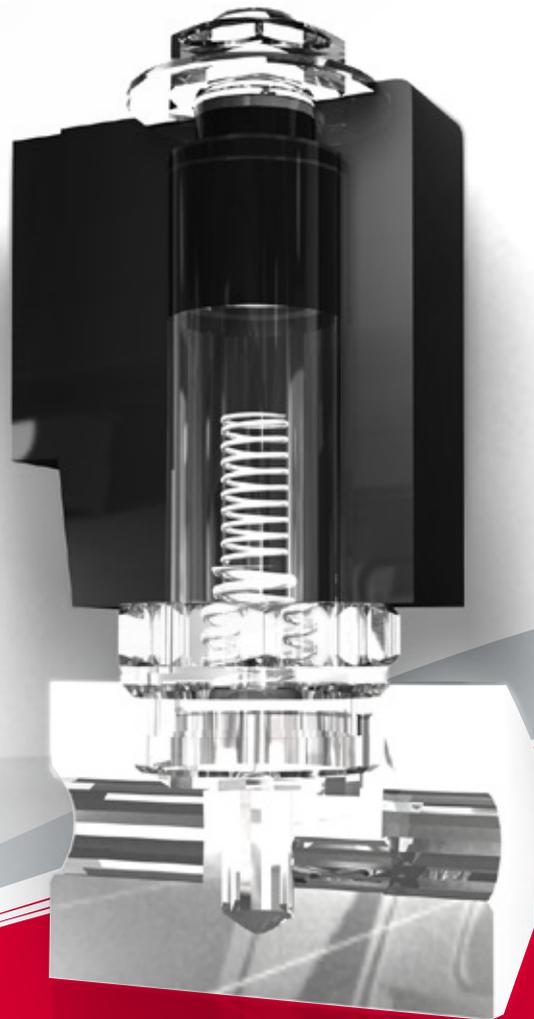


GSR[®]

Ventiltechnik



Productoverview

Innovative valve technology

WELCOME TO THE WORLD OF VALVE TECHNOLOGY



Your partner for valve technology

With a product range of several thousand valve types, we can offer you the perfect valve solution for almost every application.

Our program of standard valves comprises over 900 valve combinations with four different types of control. In addition we offer a wide range of special valves which have been developed for specific usage in close coordination with our customers. In this, we can rely on extensive engineering competence and a proven modular system of components and options. We cater for customers in mechanical and process engineering, in washing technology, in shipbuilding, and in many other areas in which reliable components are a must. Especially for use in high pressure applications with pressure ranges up to 900 bar and in high temperature applications up to 400 °C we can offer our most modern valve technology. As an innovative valve manufacturer, we developed for example a 900 bar valve for hydrogen infrastructure and a completely new valve concept with switching times in the ms range.

By these and many other activities, we dealt with future technologies in time, such as CNG and hydrogen, and now we are your competent partner for such applications.

From the idea to the valve

Our core competence is the rapid development of tailor-made solutions for our customers in all fields of valve technology, in which we cover a very broad spectrum. This refers to the valve size (from DN1 to DN300), the pressure range (from vacuum to 900 bar) and the temperature range (from -60 °C to +400 °C).

We offer over 40 years of experience, operate at in-depth manufacturing range, and use modern production and testing equipment. As we produce all important components with modern machines on our premises, both individual solutions and larger series are available at short notice and with the highest degree of quality.

Our fully-automatic warehouse allows for streamlined faster processes, enabling us to meet future customer requirements.

All business processes conform with DIN EN ISO 9001 and are continuously checked and improved by our quality management and technical development.

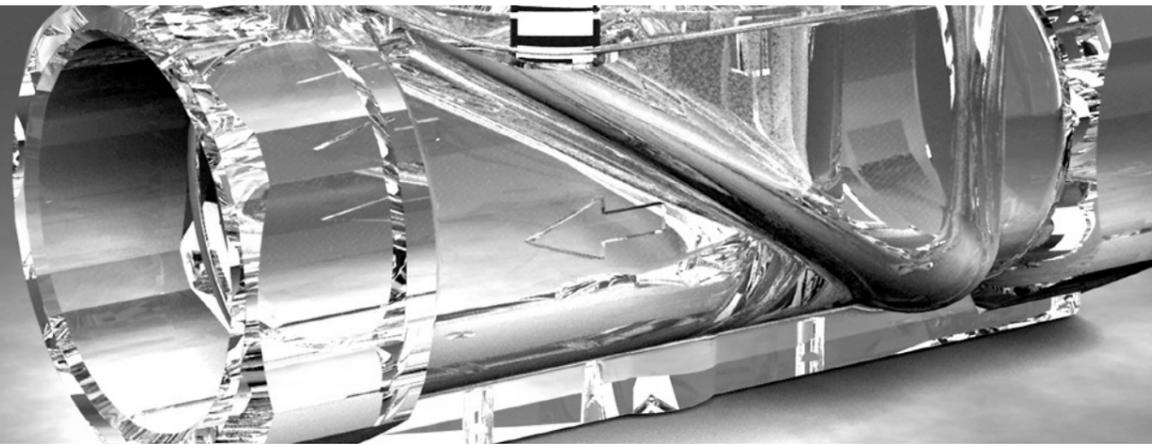
Certifications, among others:

- DIN EN ISO 9001
- EC Approval of Type according to 94/9/EG (ATEX)
- EC Approval of Type according to EC Gas Appliances Directive 90/396 (DIN EN 161)
- DVGW approvals
- FM approval (NAFTA)
- UL approval (NAFTA)
- Germanischer Lloyd
- Type-approved valves for natural gas vehicles according to ECE R110
- Module H approval (approved manufacturer) according to Gas Appliances Directive 97/23/EG
- GOST-TR certificate
- Hungarian approval for solenoid coils according to BKI

How to reach us:

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• Errors excepted, subject to change!
• Original products may differ from the product photos due to different materials etc.



Pilot operated valves are characterized by their simple, solid design. As sealing elements, the options are a diaphragm for pressure up to 20 bar or a piston for pressure up to 450 bar.

Valves of this type need a pressure differential of the operating pressure for opening and closing. The minimum required pressure is specified as minimum pressure in the technical data sheet.

The solenoid system only has a pilot function which relieves the main sealing element, i.e. the diaphragm or the piston. The medium pressure or the present pressure differential lifts the main seal.

Application fields

- filling systems
- water treatment
- drinking water supply
- irrigation systems
- pneumatics
- and many applications in general mechanical and process engineering
- fountain equipment
- mixing systems
-
- sanitary equipment
- pipelines

Options:

- normally open
- free of oil and grease
- manual operation
- explosion protection
- temperature version
- special voltage
- NPT thread
- outdoor application
- special flanges ANSI, male/female flanges
- position indicator
- ex-position indicator
- free of brass and bronze
- close muting
- certificate APZ 3.1, WAZ 2.2 and others

Body and seal material

- body made of brass, stainless steel, GG-25, GS-C25
- seals made of NBR, EPDM, FKM, PTFE
- peek for extra high temperatures and pressures

	Type	Design	Nominal size	Connection		Function	Pressure range min/max	Medium	Medium temperature norm. °C	Electrical connection		
				Thread	Flange							
	40	2/2-way valve with diaphragm seal	DN13 - DN75	G ¹ / ₄ -G3	-	NC/NO	0,3-10 bar 0,3-20 bar or 0,5-16 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s	-10/+80	DC/AC EEx (e) m II T4 Encapsulation "m" Connection for cables or terminal box Voltage tolerance +10/-10%		
	51	2/2-way valve with piston seal	DN13 - DN25	G ¹ / ₄ -G1	-	NC/NO	0,5-40 bar		-10/+80			
	50	2/2-way valve with piston seal	DN13 - DN50	G ¹ / ₄ -G2	-	NC/NO	1-40 bar		-10/+80			
	28	2/2-way valve with diaphragm seal	DN15 - DN50	-	PN 16/40	NC/NO	0,5-16 bar		-10/+80			
	25	2/2-way valve with piston seal	DN15 - DN250	-	PN 16/40	NC/NO	1-40 bar		-10/+80			



Force pilot operated valves operate from 0 bar and can be installed where directly acting valves are used. However, beyond the range of the latter, they are supplied with smaller solenoids for higher pressures and larger nominal sizes. The actuator of a force pilot operated valve opens a pilot orifice and then lifts the sealing element from its seat directly or supported by the delta p of the operating pressure.

The special feature of force pilot operated valves is that the actuator in the pressure range can open and close the valve without using the operating pressure. In the case of pressure differential, usually when opening the valve, the collective energy is used.

Application fields

- filling systems
- steam boiler construction
- liquid gas systems
- hot water applications
- heating circuits
- power plant technology
- petrochemicals
- pump equipment
- tank systems
- water treatment
- pipelines
- drinking water supply
- and many applications in general mechanical and process engineering

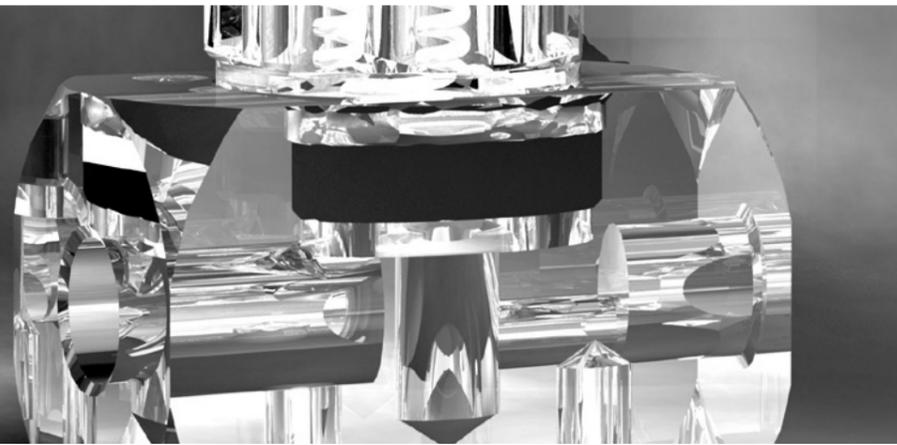
Options:

- normally open
- position indicator
- Ex position indicator
- manual operation
- explosion proof
- NPT thread
- special voltage
- temperature version up to +300 °C
- free of oil and grease
- outdoor application
- free of brass and bronze
- close muting
- special flange ANSI, groove/spring flange
- rapid closing
- certificate APZ 3.1, WAZ 2.2 and others

Body and seal material

- body made of brass, stainless steel, GG-25, GS-C25
- seals made of NBR, EPDM, FKM, PTFE
- peek for extra high temperatures and pressures

	Type	Design	Nominal size	Connection		Function	Pressure range min/max	Medium	Medium temperature norm. °C	Electrical connection	
				Thread	Flange						
	43	2/2-way valve with diaphragm seal	DN13 - DN50	G1/4-G2	-	NC/NO	0-16 bar		-10/+80		
	35	2/2-way valve with piston seal	DN13 - DN25	G1/4-G1	-	NC/NO	0-40 bar		-10/+80		
	49	2/2-way valve with piston seal	DN32 - DN76	G1 1/4-G2 G2 1/2-G3	-	NC/NO	0-25/40 bar 0-10 bar	gaseous, liquid, clean Viscosity up to 22 mm²/s	-10/+80	DC/AC EEx (e) m II T4 Encapsulation "m" Connection for cables or terminal box Voltage tolerance +10/-10%	
	27	2/2-way valve with diaphragm seal	DN15 - DN300	-	PN 16	NC/NO	0-16 bar		-10/+80		
	37	2/2-way valve with piston seal	DN15 - DN25	-	PN 16/40	NC/NO	0-40 bar		-10/+80		
	24	2/2-way valve with piston seal	DN32 - DN300	-	PN 16/40	NC/NO	0-16/40 bar		-10/+80		



Direct acting valves switch the sealing element directly via the magnetic system. In this case the seal usually needs to be lifted against the effective operating pressure from the seat simply by the actuator.

A closing spring keeps the valve closed, supported by the medium pressure. The function depends on the size of the seat, the effective operating pressure and magnetic force.

Application fields

- low pressure gas supply for industrial and domestic applications in accordance with DIN-EN 161
- venting of gas and tank systems
- safety shutoff for burner control systems
- pneumatics, types 52 and 72
- vacuum technology

Options:

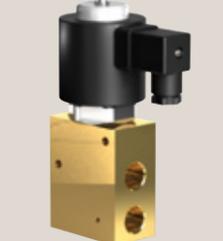
- normally open
- increased pressure range
- position indicator
- Ex position indicator
- manual operation
- explosion proof
- NPT thread
- special voltage
- free of oil and grease
- outdoor application
- range of media and viscosities
- free of brass and bronze
- special flange ANSI, groove/spring flange
- certificate APZ 3.1, WAZ 2.2 and others

Body and seal material

- Bodies made of brass, stainless steel, GG-25, GGG-40.3, GS-C25
- Seals made of NBR, EPDM, FKM, PTFE

Note for the PTFE seat seal for direct acting solenoid valves:

PTFE is a hard plastic and can show slight leaks at low pressures, therefore we only certify the leak rate DIN 3230 T3.

	Type	Design	Nominal size	Connection		Function	Pressure range min/max	Medium	Medium temperature norm. °C	Electrical connection	
				Thread	Flange						
	52	2/2-way valve piston design	DN1 - DN6	G ^{1/8} -G ^{1/2}	-	NC/NO	0-90 bar		-10/+80		
	72	3/2-way valve piston design	DN1 - DN6	G ^{1/8} -G ^{1/2}	-	Universal NC/NO	0-90 bar		-10/+80		
	75	3/2-way valve piston design	DN1 - DN6	G ^{1/4}	-	Universal NC/NO	0-40 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s	-10/+80	DC/AC EEx (e) m II T4 Encapsulation "m" Connection for cables or terminal box Voltage tolerance +10/-10%	
	48	2/2-way valve poppet design	DN8 - DN75	G ^{3/8} -G3	-	NC/NO	0-3 bar		-10/+80		
	23	2/2-way valve poppet design	DN15 - DN250	-	PN 16/40	NC/NO	0-1 bar		-10/+80		
	73	3/2-way valve poppet design	DN6 - DN40	G ^{1/4} -G2	-	Universal	0-20 bar		-10/+80		



(Externally) Pressure controlled valves are suitable for the control of gaseous, highly viscose, polluted and aggressive media. The actuator is separated from the medium. Neutral or liquid medium of 4-10 bar is necessary for the actuation. The pilot valve is available in standard supply voltages and can be delivered, by request.

With compressed air being widely available, this type of valve control is preferable for problematic media.

On average, only 0.4 liter of air are consumed for each switching. A return line for the control medium air is not necessary because the air will be returned into the atmosphere during the switching periods.

Application fields

- filling systems
- mixing systems
- vacuum equipment
- brewing equipment
- food processing industry
- water treatment
- chemical systems
- concrete and cement industry
- pneumatics

Options:

- optical position indicator
- electrical position indicator
- vacuum version
- vacuum-pressure version
- manual operation
- free of oil and grease
- free of brass and bronze
- NO by spring power
- double-acting drive
- flanges drilled acc. to ANSI 150/300 lbf RF
- certificate APZ 3.1, WAZ 2.2 and others

Requirements to compressed air as control medium: filtered, free of condensate, free of dust and oil, air quality acc. to ISO 8573.1, 4 to 10 bar

Observe this:

For liquids we recommend the flow direction "closing against medial flow".

	Type	Design	Nominal size	Connection		Function	Pressure range min/max	Medium	Medium temperature max. °C	
				Thread	Flange					
	63 straight seat	2/2-way valve in poppet design	DN6 - DN13	G ¹ / ₈ -G ¹ / ₂	-	NC/NO	0-40 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s, type 63, 78, 79, 22 up to 600 mm ² /s	-40/+200	
	63*	2/2-way valve in poppet design	DN12 - DN76	G ¹ / ₂ -G3	-	NC/NO	0-40 bar		-40/+200	
	60	2/2-way valve with diaphragm seal or piston seal	DN13 - DN50	G ¹ / ₄ -G2	-	NC	1-40 bar (0,5-20 bar)		-40/+200	
	22**	2/2-way valve in poppet design	DN15 - DN200	-	PN 16/40	NC/NO	0-25 bar		-40/+200	
	26	2/2-way valve with piston seal	DN15 - DN300	-	PN 16/40	NC/NO	0-40 bar		-40/+200	
	78	3/2-way valve in poppet design	DN13 - DN50	G ¹ / ₂ -G2	-	NC/ Universal	0-16 bar		-40/+200	
	79	3/2-way valve in poppet design	DN15 - DN150	-	PN 16/40	NC/ Universal	0-16 bar		-40/+200	
	1/384	3/2-way quick vent valve, poppet valve with nipple seal	DN1,5 - DN3 Venting 8 mm	G ¹ / ₄ -G2	-	NC/NO	0-11 bar		-	

* available with positioner
** available with certificate DIN EN 161



Application fields

- high-pressure pumps
- paper processing industry for jacking beams
- water and oil hydraulic systems
- nitrogen applications (depending on sealing material)
- press and lock control
- liquid gas filling systems
- hydrogen filling systems
- sheet metal lubrication
- forming technology
- automobile industry
- car filling systems
- firefighting systems

	Type	Design	Nominal size	Connection		Function	Pressure range min/max	Medium	Medium temperature norm. °C	
				Thread	Flange					
	52HD	2/2-way solenoid valve with nipple seal, direct acting	DN1 - DN6	G ¹ / ₄	-	NC/NO	0-450 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s	-10/+80	
	46	2/2-way solenoid valve, piston design, pilot operated	DN8	G ¹ / ₄ -G ¹ / ₂	-	NC/NO	1-100 bar			
	2/529	2/2-way solenoid valve, piston design, pilot operated	DN8 - DN50	G ¹ / ₄ -G2	-	NC/NO	1-450 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s	-10/+80	
	3/071	2/2-way solenoid valve, piston design, pilot operated	DN8	G ¹ / ₄ -G ¹ / ₂	-	NC	1-900 bar			
	1/041	2/2-way solenoid valve, piston design, force pilot operated	DN13 - DN100	G ¹ / ₄ -G2	DN15 - DN200	NC/NO	0-100 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s	-10/+80	
	3/045	3/2-way solenoid valve poppet design, direct acting	DN10 - DN22	G ¹ / ₈ -G1	-	Universal	0-250 bar			
	2/529 pneum.	2/2-way valve, poppet design, pressure controlled	DN8 - DN50	G ¹ / ₄ -G2	-	NC/NO	1-450 bar	gaseous, liquid, clean Viscosity up to 22 mm ² /s	-10/+80	
	1/921	3/2-way slide valve, pressure controlled (with plug also available as 2/2-way)	DN10 - DN22	G ¹ / ₄ -G1	-	Universal	0-450 bar			

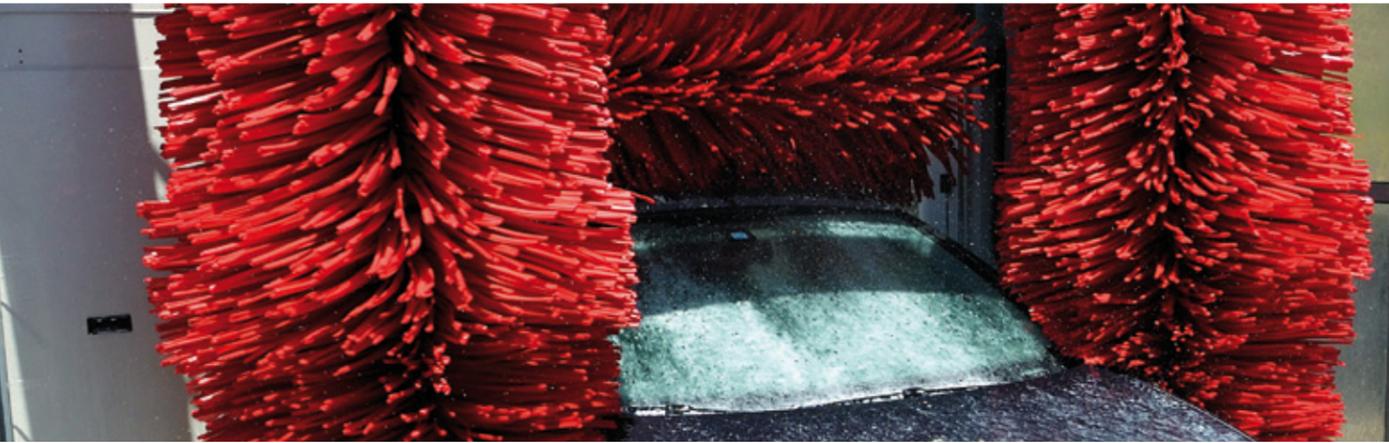


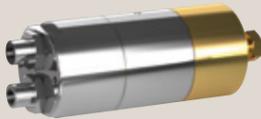
Application fields

- hardening plants
- blast furnace construction
- coking plants
- steam systems
- steam turbines

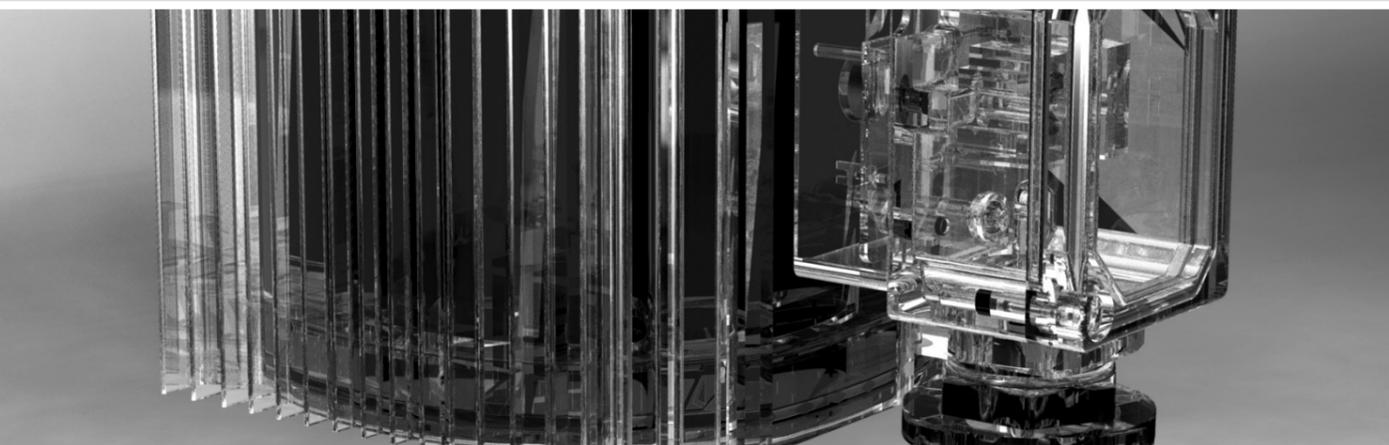
	Type	Design	Nominal size	Connection		Function	Pressure range min/max	Medium	Medium temperature max. °C	
				Thread	Flange					
	40TM	2/2-way solenoid valve, diaphragm design, pilot operated	DN13 - DN50	G $\frac{1}{4}$ -G2	-	NC/NO	0,3-20 bar bzw. 0,5-16 bar	gaseous, liquid, clean viscosity up to 22 mm ² /s	-10/+130	
	43TM	2/2-way solenoid valve, diaphragm design, force pilot operated	DN13 - DN50	G $\frac{1}{4}$ -G2	-	NC/NO	0-16 bar		-10/+130	
	35TH 49TH	2/2-way solenoid valve, piston design, force pilot operated	DN13 - DN25 (35TH) DN32 - DN50 (49TH)	G $\frac{1}{4}$ -G1 G1 $\frac{1}{4}$ -G3	-	NC/NO	0-40 bar	gaseous, liquid, clean viscosity up to 22 mm ² /s, type 25TH and type 24TH 50 mm ² /s, type 63DT and type 2/640 600 mm ² /s	-40/+180	
	37TH 24TH	2/2-way solenoid valve, piston design, force pilot operated	DN15 - DN25 (37TH) DN32 - DN200 (24TH)	-	PN 16/40	NC/NO	0-40 bar		-40/+180 -40/+180*	
	24DT	2/2-way solenoid valve, piston design, force pilot operated	DN15 - DN100	-	PN 16/40	NC/NO	0-40 bar	gaseous, liquid, clean viscosity up to 22 mm ² /s, type 25TH and type 24TH 50 mm ² /s, type 63DT and type 2/640 600 mm ² /s	-40/+250	
	2/164	2/2-way solenoid valve, piston design, force pilot operated	DN15 - DN100	-	PN 16/40	NC/NO	0-40 bar		-40/+300	
	63DT	2/2-way poppet valve, poppet design pressure controlled	DN13 - DN50	G $\frac{1}{2}$ -G2	-	NC/NO	0-40 bar	gaseous, liquid, clean viscosity up to 22 mm ² /s, type 25TH and type 24TH 50 mm ² /s, type 63DT and type 2/640 600 mm ² /s	-40/+250	
	2/640	2/2-way poppet valve, poppet design pressure controlled	DN13 - DN100	G $\frac{1}{2}$ -G2	PN 16/40	NC/NO	0-40 bar		-40/+400	

* with separate switching electronics (only available in 230 V)



	Description
	<p>Solenoid valve for fresh water supply or for water processing</p> <p>2/2-way pilot operated diaphragm solenoid valve</p> <ul style="list-style-type: none"> • Material: brass, nickel-plated • Pressure range: 0,5-16 bar
	<p>Water battery for fresh water or process water distribution</p> <p>Consisting of:</p> <ul style="list-style-type: none"> • 5 2/2-way pilot operated diaphragm block valves • Foam generators • Non-return valves • Strainer
	<p>High-pressure valve for pre-washing</p> <p>2/2-way pneumatically controlled 2-fold high pressure control block with two exits via high pressure screw connection G³/₈</p> <ul style="list-style-type: none"> • Material: brass, pressure range: 0-100 bar • Air connection via angular push-in fitting • Available as single valve to fourfold block
	<p>Wheel rim cleaner pump (pressure control piston pump)</p> <ul style="list-style-type: none"> • Pressure range: 1-10 bar • Dosing volume: 1-50 ml per stroke (progressively adjustable via an adjustment screw) • Input / output via screw joint G¹/₄ with non-return valve • Control air via plug-in nipple 1¹/₂

	Type	Design	Nominal size	Connection	Function	Pressure range min/max	Medium	Medium temperature °C
	63-2R	2-way valve	DN13 - DN50	G ¹ / ₂ - G2	open / closed or control	0-40 bar	gaseous, liquid, clean Viscosity up to 600 mm ² /s	-40/+200
	14	2-way valve	DN13 - DN63	G ¹ / ₂ - G2 ¹ / ₂	open / closed or control	0-40 bar	gaseous, liquid, clean Viscosity up to 600 mm ² /s	-40/+200
	Controller	-	for stroke drives		open / closed or control	0-40 bar depends on the valve	-	-40/+200 depends on the valve



	Solenoid	Power VA for 50 Hz	Power
	.182	14,5 / 10,5	6,8 W
	.032	24 / 15	11 W
	.012	35 / 24	18,5 W
	.692	with separate rectifier	25 W
	.702	with separate rectifier	25 W
	.802	incl. separate rectifier	24 W

	Solenoid	Power VA for 50 Hz	Power
	.322	with separate rectifier	30 W
	.242	incl. separate rectifier	46 W
	.272	incl. separate rectifier	100 W
	.352	incl. separate rectifier	150 W
	.402**	incl. separate rectifier	250 W

**only available from 100 V (AC/DC) onwards
Special voltages upon request

With FM approval		
	Solenoid	Power
	.328FM	23 W
	.248FM	30 W
	.278FM	46 W
	.358FM	75 W

Temperature version				
	Solenoid	Power VA for 50 Hz	Power	
	T012	with plug	18,5 W	
	R322	with plug	21 W	
	T802	incl. separate rectifier	18 W	
	T322	incl. separate rectifier	21 W	
	T242	incl. separate rectifier	26 W	
	T272	incl. separate rectifier	60 W	
	T352	with separate rectifier	80 W	
	T402**	with separate rectifier	100 W	

with FM approval acc. to US requirements:
Class I, Division 2, Groups A, B, C, D; Dust Protected for use in Class II, III, Division 2, Groups E, F, G and encapsulated for use in Class I, Zone 1, Group IIC Hazardous (Classified) Locations Indoors Outdoors Type IP65

explosion proof acc. to ATEX					
	Solenoid	Power VA for 50 Hz	Temperature range	Power	
	.178	with 3 m cable end	-	9 W	
	.148	with 3 m cable end	-	10 W	
	K148	-	-	-	
	.808	with terminal box connection	-55 °C - +60 °C	24 W	
	.328	with terminal box connection	-55 °C - +60 °C	23 W	
	.248	with terminal box connection	-55 °C - +60 °C	30 W	
	.278	with terminal box connection	-55 °C - +40 °C	47 W	
	.358	with terminal box connection	-55 °C - +40 °C	75 W	
	A278*	with terminal box connection and cooling element	-40 °C - +70 °C	47 W	

HOUSING MATERIALS

Pressure level

Housing materials

PN16–PN40

Brass (2.0402)

PN16

Red brass RG-5 (2.1096)

PN10

Aluminium

PN40–PN150

Stainless steel (AISI 316, AISI 304, AISI 430F)

Pressure level

Housing materials

PN16

GG-25; DIN EN Standard GJL 250 n. EN1561

PN25–PN40

GSC-25; DIN EN Standard GP240GH
n. EN10213-2

PN25

GGG-40.3; DIN EN Standard GJS400-15
n. EN1563

SEAL MATERIALS

Seal materials

Properties

NBR

Standard material for neutral, gaseous and liquid media such as compressed air, water, gases. Not suitable for fuels with a high aromatics content, aromatic or chloridised hydrocarbons, e.g. benzene, trichloroethylene. Temperature range of the media: -10 °C to +80 °C.

EPDM

Good chemical resistance in hot water, steam, alkaline suds, bases, acids, hydraulic fluids of the group HSC and some types of the group HSD, brake liquids e.g. ATE-blau. Not suitable for oil and grease and for aromatic and chlorodised hydrocarbons. Very good resistance to ozone, ageing and weathering. Temperature range of the media: -20 °C to +130 °C.

FKM

Good resistance in mineral oils, fuels, greases, aromatic and chlorinated hydrocarbons, oxygen. Not suitable for hot steam. Temperature range of the media: -20 °C to +150 °C.

PTFE

Good resistance in almost all media. Very good chemical resistance, dissolvent resistant, high compressive strength. Main fields of application: steam, aggressive media, refrigerating. Low friction coefficient by smooth and repellent surface. Temperature range of the media: -40 °C to +200 °C.

Peek

For pressure ranges up to 900 bar and temperatures up to +350 °C.



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