

Valvex Valves for Mining Applications



Proven technology

The Electronic Drive Systems product group at Voith Turbo GmbH & Co. KG develops and produces explosion-proof Valvex solenoid valves and valve assemblies.

You can take advantage of all the experience we have gained from more than 40 years designing and constructing valves for explosion-hazard areas.

The benefits to you

- Intrinsically safe equipment for use in mines with potentially explosive atmospheres.
- Components tested for many years under harsh mining conditions
- Rugged construction unaffected by dirty environments
- Optimized valve solutions
- Corrosion-resistant materials
- Modular principle for mechanical and electrical combinations
- Voltage-free feedback signal of switching status

All the world's our home

Valvex valves are used worldwide in mining, where explosion protection and reliability are the key criteria. You can find Valvex valves in dust suppression systems, mine air cooling systems, mining equipment controls and in drive components for conveyor systems.

Voith Turbo's worldwide distribution and service network means that wherever you are, we are not far away.

2/2 way solenoid valve EV 2120 NC / NO

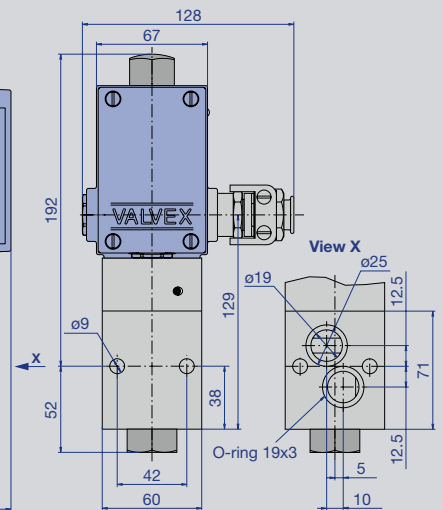
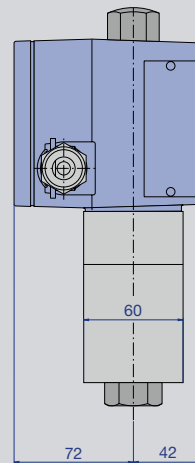
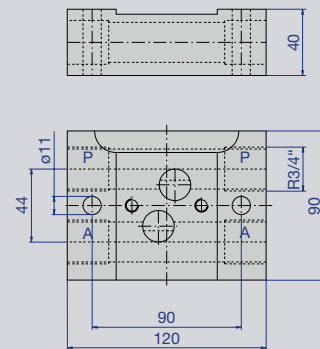
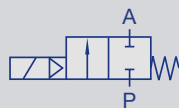
Applications

- Control of neutral gases and liquids in mines with potentially explosive atmospheres
- Harsh conditions underground with a high switching frequency, for example in dust suppression sprinklers for cutters and crushers

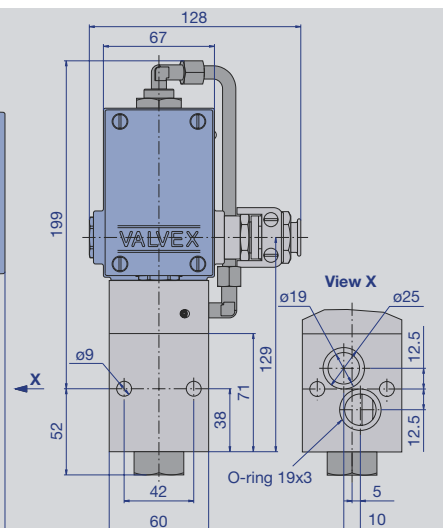
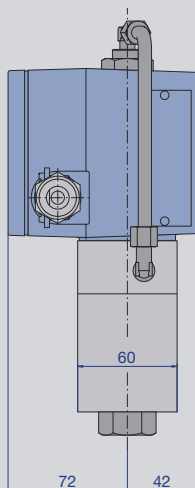
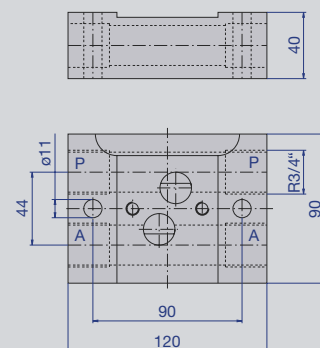
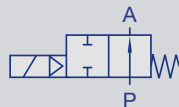
Features

- Internal pilot-operated piston valve, normally closed (NC) or normally open (NO)
- Feedback contact for switching status
- Pressure range up to 80 bar
- Robust valve type
- Unaffected by pressure peaks
- Especially suitable for high switching frequency
- Block valve design for flanging onto connecting plate
- Multiple valves can be mounted in series on a supply pipe
- Flange valve design with separate connecting plate (on request)
- Manual operation (on request)

NC



NO



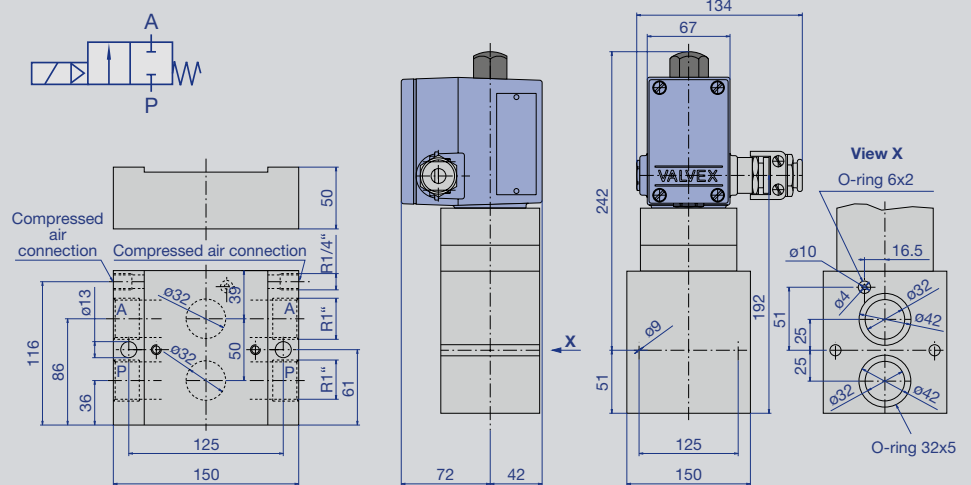
Technical specifications EV 2120 NC / NO				
Mode of operation			2/2 way, normally closed (NC) or normally open (NO)	
Function			Internal pilot-operated	
Pressure range	NC	1 to 80 bar		
	NO	1 to 15 bar		
Nominal diameter			20 mm	
K _v value (water)			110 l/min = 6.6 m³/h (measured at 20°C and pressure differential 1 bar)	
Pipe connection			Flange plate, R 3/4" internal thread	
Response times	NC	Opening	600 ms	
		Closing	Depends on pressure, no water impact	
	NO	Closing	600 ms	
		Opening	Depends on pressure, no water impact	
Pressure differential			Min. 1.0 bar for full opening of cross-section	
Mass			5.7 kg	
Valve housing material			Brass	
Internal valve components			Stainless steel	
Sealing materials			NBR, FPM (Viton) on request	
Media			Neutral, gaseous or liquid	
Media temperature			-20°C to +80°C, regardless of type of media	
Ambient temperature			-20°C to +40°C	
Installation position			Any, preferably solenoid actuator vertically upwards	
Rated voltage			12 VDC, -30%/+10%	
Current consumption			150 mA	
Nominal operation			Continuous operation, 100% operating time	
Electrical connection			Cable gland M20 x 1.5 or PROMOS connector	
Switching capacity of feedback contacts			24 VDC, 1 A, potential-free relay contacts (change-over contact)	
Solenoid actuator housing material			Brass	
Approvals				
ATEX			I M2 Ex ib I, IP 65, BVS 03 ATEX E 281	
MSHA			Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0	
SIMTARS			Ex ib I, IP 66, AUS Ex 02.2553X	
SIMTARS-JOY			Ex ib I, IP 66, ANZEx_07_2000	
IECEX			Ex ia, IP 66, IECEx SIM 10.0002	

2/2 way solenoid valve EV 2132 NC

Applications

- Control of neutral gases and liquids in mines with potentially explosive atmospheres
- Harsh conditions underground, particularly for underground water supplies with a high level of contamination and low supply pressures, for example fill-controlled turbo couplings in conveyor or belt drives

NC



Features

- Seat valve pilot operated with compressed air, normally closed (NC)
- For opening, no differential pressure across the main seat is necessary
- Feedback contact for switching status
- Pressure range up to 12 bar
- Control air min. 3.5 bar
- Robust valve type
- Unaffected by contaminated media (normally water)
- High switching speed
- Block construction design with separate flange plate
- Flange valve design with separate connecting plate (on request)

Technical specifications EV 2132 NC		
Mode of operation		2/2 way, normally closed (NC)
Function		Pilot-operated with compressed air
Control air pressure		3.5 to 7 bar
Pressure range		0 to 12 bar
Nominal diameter		32 mm
K _v value (water)		260 l/min = 15.6 m ³ /h (measured at 20°C and pressure differential 1 bar)
Pipe connection		Flange plate, R 1" internal thread
Response times	Opening	600 ms
	Closing	100 ms
Compressed air connection		R 1/4"
Valve mass		11.5 kg
Flange plate mass		5.2 kg
Valve and flange plate housing material		Brass
Internal valve components		Stainless steel
Sealing materials		NBR, FPM (Viton) on request
Media		Neutral, gaseous or liquid
Media temperature		-20°C to +80°C, regardless of type of media
Ambient temperature		-20°C to +40°C
Installation position		Any, preferably solenoid actuator vertically upwards
Rated voltage		12 VDC -30%/+10%
Current consumption		150 mA
Nominal operation		Continuous operation, 100% operating time
Electrical connection		Cable gland M20 x 1.5 or PROMOS connector
Switching capacity of feedback contacts		24 VDC, 1 A, potential free relay contacts (change-over contact)
Solenoid actuator housing material		Brass
Approvals		
ATEX		I M2 Ex ib I, IP 65, BVS 03 ATEX E 281
MSHA		Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0
SIMTARS		Ex ib I, IP 66, AUS Ex 02.2553X
SIMTARS-JOY		Ex ib I, IP 66, ANZEx_07_2000
IECEX		Ex ia, IP 66, IECEX SIM 10.0002

2/2 way solenoid valve EV 2150 NC

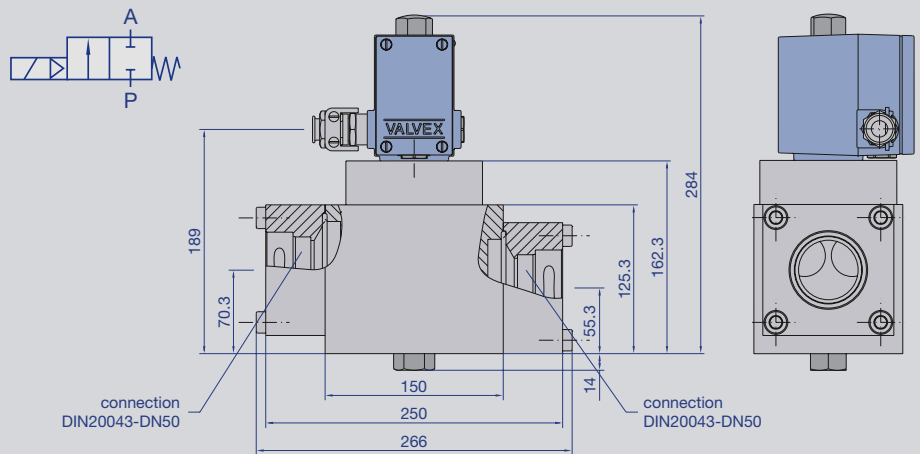
Applications

- Control of neutral gases and liquids in mines with potentially explosive atmospheres
- Harsh underground conditions with a high switching frequency, e.g. in shearer loaders

Features

- Internal pilot-operated piston valve, normally closed (NC)
- Feedback contact for switching status
- Pressure range up to 120 bar
- Robust valve type
- Unaffected by pressure peaks
- Especially suitable for high switching frequency
- Valve mount (on request)

NC



Technical specifications EV 2150 NC		
Mode of operation		2/2 way, normally closed (NC)
Function		Internal pilot-operated
Pressure range		0.5 to 120 bar
Nominal diameter		50 mm
K _v value (water)		1000 l/min = 60 m ³ /h (measured at 20°C and pressure differential 1 bar)
Pipe connection		DIN 20043 50 mm
Response times	Opening	600 ms
	Closing	Depends on pressure, no water impact
Pressure differential		Min. 0.5 bar for full opening of cross-section
Mass		32 kg
Valve housing material		Brass
Internal valve components		Stainless steel
Sealing materials		NBR, FPM (Viton) on request
Media		Neutral, gaseous or liquid
Media temperature		-20°C to +80°C, regardless of type of media
Ambient temperature		-20°C to +40°C
Installation position		Any, preferably solenoid actuator vertically upwards
Rated voltage		12 VDC, -30%/+10%
Current consumption		150 mA
Nominal operation		Continuous operation, 100% operating time
Electrical connection		Cable gland M20 x 1.5 or PROMOS connector
Switching capacity of feedback contacts		24 VDC, 1 A, potential-free relay contacts (change-over contact)
Solenoid actuator housing material		Brass
Approvals		
ATEX		I M2 Ex ib I, IP 65, BVS 03 ATEX E 281
MSHA		Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0
SIMTARS		Ex ib I, IP 66, AUS Ex 02.2553X
SIMTARS-JOY		Ex ib I, IP 66, ANZEx_07_2000
IECEX		Ex ia, IP 66, IECEX SIM 10.0002

2/2 way solenoid valve EV 2225 NC / NO

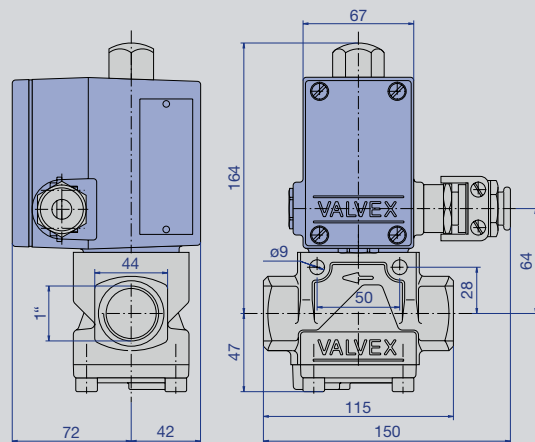
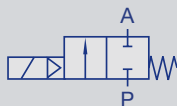
Applications

- Control of neutral gases and liquids in mines with potentially explosive atmospheres
- General applications in underground mining, e.g. dedusting, belt transfer sprinklers, coupling controls etc.

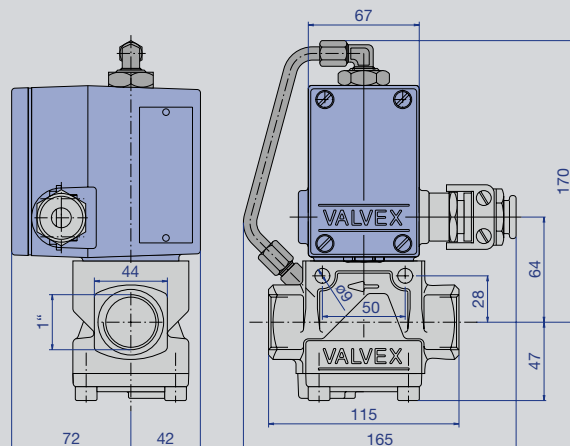
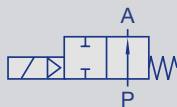
Features

- Internal pilot-operated diaphragm valve, normally closed (NC) or normally open (NO)
- Feedback contact for switching status
- Pressure range up to 60 bar
- Low pressure loss
- Robust valve type
- Compact design
- Simple mechanical construction with only two moving parts
- Maintenance work (cleaning) easy to perform on site, no dismantling of solenoid actuator required
- Manual operation (on request)

NC



NO



Technical specifications EV 2225 NC / NO				
Mode of operation			2/2 way, normally closed (NC) or normally open (NO)	
Function			Internal pilot-operated	
Pressure range	NC	0.5 to 60 bar		
	NO	0.5 to 15 bar		
Nominal diameter			25 mm	
K _v value (water)			125 l/min = 8.1 m³/h (measured at 20°C and pressure differential 1 bar)	
Pipe connection			R 1“	
Response times	NC	Opening	600 ms	
		Closing	Depends on pressure, no water impact	
	NO	Closing	600 ms	
		Opening	Depends on pressure, no water impact	
Pressure differential			Min. 0.5 bar for full opening of cross-section	
Mass			5.7 kg	
Valve housing material			Brass	
Internal valve components			Stainless steel	
Sealing materials			NBR, FPM (Viton) on request	
Media			Neutral, gaseous or liquid	
Media temperature			-20°C to +80°C, regardless of type of media	
Ambient temperature			-20°C to +40°C	
Installation position			Any, preferably solenoid actuator vertically upwards	
Rated voltage			12 VDC -30%/+10%	
Current consumption			150 mA	
Nominal operation			Continuous operation, 100% operating time	
Electrical connection			Cable gland M20 x 1.5 or PROMOS connector	
Switching capacity of feedback contacts			24 VDC, 1 A, potential-free relay contacts (change-over contact)	
Solenoid actuator housing material			Brass	
Approvals				
ATEX			I M2 Ex ib I, IP 65, BVS 03 ATEX E 281	
MSHA			Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0	
SIMTARS			Ex ib I, IP 66, AUS Ex 02.2553X	
SIMTARS-JOY			Ex ib I, IP 66, ANZEx_07_2000	
IECEX			Ex ia, IP 66, IECEX SIM 10.0002	

2/2 way solenoid valve EV 2250 NC / NO

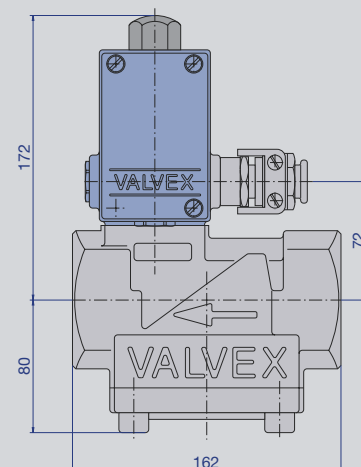
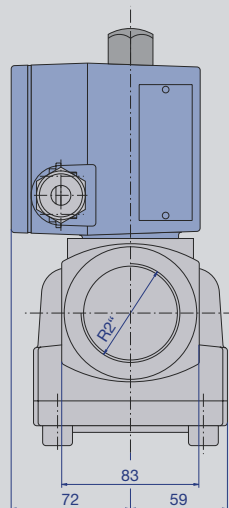
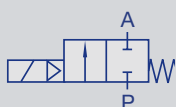
Applications

- Control of neutral gases and liquids in mines with potentially explosive atmospheres
- General applications in underground mining, e.g. dedusting

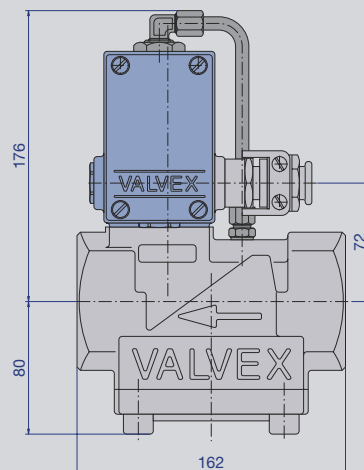
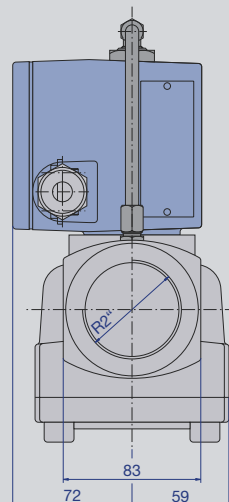
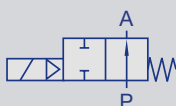
Features

- Internal pilot-operated diaphragm valve, normally closed (NC) or normally open (NO)
- Feedback contact for switching status
- Pressure range up to 40 bar
- Low pressure loss
- Robust valve type
- Compact design
- Simple mechanical construction with only two moving parts
- Maintenance work (cleaning) easy to perform on site, no dismantling of solenoid actuator required
- Manual operation (on request)

NC



NO



Technical specifications EV 2250 NC / NO			
Mode of operation			2/2 way, normally closed (NC) or normally open (NO)
Function			Internal pilot-operated
Pressure range	NC	1 to 40 bar	
	NO	1 to 15 bar	
Nominal diameter			50 mm
K _v value (water)			550 l/min = 33 m³/h (measured at 20°C and pressure differential 1 bar)
Pipe connection			R 2“
Response times	NC	Opening	600 ms
		Closing	Depends on pressure, no water impact
	NO	Closing	600 ms
		Opening	Depends on pressure, no water impact
Pressure differential			Min. 1.0 bar for full opening of cross-section
Mass			10.6 kg
Valve housing material			Brass
Internal valve components			Stainless steel
Sealing materials			NBR, FPM (Viton) on request
Media			Neutral, gaseous or liquid
Media temperature			-20°C to +80°C, regardless of type of media
Ambient temperature			-20°C to +40°C
Installation position			Any, preferably solenoid actuator vertically upwards
Rated voltage			12 VDC -30%/+10%
Current consumption			150 mA
Nominal operation			Continuous operation, 100% operating time
Electrical connection			Cable gland M20 x 1.5 or PROMOS connector
Switching capacity of feedback contacts			24 VDC, 1 A, potential-free relay contacts (change-over contact)
Solenoid actuator housing material			Brass
Approvals			
ATEX			I M2 Ex ib I, IP 65, BVS 03 ATEX E 281
MSHA			Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0
SIMTARS			Ex ib I, IP 66, AUS Ex 02.2553X
SIMTARS-JOY			Ex ib I, IP 66, ANZEx_07_2000
IECEX			Ex ia, IP 66, IECEX SIM 10.0002

2/2 way solenoid valve EV 22100 NC

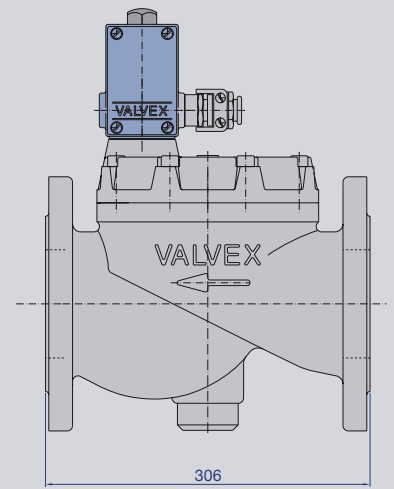
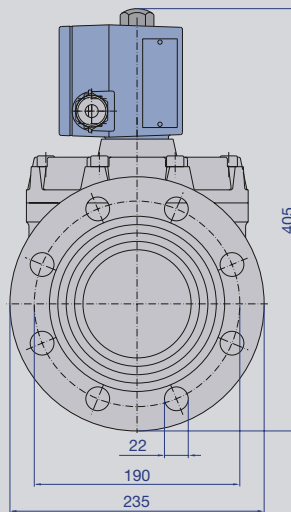
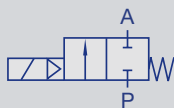
Applications

- Control of neutral gases and liquids in mines with potentially explosive atmospheres
- General applications in underground mining, e.g. dust removal

Features

- Internal pilot-operated diaphragm valve, normally closed (NC)
- Feedback contact for switching status
- Pressure range up to 40 bar
- Low pressure loss
- Robust valve type
- Compact design
- Maintenance work (cleaning) can be performed on site

NC



Technical specifications EV 22100 NC		
Mode of operation		2/2 way, normally closed (NC)
Function		Internal pilot-operated
Pressure range		1 to 40 bar
Nominal diameter		100 mm
K _v value (water)		2166 l/min = 130 m ³ /h (measured at 20°C and pressure differential 1 bar)
Pipe connection		Flange compliant with EN 1092-1/21/B1/DN 100
Response times	Opening	600 ms
	Closing	Depends on pressure, no water impact
Pressure differential		Min. 1.0 bar for full opening of cross-section
Mass		45 kg
Valve housing material		Stainless steel
Internal valve components		Stainless steel
Sealing materials		NBR, FPM (Viton) on request
Media		Neutral, gaseous or liquid
Media temperature		-20°C to +80°C, regardless of type of media
Ambient temperature		-20°C to +40°C
Installation position		Any, preferably solenoid actuator vertically upwards
Rated voltage		12 VDC -30%/+10%
Current consumption		150 mA
Nominal operation		Continuous operation, 100% operating time
Electrical connection		Cable gland M20 x 1.5 or PROMOS connector
Switching capacity of feedback contacts		24 VDC, 1 A, potential-free relay contacts (change-over contact)
Solenoid actuator housing material		Brass
Approvals		
ATEX		I M2 Ex ib I, IP 65, BVS 03 ATEX E 281
MSHA		Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0
SIMTARS		Ex ib I, IP 66, AUS Ex 02.2553X
SIMTARS-JOY		Ex ib I, IP 66, ANZEx_07_2000
IECEX		Ex ia, IP 66, IECEx SIM 10.0002

3/2 way solenoid valve EV 3112 NC / NO

Applications

- Control of compressed air in mines with potentially explosive atmospheres
- General compressed air applications in underground mining, e.g. conveyor belt braking systems and air door controls

Features

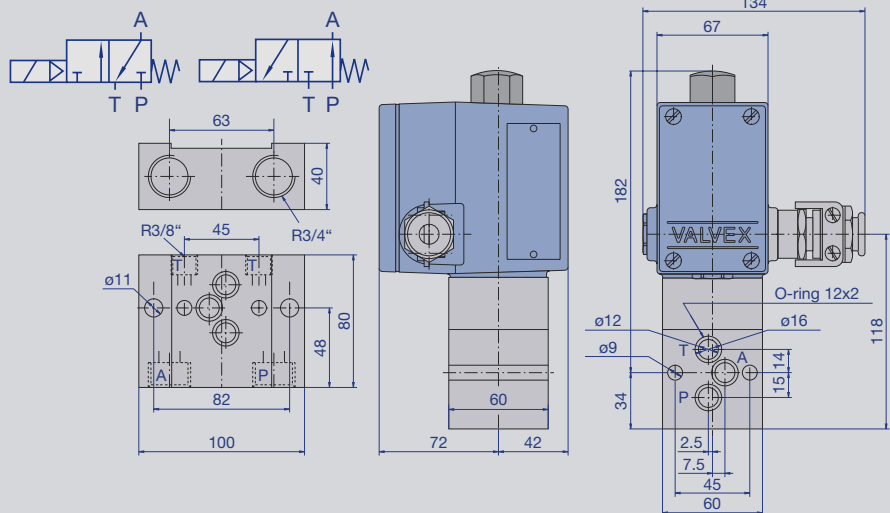
- Internal pilot-operated seat valve, normally closed (NC) or normally open (NO).
- Feedback contact for switching status
- For compressed air applications
- Pressure range up to 10 bar
- For extreme service life requirements

- Simple mechanical construction with few moving parts
- Flange valve design with separate connecting plate (on request)

Note:

Valve also available in 4/2 way design (EV 4112)

NC NO

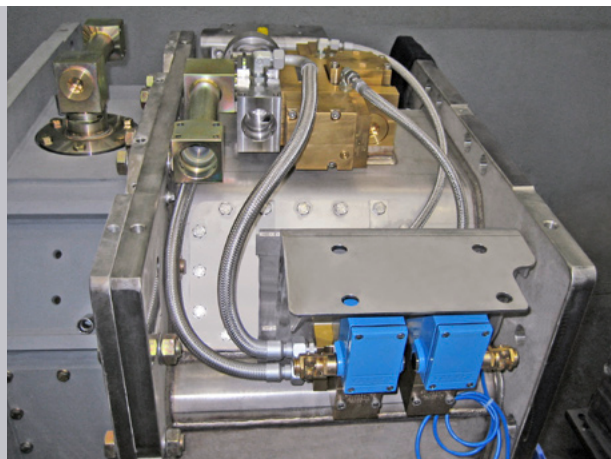


Technical specifications EV 3112 NC / NO				
Mode of operation			3/2 way, normally closed (NC) or normally open (NO)	
Function			Internal pilot-operated	
Pressure range			1 to 10 bar	
Nominal diameter			12 mm	
K _v value			35 l/min = 2.1 m³/h (measured at 20°C and pressure differential 1 bar)	
Pipe connections on the flange plate		P, A		R 3/4“
		T		2 x R 3/8“
Response times		NC	Opening	600 ms
			Closing	100 ms
		NO	Closing	600 ms
			Opening	100 ms
Mass (with flange plate)			7.5 kg	
Valve housing material			Brass	
Internal valve components			Stainless steel	
Sealing material			NBR	
Media			Compressed air	
Media temperature			-20°C to +80°C, regardless of type of media	
Ambient temperature			-20°C to +40°C	
Installation position			Any, preferably solenoid actuator vertically upwards	
Rated voltage			12 VDC -30%/+10%	
Current consumption			150 mA	
Nominal operation			Continuous operation, 100% operating time	
Electrical connection			Cable gland M20 x 1.5 or PROMOS connector	
Switching capacity of feedback contacts			24 VDC, 1 A, potential free relay contacts (changeover contact)	
Solenoid actuator housing material			Brass	
Approvals				
ATEX			I M2 Ex ib I, IP65, BVS 03 ATEX E 281	
MSHA			Intrinsic Safety Evaluation No. 18-ISA080003-0, Certification No. 18-NXA080001-0	
SIMTARS			Ex ib I, IP 66, AUS Ex 02.2553X	
SIMTARS-JOY			Ex ib I, IP 66, ANZEx_07_2000	
IECEx			Ex ia, IP 66, IECEx SIM 10.0002	

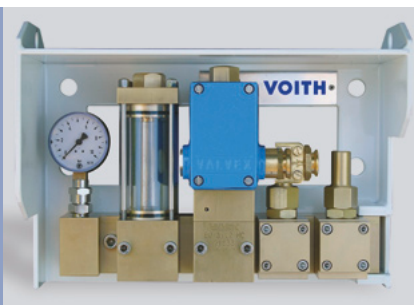
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Valvex assemblies and custom-made products

Are you looking for a special hydraulic or pneumatic solution for your underground application? Tell us your requirements and we will deliver the ideal system. Benefit from our many years of mining expertise and our range of experience in the use of explosion-proof assemblies.



Control block STB7/300 F: Customer-specific solution for filling and emptying a fill-controlled fluid coupling using a fresh-water or pneumatically-controlled pilot unit



3/2 way brake release unit BLG 3112/i/2A:
Special assembly controlling single acting pneumatic cylinders on disc brakes for conveyor belt drives.

VOITH
Engineered reliability.