Technical Data Sheet Type 43

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 gaseous and liquid media**

Type 43

TECHNICAL SPECIFICATIONS

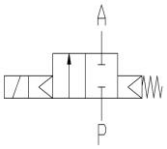
Type of control	Force-pilot operated
Design	Diaphragm design
Connection	Threaded G1/4 - G2 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	Actuator upright
Pressure	0 - 16 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -10 °C up to +80 °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	NBR, FKM, EPDM
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	.032 = 11 Watt .148 = 10 Watt Ex .012 = 18 Watt .702 = 25 Watt .808 = 24 Watt Ex .322 = 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	Plug, Terminal box, cable
Ex-proof	acc. to 2014/34/EU (ATEX) Further Ex-proof on request

VALVE FEATURES

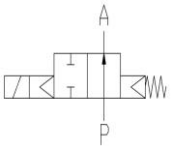
- No pressure difference required
- High life time
- Simple compact valve design
- High-quality materials
- Reliable and sturdy sealing elements
- Long-term availability of spare parts

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil			Option	
.	4	3	2	3	/ 1	0	0	1	/ .	7	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	Stainless steel 1.4581

Seal	
01	NBR
02	FKM
06	EPDM

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

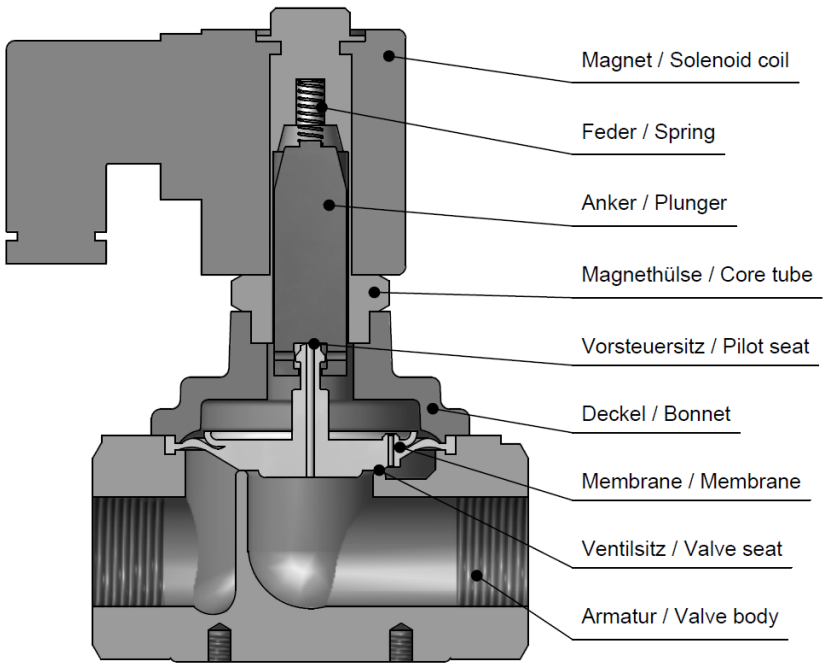
TECHNICAL FEATURES

				max. pressure for coils					
G	Seat Ø mm	Kv-value m³/h	Standard type	.032	.012	.702	.322	.242	.272
1/4	13,5	1,8	.4321/..01/	0-10	0-16	0-16	-	-	-
3/8	13,5	3,6	.4322/..01/	0-10	0-16	0-16	-	-	-
1/2	13,5	3,9	.4323/..01/	0-10	0-16	0-16	-	-	-
3/4	27,5	10,8	.4324/..01/	0-6	0-10	0-16	-	-	-
1	27,5	13,0	.4325/..01/	0-6	0-10	0-16	-	-	-
1 1/4	40	22,0	.4326/..01/	-	-	-	0-10	0-16	0-16
1 1/2	40	25,0	.4327/..01/	-	-	-	0-10	0-16	0-16
2	50	30,0	.4328/..01/	-	-	-	0-6	0-16	0-16

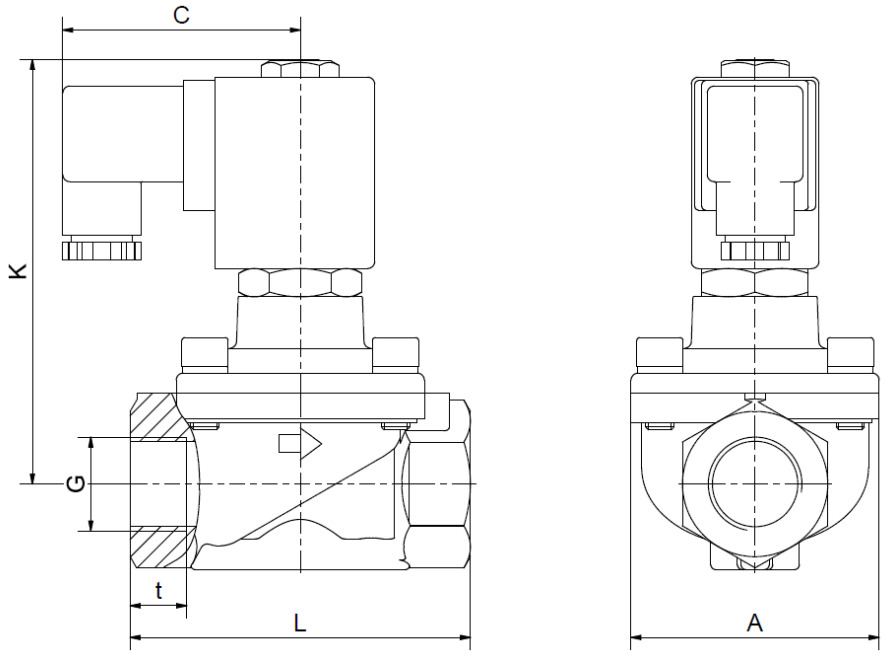
The flow rate mentioned in the table applies to the strongest coil.

				max. pressure for coils ATEX				
G	Seat Ø mm	Kv-value m³/h	Standard type	.148	.808	.328	.248	.278
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/	0-5	0-16	-	-	-
1	27,5	13,0	.4325/..01/	0-5	0-16	-	-	-
1 1/4	40	22,0	.4326/..01/	-	-	0-3	0-10	0-16
1 1/2	40	25,0	.4327/..01/	-	-	0-3	0-10	0-16
2	50	30,0	.4328/..01/	-	-	0-3	0-6	0-16

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



DIMENSIONS



Coil	.032 / .012 / .148					.702 / .692 / .808				
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	0,85	0,8	0,8	1,5	1,4	1,1	1,1	1,0	1,8	1,7
*Differing dimension “C“ for ATEX-coils										

Coil	.322 / .328			.242 /.248			.272 / .278		
Type	4326	4327	4328	4326	4327	4328	4326	4327	4328
G	1 1/4	1 1/2	2	1 1/4	1 1/2	2	1 1/4	1 1/2	2
A	96	96	112	96	96	112	96	96	112
C	77	77	77	93	93	93	107	107	107
K	173	173	179	196	196	205	243	243	251
L	140	140	168	140	140	168	140	140	168
t	22	22	25	22	22	25	22	22	25
kg	4,8	4,5	5,8	6,2	5,9	7,2	10,2	9,9	11,3
*Differing dimension “C“ for ATEX-coils									

INFORMATION

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

PLEASE NOTE

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

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

Heating and power of solenoid coils

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

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

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

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

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

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Stand: 08.17, MK-MG, Version 1.

Technical Data Sheet
Type 39

2/2-Way Solenoid valve
NC - Valve non energized closed (Standard)

Force-pilot operated solenoid valve with plastic housing
Valve closed by spring power (Standard - NC)

Solenoid valve for air & water, neutral and clean

Type 39

TECHNICAL SPECIFICATIONS

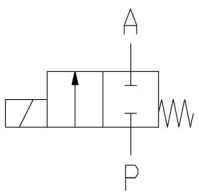
Type of control:	Force-pilot, no differential pressure necessary
Design:	Diaphragm
Connection:	Threaded G1/2 and G3/4 acc. to DIN ISO 228 (BSP)
Installation:	Preferable with actuator upright
Pressure range:	0 - 6 bar
Medium:	Air, water, neutral and clean
Viscosity:	20 mm²/h
Temperature range:	Medium 0 °C up to + 40 °C Ambient 0 °C up to + 40 °C
Body material:	PA66
Metallic inner parts:	Stainless steel
Seal:	NBR
Supply voltage:	AC~ 24V, 110V, 230V DC= 12V, 24V
Voltage tolerance:	-10% / +10%
Power consumption:	.012 = 18,5 Watt
Protection class:	IP65 acc. to DIN EN 60529
Duty factor:	100% ED-VDE 0580
Connection type:	Plug

VALVE FEATURES

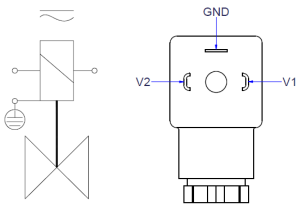
- For elementary applications (water & air)
- No pressure difference necessary
- Simple and easy valve design
- Lightweight plastic housing

FUNCTION

NC - non energized closed



Electr. connection



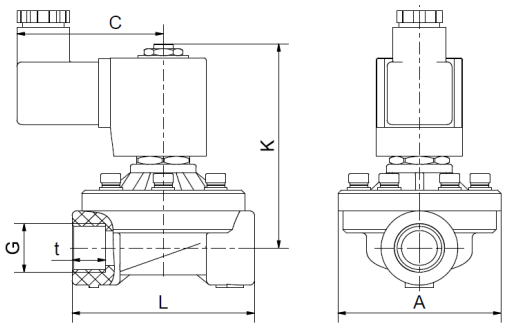
ORDERING CODE

Type									Coil		
.	3	9	2	3	/	3	0	0	1	/	.	0	1	2

Connection
23 G 1/2
24 G 3/4

Material
30 PA66

Seal element
01 NBR



G	Orifice	Kv-value	Type	max.	Dimensions [mm]					
	mm	m³/h		Pressure	A	C	K	L	t	kg
1/2	15	3,0	.3923/3001/.012	0 - 6 bar	68	61	88	76	14	0,52
3/4	20	4,0	.3924/3001/.012	0 - 6 bar	68	61	90	80	15	0,54

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Stand: 03.17, MK-MG, Version 1.

Technical Data Sheet Type 27

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 gaseous and liquid media

Type 27

TECHNICAL SPECIFICATIONS

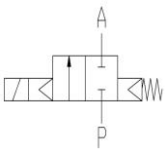
Type of control	Force-pilot operated, no pressure difference necessary
Design	Diaphragm design
Connection	Flanged acc. to EN 1092-1 Form B1/B2
Installation	With actuator upright
Pressure	0 - 16 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
Viscosity	22 mm²/s
Temperature range	Medium: -10 °C up to +80 °C Ambient: -10 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Cast iron EN-GJL-250 (DN20-150) Cast steel GP240 GH (DN15-100) Speroidal EN-GJS-400-18-LT (DN150) Stainless steel 1.4581 (DN15-50)
Metallic inner parts	Brass and Staineless steel
Sealing	NBR, FKM, EPDM
Supply voltage	AC~ 24V, 110V, 230V DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	.032 =11 Watt .148 =10 Watt .012 = 18,5 Watt .702 = 25 Watt .808 = 24 Watt .322 = 30 Watt .328 = 24 Watt .242 = 46 Watt .248 = 30 Watt .272 = 100 Watt .278 = 47 Watt
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug, Terminal box
Ex-proof	acc. to 2014/34/EG(ATEX) Further Ex-proof on request

VALVE FEATURES

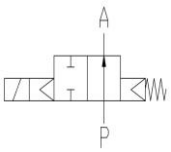
- No pressure difference required
- High life time
- Simple compact valve design
- Low weight
- High-quality materials
- Reliable and sturdy sealing elements
- Long-term availability of spare parts

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil		Option	
.	2	7	0	3	/ 0 4	0	1	/ . 7	0	2	- H A

Conn.	
01	DN15
02	DN20
03	DN25
04	DN32
05	DN40
06	DN50
07	DN65
08	DN80
09	DN100
11	DN150

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

Seal	
01	NBR
02	FKM
06	EPDM

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

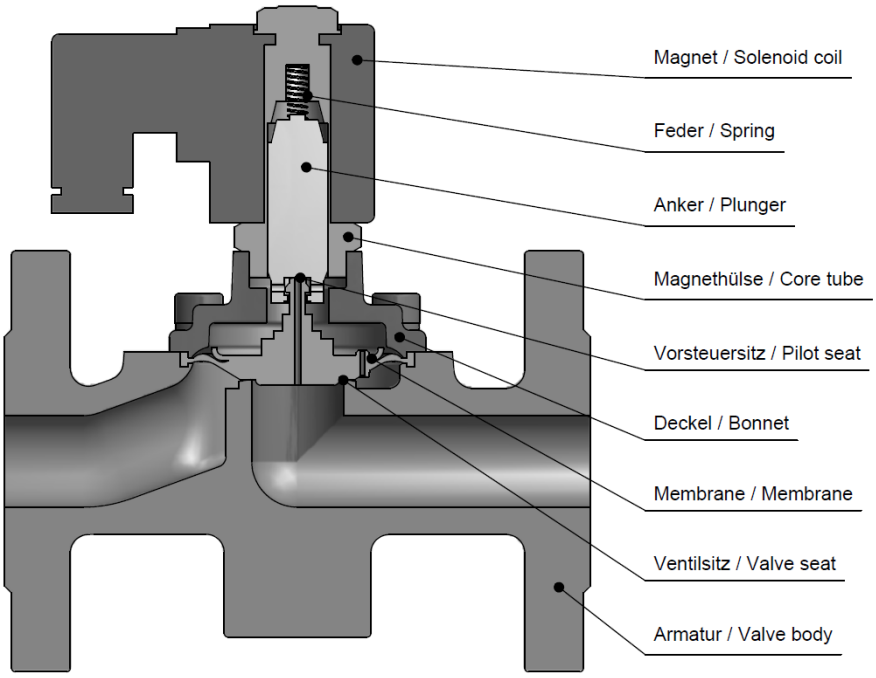
TECHNICAL FEATURES

			max. pressure for coils						
DN	Kv-value m³/h	Standard type	.032	.012	.702	.322	.242	.272	.352
15	3,9	.2701/..01/	0-10	0-16	0-16	-	-	-	-
20	10,8	.2702/..01/	0-6	0-10	0-16	-	-	-	-
25	13,0	.2703/..01/	0-6	0-10	0-16	-	-	-	-
32	30,0	.2704/..01/	-	-	-	0-10	0-16	0-16	-
40	32,0	.2705/..01/	-	-	-	0-10	0-16	0-16	-
50	45,0	.2706/..01/	-	-	-	0-6	0-16	0-16	-
80	97,0	.2708/..01/	-	-	-	-	0-2	0-3	-
100	143,0	.2709/..01/	-	-	-	-	-	0-2	-
150	370,0	.2711/..01/	-	-	-	-	-	0-2	0-2

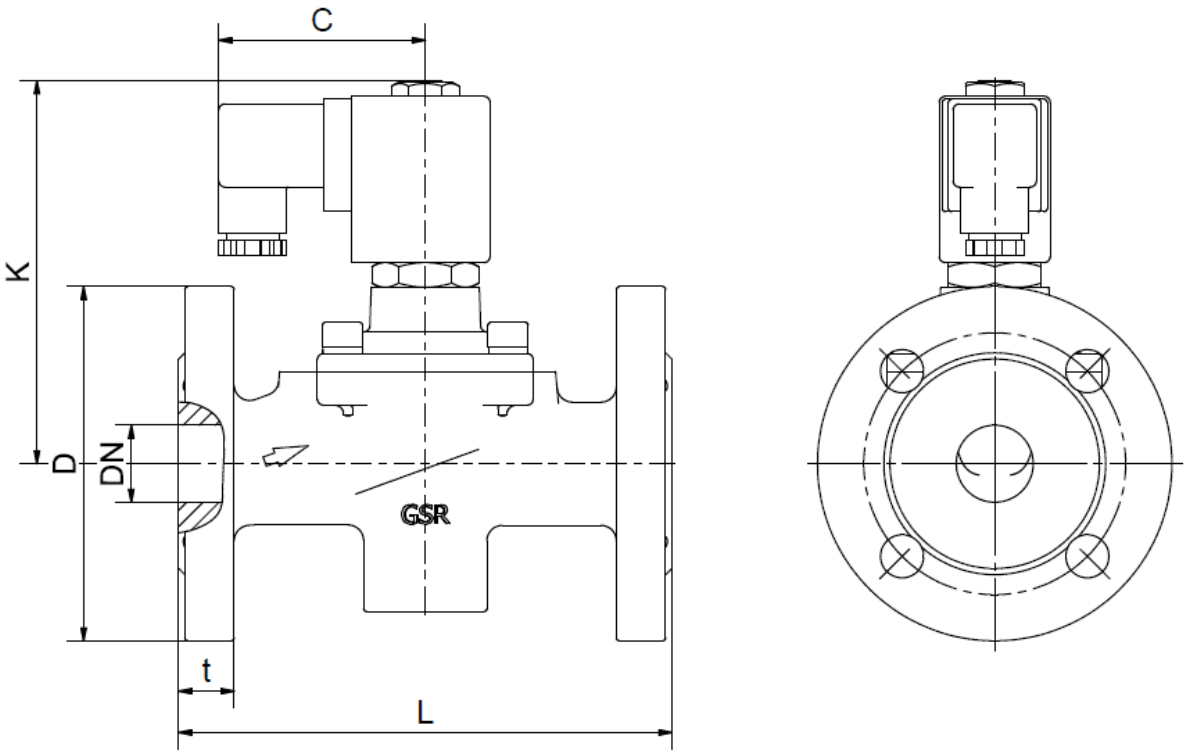
The flow rate mentioned in the table applies to the strongest coil.

			max. pressure for coils ATEX					
DN	Kv-value m³/h	Standard type	.148	.808	.328	.248	.278	.358
15	3,9	.2701/..01/	0-8	0-16	-	-	-	-
20	10,8	.2702/..01/	0-5	0-16	-	-	-	-
25	13,0	.2703/..01/	0-5	0-16	-	-	-	-
32	30,0	.2704/..01/	-	-	0-3	0-10	0-16	-
40	32,0	.2705/..01/	-	-	0-3	0-10	0-16	-
50	45,0	.2706/..01/	-	-	0-3	0-6	0-16	-
80	97,0	.2708/..01/	-	-	-	-	0-2	-
100	143,0	.2709/..01/	-	-	-	-	-	0-2
150	370,0	.2711/..01/	-	-	-	-	-	0-2

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



DIMENSIONS



Coil	.032 /.012 / .148*			.702 /.808*			.322 /.328*		
Type	.2701	.2702	.2703	.2701	.2702	.2703	.2704	.2705	.2706
DN	15	20	25	15	20	25	32	40	50
C	61	61	61	67	67	67	77	77	77
D	95	105	115	95	105	115	140	150	165
K	94 (86)	100 (96)	100 (96)	114 (106)	127 (122)	127 (122)	184 (172)	184 (172)	192 (179)
L	130	150	160	130	150	160	180	200	230
t	16	18	18	16	18	18	18	18	20
kg	2,8	3,9	4,5	3,1	4,2	4,8	8,8	9,3	12,1

*Differing dimension “C“ for ATEX-coils

Coil	.242 / .248				.272 / .278					.352(8)
Type	.2704	.2705	.2706	.2708	.2704	.2705	.2706	.2709	.2711	.2711
DN	32	40	50	80	32	40	50	100	150	150
C	93	93	93	93	107	107	107	107	107	127
D	140	150	165	200	140	150	165	220	285	285
K	209 (198)	209 (198)	218 (205)	255	254 (242)	254 (242)	264 (251)	305	410	450
L	180	200	230	310	180	200	230	350	480	480
t	18	18	20	21	18	18	20	24	28	28
kg	9,7	10,2	13,0	29,0	13,7	14,3	17,3	45,5	86,0	97,0

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 +80 °C.

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

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

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Stand: 07.17, MK-MG, Version 1.

Technical Data Sheet Type 35

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 gaseous and liquid media**

Type 35

TECHNICAL SPECIFICATIONS

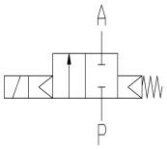
Type of control	Force-pilot operated
Design	Piston design
Connection	Threaded G1/4 - G3 DIN ISO 228/1 (BSP) Further connections like NPT on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -40 °C up to +80 °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 DC= 12V, 24V Other supply voltages on request
Voltage tolerance	-10% / +10%
Power consumption	.802 = 24 Watt .808 = 24 Watt (Ex) .322 = 30 Watt .328 = 24 Watt (Ex) .242 = 46 Watt .248 = 30 Watt (Ex) .272 = 100 Watt .278 = 47 Watt (Ex) .358 = 75 Watt (Ex)
Protection class	IP65 acc. to DIN 60529
Duty factor	100% ED-VDE 0580
Connection type	Plug, terminal box
Ex-proof	acc. to 2014/34/EU (ATEX)

VALVE FEATURES

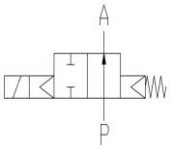
- No pressure difference required
- High life time
- Simple compact valve design
- Reliable and sturdy sealing elements
- Long-term availability of spare parts

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	/	.	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
29	G 2 1/2
30	G 3

Housing	
10	Brass 2.0402
08	St.steel 1.4581

Seal	
04	PTFE

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

TECHNICAL FEATURES

Type 35

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
2 1/2	65	75,0	.3529/1004/	-	-	0-6	-	0-10	0-10	0-10	0-10
3	80	97,0	.3530/1004/	-	-	-	-	0-10	0-10	0-10	0-10

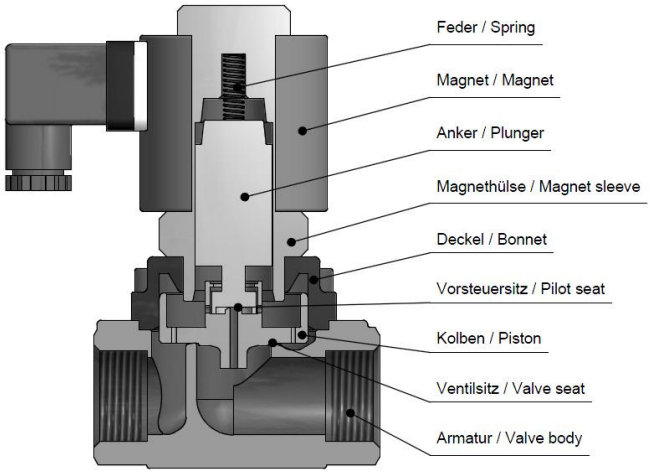
The flow rate mentioned in the table applies to the strongest coil.

*** Pressure ratings with options like manual override or position indicator may be lower.**

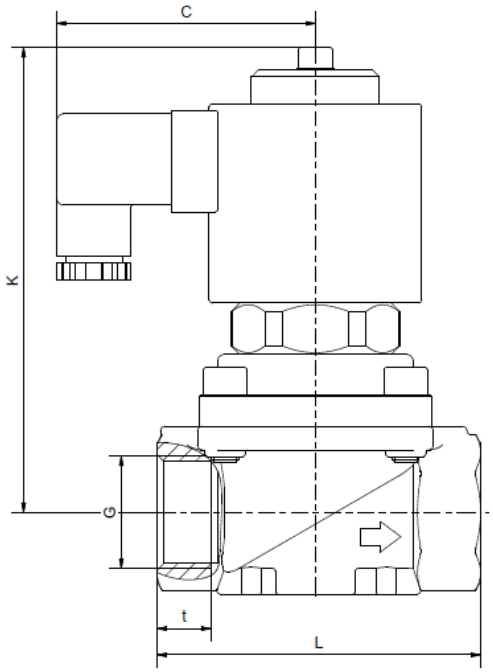
G	Seat Ø mm	Kv-value m³/h	Standard type	max. pressure for coils ATEX				
				.808	.328*	.248	.278	.358
1/4	13,5	1,8	.3521/..04/	0-30	0-40	-	-	-
3/8	13,5	4,0	.3522/..04/	0-30	0-40	-	-	-
1/2	13,5	4,5	.3523/..04/	0-30	0-40	-	-	-
3/4	27,5	11,5	.3524/..04/	0-12	0-25	0-40	-	-
1	27,5	13,0	.3525/..04/	0-12	0-25	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	0-40
2 1/2	65	75,0	.3529/1004/	-	-	0-2	0-10	-
3	80	97,0	.3530/1004/	-	-	0-2	0-10	-

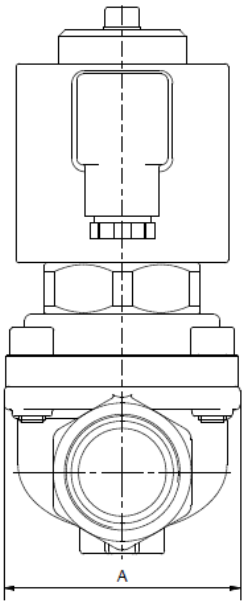
The flow rate mentioned in the table applies to the strongest coil.

*** Pressure ratings with options like manual override or position indicator may be lower.**



DIMENSIONS





Coil	.802 /.808*		.322 / .328*				.242 / .248	
Type	.3521-23	.3524-25	.3521-23	.3524-25	.3526-27	.3528	.3524-25	.3526-27
G	1/4-1/2	3/4-1	1/4-1/2	3/4-1	1 1/4-1 1/2	2	3/4-1	1 1/4-1 1/2
A	48	70	48	70	96	112	70	96
C	70	70	77	77	77	77	93	93
K	104	122	148	138	148	183	178	189
L	67	96	64	96	140	168	96	140
t	12	16	12	16	22	22	16	22
kg	1,3	2,1	2,4	3,0	5,0	6,5	4,7	6,5
*Differing dimension “C“ for ATEX-coils								

Coil	.242 / .248			.272 / .278				.352 / .358
Type	.3528	.3529	.3530	.3526-27	.3528	.3529	.3530	.3528
G	2	2 1/2	3	1 1/4-1 1/2	2	2 1/2	3	2
A	112	on req.	on req.	96	112	on req.	on req.	112
C	93	93	93	107	107	107	107	107
K	194	232	236	220	238	280	260	306
L	168	175	200	140	168	175	200	168
t	22	22	22	22	22	22	22	22
kg	7,5	9,0	11,0	10,0	12,5	13,0	14,0	23,0

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.

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Stand: 01.19, MK-MG, Version 1.

Technical Data Sheet Type 24

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 gaseous and liquid media**

Type 24

TECHNICAL SPECIFICATIONS

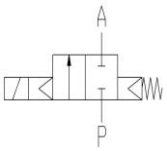
Type of control	Force pilot operated no pressure difference required
Design	Piston design
Connection	Flanges DN65 - DN300 EN 1092-1 Form B1/B2 Other flange connections like ASME on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	22 mm²/s
Temperature range	Medium: -30 °C up to +80 °C Ambient: -30 °C up to +50 °C In consideration of the restrictions described on page 4
Body material	Spheroidal graphite iron 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	NBR, FKM, EPDM, 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 .402 = 250 Watt
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

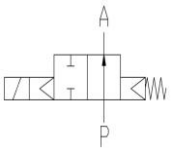
- No pressure difference required
- High life time
- Simple compact valve design
- Reliable and sturdy sealing elements
- Long-term availability of spare parts

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type			Conn.		Housing	Seal		Coil		Option	
.	2	4	0	7	/ 0 4	0	1	/ . 2	4	2	- H A

Conn.	
07	DN65
08	DN80
09	DN100
10	DN125
11	DN150
12	DN200
13	DN250
14	DN300

Housing	
03	EN-GJS-400-18-LT
04	EN-GJL-250
05	GP240 GH
08	St.steel 1.4408

Seal	
01	NBR
02	FKM
04	PTFE
06	EPDM

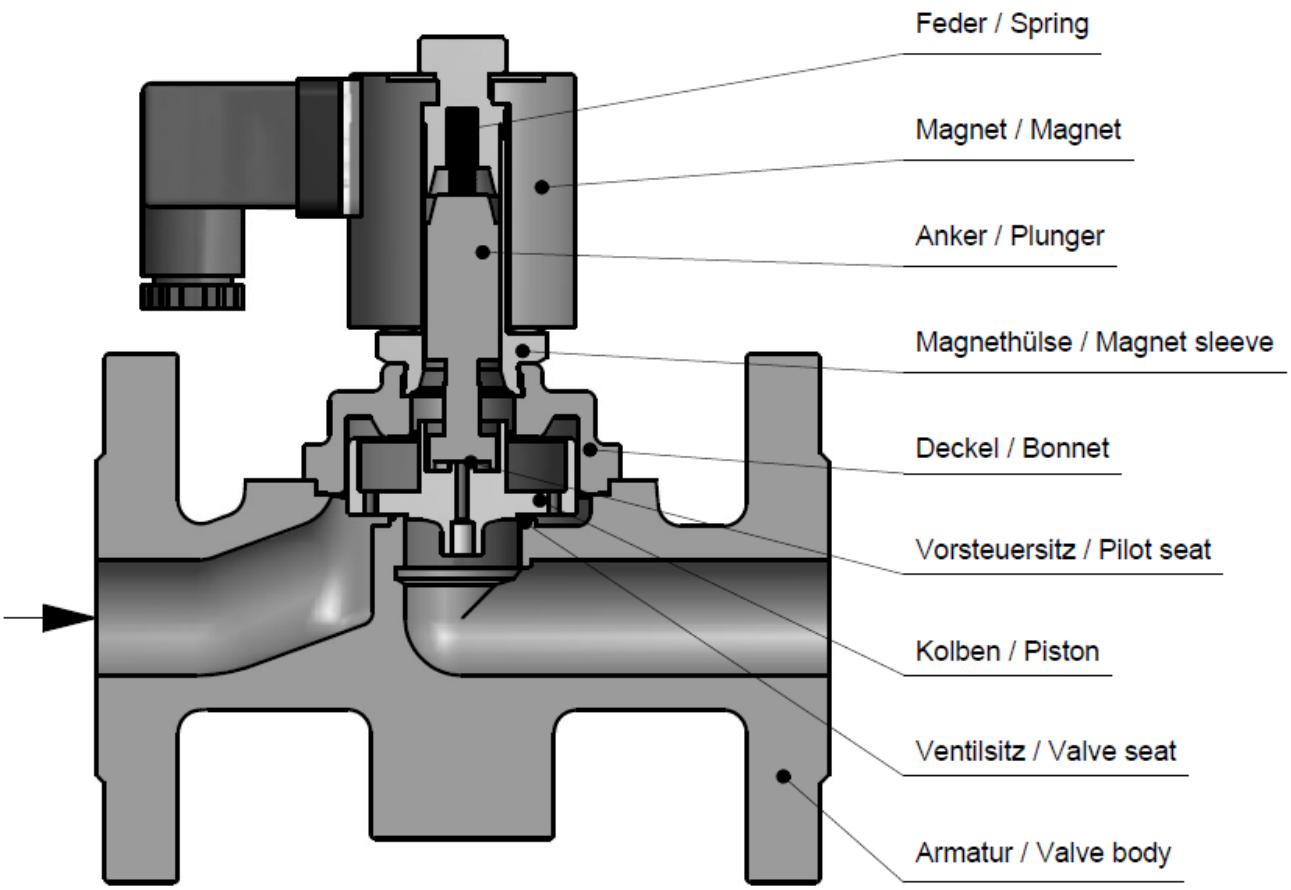
Coil	
2	Standard IP65
8	Explosion proof acc. to directive 2014/34/EU (ATEX)

TECHNICAL FEATURES

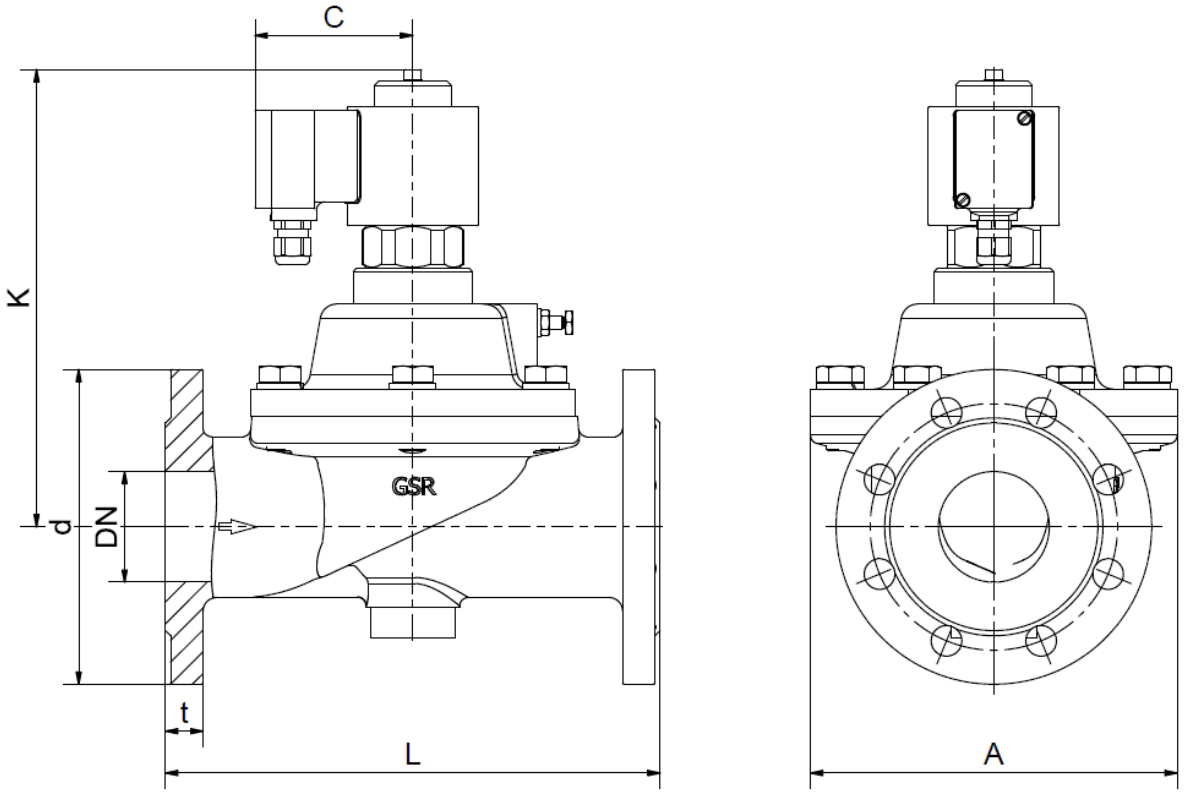
Type 24

			max. pressure for coils				max. pressure for coils ATEX		
DN	Kv-value m³/h	Standard type	.242	.272	.352.	.402	.248	.278	.358
65	75,0	.2407/..01/	0-16	0-40	0-40	-	0-4	0-16	0-40
80	97,0	.2408/..01/	0-16	0-25	0-40	-	0-2	0-16	0-40
100	143,0	.2409/..01/	-	0-25	0-40	-	-	0-16	0-40
125	240,0	.2410/..01/	-	0-16	0-40	-	-	0-5	0-25
150	370,0	.2411/..01/	-	0-8	0-16	0-40	-	-	0-10
200	625,0	.2412/..01/	-	-	0-8	0-40	-	-	0-4
250	950,0	.2413/..01/	-	-	-	0-16	-	-	-
300	1400,0	.2414/..01/	-	-	-	0-16	-	-	-

The flow rate mentioned in the table applies to the strongest coil.
Max. pressure 16 bar with EN-GJL-250 body PN16



DIMENSIONS



Coil	.242/.248		.272/.278				
Type	.2407	.2408	.2407	.2408	.2409	.2410	.2411
DN	65	80	65	80	100	125	150
A	215	245	215	245	270	235	265
C	93	93	107	107	107	107	107
d	185	200	185	200	235	270	285
K	270	275	295	295	320	330	360
L	290	310	290	310	350	400	480
t	22	24	22	24	24	26	28
kg	27,0	35,0	30,5	38,5	61,0	59,0	70,5

Coil	.352/.358						.402			
Type	.2407	.2408	.2409	.2410	.2411	.2412	.2411	.2412	.2413	.2414
DN	65	80	100	125	150	200	150	200	250	300
A	215	245	270	235	265	345	265	345	415	500
C	127	127	127	127	127	127	158	158	158	158
d	185	200	235	270	285	340	285	340	405	460
K	380	390	380	390	450	485	615	on req.	on req.	on req.
L	290	310	350	400	480	600	480	600	730	850
t	22	24	24	26	28	34	28	34	38	42
kg	43,0	50,0	61,0	70,0	91,0	145,0	140,0	on req.	on req.	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 +80 °C.

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

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

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Stand: 08.17, MK-MG, Version 1.

Technical Data Sheet Type 2/049

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 higher viscosity applications**

GSR Ventiltechnik

Type 2/049

TECHNICAL SPECIFICATIONS

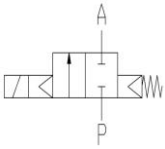
Type of control	Force pilot operated no pressure difference required
Design	Piston design
Connection	Flanges DN50 - DN100 EN 1092-1 Form B1/B2 Other flange connections like ASME on request
Installation	With actuator upright
Pressure	0 - 40 bar (see table on page 2)
Medium	Clean, neutral, gaseous and liquid media
max. viscosity	150 mm²/s
Temperature range	Medium: -30 °C up to +80 °C Ambient: -30 °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 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

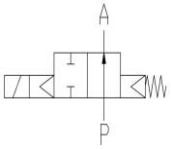
- For media viscosity up to 150 mm²/s
- No pressure difference is required
- High life time
- High-quality materials
- Reliable and sturdy sealing elements

FUNCTION

NC – non energized closed



NO – non-energized open



CERTIFICATES

ORDERING SYSTEM

Type										Connect.		Housing		Seal			Coil			
2	/	0	4	9	-	0	9	-	0	5	0	4	-	.	3	5	2			

Connect.	
06	DN50
07	DN65
08	DN80
09	DN100

Housing	
04	EN-GJL-250
05	GP240 GH

Seal	
04	PTFE

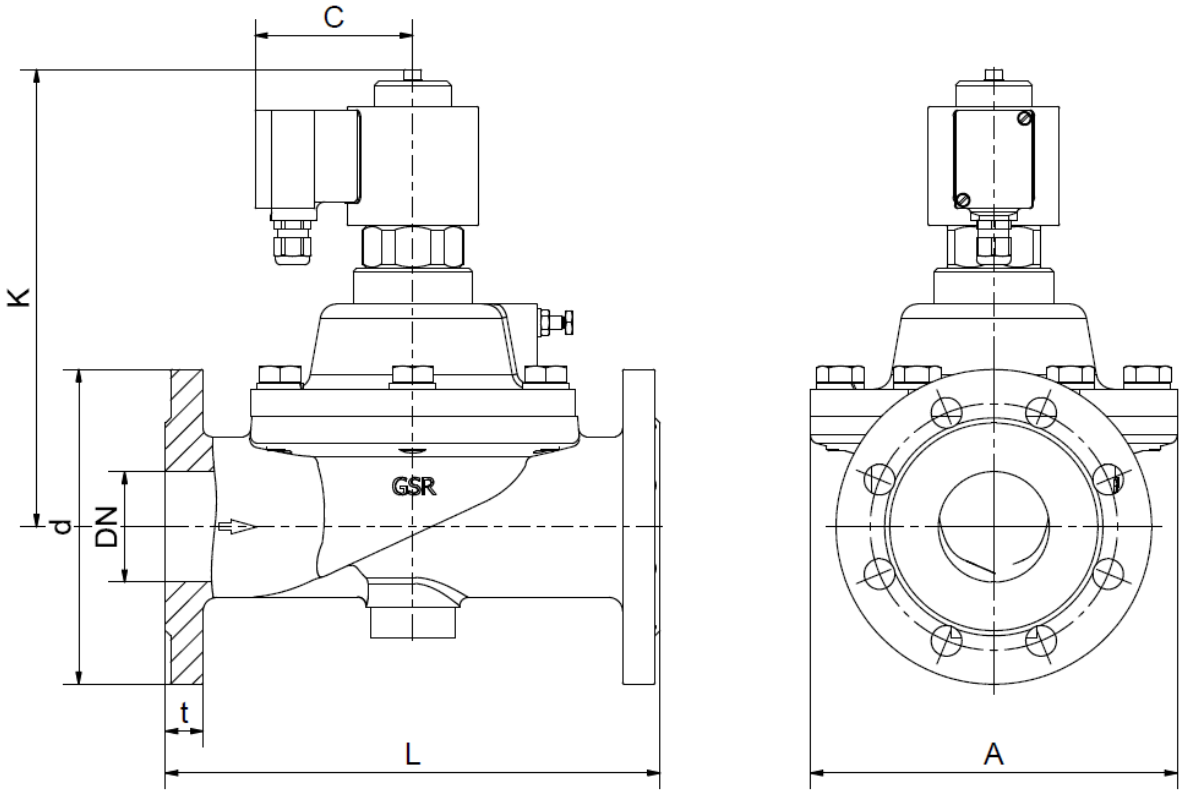
Coil	
2	Standard IP65
8	Explosion proof acc. to directive 2014/34/EU (ATEX)

TECHNICAL FEATURES

Type 2/049

			max. pressure for coils			max. pressure for coils ATEX		
DN	Kv-value m³/h	Standard type	.242	.272	.352.	.248	.278	.358
50	46,0	2/049-06-..04-	-	0-25	0-40	on request		
65	75,0	2/049-07-..04-	0-6	0-25	0-40			
80	97,0	2/049-08-..04-	-	0-10	0-40			
100	143,0	2/049-09-..04-	-	-	0-40			

The flow rate mentioned in the table applies to the strongest coil.
Max. Druckbereich 16 bar bei EN-GJL-250 Armatur PN16



Coil	.242/.248	.272/.278			.352/.358			
Type	.2407	.2406	.2407	.2408	.2406	.2407	.2408	.2409
DN	65	50	65	80	50	65	80	100
A	215	112	215	245	112	215	245	270
C	93	107	107	107	127	127	127	127
d	185	165	185	200	165	185	200	235
K	270	252	295	295	on req.	380	390	380
L	290	230	290	310	230	290	310	350
t	22	18	22	24	18	22	24	24
kg	27,0	on req.	30,5	38,5	on req.	43,0	50,0	61,0

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 +80 °C.

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

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

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Stand: 12.17, MK-MG, Version 1.