

Braukmann

MV300

Magnetic solenoid valve

Application

Magnetic solenoid valves of this type are mainly used as shut-off valves. They are controlled by the integral magnetic solenoid operated valve.

Their compact construction makes them ideally suited for applications where space is limited, for example in ducts. They can be used for commercial or industrial applications within the scope of their specification.

Approvals

- DVGW
- WRAS (up to 23 °C)

Special Features

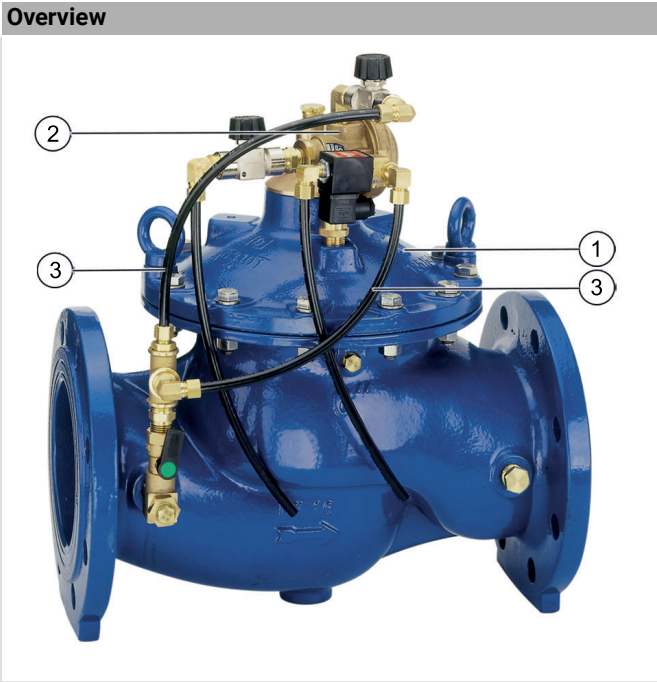
- High precision control during pressure variances and low flow rates
- High flow capacity
- High control accuracy
- Powder-coated inside and outside - Powder used is physiologically and toxicologically safe
- Integral control circuit and ball valves
- Integral fine filter
- No external energy required for operation
- Conforms to BSEN 1567



Technical Data

Media	
Medium:	Drinking water
Connections/Sizes	
Connection size:	DN50 - DN450
Pressure values	
Max. operating pressure:	16 bar
Nominal pressure:	PN16
Minimum pressure:	0.5 bar
Operating temperatures	
Max. operating temperature medium:	80 °C
Specifications	
Magnetic solenoid pilot valve:	Version A = Normally closed 220 V/50 Hz, IP65 Version AA = Normally open 220 V/50 Hz, IP65 Version B = Normally closed 24 V/50 Hz, IP65 Version BB = Normally open 24 V/50 Hz, IP65

Construction



	Components	Materials
1	Housing with flanges acc. to ISO 7005-2 / EN 1092-2	Ductile iron (ISO 1083), powder-coated
2	Magnetic solenoid valve	Brass
3	Control circuit with integral rinsable filter insert and ball valves on inlet and outlet	High-quality synthetic material
Not depicted components:		
	Cover plate	Ductile iron (ISO 1083), powder-coated
	Diaphragm plate	Ductile iron (ISO 1083), powder-coated
	Diaphragm	EPDM
	Spring	Stainless steel
	Regulating cone	Stainless steel
	Valve seat	Stainless steel
	Compression fittings	Brass
	Pilot valve housing	Brass
	Filter insert	Stainless steel
	Seals	EPDM

Method of Operation

At zero pressure the valve is closed. When opened to flow, water enters the inlet area and the rising pressure opens the valve so that water flows into the outlet area. The magnetic solenoid pilot valve is normally closed when the electrical supply is off, so the pressure from the inlet increases the pressure above the diaphragm. The pressure above the diaphragm built up in this way then becomes significantly greater than the pressure on the valve plate (which is also created by the inlet pressure), so that the valve then closes. As soon as the magnetic solenoid pilot valve opens, the pressure in the diaphragm chamber falls to atmospheric pressure and the pressure then exerted on the valve plate surface causes the valve to begin to open.

Transportation and Storage

Keep parts in their original packaging and unpack them shortly before use.
The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	5 °C
Max. ambient temperature:	55 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity:	85 % *

*non condensing

Installation Guidelines

Setup requirements

- Install shut-off valves
- Install downstream of the strainer
 - Protects against damage from coarse particles
 - Note flow direction (indicated by arrow)
- The installation location should be protected against frost and be easily accessible
 - Pressure gauge can be read off easily
 - Simplified maintenance and cleaning
- Provide a straight section of pipework of at least five times the nominal valve size after the pressure reducing valve (in accordance with EN 806-2)
- Safety valve SV300 optional
- Requires regular maintenance in accordance with EN 806-5

Installation Example

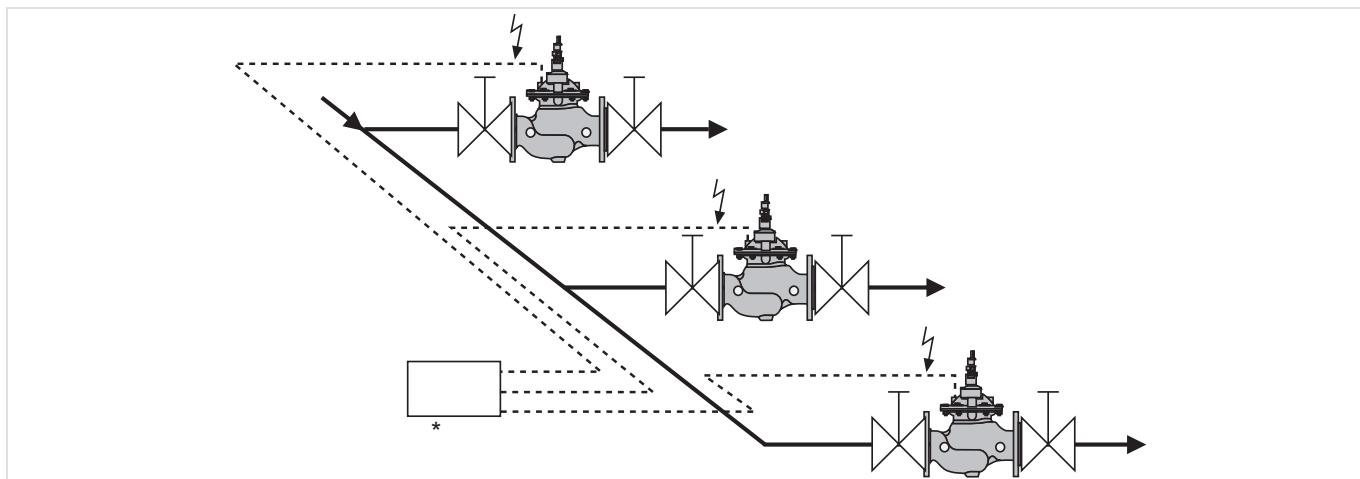


Fig. 1 Standard installation example for the magnetic solenoid valve

* Control center

Connection sizes:	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
Distance in mm (W*):	100	110	120	130	160	190	220	250	270	310	330

* Required installation distances between the centerline of the pipework and the surrounding in dependency of the connection size.

Technical Characteristics

kvs-Values

Connection sizes:	50	65	80	100	150	200	250	300	350	400	450
k_{VS} -value (m^3/h):	43	43	103	167	407	676	1160	1600	2000	3000	3150
Flow rate (Q_{max}) in m^3/h - $V=5.5$ m/s:	40	40	100	160	350	620	970	1400	1900	2500	3100

Pressure drop characteristics

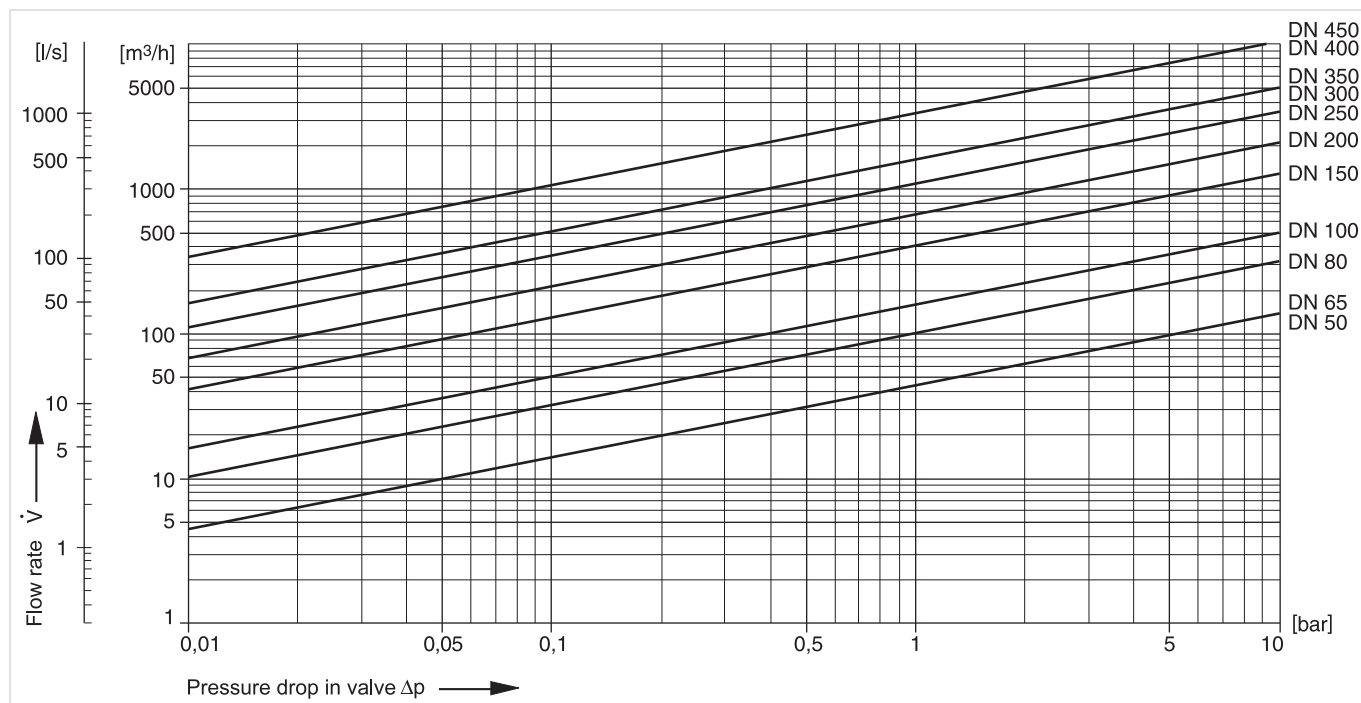
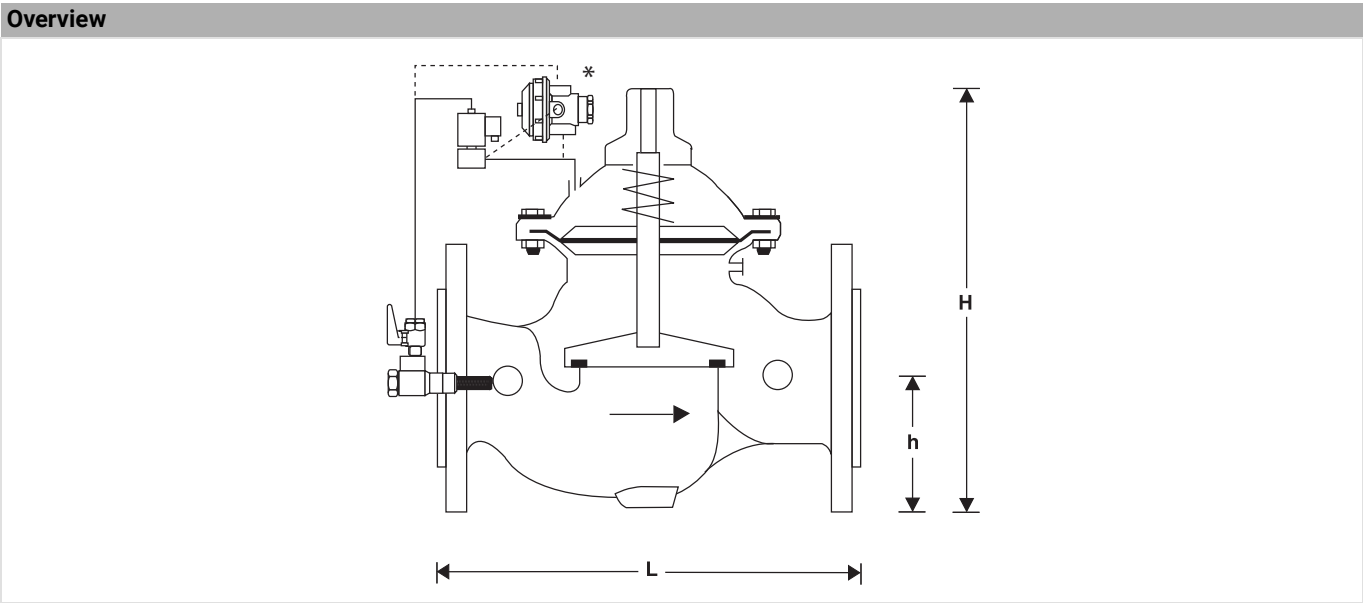


Fig. 2 Pressure drop within the valve in dependency of the flow rate and the used connection size

Dimensions



Parameter		Values											
Connection sizes:	DN	50	65	80	100	150	200	250	300	350	400	450	
Weight with pilot valve:	kg	14.0	15.0	24.0	39.0	82.0	159.0	247.0	407.0	512.0	824.0	947.0	
Weight without pilot valve:	kg	12.0	13.0	22.0	37.0	80.0	157.0	245.0	405.0	510.0	822.0	945.0	
Dimensions:	L	230	292	310	350	480	600	730	850	980	1100	1200	
	H	270	280	330	350	480	570	730	870	910	1150	1170	
	h	83	93	100	110	143	173	205	230	260	290	310	

* DN150 bigger includes a pressure cell

Note: All dimensions in mm unless stated otherwise.

Ordering Information

The following tables contain all the information you need to make an order of an item of your choice.

When ordering, please always state the type, the ordering or the part number.

Options

The valve is available in the following sizes: DN50, DN65, DN80, DN100, DN150, DN200, DN250, DN300, DN350, DN400 and DN450.

- standard

		MV300- ...A	MV300- ...AA	MV300- ...B	MV300- ...BB
Connection type:	Housing with flange, PN16, ISO 2084 for all versions				
	Magnetic solenoid pilot valve 220 V / 50 Hz closed when electrical supply off	•	-	-	-
	Magnetic solenoid pilot valve 220 V / 50 Hz open when electrical supply off	-	•	-	-
	Magnetic solenoid pilot valve 24 V / 50 Hz closed when electrical supply off	-	-	•	-
	Magnetic solenoid pilot valve 24 V / 50 Hz open when electrical supply off	-	-	-	•

Note: ... = space holder for connection size

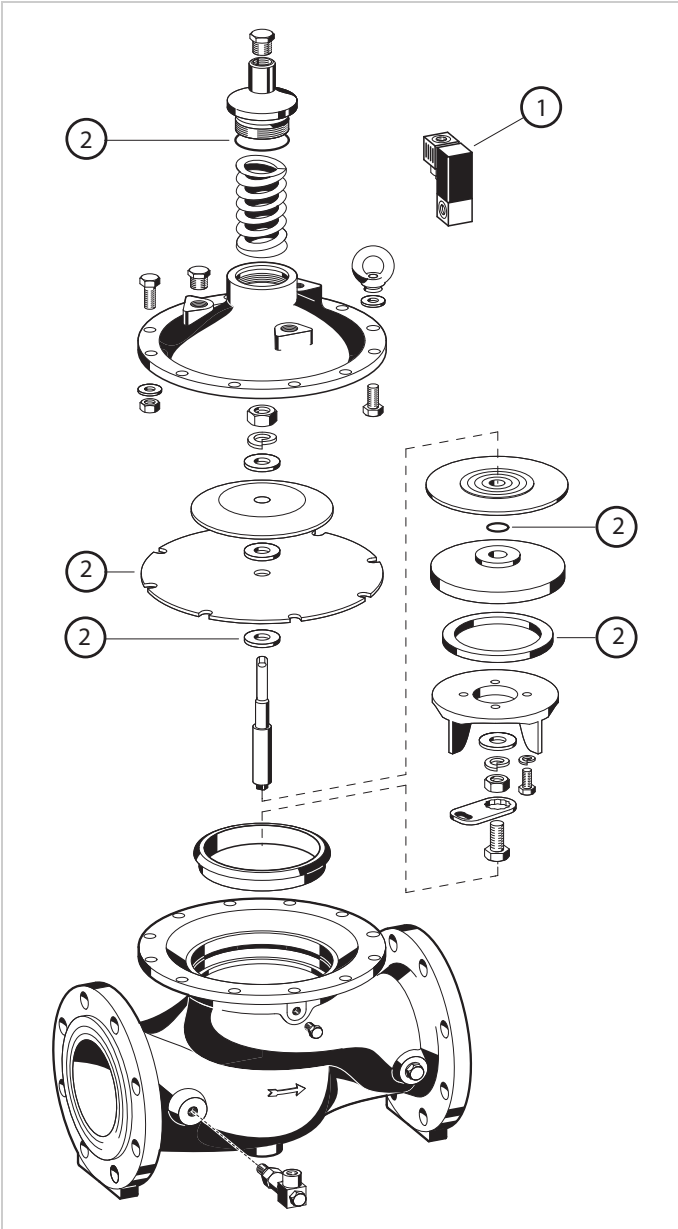
Note: Item number example for DN50 and type A valve: MV300-50A

Accessories

	Description		Dimension	Item No.
	EXF125-A	Extension flange DN125 Adapter flanges DN100 to DN125 Ductile iron, PN16 acc. ISO 7005-2 and EN 1092-2. Overall length with adapter flanges (without bolts) DN125 L=416mm, including bolts, nuts and the seal disc.		EXF125-A

Spare Parts

Magnetic solenoid valve MV300, from 2002 onwards

Overview	Description	Dimension	Item No.
	1 Replacement magnetic solenoid valve		
	230 V/50 Hz Normally closed (electrical supply off)	DN50 - DN450	MV300-NC-A-SET
	24 V/50 Hz Normally closed (electrical supply off)	DN50 - DN450	MV300-NC-B-SET
	230 V/50 Hz Normally open (electrical supply off)	DN50 - DN450	MV300-NO-AA-SET
	24 V/50 Hz Normally open (electrical supply off)	DN50 - DN450	MV300-NO-BB-SET
	2 Set of seals		
		DN50-DN65	0903751
		DN80	0903752
		DN100	0903753
		DN150	0903754
		DN200	0903755
		DN250	0903756
		DN300	0903757
		DN350	0903758
		DN400	0903759
		DN450	0903760