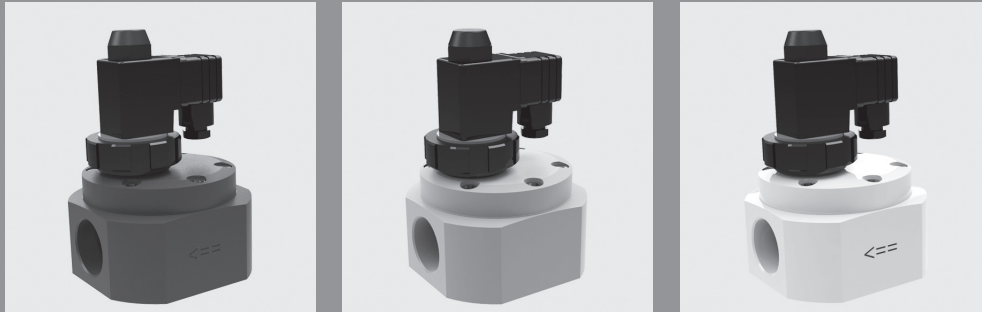


Solenoid valve type 160

pilot operated



Function

- closed when de-energized (NC)
- pilot operated

Valve Function

- In the position of rest, the medium pressure is built up via a servo bore on the top of the diaphragm (2), the valve is closed.
- When energized, only the pilot valve opens initially, i.e. the plunger and the connected pilot diaphragm (5) are lifted and a relief bore to the valve outlet becomes free. This causes the pressure above the diaphragm (2) to drop and the valve opens due to the medium pressure.
- A fluid filling in the pilot valve (standard: silicone oil) assists the closing action of the spring (11). The pilot diaphragm (5) reliably separates the medium from the plunger (10) and/or atmosphere. After undoing the union nuts (8) - when the system is depressurized - the pilot valve can be easily removed for cleaning the servo bores. The magnet is fastened with a cap nut (15). It can be rotated through 360° in relation to the valve body.
- The solenoid valve type 160 stands out for its robust solid thermoplastic construction especially with respect to external mechanical influences.

Design

- Seat valve with diaphragm seal
- plunger chamber sealed

Flow Media

- Technically pure, neutral or aggressive fluid or gaseous media, provided that the valve components coming into contact with the media are resistant at the operating temperature according to the ASV resistance guide!

Fluid Temperature

- max. +50°C

Operating Pressure

- 0.3 - max. 6 bar (see table)

Size

- DN 15 - DN 50

Viscosity

- up to approx. 38 mm² / s (cSt)

Body

- PVC-U
- PP
- PTFE

Sealing

- FPM
- EPDM

Ambient Temperature

- max. +50°C

Connection

- PVC-U: socket end for solvent welding
- PP: fusion socket end
- PTFE: female threaded socket

Connector Plug

- acc. to DIN 43650

Voltage

- 24V DC
- 230 V 50 Hz

Voltage Tolerance

- +/-10% according to VDE 0580

Coil Capacity

- 230V 50Hz: 6.5VA
- 24V DC: 5 watt

Duty Cycle (%)

- 100

Manipulating Time

- Opening: 30 ms - 150 ms
- Closing: 50 ms - 1 sec.

Type Of Protection

- IP 65 with mounted connector plug
- EEXM II T4 version on request!

Mounting

- magnet preferably at the top
- observe marking »TOP«!

Option

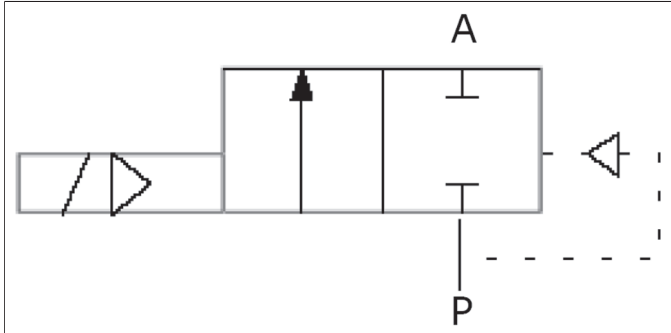
- normally open (NO)
- manual emergency control

Attention

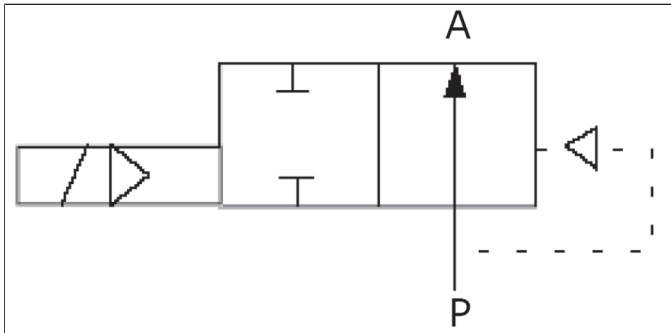
- For perfect function a differential pressure of min. 0.3 bar is necessary.

Solenoid valves, Solenoid valve type 160

Circuit diagram NC



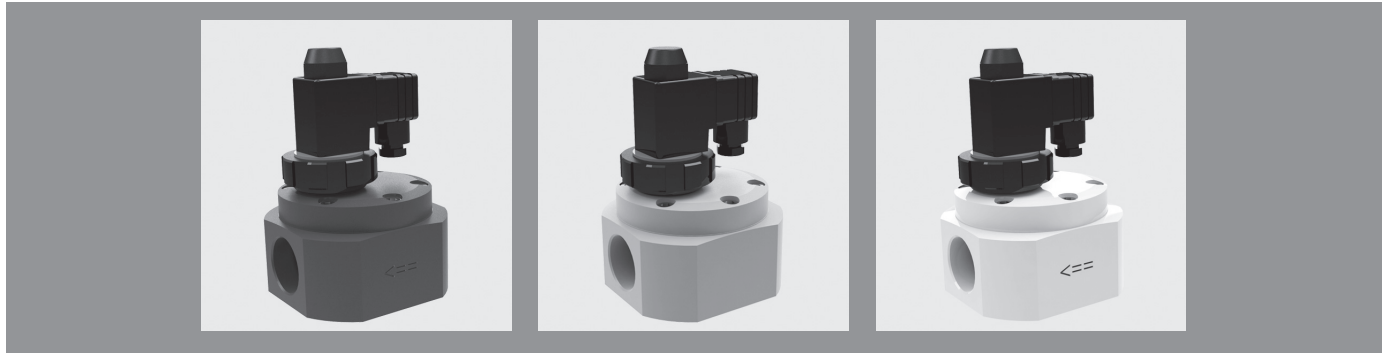
Circuit diagram NO



kv value

DN (mm)	15	20	25	32	40	50
kv (l/min)	51,67	163,33	171,67	386,67	400,00	493,33

Solenoid valves, Solenoid valve type 160

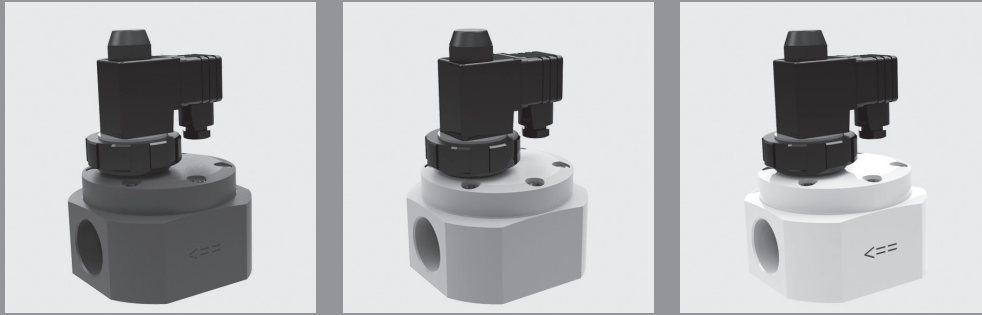


Actuator variant pilot operated 24 V DC		body PVC-U				NC		
<i>size</i>	d(mm)		20	25	32	40	50	63
	<i>pressure range</i>	DN(mm)	15	20	25	32	40	50
		DN(inch)	1/2	3/4	1	1 1/4	1 1/2	2
	pressure range(bar)		0.3-6	0.3-6	0.3-6	0.3-6	0.3-6	0.3-6
	d(mm)		20	25	32	40	50	63
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PVC-U socket end DIN ISO	EPDM		69245	69249	69253	69257	69262	69266
	FPM		69247	69251	69255	69260	69264	69268

Actuator variant pilot operated 230 V AC		body PVC-U				NC		
<i>size</i>	d(mm)		20	25	32	40	50	63
	<i>pressure range</i>	DN(mm)	15	20	25	32	40	50
		DN(inch)	1/2	3/4	1	1 1/4	1 1/2	2
	pressure range(bar)		0.3-6	0.3-6	0.3-6	0.3-6	0.3-6	0.3-6
	d(mm)		20	25	32	40	50	63
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PVC-U socket end DIN ISO	EPDM		69244	69248	69252	69256	69261	69265
	FPM		69246	69250	69254	69258	69263	69267

Actuator variant pilot operated 24 V DC		body PP				NC		
<i>size</i>	d(mm)		20	25	32	40	50	63
	<i>pressure range</i>	DN(mm)	15	20	25	32	40	50
		DN(inch)	1/2	3/4	1	1 1/4	1 1/2	2
	pressure range(bar)		0.3-6	0.3-6	0.3-6	0.3-6	0.3-6	0.3-6
	d(mm)		20	25	32	40	50	63
<i>Connection</i>	<i>sealing</i>	<i>ident No.</i>						
PP socket end DIN ISO	EPDM		45143	45144	45145	45146	45147	45148
	FPM		45155	45156	45157	45158	45159	45160

Solenoid valves, Solenoid valve type 160

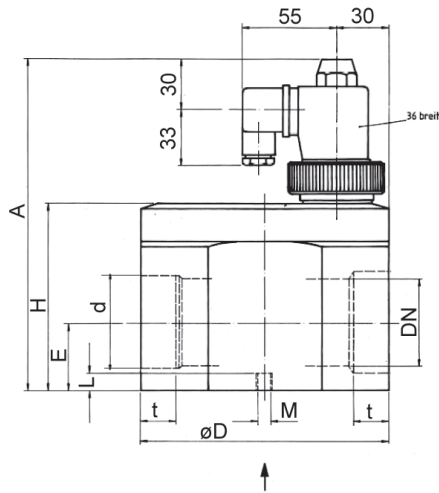


Actuator variant pilot operated 230 V AC		body PP			NC			
size pressure range	d(mm)		20	25	32	40	50	63
	DN(mm)		15	20	25	32	40	50
	DN(inch)		1/2	3/4	1	1 1/4	1 1/2	2
	pressure range(bar)		0.3-6	0.3-6	0.3-6	0.3-6	0.3-6	0.3-6
	d(mm)		20	25	32	40	50	63
Connection	sealing	ident No.						
	PP	EPDM	45369	46379	45370	43291	42323	48066
socket end DIN ISO	FPM	48067	113334	46390	48068	48069	43257	

Actuator variant pilot operated 24 V DC		body PTFE			NC			
size pressure range	d(mm)		20	25	32	40	50	63
	DN(mm)		15	20	25	32	40	50
	DN(inch)		1/2	3/4	1	1 1/4	1 1/2	2
	pressure range(bar)		0.3-6	0.3-6	0.3-6	0.3-6	0.3-6	0.3-6
	G(inch)		1/2	3/4	1	1 1/4	1 1/2	2
Connection	sealing	ident No.						
	PTFE	EPDM	69270	69273	69277	69281	69285	69289
female threaded sockets G	FPM	69271	69275	69279	69283	69287	69291	

Actuator variant pilot operated 230 V AC		body PTFE			NC			
size pressure range	d(mm)		20	25	32	40	50	63
	DN(mm)		15	20	25	32	40	50
	DN(inch)		1/2	3/4	1	1 1/4	1 1/2	2
	pressure range(bar)		0.3-6	0.3-6	0.3-6	0.3-6	0.3-6	0.3-6
	G(inch)		1/2	3/4	1	1 1/4	1 1/2	2
Connection	sealing	ident No.						
	PTFE	EPDM	69269	69272	69276	69280	69284	69288
female threaded sockets G	FPM	69111	69274	69278	69282	69286	69290	

Solenoid valves, Solenoid valve type 160

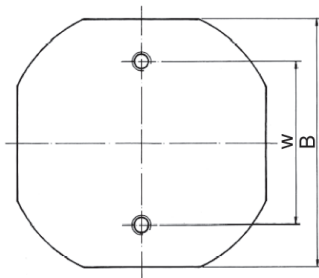
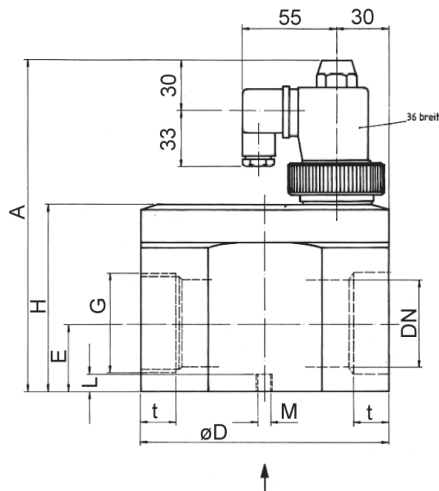


dimensions

d(mm)	20	25	32	40	50	63
DN(mm)	15	20	25	32	40	50
DN(inch)	1/2	3/4	1	1 1/4	1 1/2	2

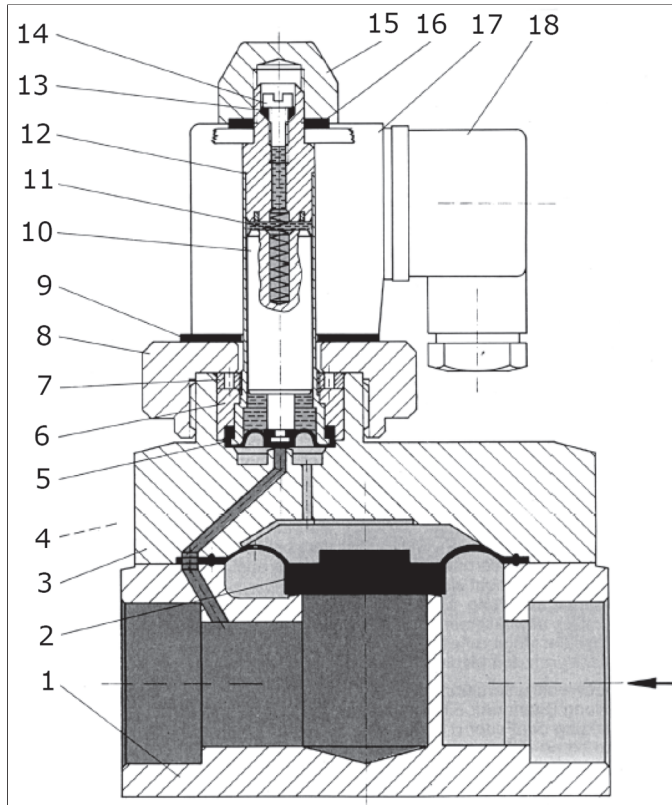
dimensions(mm)

A	129	143	143	171	171	189
B	62	94	94	124	124	140
d	20	25	32	40	50	63
D	74	98	98	124	124	140
E	16	23	23	31	31	39
G	1/2	3/4	1	1 1/4	1 1/2	2
H	49	63	63	91	91	109
L	6	10	10	12	12	12
M	M5	M6	M6	M8	M8	M8
t	14.5	16	16	20	20	20.5
w	40	60	60	80	80	90



Solenoid valves, Solenoid valve type 160

parts lists



position	quantity	designation
1	1	valve body
2	1	diaphragm
3	1	bonnet
4	1	screw
5	1	pilot diaphragm
6	1	pressure disc
7	1	Lift limit
8	1	union nut
9	1	flat sealing ring
10	1	plunger
11	1	pressure spring
12	1	plunger guide tube
13	1	O-ring
14	1	oil screw
15	1	cap nut
16	1	flat sealing ring
17	1	magnet coil
18	1	connector plug