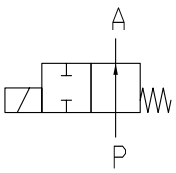
- Low temperature design -196 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- Reliable and sturdy sealing elements
- Long-term availability of spare parts
- High-quality materials
- NO (non energized open) on request
- AS (Welding ends)

FUNCTION

NC - non energized closed



NO - non energized open



ORDERING SYSTEM

K	91	23	/	08	04	/	W	80	2	-	A	S

Connection

21	G1/4
22	G3/8
23	G1/2
24	G3/4
25	G1
26	G1 1/4
27	G1 1/2
28	G2

Body

08	Stainless steel 1.4581
10	Brass

Seal

04	PTFE

Coil system

.	Standard (with Terminal box)
W	Design with Terminal box

2 Standard IP65

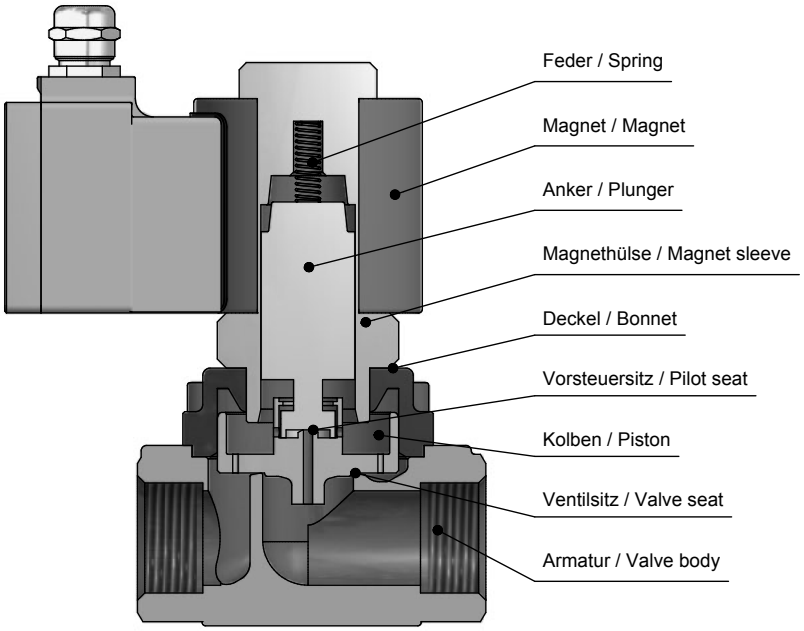
Valve options

AS	Welding ends similar to ISO 4200

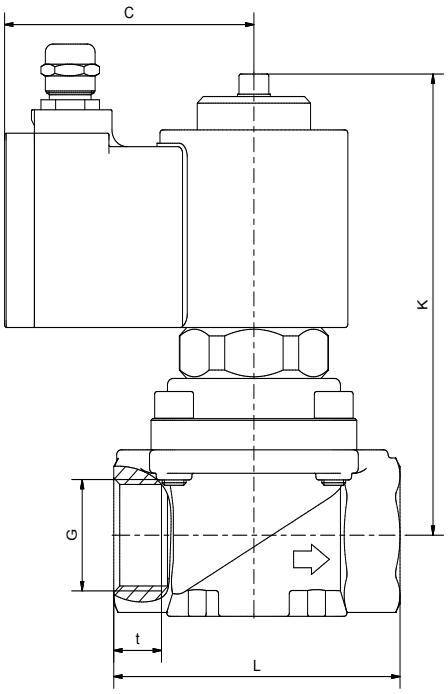
TECHNICAL FEATURES

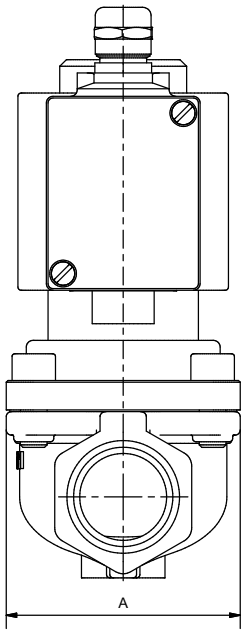
G	Seat ø mm	Kv-value m^3/h	Standard type	max. pressue			
				W802	W322	.242	.272
1/4	13,5	1,8	K9121/..04/…	0-16*	-	-	-
3/8	13,5	4,0	K9122/..04/…	0-16*	-	-	-
1/2	13,5	4,5	K9123/..04/…	0-16*	-	-	-
3/4	27,5	11,5	K9124/..04/…	-	0-16*	-	-
1	27,5	13,0	K9125/..04/…	-	0-16*	-	-
1 1/4	40,0	29,0	K9126/..04/…	-	0-10	0-16*	-
1 1/2	40,0	33,0	K9127/..04/…	-	0-10	0-16*	-
2	50,0	49,0	K9128/..04/…	-	0-6	0-16	0-16*

The flow rate mentioned in the table applies to the *marked coil.



DIMENSIONS

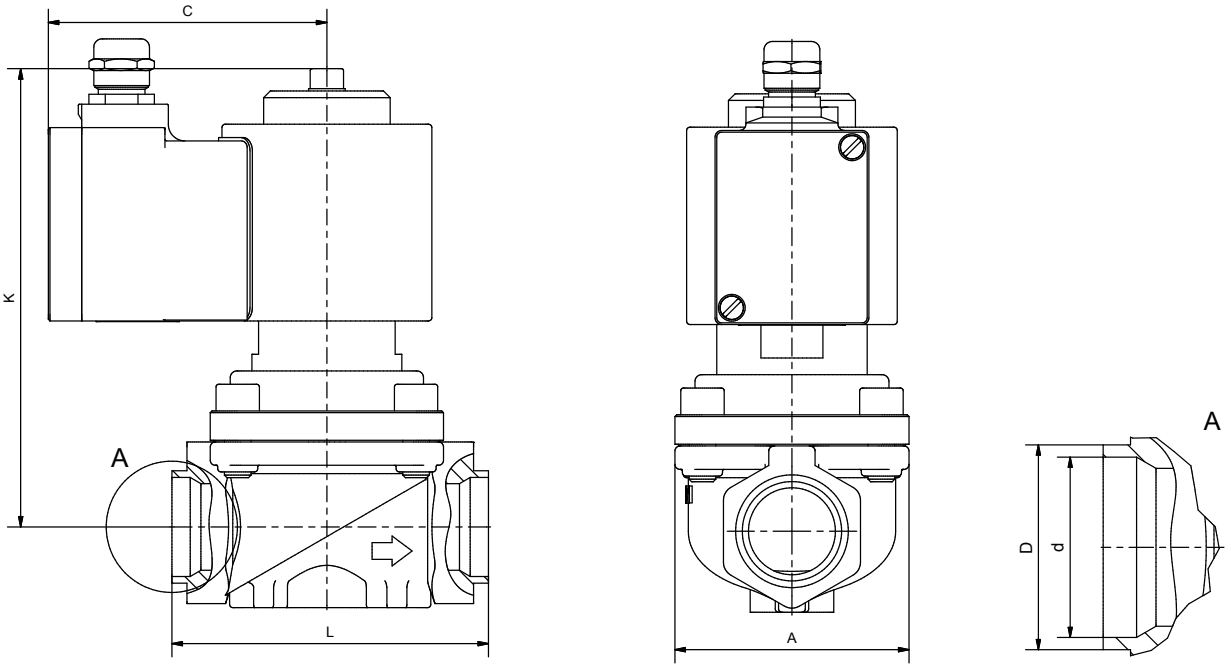




Coil	W802			W322				
Type	K9121	K9122	K9123	K9124	K9125	K9126	K9127	K9128
G	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A	48	48	48	70	70	96	96	112
C	70	70	70	77	77	77	77	77
K	104	104	104	138	138	148	148	183
L	67	67	67	96	96	140	140	168
t	12	12	12	16	16	22	22	22
kg	1,3	1,3	1,2	3,0	3,0	5,0	4,5	6,5

Coil	.242			.272
Type	K9126	K9127	K9128	K9128
G	1 1/4	1 1/2	2	2
A	96	96	112	112
C	93	93	93	107
K	189	188	194	240
L	140	140	168	168
t	22	22	22	22
kg	6,5	6,5	7,5	12,0

DIMENSIONS



Coil	W802	W322					.242			.272
Type	K9123	K9124	K9125	K9126	K9127	K9128	K9126	K9127	K9128	K9128
G	1/2	3/4	1	1 1/4	1 1/2	2	1 1/4	1 1/2	2	2
A	48	70	70	96	96	112	96	96	112	112
C	70	77	77	77	77	77	93	93	93	107
K	104	138	138	148	148	183	189	188	194	240
L	67	96	96	140	140	168	140	140	168	168
D	21,3	26,9	33,7	42,4	48,3	60,3	42,4	48,3	60,3	60,3
d	17,3	22,3	29,7	38,4	44,3	55,1	38,4	44,3	55,1	55,1
kg	1,2	3,0	3,0	5,0	4,5	6,5	6,5	6,5	7,5	12,0

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.

State: 02/2016, MK-MG, Version 1.

Technical Data Sheet
Type 46TK

2/2-way solenoid valve
NC - Valve normally closed

Pilot operated Piston design. The mentioned minimum pressure difference between inlet and outlet is necessary for proper operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for cryonic fluids**

Type 46TK

TECHNICAL SPECIFICATIONS

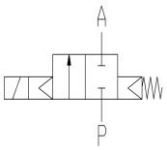
Type of control	Pilot operated, pressure difference required
Design	Piston design
Connection	Threaded G 1/4 - G 1/2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	Preferable with actuator upright
Pressure	1.4581: 1 - 16 bar 1.4404: 1 - 30 bar (see table on page 2)
Medium	Clean, neutral liquid media
max. viscosity	22 mm²/s
Temperature range	Media: -196 °C up to +80 °C Ambient: -55 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Stainless steel 1.4581 Stainless steel 1.4404
Metallic inner parts	Stainless steel
Sealing	PTFE
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	S802 = 24 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

- Low temperature design -196 °C
- Pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements
- Long-term availability of spare parts

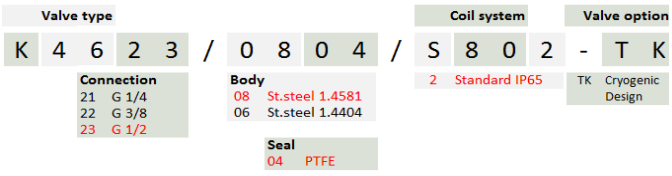
FUNCTION

NC – non energized closed



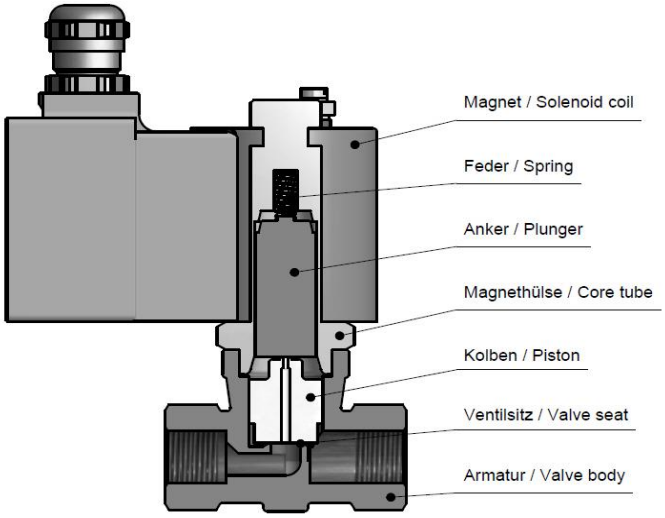
CERTIFICATES

ORDERING SYSTEM

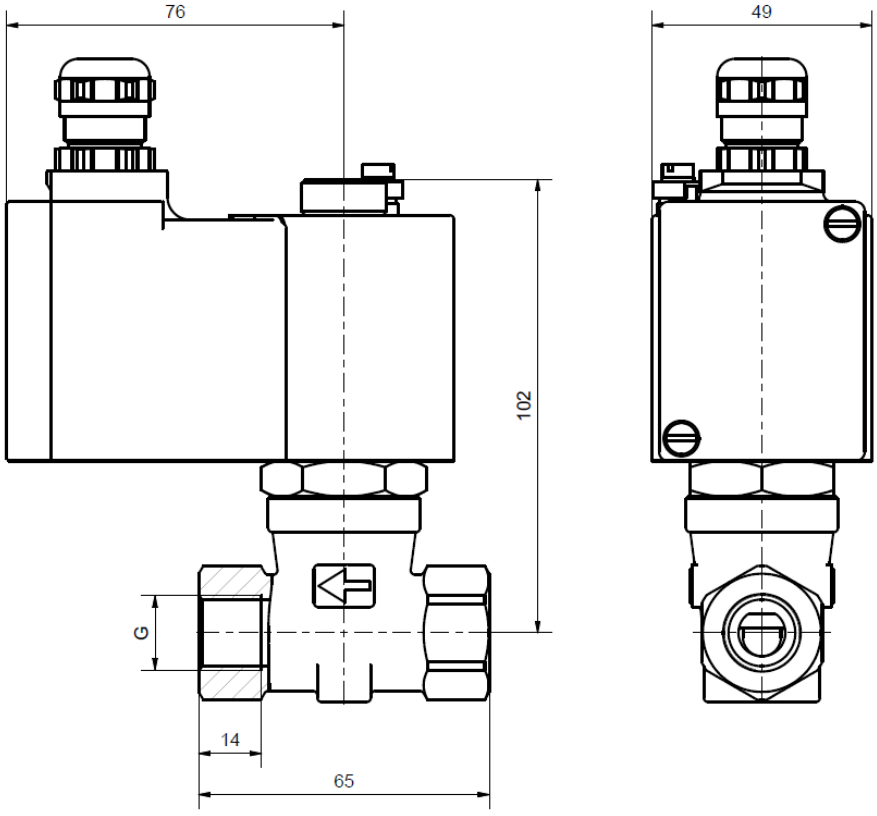


TECHNICAL FEATURES

				max. pressure for coils S802	
G	Seat Ø mm	Kv-value m³/h	Standard type	St. steel 1.4581	St. steel1.4404
1/4	8,0	1,0	K4621/08(06)04/	1-16	1-30
3/8	8,0	1,2	K4622/08(06)04/	1-16	1-30
1/2	8,0	2,0	K4623/08(06)04/	1-16	1-30



DIMENSIONS



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 +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.

Stand: 02.19, MK-MG, Version 1.

Technical Data Sheet
Type 91

2/2-Way solenoid valve
Valve normally closed (NC).
When energized the solenoid first opens the pilot hole and then lifts directly or supported by a pressure difference the piston from the valve seat. The valve is closed by spring power.

■ Solenoid valve for cryogenic fluids

GSR® Ventiltechnik

Type 91

TECHNICAL SPECIFICATIONS

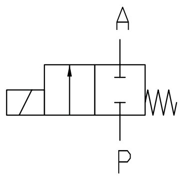
Type of control:	Force pilot operated, no pressure difference required	
Design:	Piston design	
Connection:	Female thread acc. to DIN ISO 228 Welding ends, NPT on request Further connections like flanges acc. to EN 1092 are available on request	
Installation:	Actuator only in upright position	
Pressure:	0-16 bar and 0-40 bar (see table page 2)	
Medium:	Clean, neutral, gaseous and liquid medium	
Viscosity:	22 mm²/s	
Temperature range:	Medium: -196 °C up to +60 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 6	
Body material:	PN16: Brass PN16: Stainless steel 1.4581 PN50: Stainless steel 1.4404	
Metallic inner parts:	Brass and stainless steel	
Sealing:	PTFE	
Supply voltage:	AC~ 24V, 110V, 230V; 50-60Hz DC= 12V, 24V, 110V Other supply voltages on request	
Voltage tolerance:	-10% / +10%	
Power consumption:	.802 = 24 Watt .322 = 30 Watt .242 = 46 Watt .272 = 100 Watt	.808 = 24 Watt (Ex) .328 = 24 Watt (Ex) .248 = 30 Watt (Ex) .278 = 47 Watt (Ex)
Protection class:	IP65 according to DIN EN 60529	
Duty factor:	100% ED DIN VDE 0580	
Ex-proof:	Ex e mb II T4 Further Ex-proof on request	

VALVE FEATURES

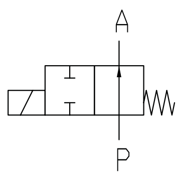
- For cryogenic media to -196 °C (incl. LNG)
- No pressure difference is required
- High life time
- Simple compact valve design
- Reliable and sturdy sealing elements
- Long-term availability of spare parts
- High-quality materials
- NO (normally open) available
- AS (Welding ends)
- FL (Flange design)

FUNCTION

NC - non energized closed



NO - non energized open



CERTIFICATES

Ex — c UL US — FM APPROVED

ORDERING SYSTEM

A 91 23 / 08 04 / . 80 2 - A S

(Actuator: . 80 2; Valve options: A S)

Type	
A	PN16
B	PN50

Connection	
21	G$^1/_4$
22	G$^3/_8$
23	G$^1/_2$
24	G$^3/_4$
25	G1
26	G1$^1/_4$
27	G1$^1/_2$
28	G2

Body	
08	Stainless steel 1.4581 / 1.4404
10	Brass

Seal	
04	PTFE

Actuator	
2	Standard IP65
8	explosion proof acc. to Directive 94/9/EG (ATEX)

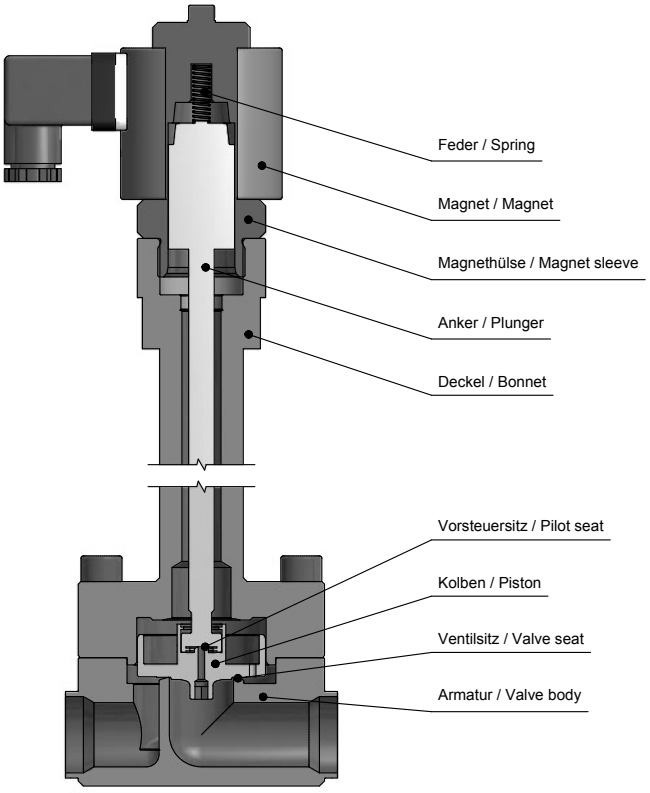
TECHNICAL FEATURES

PN16

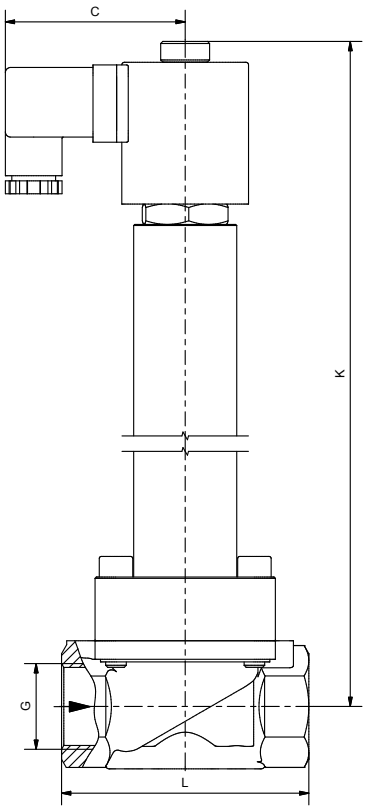
G	Seat ø mm	Kv-value m³/h	Standard type	Coil					
				.802	.322	.242	.328	.248	.278
1/4	13,5	1,7	A9121/..04/..	0-16	-	-	0-16	-	-
3/8	13,5	3,8	A9122/..04/..	0-16	-	-	0-16	-	-
1/2	13,5	4,4	A9123/..04/..	0-16	-	-	0-16	-	-
3/4	25	11,2	A9124/..04/..	0-16	-	-	0-16	-	-
1	27,5	13,0	A9125/..04/..	0-16	-	-	0-16	-	-
1 1/4	40	28,5	A9126/..04/..	-	0-16	-	-	0-16	-
1 1/2	40	32,0	A9127/..04/..	-	0-16	-	-	0-16	-
2	50	47,0	A9128/..04/..	-	-	0-16	-	-	0-16

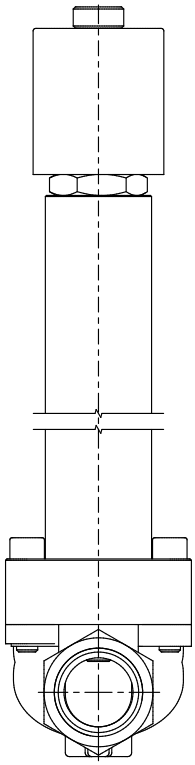
PN50

DN	Seat ø mm	Kv-value m³/h	Standard type	Coil				
				.322	.242	.272	.248	.278
1/4	13,5	1,8	B9121/0804/….-AS	0-40	-	-	0-40	-
3/8	13,5	4,0	B9122/0804/….-AS	0-40	-	-	0-40	-
1/2-15	13,5	4,5	B9123/0804/….-AS	0-40	-	-	0-40	-
3/4-20	25	11,5	B9124/0804/….-AS	0-40	-	-	0-25	0-40
1-25	27,5	13,0	B9125/0804/….-AS	0-40	-	-	0-25	0-40
1 1/4-32	40	29,0	B9126/0804/….-AS	-	0-25	0-40	0-25	0-40
1 1/2-40	40	33,0	B9127/0804/….-AS	-	0-25	0-40	0-25	0-40
2-50	50	47,0	B9128/0804/….-AS	-	-	0-40	-	0-40



DIMENSIONS





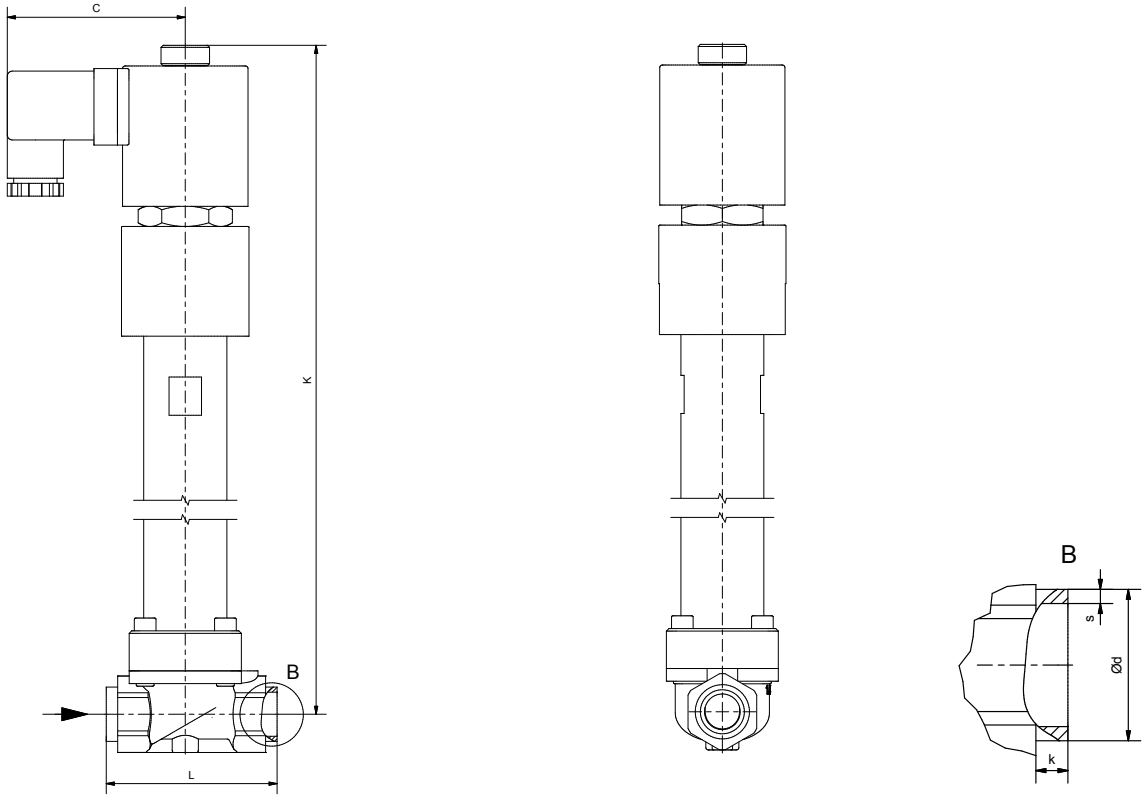
PN16

Coil	.802					.322		.242		
Type	A9121	A9122	A9123	A9124	A9125	A9126	A9127	A9126	A9127	A9128
G	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	1 1/4	1 1/2	2
C	70	70	70	70	70	77	77	93	93	93
K	365	365	365	400	400	475	475	500	500	510
L	67	67	67	96	96	140	140	140	140	168
kg	2,2	2,2	2,2	4,4	4,4	8,8	8,8	9,7	9,7	10,3

PN16

Coil	.328							.248		.278
Type	A9121	A9122	A9123	A9124	A9125	A9126	A9127	A9126	A9127	A9128
G	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	1 1/4	1 1/2	2
C	83	83	83	83	83	83	83	93	93	106
K	370	370	370	405	405	475	475	500	500	560
L	67	67	67	96	96	140	140	140	140	168
kg	3,3	3,3	3,3	5,4	5,4	9	9	9,8	9,8	13

DIMENSIONS

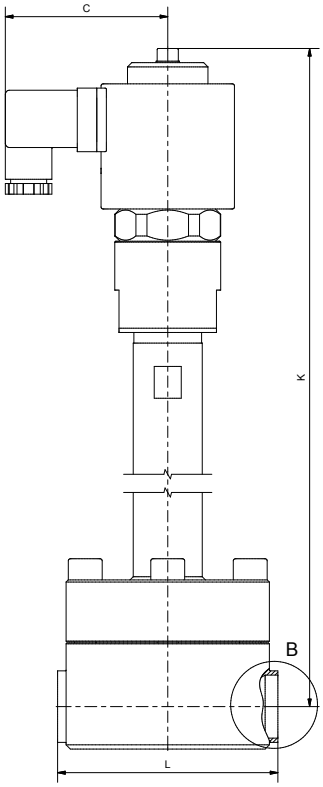


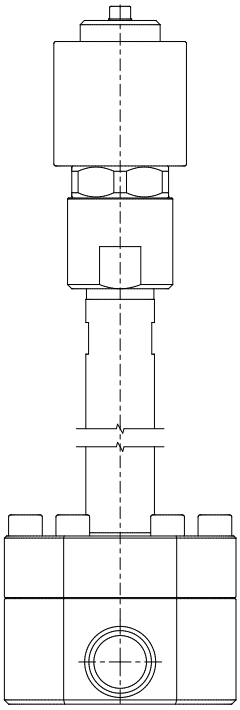
PN16

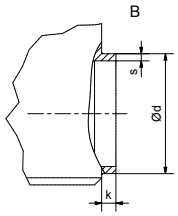
Coil	.802				.322			.242
Type	A9121	A9122	A9123	A9124	A9125	A9126	A9127	A9128
DN	13,5	13,5	13,5	25	27,5	40	40	50
C	70	70	70	70	77	77	77	93
K	385	385	385	420	425	495	495	530
L	67	67	67	96	96	140	140	168
d	24	24	24	30	36	45	52	65
s	3,5	3,5	3,5	4	4	5	5,5	5,5
k	12	12	12	12	14	17	18	22
kg	2,2	2,2	2,2	4,4	5,3	8,8	8,8	10,3

Coil	.328					.248		.278
Type	A9121	A9122	A9123	A9124	A9125	A9126	A9127	A9128
DN	13,5	13,5	13,5	25	27,5	40	40	50
C	83	83	83	83	83	93	93	106
K	390	390	390	425	425	505	505	560
L	67	67	67	96	96	140	140	168
d	24	24	24	30	36	45	52	65
s	3,5	3,5	3,5	4	4	5	5,5	5,5
k	12	12	12	12	14	17	18	22
kg	3,3	3,3	3,3	5,4	5,4	9,8	9,8	13

DIMENSIONS







PN50

Coil	.322					.242		.272		
Type	B9121	B9122	B9123	B9124	B9125	B9126	B9127	B9126	B9127	B9128
DN	13,5	13,5	13,5	25	27,5	40	40	40	40	50
C	77	77	77	77	77	93	93	107	107	107
K	408	408	408	424	424	505	505	525	525	560
L	80	80	80	104	102	148	147	148	147	178
d	24	24	24	30	36	45	52	45	52	65
s	3,5	3,5	3,5	4	4	5	5,5	5	5,5	5,5
k	2	2	2	4	4	4	3,5	4	3,5	4
kg	3,3	3,3	3,3	5,4	5,4	9,8	9,8	12,3	12,3	13

Coil	.248					.278		
Type	B9121	B9122	B9123	B9124	B9125	B9126	B9127	B9128
DN	13,5	13,5	13,5	25	27,5	40	40	50
C	93	93	93	93	93	106	106	106
K	418	418	418	434	434	535	535	560
L	80	80	80	104	102	148	147	178
d	24	24	24	30	36	45	52	65
s	3,5	3,5	3,5	4	4	5	5,5	5,5
k	2	2	2	4	4	4	3,5	4
kg	4,5	4,5	4,5	6,6	6,6	12,3	12,3	13

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 +60 °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.

State: 12/2015, MK-MG, Version 2.

Technical Data Sheet Type 90

2/2-way pressure operating valve
NC - Valve normally closed (as standard)
NO - Valve normally open (as option)
DW - Valve with double acting actuator (as option)

Direct pressure controlled valve. The valve seat is opened against a spring force via the control medium.

- **Valve for cryonic fluids**

Type 90

TECHNICAL SPECIFICATIONS

Type of control	Pressure operated
Design	Poppet design
Connection	Threaded DIN ISO 228/1 Welding ends Further connections like NPT on request
Installation	With actuator upright
Pressure	0 - 16 bar and 0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	600 mm²/s
Temperature range	Medium: -196 °C up to +60 °C Ambient: -10 °C up to +60 °C
Body material	PN16: Stainless steel 1.4581 PN50: Stainless steel 1.4404
Metallic inner parts	Stainless steel
Sealing	PCTFE
Pilot pressure	4 - 10 bar max pressure with at least 6 bar
Pilot medium	Clean and neutral gases Other pilot media on request

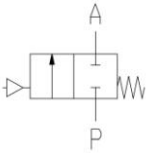
Pilot valve	**2/131-31-1702-C182**
	3/2-way direct operated, NC G1/8, orifice 1.5mm, 0-8 bar Aluminum / Stainless steel / FKM with Cnomo-coil as well as with integrated screw connection for easy assembly
	A7231/1002/....
	3/2-way direct operated, NC G1/8, orifice 1.5mm, 0-8 bar Brass / Stainless steel / FKM

VALVE FEATURES

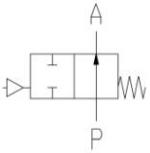
- For cryogenic media to -196 °C
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

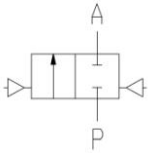
NC – non pressurized closed



NO – non pressurized open



DW - double acting



CERTIFICATES

ORDERING SYSTEM

Type		Conn.		Housing	Seal		Actuator			Option	
B	9 0	2	3	0	8	1 5	7	5	0 5	A	S

A	PN16	21	G 1/4
B	PN40	22	G 3/8
		23	G 1/2
		24	G 3/4
		25	G 1
		26	G 1 1/4
		27	G 1 1/2
		28	G 2

08 Stainless steel 1.4581 / 1.4404

15 PCTFE

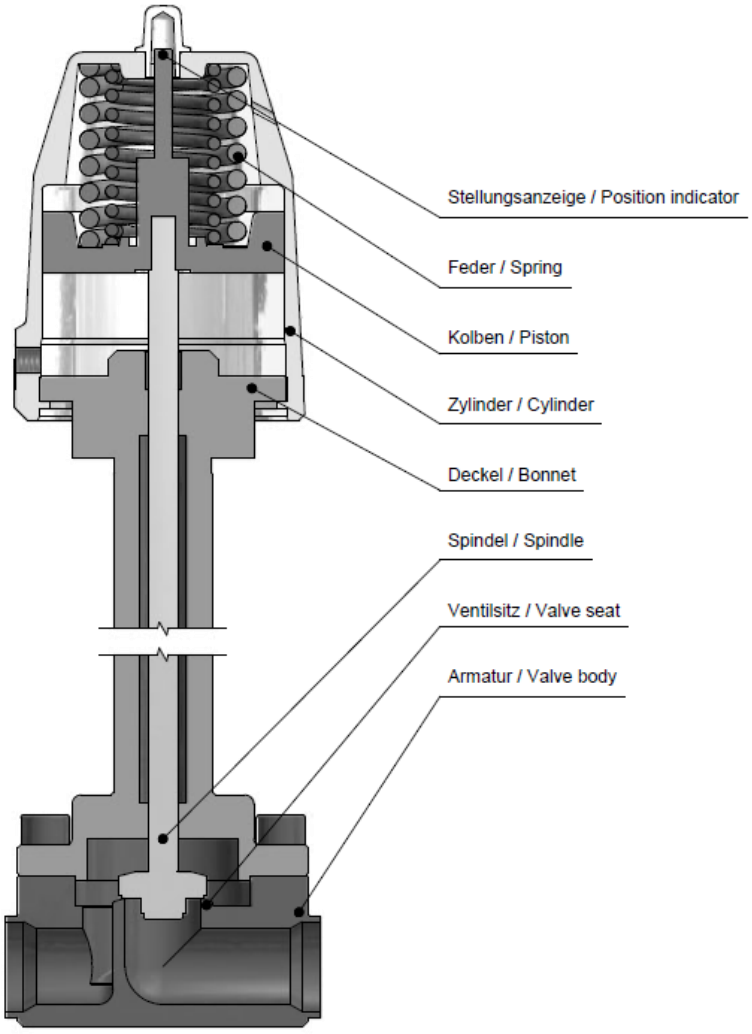
7 . Normally closed
8 . Normally open
9 . Double acting
. 1 Standard actuator
. 3 Act. Stainless steel
. 5 Act. chem. nickel pl.

. 5 50 mm
. 8 80 mm
. 3 125 mm

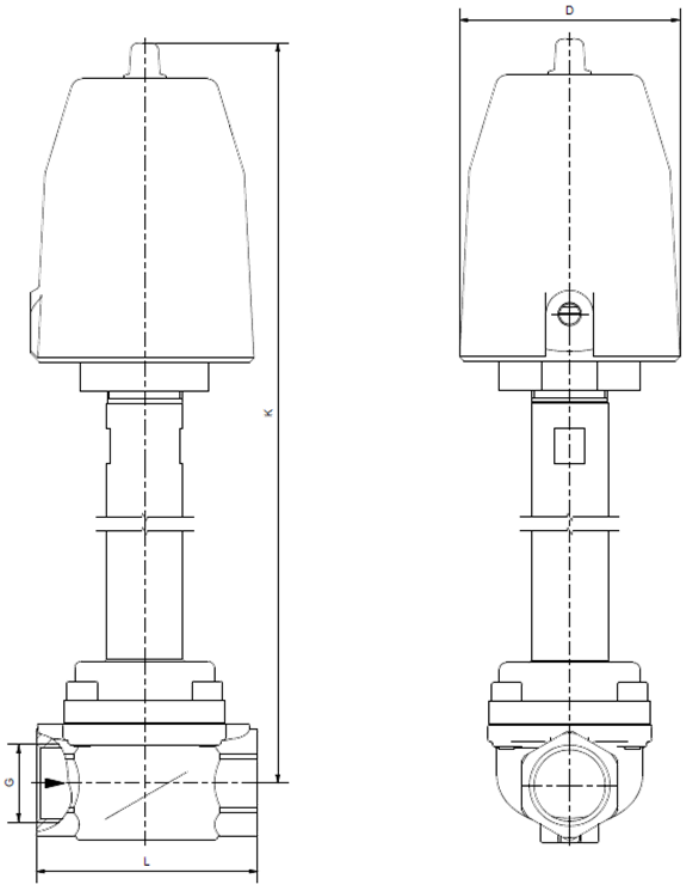
TECHNICAL FEATURES

Type 90

				max. pressure with actuator					
				7.05		7.08		7.13	
G / DN	Seat Ø mm	Kv-value m³/h	Standard type	PN16	PN50	PN16	PN50	PN16	PN50
1/4	13,5	1,9	.9021/0815/	0-16	-	-	-	-	-
3/8	13,5	4,0	.9022/0815/	0-16	-	-	-	-	-
1/2 / 15	13,5	4,7	.9023/0815/	0-16	0-25	-	0-40	-	-
3/4 / 20	25	11,9	.9024/0815/	0-16	-	-	0-25	-	0-40
1 / 25	25	13,3	.9025/0815/	0-8	-	0-16	0-25	-	0-40
1 1/4 / 32	40	30,0	.9026/0815/	-	-	0-8	0-25	0-16	0-40
1 1/2 / 40	40	35,0	.9027/0815/	-	-	0-8	0-16	0-16	0-40
2 / 50	50	49,0	.9028/0815/	-	-	-	-	0-16	0-40



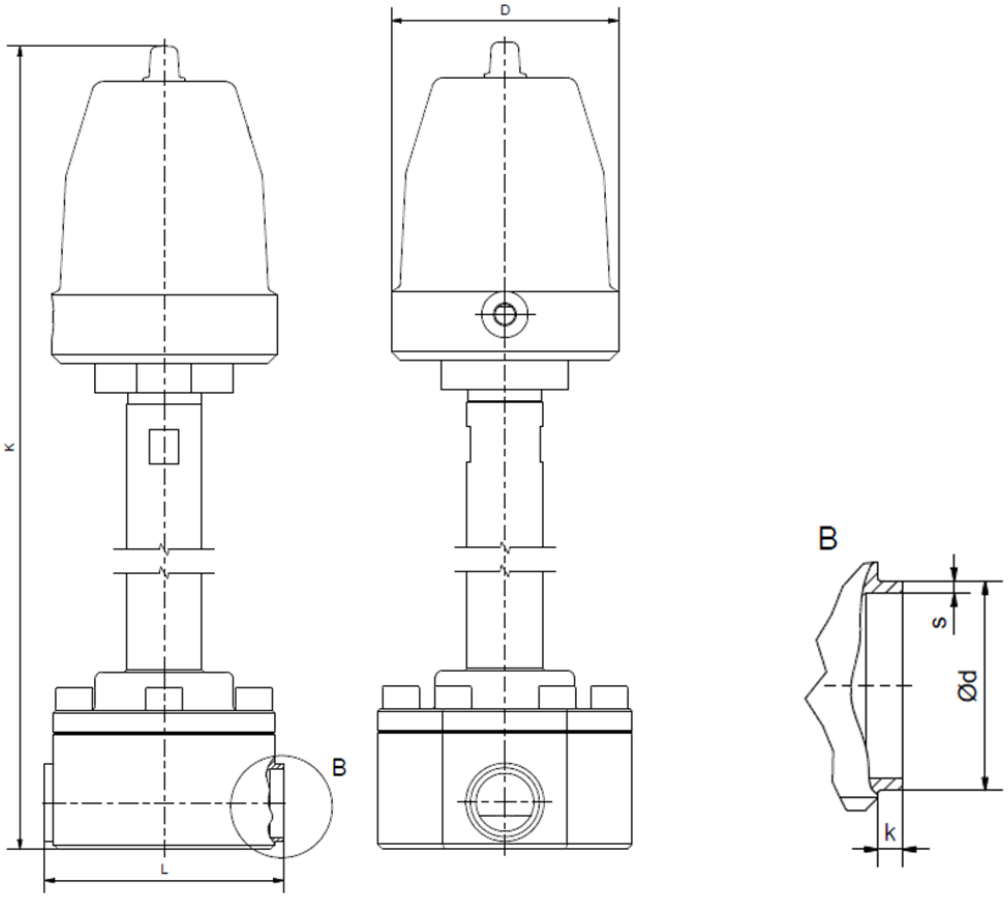
DIMENSIONS



PN16

Actuator	7.05		7.08		7.13	
Type	A9021-23	A9024-25	A9024-25	A9026-27	A9026-27	A9028
G	1/4 - 1/2	3/4 - 1	3/4 - 1	1 1/4 - 1 1/2	1 1/4 - 1 1/2	2
K	400	410	440	470	535	545
L	67	96	96	140	140	168
D	62	62	94	94	145	145
kg	5,3	5,5	7,5	9,0	13,0	15,0

DIMENSIONS



PN50

Actuator	7.05	7.08				7.13				
Type	B9023	B9024	B9025	B9026	B9027	B9024	B9025	B9026	B9027	B9028
DN	13,5	25	27,5	40	40	40	40	40	40	50
K	400	440	440	470	470	505	505	535	535	545
L	80	104	102	148	147	104	102	148	147	178
D	62	94	94	94	94	145	145	145	145	145
d	24	30	36	45	52	30	36	45	52	65
s	3,5	4	4	5	5,5	4	4	5	5,5	5,5
k	2	4	4	4	3,5	4	4	4	3,5	4
kg	6,3	8,5	8,5	10,0	10,0	12,5	12,5	14,0	14,0	14,0

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.

Stand: 08.17, MK-MG, Version 1.

Technical Data Sheet
Type 40TM

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

Pilot operated Membranventil. The mentioned minimum pressure difference between inlet and outlet is necessary for proper operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 40TM

TECHNICAL SPECIFICATIONS

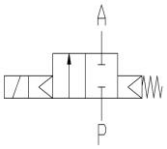
Type of control	Pilot operated, pressure difference is required
Design	Diaphragm design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Other connections like NPT on request
Installation	Preferable with actuator upright
Pressure	0,3 - 20 bar (see table page 2)
Medium	Clean, neutral, gaseous and liquid medium
Viscosity	22 mm²/s
Temperature range	Medium: -10 °C bis +140 °C Ambient: -10 °C bis +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts	Brass and stainless steel
Sealing	FKM, EPDM
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	D182 = 6,8 Watt T012 = 18 Watt
Protection class	IP65 nach DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug

VALVE FEATURES

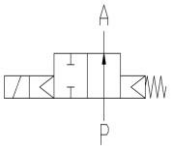
- For media temperatures up to +140 °C
- Pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Valve type									Coil system				Valve options	
.	4	0	2	3	/	1	0	0	6	/	D	1	8	2	-	T	M

Connection	
21	G 1/4
22	G 3/8
23	G 1/2
24	G 3/4
25	G 1
26	G 1 1/4
27	G 1 1/2
28	G 2

Body material	
10	Brass 2.0402
08	Stainless steel 1.4581

Seal material	
02	FKM
06	EPDM

Coil system	
D	Temperature design

Valve options	
TM	+140 °C

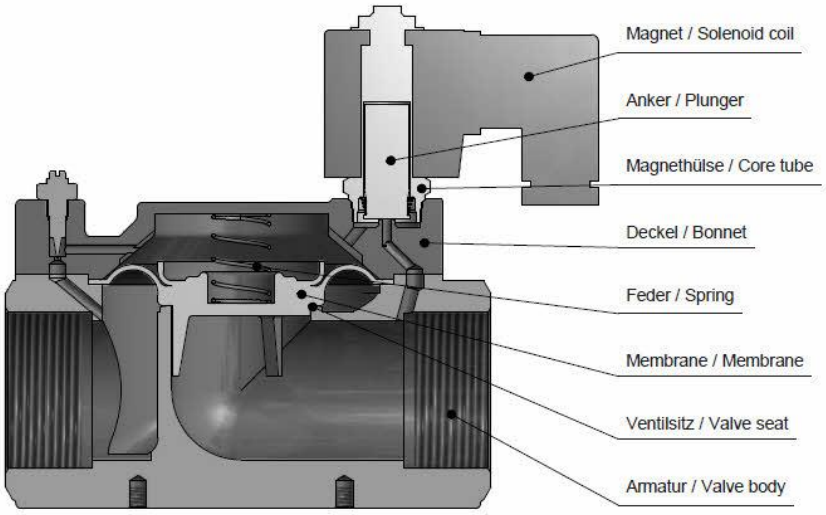
TECHNICAL FEATURES

Type 40TM

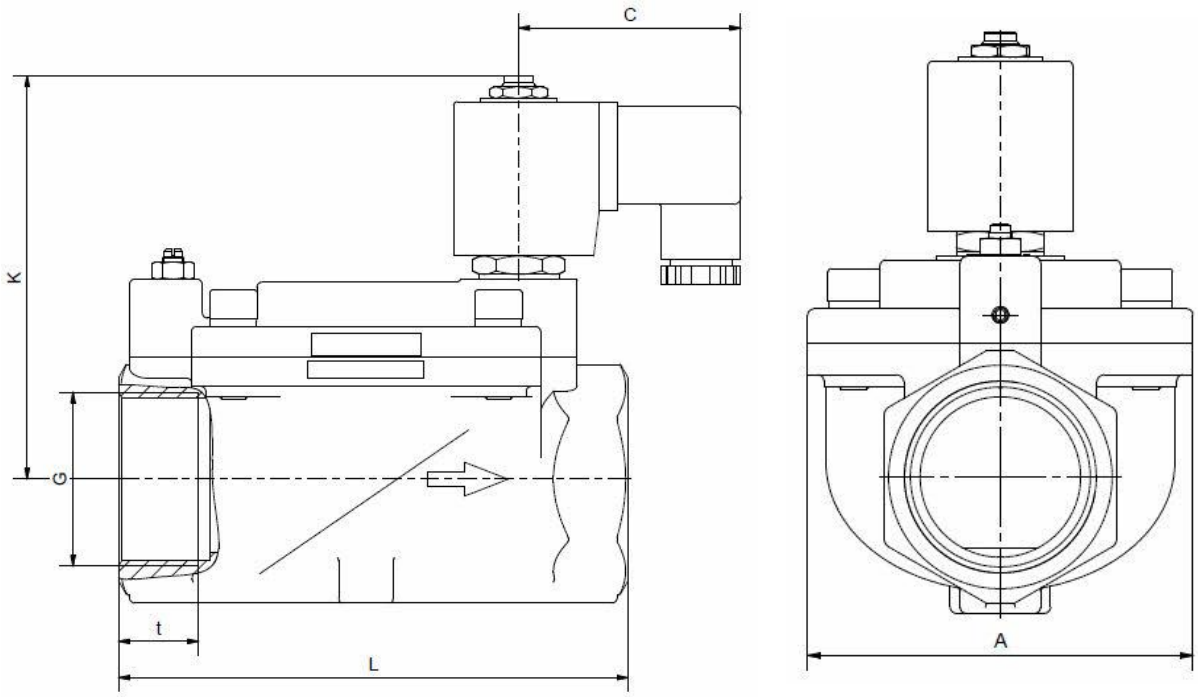
				max. pressure for coils **NC**	
G	Seat Ø mm	Kv-value m³/h	Standard type	D182	T012
1/4	13,5	1,6	.4021/..06/	0,3-8	0,3-20
3/8	13,5	3,3	.4022/..06/	0,3-8	0,3-20
1/2	13,5	3,8	.4023/..06/	0,3-8	0,3-20
3/4	27,5	11,0	.4024/..06/	0,3-8	0,3-20
1	27,5	13	.4025/..06/	0,3-8	0,3-20
1 1/4	40	30	.4026/..06/	-	0,3-16
1 1/2	40	32	.4027/..06/	-	0,3-16
2	50	45	.4028/..06/	-	0,3-16

The flow rate mentioned in the table applies to the strongest coil.

				max. pressure for coils **NO**	
G	Seat Ø mm	Kv-value m³/h	Standard type	D182	T012
1/4	13,5	1,6	.4021/..06/	-	0,3-16
3/8	13,5	3,3	.4022/..06/	-	0,3-16
1/2	13,5	3,8	.4023/..06/	-	0,3-16
3/4	27,5	11,0	.4024/..06/	-	0,3-16
1	27,5	13	.4025/..06/	-	0,3-16
1 1/4	40	30	.4026/..06/	-	0,3-10
1 1/2	40	32	.4027/..06/	-	0,3-10
2	50	45	.4028/..06/	-	0,3-10



DIMENSIONS



coil	D182				
Type	4021	4022	4023	4024	4025
G	1/4	3/8	1/2	3/4	1
A	48	48	48	70	70
C	51	51	51	51	51
K	75	75	75	87	87
L	67	67	67	96	96
t	12	12	12	16	16
kg	0,9	0,85	0,8	1,65	1,5

coil	T012							
Type	4021	4022	4023	4024	4025	4026	4027	4028
G	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A	48	48	48	70	70	96	96	112
C	61	61	61	61	61	61	61	61
K	90	90	90	102	102	110	110	120
L	67	67	67	96	96	140	140	168
t	12	12	12	16	16	22	22	22
kg	0,9	0,85	0,8	1,65	1,5	3,1	2,9	4,0

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 +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 +140 °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. +130 °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.

Stand: 07.17, MK-MG, Version 1

Technical Data Sheet
Type 28TM

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

Pilot operated diaphragm design. The mentioned minimum pressure difference between inlet and outlet is necessary for proper operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 28TM

TECHNICAL SPECIFICATIONS

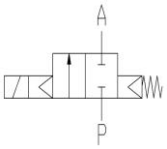
Type of control	Pilot operated, pressure difference is required
Design	Diaphragm design
Connection	Flanges acc. to EN 1092-1 Form B1/B2 Other flanges like ASME on request
Installation	Preferable with actuator upright
Pressure	0,3 - 20 bar (see table page 2)
Medium	Clean, neutral, gaseous and liquid medium
Viscosity	22 mm²/s
Temperature range	Medium: -10 °C bis +140 °C Ambient: -10 °C bis +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	FKM, EPDM
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	D182 = 6,8 Watt T012 = 18 Watt
Protection class	IP65 nach DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug

VALVE FEATURES

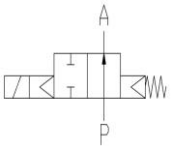
- For media temperatures up to +140 °C
- Pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Valve type										Coil system				Valve options	
.	2	8	0	3	/	0	4	0	6	/	D	1	8	2	-	T	M

Connection
01 DN15
02 DN20
03 DN25
04 DN32
05 DN40
06 DN50

Body material
04 Cast iron
05 Cast steel
08 Stainless steel

Seal material
02 FKM
06 EPDM

D Temperature design

TM +140 °C

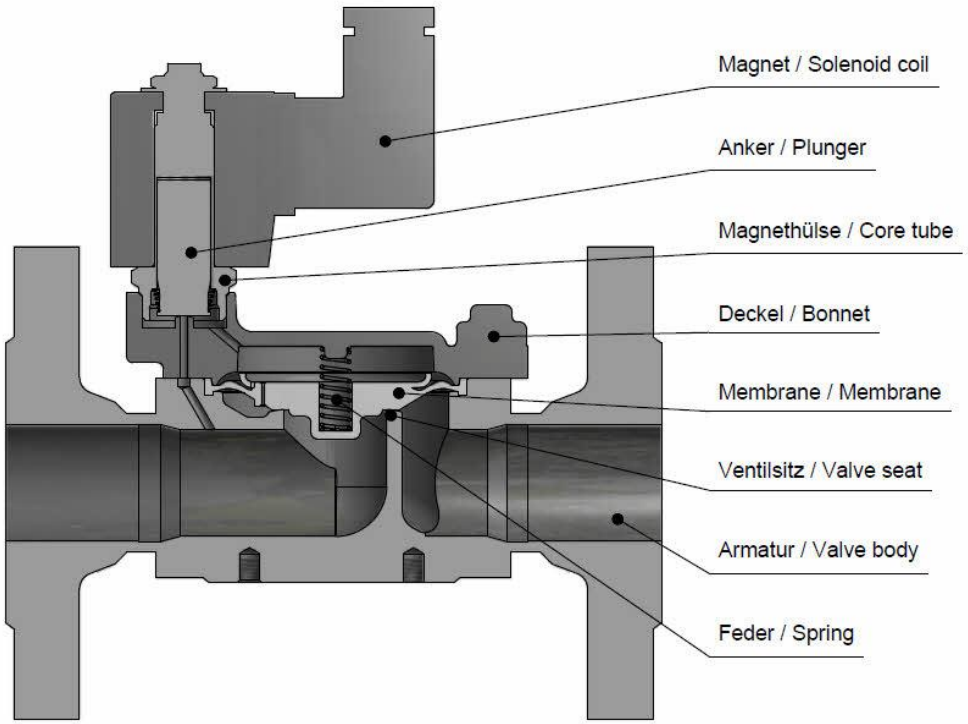
TECHNICAL FEATURES

Type 28TM

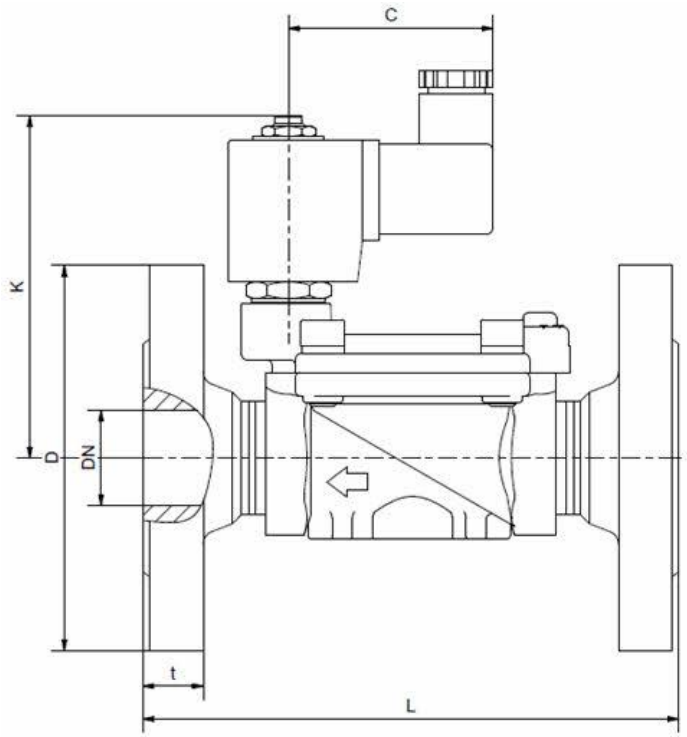
				max. pressure for coils **NC**	
DN	Seat Ø mm	Kv-value m³/h	Standard type	D182	T012
15	15,0	3,9	.2801/..../....-TM	0,3-8	0,5-20
20	20,0	10,8	.2802/..../....-TM	0,3-8	0,5-20
25	25,0	13,0	.2803/..../....-TM	0,3-8	0,5-20
32	32,0	30,0	.2804/..../....-TM	-	0,5-16
40	40,0	32,0	.2805/..../....-TM	-	0,5-16
50	50,0	45,0	.2806/..../....-TM	-	0,5-16

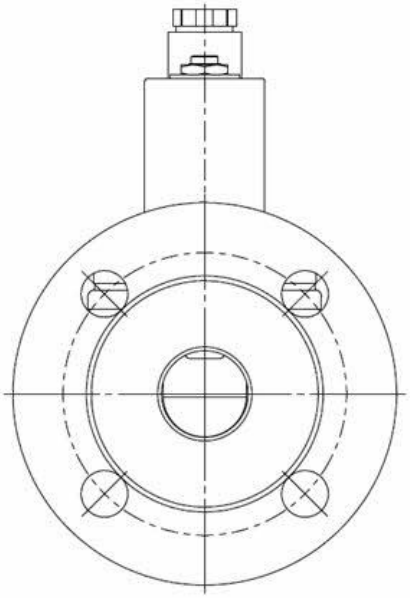
The flow rate mentioned in the table applies to the strongest coil.

				max. pressure for coils **NO**	
DN	Seat Ø mm	Kv-value m³/h	Standard type	D182	T012
15	15,0	3,9	.2801/..../....-TM	-	0,5-16
20	20,0	10,8	.2802/..../....-TM	-	0,5-16
25	25,0	13,0	.2803/..../....-TM	-	0,5-16
32	32,0	30,0	.2804/..../....-TM	-	0,5-10
40	40,0	32,0	.2805/..../....-TM	-	0,5-10
50	50,0	45,0	.2806/..../....-TM	-	0,5-10



DIMENSIONS





Coil	D182		
Type	2801	2802	2803
DN	15	20	25
C	51	51	51
D	95	105	115
K	82	90	90
L	130	150	160
t	16	18	18
kg	2,3	3,3	3,8

Coil	T012					
Type	2801	2802	2803	2804	2805	2806
DN	15	20	25	32	40	50
C	61	61	61	61	61	61
D	95	105	115	140	150	165
K	97	105	105	120	120	135
L	130	150	160	180	200	230
t	16	18	18	18	18	20
kg	2,3	3,3	3,8	6,5	7,0	9,5

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 +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 +140 °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. +130 °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.

Stand: 07.17, MK-MG, Version 2.

Technical Data Sheet
Type 43TM

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

Force-pilot operated diaphragm design. No differential pressure is necessary for operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 43TM

TECHNICAL SPECIFICATIONS

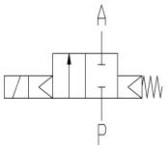
Type of control	Force-pilot operated
Design	Diaphragm design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	Actuator upright
Pressure	0 - 16 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
Viscosity	22 mm²/s
Temperature range	Medium: -10 °C up to +140 °C Ambient: -10 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts	Brass and Stainless steel
Sealing	FKM, EPDM
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T012 = 18 Watt T802 = 18 Watt R322 = 21 Watt R242 = 26 Watt T272 = 60 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug, Terminal box

VALVE FEATURES

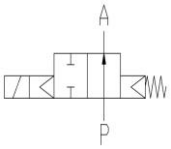
- For media temperatures up to +140 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil				Option	
.	4	3	2	3	/	1	0	0	6	/	T	8	0	2	-	T	M

Conn.	
21	G 1/4
22	G 3/8
23	G 1/2
24	G 3/4
25	G 1
26	G 1 1/4
27	G 1 1/2
28	G 2

Housing	
10	Brass 2.0402
08	Stainless steel 1.4581

Seal	
02	FKM
06	EPDM

Coil	
T	Temperatur-version
R	Temperatur-version

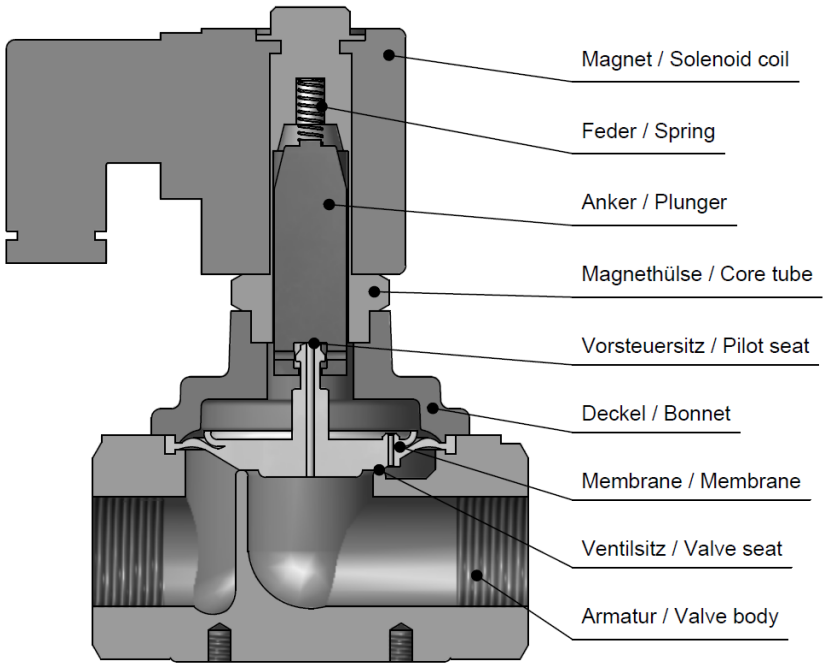
Option	
TM	+140 °C

TECHNICAL FEATURES

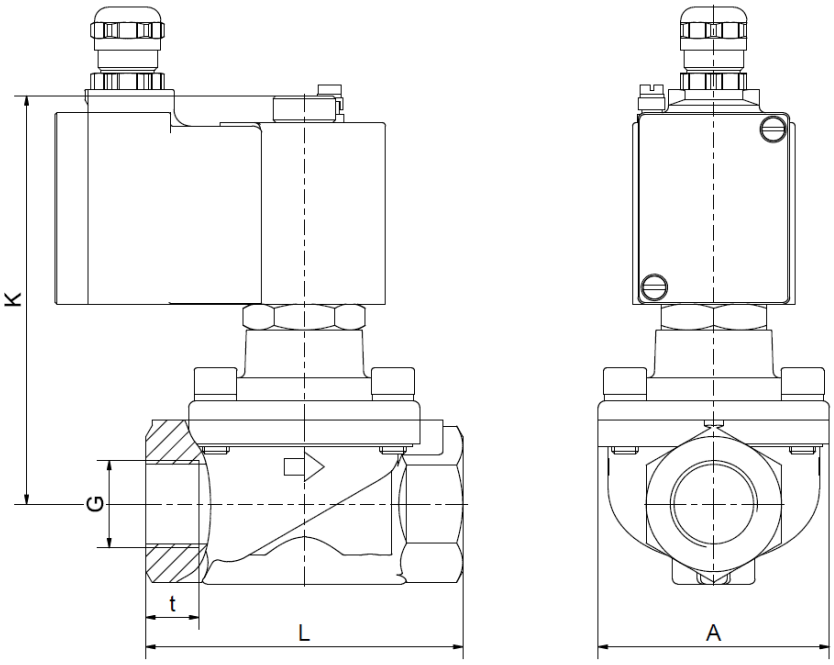
Type 43TM

				max. pressure for coils				
G	Seat Ø mm	Kv-value m³/h	Standard type	T012	T802	R322	R242	T272
1/4	13,5	1,8	.4321/..01/	0-10	0-16	-	-	-
3/8	13,5	3,6	.4322/..01/	0-10	0-16	-	-	-
1/2	13,5	3,9	.4323/..01/	0-10	0-16	-	-	-
3/4	27,5	10,8	.4324/..01/	0-8	0-12	0-16	-	-
1	27,5	13,0	.4325/..01/	0-8	0-12	0-16	-	-
1 1/4	40	22,0	.4326/..01/	-	-	0-3	0-8	0-16
1 1/2	40	25,0	.4327/..01/	-	-	0-3	0-8	0-16
2	50	30,0	.4328/..01/	-	-	-	0-6	0-16

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS



Coil	T012					T802				
Type	4321	4322	4323	4324	4325	4321	4322	4323	4324	4325
G	1/4	3/8	1/2	3/4	1	1/4	3/8	1/2	3/4	1
A	48	48	48	70	70	48	48	48	70	70
C	61	61	61	61	61	67	67	67	67	67
K	86	86	86	96	96	104	104	104	120	120
L	67	67	67	96	96	67	67	67	96	96
t	12	12	13	16	16	12	12	13	16	16
kg	0,9	0,8	0,8	1,5	1,4	1,1	1,1	1,0	1,8	1,7

Coil	R322				R242			T272		
Type	4324	4325	4326	4327	4326	4327	4328	4326	4327	4328
G	3/4	1	1 1/4	1 1/2	1 1/4	1 1/2	2	1 1/4	1 1/2	2
A	70	70	96	96	96	96	112	96	96	112
C	84	84	84	84	93	93	93	107	107	107
K	156	156	173	173	196	196	205	243	243	251
L	96	96	140	140	140	140	168	140	140	168
t	16	16	22	22	22	22	25	22	22	25
kg	3,0	2,9	5,0	4,7	6,2	5,9	7,2	10,2	9,9	11,3

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 +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 +140 °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. +130 °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.

Stand: 08.17, MK-MG, Version 1.

Technical Data Sheet
Type 27TM

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

Force-pilot operated diaphragm design valve. No differential pressure is necessary for operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 27TM

TECHNICAL SPECIFICATIONS

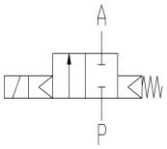
Type of control	Force-pilot operated, no pressure difference necessary
Design	Diaphragm design
Connection	Flanges acc. to EN 1092-1 Form B1/B2
Installation	With actuator upright
Pressure	0 - 16 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
Viscosity	22 mm²/s
Temperature range	Medium: -10 °C up to +140 °C Ambient: -10 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Cast iron EN-GJL-250 (DN20-50) Cast steel GP240 GH (DN15-50) Stainless steel 1.4581 (DN15-50)
Metallic inner parts	Brass and Staineless steel
Sealing	FKM, EPDM
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T012 = 18,5 Watt T802 = 18 Watt R322 = 21 Watt R242 = 44 Watt T272 = 60 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug, Terminal box

VALVE FEATURES

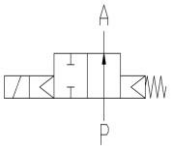
- For media temperatures up to +140 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil			Option	
.	2	7	0	3	/ 0	4	0	6	/ R	3	2	2	-	T	M

Conn.	Housing	Seal	Coil	Option
01 DN15	04 EN-GJL-250	02 FKM	R Temperature-design	TM +140 °C
02 DN20	05 GP240 GH	06 EPDM	T Temperature-design	
03 DN25	08 St.steel 1.4581			
04 DN32				
05 DN40				
06 DN50				

TECHNICAL FEATURES

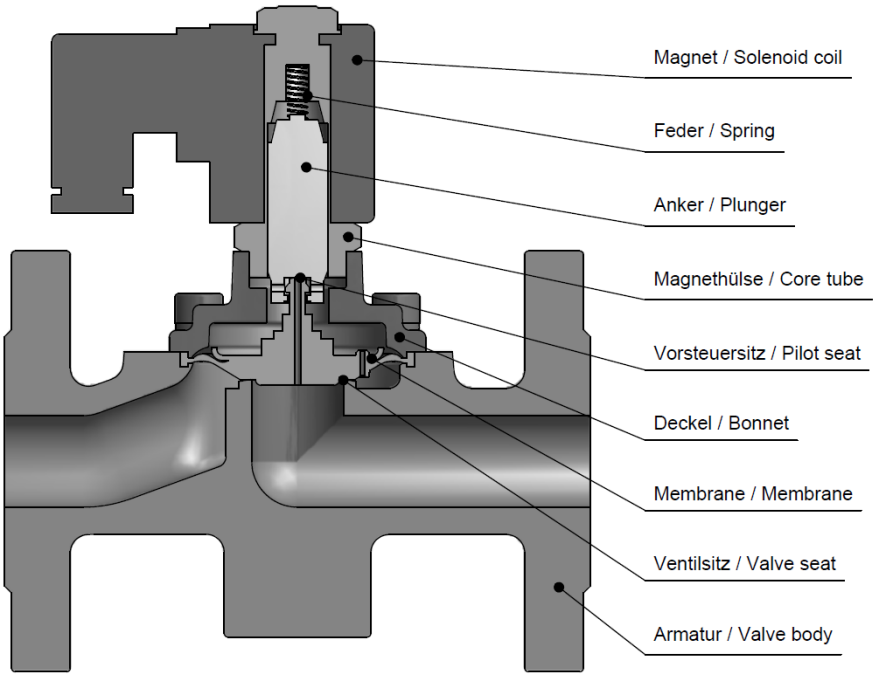
Type 27TM

			max. pressure for coils NC				
DN	Kv-value m³/h	Standard type	T012-TM	T802-TM	R322-TM	R242-TM	T272-TM
15	3,9	.2701/..06/	0-10	0-16	-	-	-
20	10,8	.2702/..06/	0-8	0-12	0-16	-	-
25	13,0	.2703/..06/	0-8	0-12	0-16	-	-
32	30,0	.2704/..06/	-	-	0-3	0-8	0-16
40	32,0	.2705/..06/	-	-	0-3	0-8	0-16
50	45,0	.2706/..06/	-	-	-	0-6	0-16

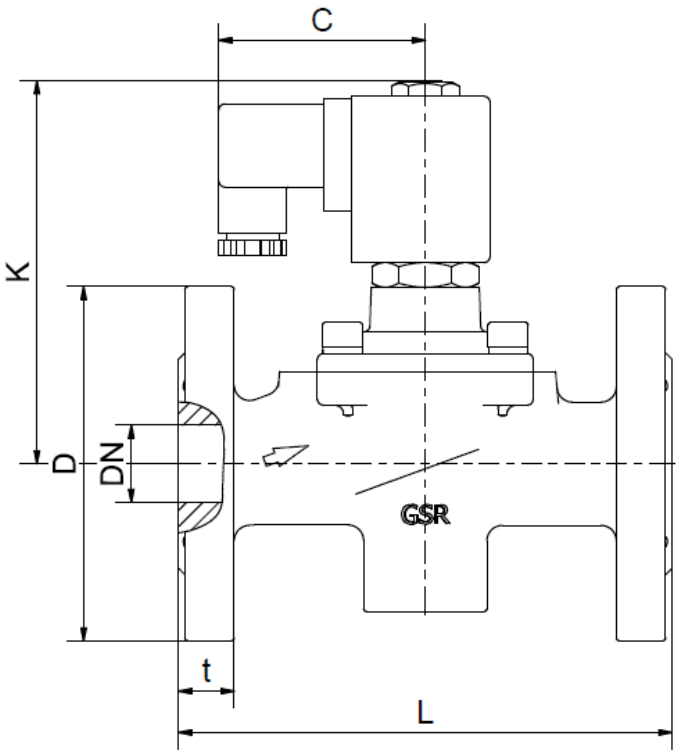
The flow rate mentioned in the table applies to the strongest coil.

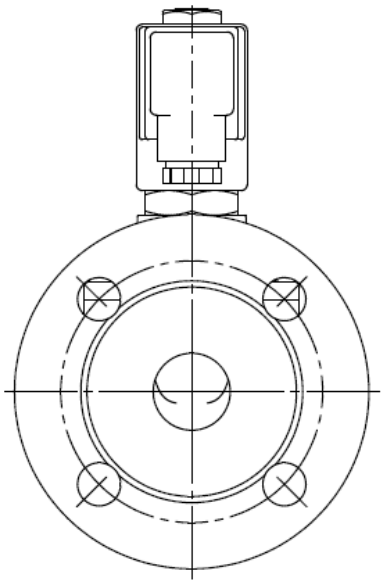
			max. pressure for coils NO				
DN	Kv-value m³/h	Standard type	T012-TM	T802-TM	R322-TM	R242-TM	T272-TM
15	3,9	.2701/..06/	-	0-16	-	-	-
20	10,8	.2702/..06/	-	0-12	0-10	0-16	-
25	13,0	.2703/..06/	-	0-12	0-10	0-16	-
32	30,0	.2704/..06/	-	-	0-3	0-8	0-16
40	32,0	.2705/..06/	-	-	0-3	0-8	0-16
50	45,0	.2706/..06/	-	-	-	0-6	0-16

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS





Coil	T012-TM			T802-TM			R322-TM	
Type	.2701	.2702	.2703	.2701	.2702	.2703	.2702	.2703
DN	15	20	25	15	20	25	20	25
C	61	61	61	76	76	76	84	84
D	95	105	115	95	105	115	105	115
K	94 (86)	100 (96)	100 (96)	114 (108)	129 (124)	129 (124)	172 (167)	172 (167)
L	130	150	160	130	150	160	150	160
t	16	18	18	16	18	18	18	18
kg	2,8	3,9	4,5	3,6	4,7	5,3	5,3	5,8

The values in brackets refer to the stainless steel version.

Coil	R322-TM		R242-TM			T272-TM		
Type	.2704	.2705	.2704	.2705	.2706	.2704	.2705	.2706
DN	32	40	32	40	50	32	40	50
C	84	84	93	93	93	107	107	107
D	140	150	140	150	165	140	150	165
K	184 (172)	184 (172)	209 (198)	209 (198)	218 (205)	254 (242)	254 (242)	264 (251)
L	180	200	180	200	230	180	200	230
t	18	18	18	18	20	18	18	20
kg	8,9	11,9	10,2	10,7	13,6	13,4	14,0	17,5

The values in brackets refer to the stainless steel version.

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 +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 +140 °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. +130 °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.

Stand: 07.17, MK-MG, Version 2.

Technical Data Sheet
Type 51TH

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

Pilot operated piston design. The mentioned minimum pressure difference between inlet and outlet is necessary for proper operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 51TH

TECHNICAL SPECIFICATIONS

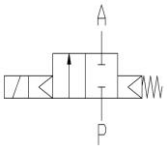
Type of control	Pilot operated, pressure difference is required
Design	Pistondesign
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Other connections like NPT on request
Installation	Preferable with actuator upright
Pressure	0,5 - 40 bar (see table page 2)
Medium	Clean, neutral, gaseous and liquid medium
Viscosity	22 mm²/s
Temperature range	Medium: -20 °C bis +180 °C Ambient: -20 °C bis +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts	Brass and stainless steel
Sealing	PTFE
Supply voltage	AC~ 230V DC= 24V
Voltage tolerance	-10% / +10%
Power consumption	D182 = 6,8 Watt D012 = 18 Watt
Protection class	IP65 nach DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug

VALVE FEATURES

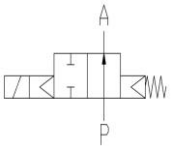
- For media temperatures up to +180 °C
- Pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Valve type								Coil system				Valve options	
.	5	1	2	3	/	1	0	0	4	/	D	1	8	2	-	T	H

Connection
21 G 1/4
22 G 3/8
23 G 1/2
24 G 3/4
25 G 1
26 G 1 1/4
27 G 1 1/2
28 G 2

Body material
10 Brass 2.0402
08 Stainless steel 1.4581

Seal material
04 PTFE

D Temperature design

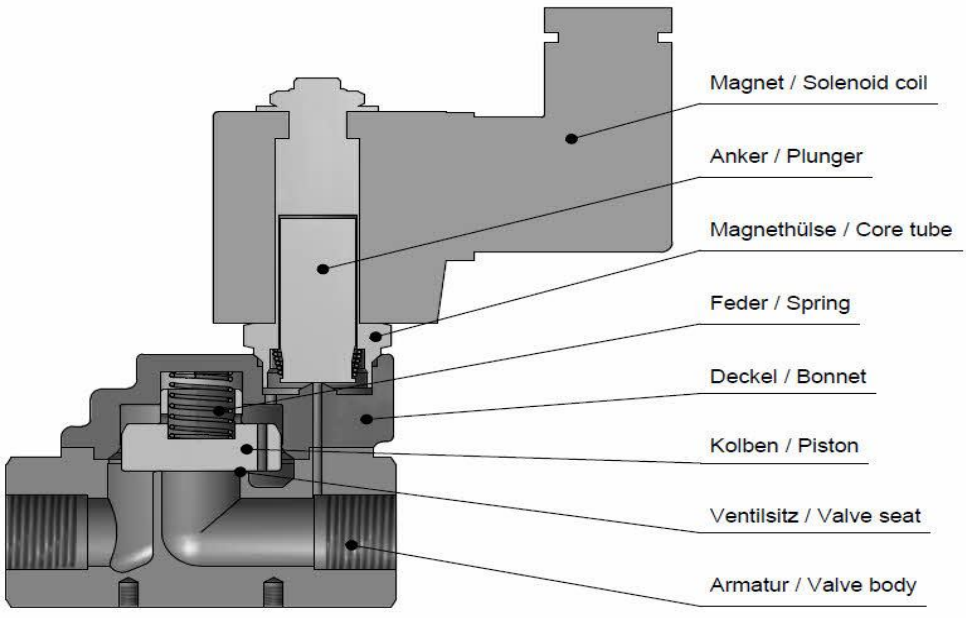
TM +140 °C

TECHNICAL FEATURES

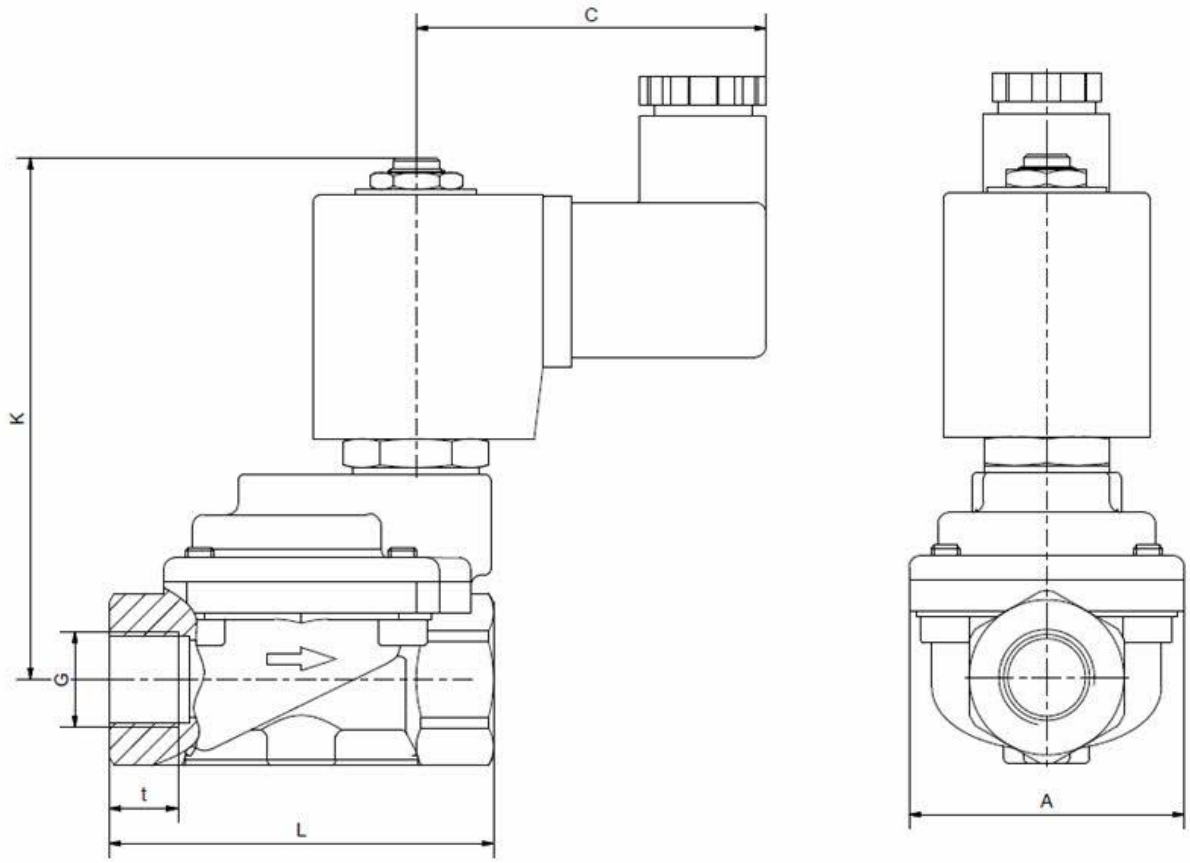
				max. pressure for coils **NC**	
G	Seat mm	Kv-value m³/h	Standard type	D182	D012
1/4	13,5	1,8	.5121/..../....-TH	0,5-16	0,5-40
3/8	13,5	4,0	.5122/..../....-TH	0,5-16	0,5-40
1/2	13,5	4,5	.5123/..../....-TH	0,5-16	0,5-40
3/4	27,5	11,5	.5124/..../....-TH	0,5-16	0,5-40
1	27,5	13,0	.5125/..../....-TH	0,5-16	0,5-40
1 1/4	40	29,0	.5126/..../....-TH	-	0,5-30
1 1/2	40	33,0	.5127/..../....-TH	-	0,5-30
2	50	49,0	.5128/..../....-TH	-	0,5-30

The flow rate mentioned in the table applies to the strongest coil.

				max. pressure for coils **NO**	
G	Seat mm	Kv-value m³/h	Standard type	D182	D012
1/4	13,5	1,8	.5121/..../....-TH	-	0,5-40
3/8	13,5	4,0	.5122/..../....-TH	-	0,5-40
1/2	13,5	4,5	.5123/..../....-TH	-	0,5-40
3/4	27,5	11,5	.5124/..../....-TH	-	0,5-40
1	27,5	13,0	.5125/..../....-TH	-	0,5-40
1 1/4	40	29,0	.5126/..../....-TH	-	0,5-16
1 1/2	40	33,0	.5127/..../....-TH	-	0,5-16
2	50	49,0	.5128/..../....-TH	-	0,5-16



DIMENSIONS



Coil	D182				
Type	5121	5122	5123	5124	5125
G	1/4	3/8	1/2	3/4	1
A	48	48	48	70	70
C	51	51	51	51	51
K	75	75	75	91	91
L	67	67	67	96	96
t	12	12	12	16	16
kg	0,9	0,85	0,8	1,8	1,65

Coil	D012							
Type	5121	5122	5123	5124	5125	5126	5127	5128
G	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A	48	48	48	70	70	96	96	112
C	61	61	61	61	61	61	61	61
K	90	90	90	106	106	128	128	140
L	67	67	67	96	96	140	140	168
t	12	12	12	16	16	22	22	22
kg	0,9	0,85	0,8	1,8	1,65	3,8	3,5	5,2

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 +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 +180 °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. +180 °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.

Stand: 07.17, MK-MG, Version 1.

Technical Data Sheet
Type 54TH

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

Pilot operated piston design. The mentioned minimum pressure difference between inlet and outlet is necessary for proper operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 54TH

TECHNICAL SPECIFICATIONS

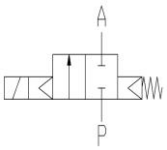
Type of control	Pilot operated, pressure difference is required
Design	Piston design
Connection	Flanges acc. to EN 1092-1 Form B1/B2 Other flanges like ASME on request
Installation	Preferable with actuator upright
Pressure	0,5 - 40 bar (see table page 2)
Medium	Clean, neutral, gaseous and liquid medium
max. viscosity	22 mm²/s
Temperature range	Medium: -20 °C bis +180 °C Ambient: -20 °C bis +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	PTFE
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	D182 = 6,8 Watt D012 = 18 Watt
Protection class	IP65 nach DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug

VALVE FEATURES

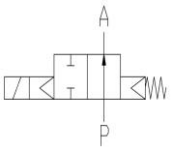
- For media temperatures up to +180 °C
- Pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Valve type									Coil system				Valve options	
.	5	4	0	3	/	0	4	0	4	/	D	1	8	2	-	T	H

Connection
01 DN15
02 DN20
03 DN25
04 DN32
05 DN40
06 DN50

Body material
04 EN-GJL-250
05 GP240 GH
08 St.steel 1.4581

Seal material
04 PTFE

D Temperature-design

TH +180 °C

TECHNICAL FEATURES

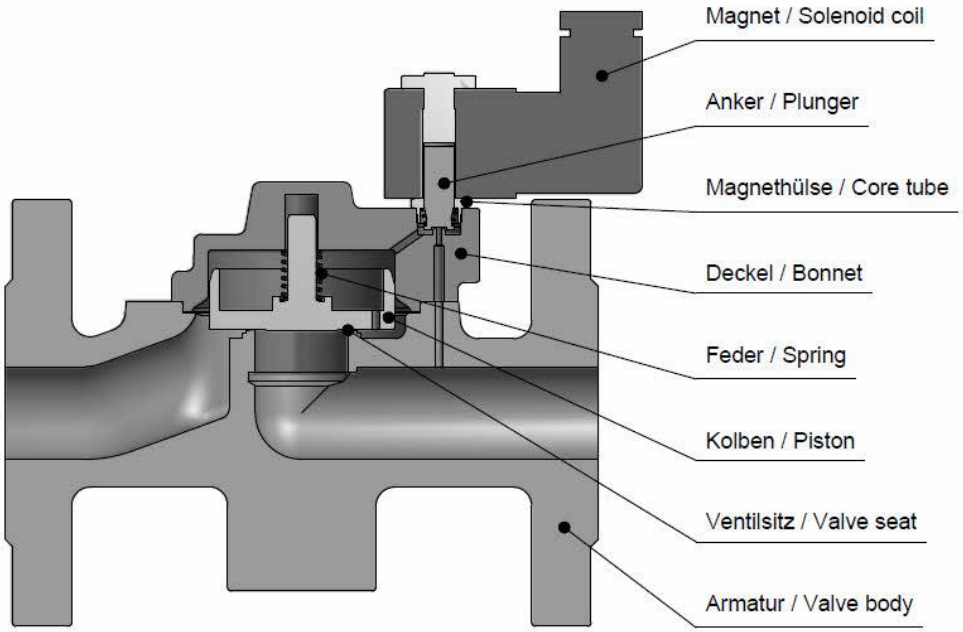
Type 54TH

				max. pressure for coils **NC**	
DN	Seat Ø mm	Kv-value m³/h	Standard type	D182	D012
15	15,0	5,0	.5401/..04/....-TH	0,5-16	0,5-40
20	20,0	11,0	.5402/..04/....-TH	0,5-16	0,5-40
25	25,0	13,0	.5403/..04/....-TH	0,5-16	0,5-40
32	32,0	28,0	.5404/..04/....-TH	-	0,5-25
40	40,0	30,0	.5405/..04/....-TH	-	0,5-25
50	50,0	46,0	.5406/..04/....-TH	-	0,5-25

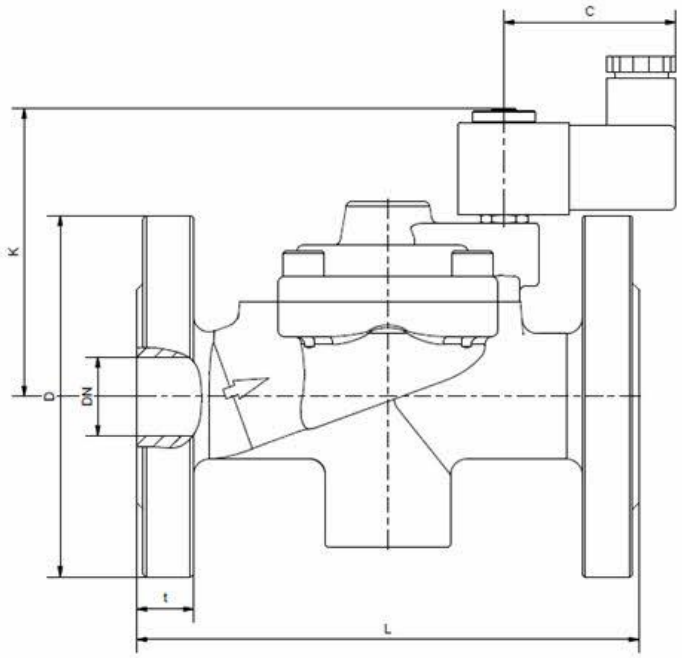
The flow rate mentioned in the table applies to the strongest coil.

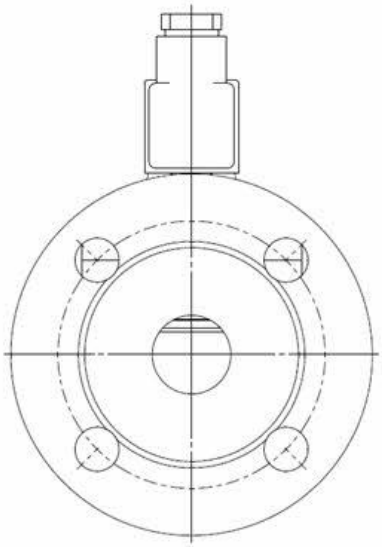
				max. pressure for coils **NO**	
DN	Seat Ø mm	Kv-value m³/h	Standard type	D182	D012
15	15,0	5,0	.5401/..04/....-TH	-	0,5-40
20	20,0	11,0	.5402/..04/....-TH	-	0,5-40
25	25,0	13,0	.5403/..04/....-TH	-	0,5-40
32	32,0	28,0	.5404/..04/....-TH	-	0,5-16
40	40,0	30,0	.5405/..04/....-TH	-	0,5-16
50	50,0	46,0	.5406/..04/....-TH	-	0,5-16

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS





Coil	D182		
Type	5401	5402	5403
DN	15	20	25
C	51	51	51
D	95	105	115
K	77	91	91
L	130	150	160
t	16	18	18
kg	2,3	3,8	4,2

Coil	D012					
Type	5401	5402	5403	5404	5405	5406
DN	15	20	25	32	40	50
C	61	61	61	61	61	61
D	95	105	115	140	150	165
K	92	106	106	128	128	139
L	130	150	160	180	200	230
t	16	18	18	18	18	20
kg	2,3	3,8	4,2	7,2	7,6	10,7

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 +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 +180 °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. +180 °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.

Stand: 02.18, MK-MG, Version 1.

Technical Data Sheet
Type 25TH

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

Pilot operated piston design. The mentioned minimum pressure difference between inlet and outlet is necessary for proper operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 25TH

TECHNICAL SPECIFICATIONS

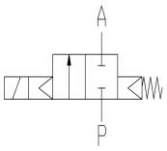
Type of control	Pilot operated
Design	Piston design
Connection	Flanges acc. to EN 1092-1 Form B1/B2 Other flange connections like ASME on request
Installation	With actuator upright
Pressure	1 - 13 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +200 °C Ambient: -40 °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
Metallic inner parts	Brass and Stainless steel
Sealing	PTFE
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T802 = 18 Watt T242 = 26 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

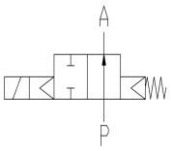
- For media temperatures up to +200 °C
- Pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

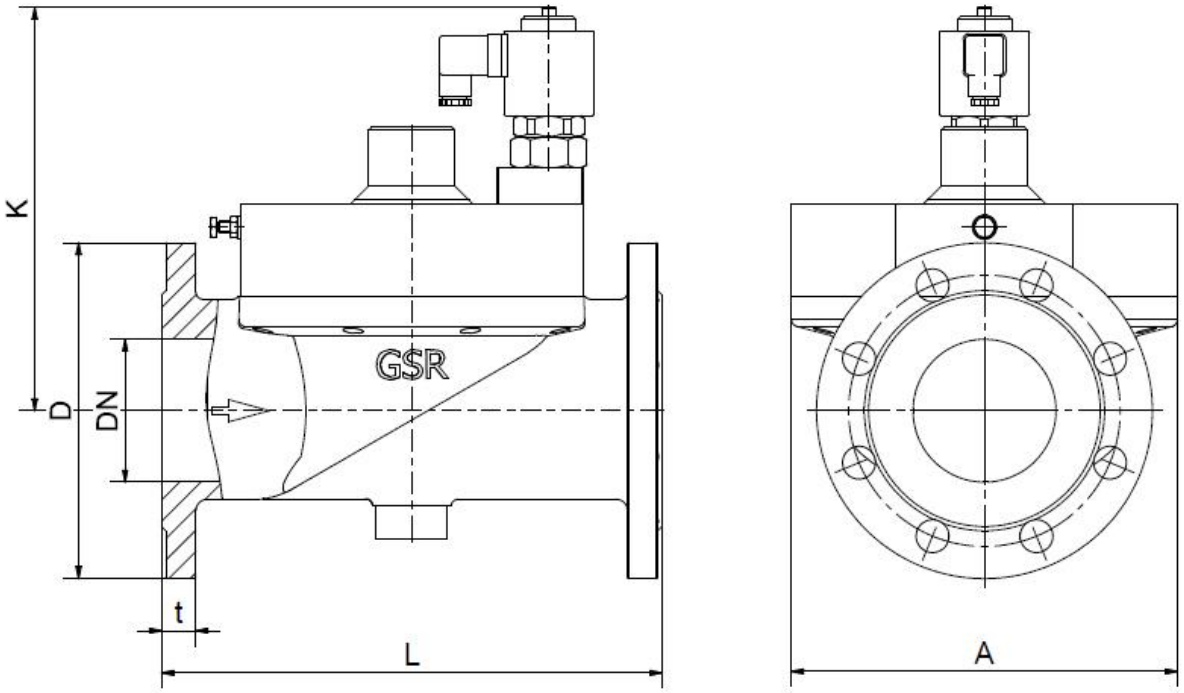
ORDERING SYSTEM

Type		Conn.		Housing	Seal		Coil			Option	
.	2 5	0 9	/	0 4	0 4	/	T	8 0 2	-	T	H
		07 DN65 08 DN80 09 DN100 10 DN125 11 DN150		04 EN-GJL-250 05 GP240 GH	04 PTFE		T Temperature-design			TH +200 °C	

TECHNICAL FEATURES

Type 25TH

				max. pressure for coils	
DN	Seat Ø mm	Kv-value m³/h	Standard type	T802	T242
65	65	75,0	.2507/0404/	1-13	-
80	80	97,0	.2508/0404/	1-13	-
100	100	143,0	.2509/0404/	1-13	-
125	125	240,0	.2510/0404/	-	2-10
150	150	370,0	.2511/0404/	-	2-10



Coil	T802			T242	
Type	.2507	.2508	.2509	.2510	.2511
DN	65	80	100	125	150
A	215	250	270	235	265
C	70	70	70	93	93
D	185	200	235	270	300
K	205	225	262	355	360
L	290	310	350	400	480
t	22	24	24	26	28
kg	27,5	38,4	42,6	54,7	75,1

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.

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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 +200 °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. +180 °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.

Stand: 10.18, MK-MG, Version 1.

Technical Data Sheet Type 35TH

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 35TH

TECHNICAL SPECIFICATIONS

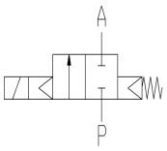
Type of control	Force-pilot operated
Design	Piston design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +200 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts	Brass and Stainless steel
Sealing	PTFE
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T802 = 18 Watt T322 = 21 Watt T242 = 26 Watt T272 = 60 Watt T352 = 80 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

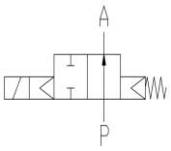
- For media temperatures up to +200 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil			Option	
.	3	5	2	3	/ 1	0	0	4	/ T	8	0	2	-	T	H

Conn.	
21	G 1/4
22	G 3/8
23	G 1/2
24	G 3/4
25	G 1
26	G 1 1/4
27	G 1 1/2
28	G 2

Housing	
10	Brass 2.0402
08	St.steel 1.4581

Seal	
04	PTFE

Coil	
T	Temperature-design

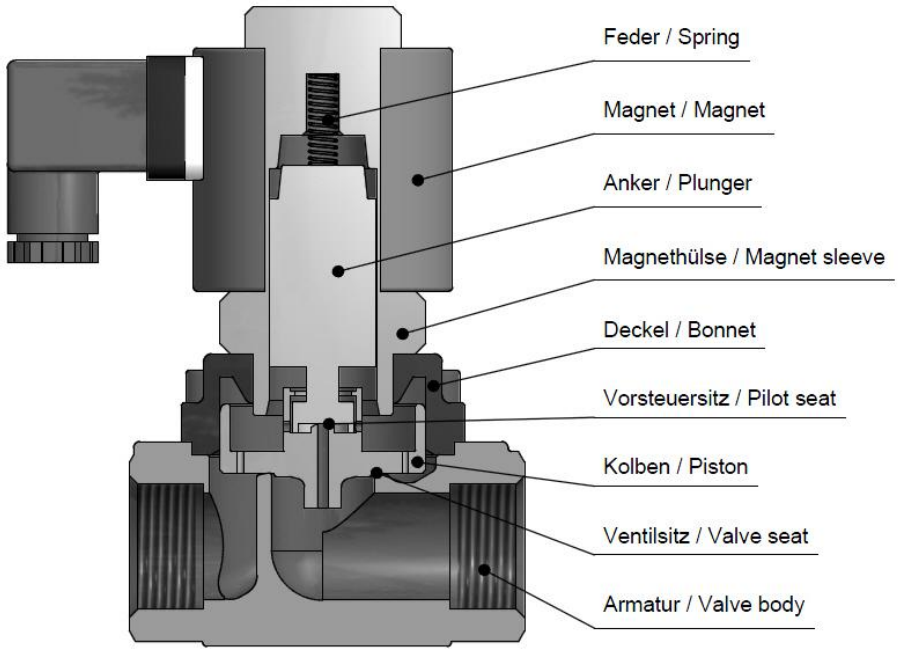
Option	
TH	+180°C
EL	+200°C

TECHNICAL FEATURES

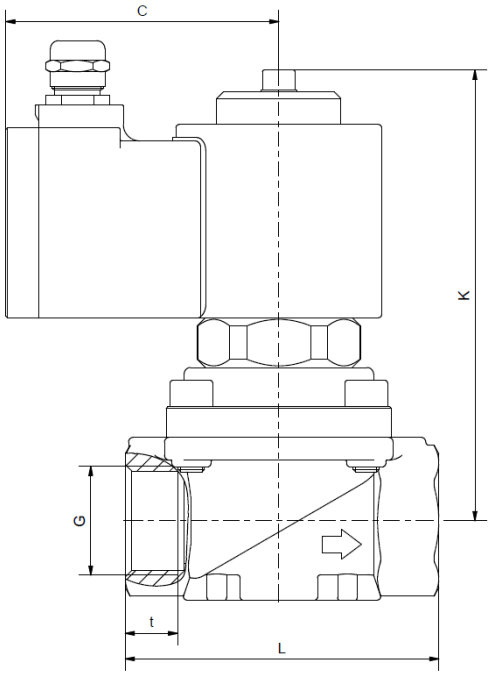
Type 35TH

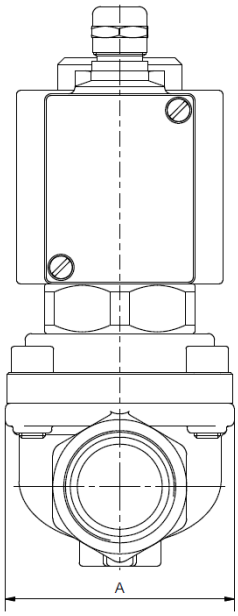
				max. pressure for coils				
G	Seat Ø mm	Kv-value m³/h	Standard type	T802	T322	T242	T272	T352
1/4	13,5	1,8	.3521/..04/	0-20	0-40	-	-	-
3/8	13,5	4,0	.3522/..04/	0-20	0-40	-	-	-
1/2	13,5	4,5	.3523/..04/	0-20	0-40	-	-	-
3/4	27,5	11,5	.3524/..04/	0-13	0-25	0-40	-	-
1	27,5	13,0	.3525/..04/	0-13	0-25	0-40	-	-
1 1/4	40	29,0	.3526/..04/	-	0-12	0-20	0-40	-
1 1/2	40	33,0	.3527/..04/	-	0-12	0-20	0-40	-
2	50	49,0	.3528/..04/	-	-	0-6	0-25	0-40

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS





Coil	T802					T322				
Type	3521	3522	3523	3524	3525	3521	3522	3523	3524	3525
G	1/4	3/8	1/2	3/4	1	1/4	3/8	1/2	3/4	1
A	48	48	48	70	70	48	48	48	70	70
C	70	70	70	70	70	77	77	77	77	77
K	104	104	104	122	122	148	148	148	138	138
L	67	67	67	96	96	67	67	67	96	96
t	12	12	12	16	16	12	12	12	16	16
kg	1,5	1,5	1,4	2,3	2,2	2,4	2,3	2,3	3,1	3,0

Coil	T322		T242					T272			T352
Type	3526	3527	3524	3525	3526	3527	3528	3526	3527	3528	3528
G	1 1/4	1 1/2	3/4	1	1 1/4	1 1/2	2	1 1/4	1 1/2	2	2
A	96	96	70	70	96	96	112	96	96	112	112
C	77	77	93	93	93	93	93	107	107	107	127
K	148	148	178	178	188	188	186	218	218	239	322
L	140	140	96	96	140	140	168	140	140	168	168
t	22	22	16	16	22	22	22	22	22	22	22
kg	4,8	4,7	4,7	4,6	6,5	6,3	7,6	10,1	10,0	11,5	23,5

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 +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 +180 °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. +180 °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.

Stand: 02.18, MK-MG, Version 1.

Technical Data Sheet Type 37TH

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 37TH

TECHNICAL SPECIFICATIONS

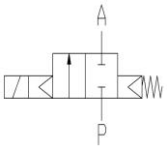
Type of control	Force-pilot operated
Design	Piston design
Connection	Flanges DN15 - DN50 EN 1092-1 Form B1/B2
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +200 °C Ambient: -40 °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	PTFE
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T802 = 18 Watt T322 = 21 Watt T242 = 26 Watt T272 = 60 Watt T352 = 80 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

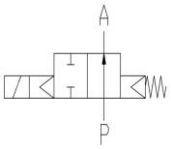
- For media temperatures up to +200 °C
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type		Conn.		Housing	Seal		Coil				Option	
.	3	7	0	6 / 0	4	0	4 / T	2	4	2	-	T H

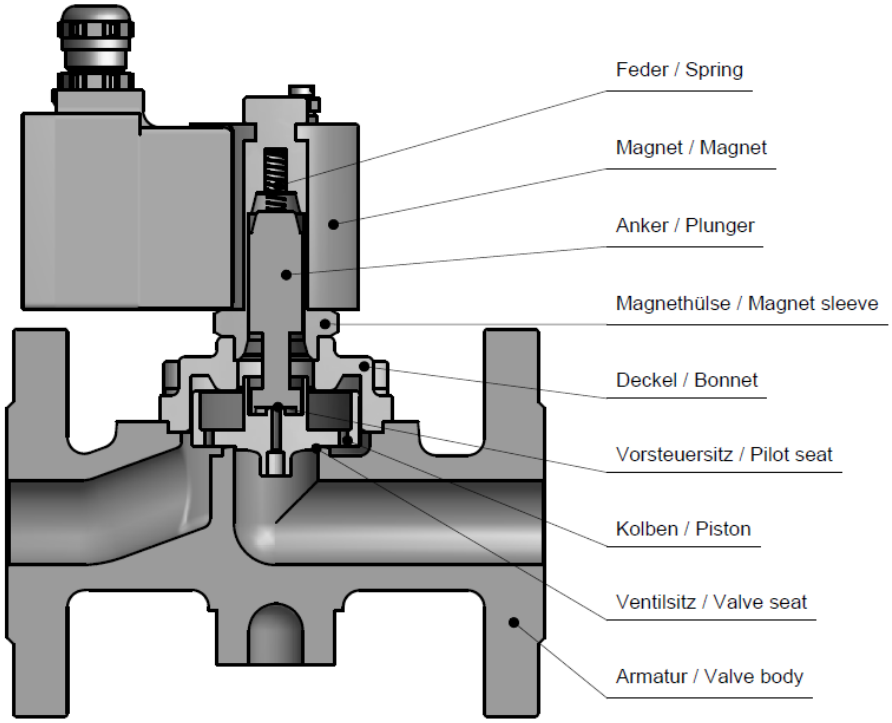
Conn.		Housing		Seal		Coil		Option	
01	DN15	04	EN-GJL-250	04	PTFE	T	Temperature-design	TH	+180°C
02	DN20	05	GP240 GH					EL	+200°C
03	DN25	08	St.steel 1.4581						
04	DN32								
05	DM40								
06	DN50								

TECHNICAL FEATURES

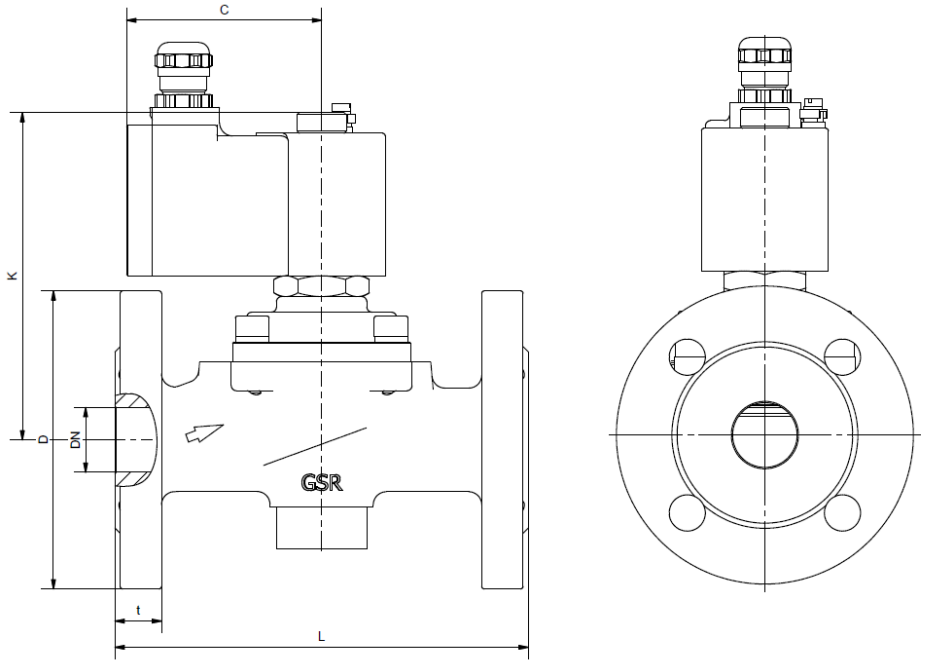
Type 37TH

				max. pressure for coils				
DN	Seat Ø mm	Kv-value m³/h	Standard type	T802	T322	T242	T272	T352
15	15	5,0	.3701/..04/	0-20	0-40	-	-	-
20	20	11,0	.3702/..04/	0-13	0-25	0-40	-	-
25	25	13,0	.3703/..04/	0-13	0-25	0-40	-	-
32	32	28,0	.3704/..04/	-	0-12	0-20	0-40	-
40	40	30,0	.3705/..04/	-	0-12	0-20	0-40	-
50	50	46,0	.3706/..04/	-	-	0-6	0-25	0-40

The flow rate mentioned in the table applies to the strongest coil.
Max. pressure 0-13 b ar with EN-GJL-250 body PN16



DIMENSIONS



Coil	T802			T322				
Type	3701	3702	3703	3701	3702	3703	3704	3705
DN	15	20	25	15	20	25	32	40
C	76	76	76	83	83	83	83	83
D	95	105	115	95	105	115	140	150
K	115	130	150	150	145	145	160	160
L	130	150	160	130	150	160	180	200
t	14	16	16	14	16	16	16	16
kg	3,5	4,5	5,5	3,0	5,0	5,5	8,0	8,5

Coil	T242					T272			T352
Type	3702	3703	3704	3705	3706	3704	3705	3706	3706
DN	20	25	32	40	50	32	40	50	50
C	93	93	93	93	93	107	107	107	127
D	105	115	140	150	165	140	150	165	165
K	185	190	200	200	200	230	230	240	319
L	150	160	180	200	230	180	200	230	230
t	16	16	16	16	18	16	16	18	18
kg	7,5	7,5	10,5	11,0	14,0	15,0	15,5	18,5	29,6

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 +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 +180 °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. +180 °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.

Stand: 02.18, MK-MG, Version 1.

Technical Data Sheet
Type 35DT

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation.
In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 35DT

TECHNICAL SPECIFICATIONS

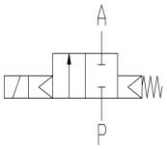
Type of control	Force pilot operated
Design	Piston design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +250 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 St. steel 1.4581
Metallic inner parts	Brass and Stainless steel
Sealing	PEEK
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T322 = 21 Watt T242 = 26 Watt T272 = 60 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

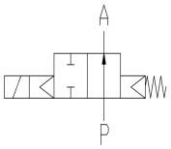
- For media temperatures up to +250 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

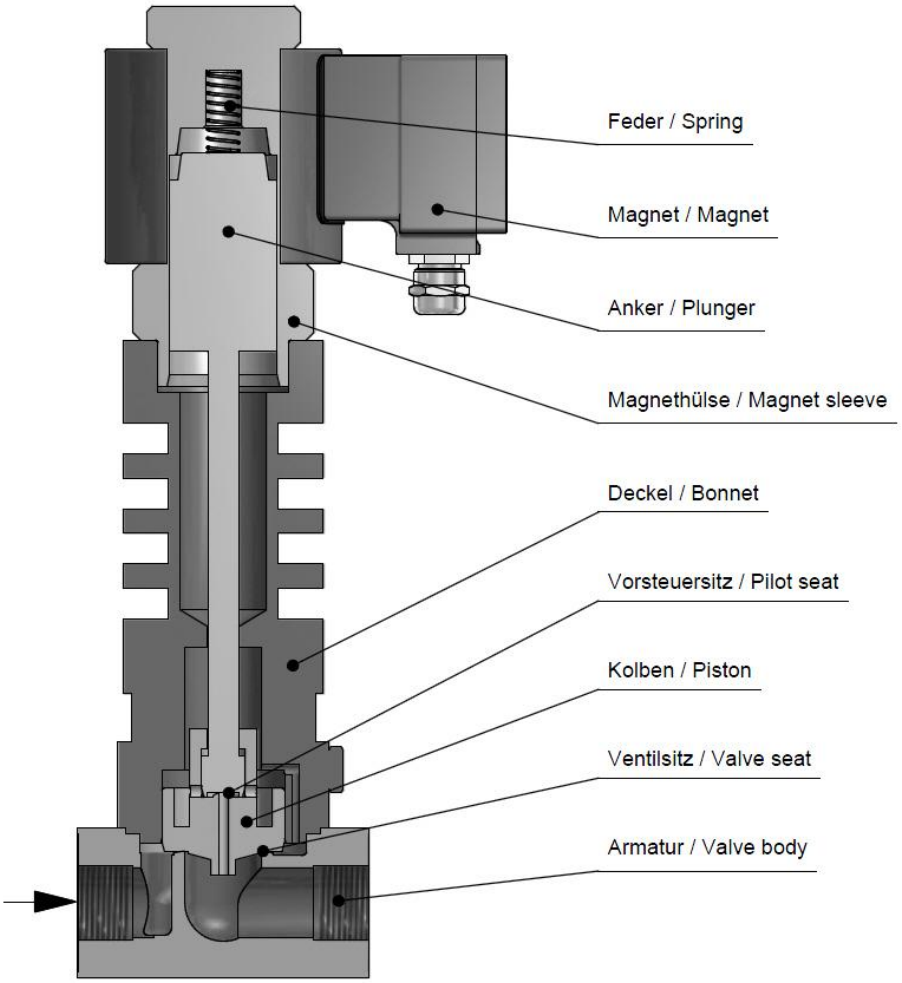
Type			Conn.		Housing	Seal		Coil			Option	
.	3	5	2	3	/ 1	0	1	5	/ T	3	2	2	-	D	T

21	G 1/4	10	Brass 2.0402	T Temperature design
22	G 3/8	08	St.steel 1.4581	DT +250°C
23	G 1/2	15	PEEK	
24	G 3/4			
25	G 1			
26	G 1 1/4			
27	G 1 1/2			
28	G 2			

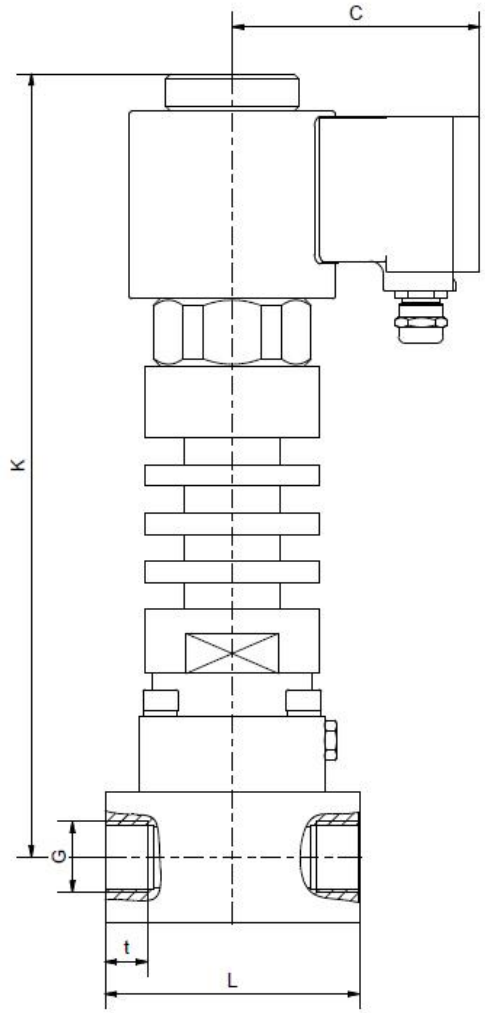
TECHNICAL FEATURES

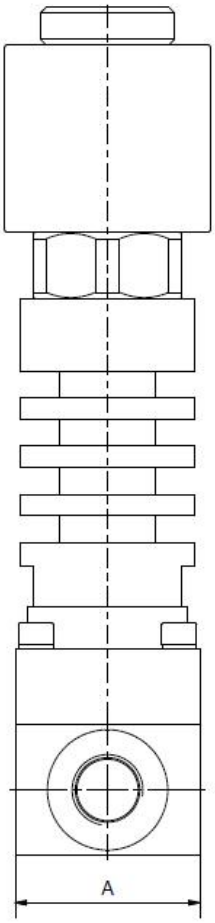
				max. pressure for coils		
G	Seat Ø mm	Kv-value m³/h	Standard type	T322	T242	T272
1/4	13,5	1,8	.3521/..15/....-DT	0-10	0-40	-
3/8	13,5	4,0	.3522/..15/....-DT	0-10	0-40	-
1/2	13,5	4,5	.3523/..15/....-DT	0-10	0-40	-
3/4	27,5	11,5	.3524/..15/....-DT	0-6	0-40	-
1	27,5	13,0	.3525/..15/....-DT	0-6	0-40	-
1 1/4	40	29,0	.3526/..15/....-DT	-	0-16	0-25
1 1/2	40	33,0	.3527/..15/....-DT	-	0-16	0-25
2	50	49,0	.3528/..15/....-DT	-	0-16	0-25

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS





Coil	T322		T242				T272	
Type	.3521-23	.3524-25	.3521-23	.3524-25	.3526-27	.3528	.3526-27	.3528
G	1/4-1/2	3/4-1	1/4-1/2	3/4-1	1 1/4-1 1/2	2	1 1/4-1 1/2	2
A	50	70	50	70	96	112	98	112
C	77	77	93	93	93	93	107	107
K	255	260	290	295	325	355	345	375
L	67	96	67	96	140	168	140	168
t	12	16	12	16	22	22	22	22
kg	4,2	5,0	5,8	6,6	9,2	10,0	13,3	14,0

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 +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 +250 °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. +200 °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.

Stand: 08.17, MK-MG, Version 1.

Technical Data Sheet Type 37DT

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

GSR Ventiltechnik

Type 37DT

TECHNICAL SPECIFICATIONS

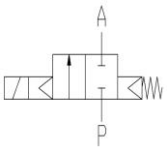
Type of control	Force-pilot operated
Design	Piston design
Connection	Flanged DN15 - DN50 EN 1092-1 Form B1/B2
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +250 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Cast steel GP240 GH Stainless steel 1.4581
Metallic inner parts	Stainless steel
Sealing	PEEK
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T322 = 21 Watt T242 = 26 Watt T272 = 60 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

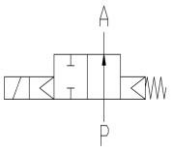
- For media temperatures up to +250 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil				Option	
.	3	7	0	6	/ 0	8	1	5	/ T	2	7	2	- D	T

Conn.	Housing	Seal	Coil	Option
01 DN15 02 DN20 03 DN25 04 DN32 05 DN40 06 DN50	05 GP240 GH 08 St.steel 1.4581	15 PEEK	T Temperature-design	DT Spacer unit + 250 °C

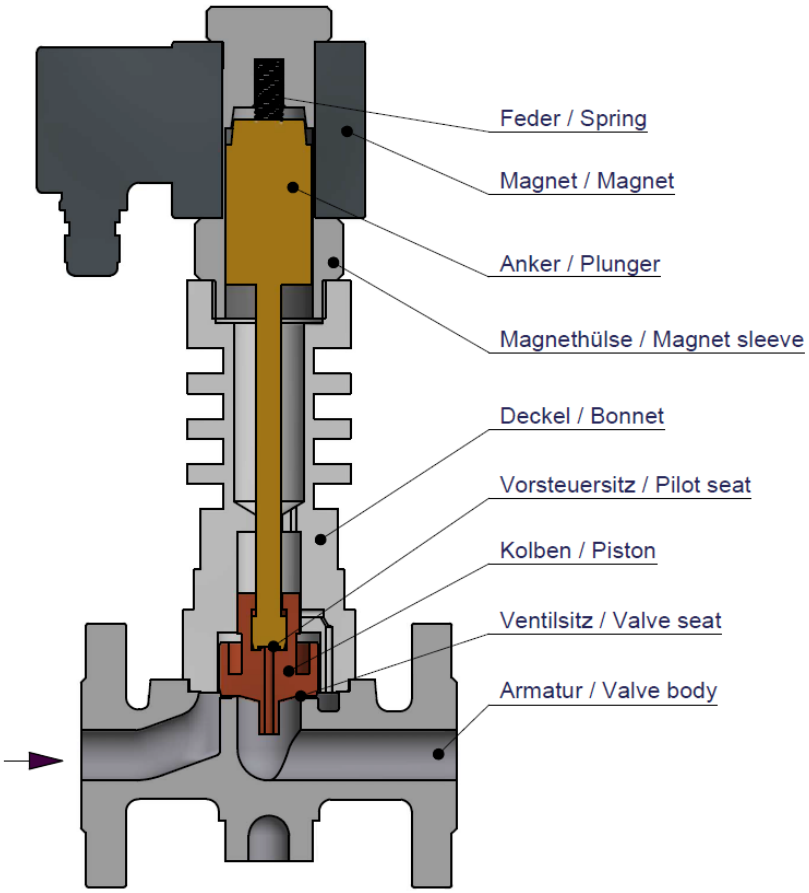
TECHNICAL FEATURES

Type 37DT

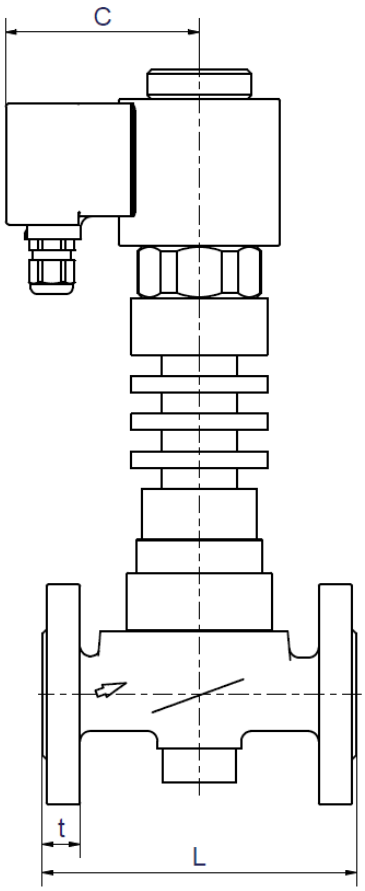
			max. pressure for coils		
DN	Kv-value m³/h	Standard type	T322	T242	T272
15	5,0	.3701/..15/....-DT	0-10	0-32*	-
20	11,0	.3702/..15/....-DT	0-6	0-25	-
25	13,0	.3703/..15/....-DT	0-6	0-25	-
32	24,0	.3704/..15/....-DT	-	0-6	0-25
40	27,0	.3705/..15/....-DT	-	0-6	0-25
50	42,0	.3706/..15/....-DT	-	0-6	0-25

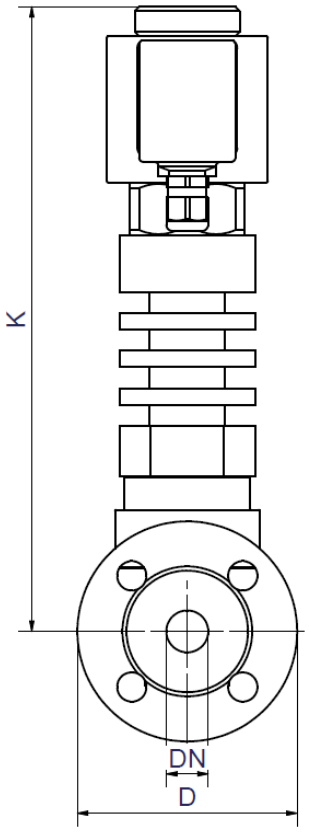
The flow rate mentioned in the table applies to the strongest coil.

*max. 40 bar with special housing on request



DIMENSIONS





Coil	T322			T242		
Type	.3701	.3702	.3703	.3701	.3702	.3703
DN	15	20	25	15	20	25
C	83	83	83	93	93	93
D	95	105	115	95	105	115
K	256	250	265	295	298	283
L	130	150	160	130	150	160
t	16	18	18	16	18	18
kg	3,9	5,5	5,8	7,5	7,7	6,8

Coil	T242			T272		
Type	.3704	.3705	.3706	.3704	.3705	.3706
DN	32	40	50	32	40	50
C	93	93	93	107	107	107
D	140	150	165	140	150	165
K	299	299	299	335	335	358
L	180	200	230	180	200	230
t	18	18	20	18	18	20
kg	9,6	10,1	12,6	11,2	11,4	14,9

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 +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 +250 °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. +200 °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.

Stand: 03.19, MK-MG, Version 1.

Technical Data Sheet Type 24TH

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 24TH

TECHNICAL SPECIFICATIONS

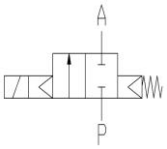
Type of control	Force-pilot operated
Design	Piston design
Connection	Flanges DN65 - DN200 EN 1092-1 Form B1/B2
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +200 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Spheroidal cast EN-GJS-400-18-LT Cast iron EN-GJL-250 Cast steel GP240 GH Stainless steel 1.4581
Metallic inner parts	Brass and Stainless steel
Sealing	PTFE
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T272 = 60 Watt T352 = 80 Watt T402 =180 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal Box

VALVE FEATURES

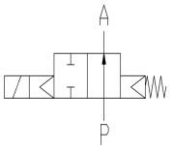
- For media temperatures up to +200 °C
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil				Option	
.	2	4	0	9	/ 0	4	0	4	/ T	2	7	2	- T H

Conn.	
07	DN65
08	DN80
09	DN100
10	DN125
11	DN150
12	DN200

Housing	
03	EN-GJS-400-18-LT
04	EN-GJL-250
05	GP240 GH
08	St.steel 1.4581

Seal	
04	PTFE

Coil	
T	Temperature-design

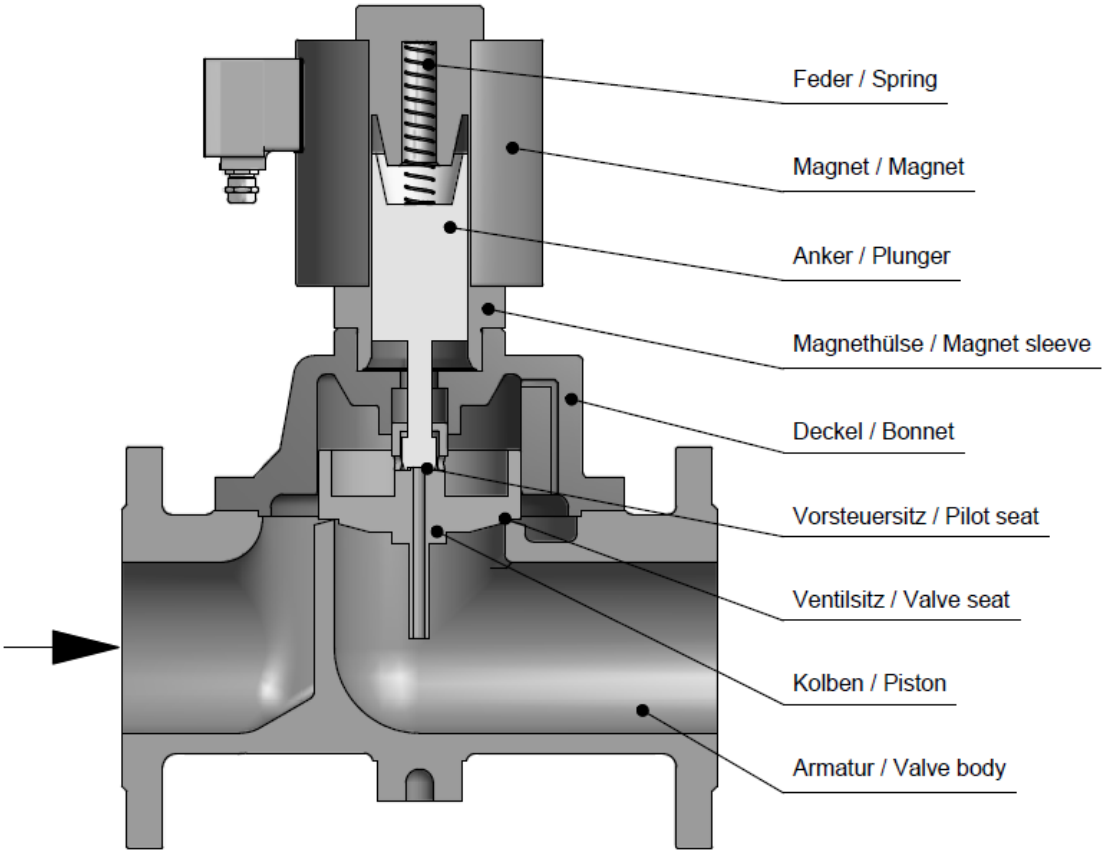
Option	
TH	+180°C
EL	+200°C

TECHNICAL FEATURES

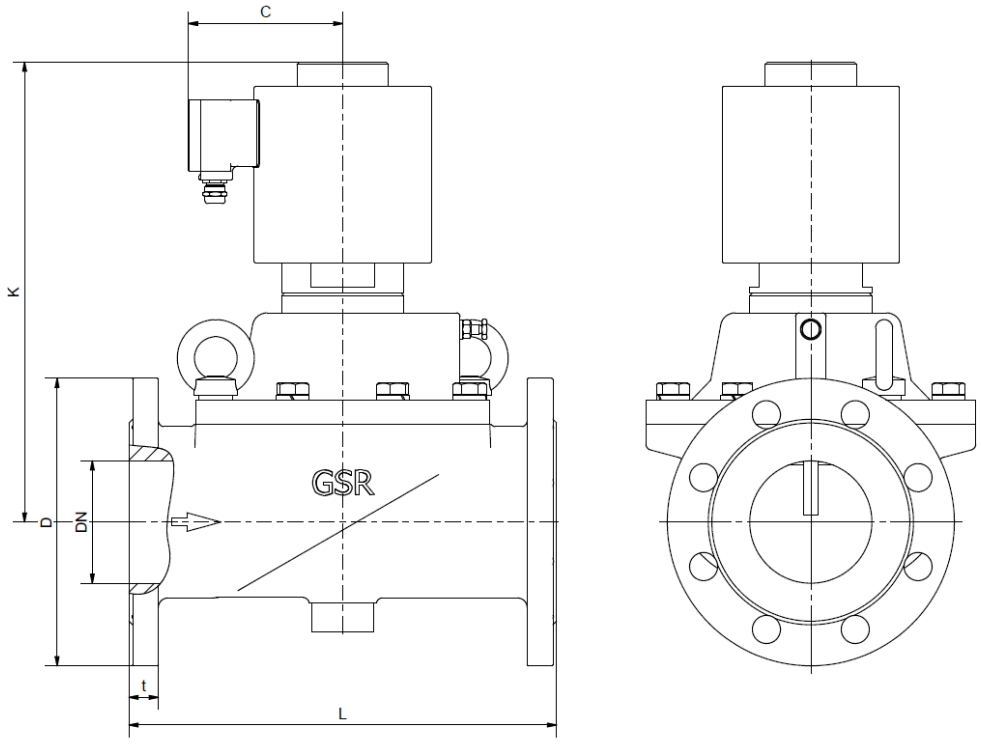
Type 24TH

				max. pressure for coils		
DN	Seat Ø mm	Kv-value m³/h	Standard type	T272	T352	T402
65	65	75,0	.2407/..04/	0-25	0-40	-
80	80	97,0	.2408/..04/	0-16	0-40	-
100	100	143,0	.2409/..04/	0-12	0-20	-
125	125	240,0	.2410/..04/	-	0-9	0-25
150	150	370,0	.2411/..04/	-	0-4	0-25
200	200	625,0	.2412/..04/	-	-	0-20

The flow rate mentioned in the table applies to the strongest coil.
Max. pressure 0-13 bar with EN-GJL-250 body PN16



DIMENSIONS



Body PN16

Coil	T272			T352					T402		
Type	2407	2408	2409	2407	2408	2409	2410	2411	2410	2411	2412
DN	65	80	100	65	80	100	125	150	125	150	200
C	107	107	107	120	120	120	120	120	160	160	160
D	185	200	220	185	200	235	270	285	250	285	340
K	295	295	360	390	390	380	350	420	580	615	680
L	290	310	350	290	310	350	400	480	400	480	600
t	18	20	20	18	20	20	26	26	26	26	30
kg	29,0	39,5	55,0	45,0	53,5	64,5	72,5	84,0	133,5	157,0	208,0

Body PN40

Coil	T272			T352					T402		
Type	2407	2408	2409	2407	2408	2409	2410	2411	2410	2411	2412
DN	65	80	100	65	80	100	125	150	125	150	200
C	107	107	107	120	120	120	120	120	160	160	160
D	185	200	220	185	200	235	270	300	270	300	375
K	295	295	360	390	390	380	350	420	580	615	680
L	290	310	350	290	310	350	400	480	400	480	600
t	22	24	24	22	24	24	26	28	26	28	34
kg	29,0	39,5	55,0	45,0	53,5	64,5	72,5	84,0	133,5	157,0	208,0

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.

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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 +200 °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. +180 °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.

Stand: 05.19, MK-MG, Version 1.

Technical Data Sheet Type 24DT

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

GSR Ventiltechnik

Type 24DT

TECHNICAL SPECIFICATIONS

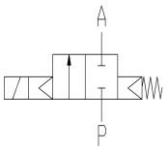
Type of control	Force-pilot operated
Design	Piston design
Connection	Flanged DN65 - DN100 EN 1092-1 Form B1/B2
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	50 mm²/s
Temperature range	Medium: -40 °C up to +250 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Cast steel GP240 GH Stainless steel 1.4581
Metallic inner parts	Stainless steel
Sealing	PEEK
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T272 = 60 Watt T352 = 80 Watt T402 = 180 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

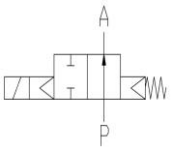
- For media temperatures up to +250 °C
- No pressure difference is required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

EAC

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil			Option	
.	2	4	0	9	/ 0	5	1	5	/ T	4	0	2	-	D	T

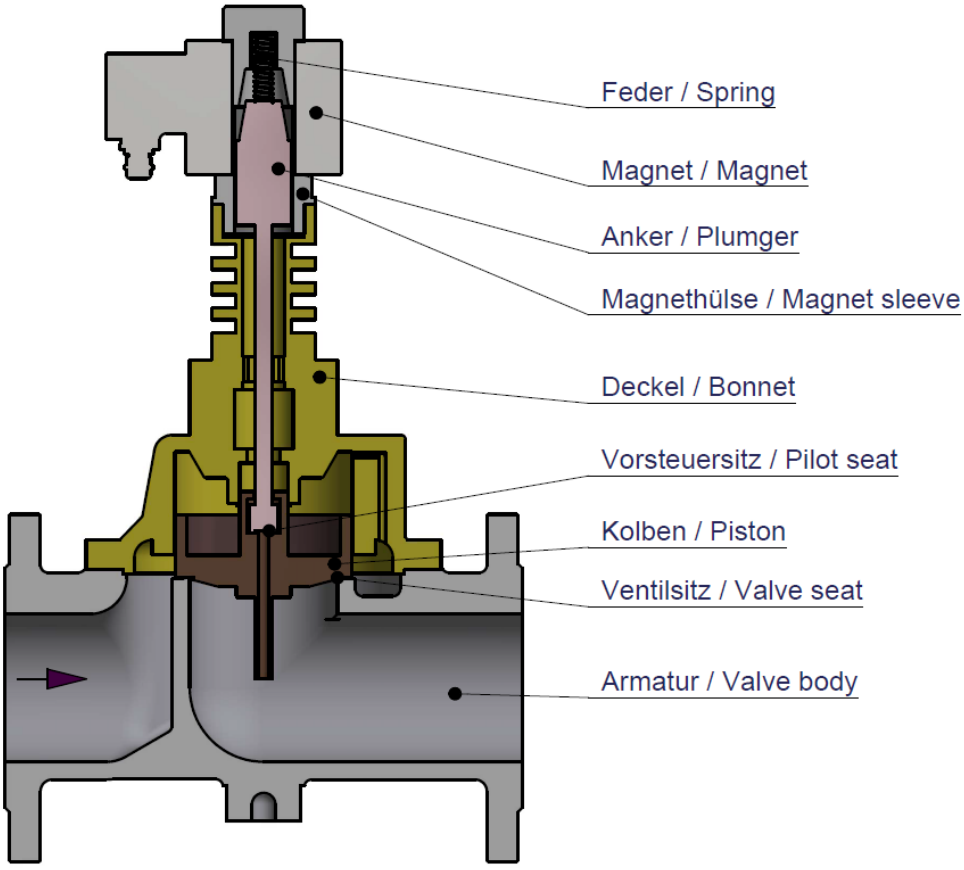
Conn.		Housing		Seal		Coil		Option	
07	DN65	05	GP240 GH	15	PEEK	T	Temperature-design	DT	Spacer unit + 250 °C
08	DN80	08	St.steel 1.4581						
09	DN100								

TECHNICAL FEATURES

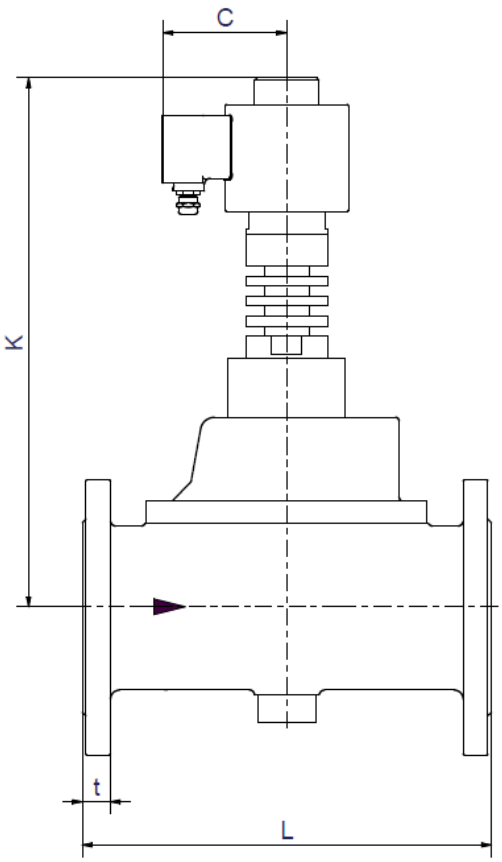
Type 24DT

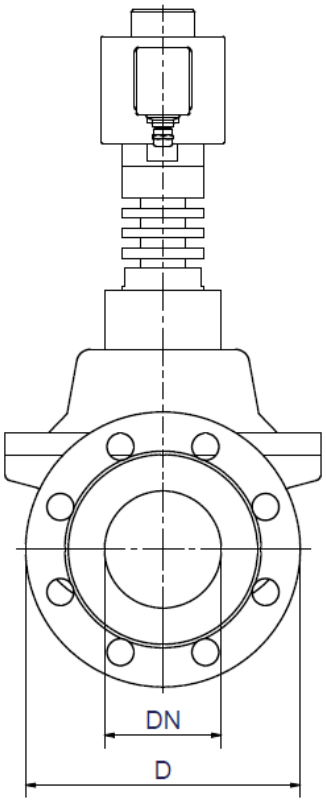
				max. pressure for coils		
DN	Seat Ø mm	Kv-value m³/h	Standard type	T272	T352	T402
65	65	75,0	.2407/..15/....-DT	0-25	0-32*	-
80	80	97,0	.2408/..15/....-DT	0-20	0-32*	-
100	100	143,0	.2409/..15/....-DT	-	0-20	0-32*

The flow rate mentioned in the table applies to the strongest coil.
*max. 40 bar with special housing on request



DIMENSIONS





Coil	T272			T352			T402
Type	.2407	.2408	.2409	.2407	.2408	.2409	.2409
DN	65	80	100	65	80	100	100
C	107	107	107	120	120	120	159
D	185	200	235	185	200	235	235
K	400	400	465	495	505	495	on req.
L	290	310	350	290	310	350	350
t	22	24	24	22	24	24	24
kg	32,8	40,7	56,2	44,7	68,5	63,9	on req.

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 +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 +250 °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. +200 °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.

Stand: 03.19, MK-MG, Version 1.

Technical Data Sheet Type 2/164

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

Force-pilot operated piston design valve. No differential pressure is necessary for operation. In standard (NC) the valve closes with spring power.

- **Solenoid valve for extended temperature range**

Type 2/164

TECHNICAL SPECIFICATIONS

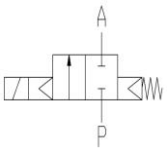
Type of control	Force-pilot operated
Design	Piston design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	Actuator downwards
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +300 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Brass 2.0402 Stainless steel 1.4571
Metallic inner parts	Brass and Stainless steel
Sealing	Metallic
Supply voltage	AC~ 24V, 110V, 230V via external rectifier (included in delivery) DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	T322 = 21 Watt T242 = 26 Watt T272 = 60 Watt T352 = 80 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Terminal box

VALVE FEATURES

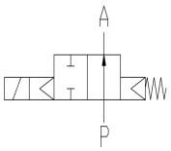
- For media temperatures up to +300 °C
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type		Connect.		Housing	Seal		Coil		Option
2/164	-	23	-	10	00	-	T242	-	DT

Connect.	
21	G 1/4
22	G 3/8
23	G 1/2
24	G 3/4
25	G 1
26	G 1 1/4
27	G 1 1/2
28	G 2

Housing	
08	St.steel 1.4581
10	Brass 2.0401

Seal	
00	metall.

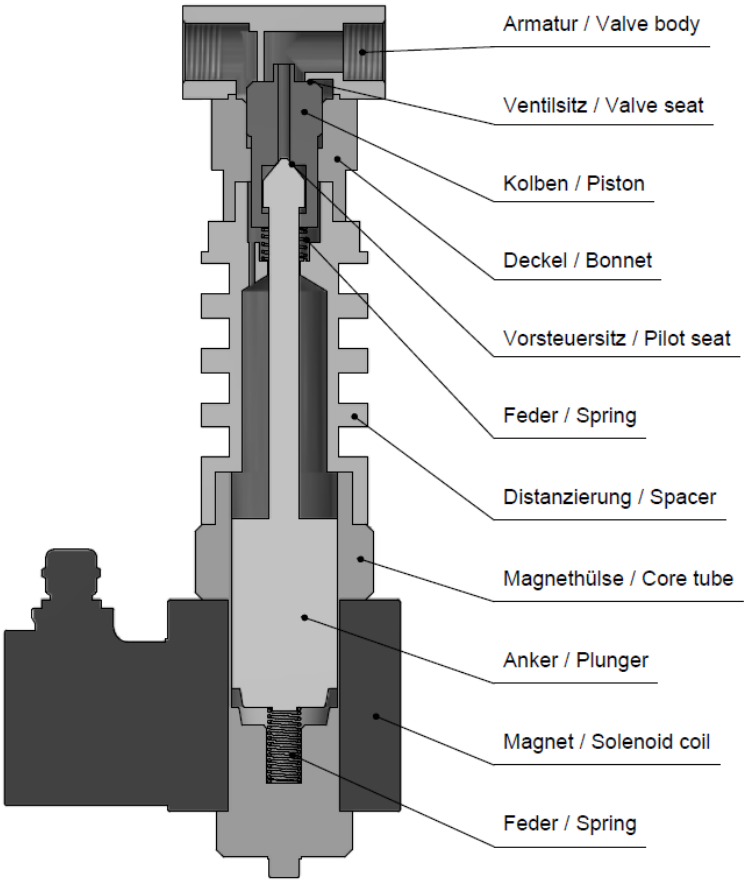
Coil	
T	Temperature design

Option	
DT	+300 °C

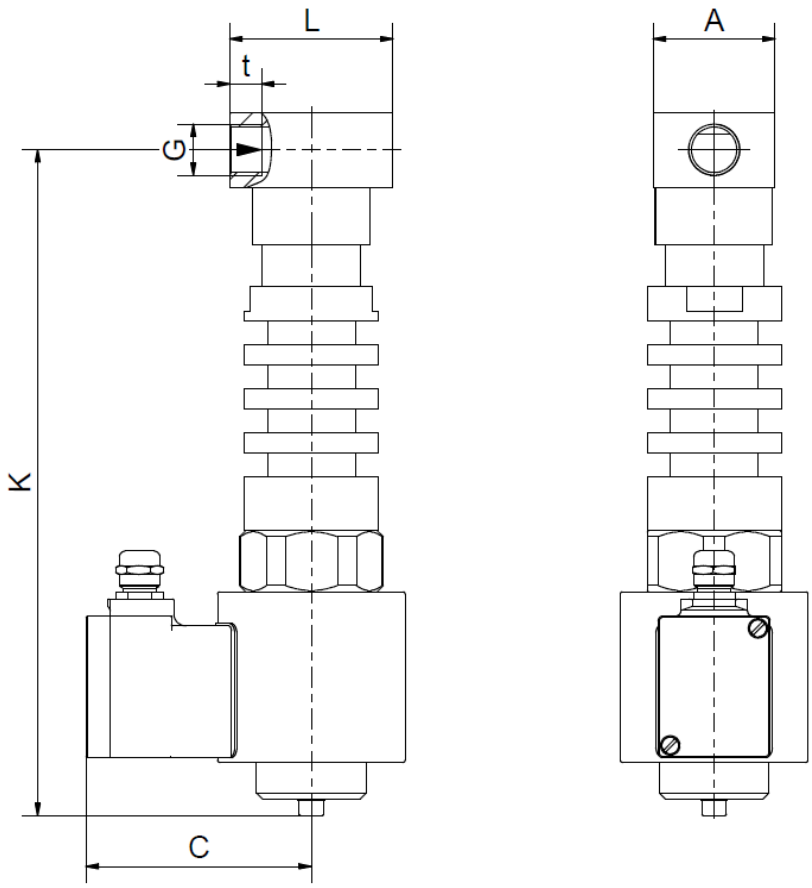
TECHNICAL FEATURES

				max. pressure for coils			
G	Seat Ø mm	Kv-value m³/h	Standard type	T322-DT	T242-DT	T272-DT	T352-DT
1/4	13	1,8	2/164-21-..00-	0-4	0-25	0-40	-
3/8	13	4,0	2/164-22-..00-	0-4	0-25	0-40	-
1/2	13	4,5	2/164-23-..00-	0-4	0-25	0-40	-
3/4	25	11,5	2/164-24-..00-	-	0-16	0-40	-
1	25	13,0	2/164-25-..00-	-	0-16	0-40	-
1 1/4	40	29,0	2/164-26-..00-	-	-	0-25	0-40
1 1/2	40	33,0	2/164-27-..00-	-	-	0-25	0-40
2	50	49,0	2/164-28-..00-	-	-	0-25	0-40

The flow rate mentioned in the table applies to the strongest coil.



DIMENSIONS



Coil	T322	T242		T272			T352	
Type	2/164-21 - 2/164-23	2/164-23	2/164-24 - 2/164-25	2/164-24 - 2/164-25	2/164-26 - 2/164-27	2/164-28	2/164-26 - 2/164-27	2/164-28
G	1/4-1/2	1/2	3/4-1	3/4-1	1 1/4-1 1/2	2	1 1/4-1 1/2	2
A	48	48	70	70	98	112	98	112
C	84	93	93	107	107	107	127	127
K	250	276	310	330	371	390	410	428
L	67	67	96	95	140	168	140	168
t	12	13	16	16	22	22	22	22
kg	3,6	4,7	7,6	12,2	13,7	15,2	18,0	19,3

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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. +270 °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.

Stand: 09.17, MK-MG, Version 1.