www.nassmagnet.com ☎ +49 511 6746-0

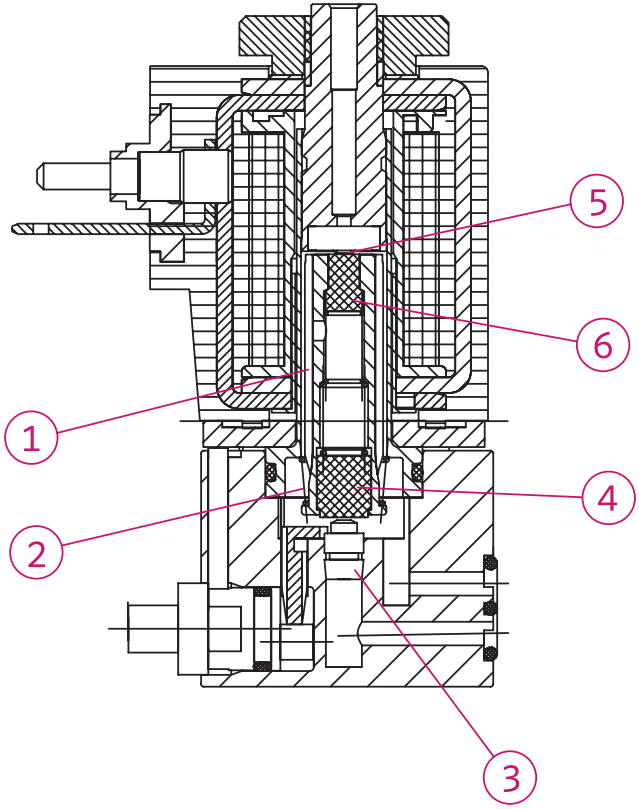
System 6

The name „System 6“ stands for a modular system of solenoid coils, armature systems, solenoid operators and solenoid valves. The diameter of the armatures of all valve components is approximately 6 mm. This value is the major characteristic of this type. The components‘ efficiency has been increased to the optimum in years of simulation, construction and practical testing.

APPLICATION OF SYSTEM 6

The solenoid operators and solenoid valves of System 6 can be used for operating 2/2- or 3/2 way valves. Available switching functions are *normally closed* and *normally open*. For 3/2 way seat valves of this series, typical maximum values for operating pressure and nominal width are 10 bar/1 mm. For 2/2 way devices, a maximum operating pressure of 16 bar or a maximum nominal width of 1.8 mm can be achieved.

The components of System 6 are mainly used as pilot valves in pneumatics. The solenoid operators and solenoid valves are designed for the use with compressed air or other neutral gases. The use of other substances is possible according to prior agreement with *nass magnet*.



FUNCTION

While the solenoid operator/solenoid valve (standard version, 3/2 way, normally closed) is de-energized, the armature[1] is pushed down on the lower valve seat[3] by the reset spring[2]. The lower valve seat is closed by a sealing element[4]. In this switch position the upper valve seat[5] in the magnetic core is open. When the valve is energized, the magnetic force exceeds the force of the reset spring and moves the armature into the opposite extreme position. In this case the upper valve seat[5] is closed by the sealing element[6], whereas the lower valve seat[3] is open.

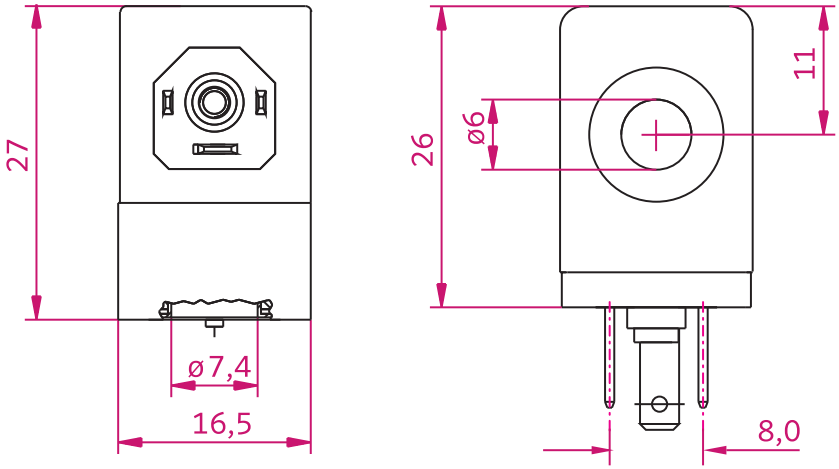
Solenoid operators and solenoid valves have identical functionality. However, if solenoid operators are ordered, neither the lower valve seat nor the valve body is shipped. Those components have to be provided by the customer. 2/2 way valves do not have an upper valve seat. Besides that, the function of the magnet is identical.

SOLENOID COIL

Width:	16,5 mm
Connection type:	form C – EN 175301-803-C
Moulding material:	thermoset resin

General Data

Voltage tolerance	± 10 %
Ambient temperature	- 20 °C to + 50 °C
Relative duty cycle	100 %
Insulation class of insulating materials according to DIN VDE 0580	F
Degree of protection with connector according to EN 60529	IP 65
Imprint	*nass magnet* (customer imprint possible)



Technical Data Standard Versions

Part No.	Voltage	Frequency [Hz]	Rated Power [W]	[VA]	Power Level	$\Delta\vartheta_{32}$ [K]
106-030-0007	12 V DC	–	1,2		2	27
106-030-0112	24 V DC	–	1,3		2	27
106-030-0008	24 V DC	–	2,0		3	39
106-030-0037	230 V AC	50		3,2	3	34
106-030-0037	240 V AC	60		3,0	3	34
106-030-0006	12 V DC	–	3,1		4	56
106-030-0004	24 V DC	–	3,0		4	56
106-030-0005	24 V AC	50		3,6	4	57
106-030-0005	24 V AC	60		3,0	4	57
106-030-0003	110 V AC	50		3,6	4	52
106-030-0003	120 V AC	60		3,6	4	52

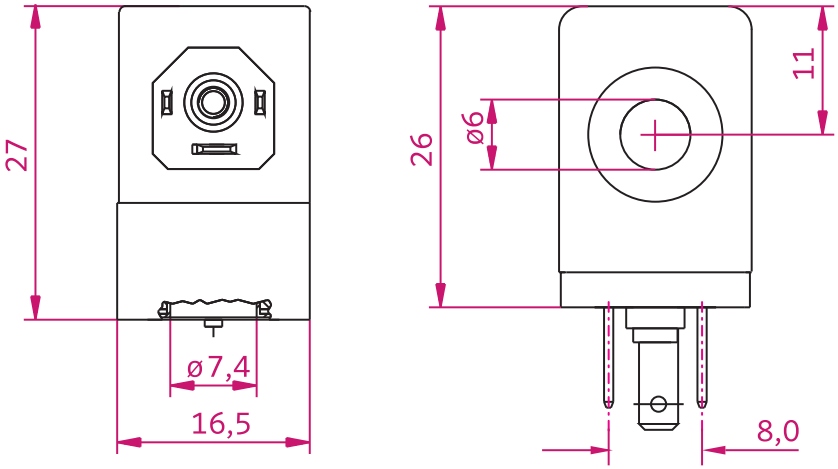
$\Delta\vartheta_{32}$ [K]: steady-state over-temperature according to VDE 0580

SOLENOID COIL

Width:	16,5 mm
Connection type:	form C – EN 175301-803-C
Moulding material:	thermoplastic

General Data

Voltage tolerance	± 10 %
Ambient temperature	- 20 °C to + 50 °C
Relative duty cycle	100 %
Insulation class of insulating materials according to DIN VDE 0580	F
Degree of protection with connector according to EN 60529	IP 65
Imprint	*nass magnet* (customer imprint possible)



Technical Data Standard Versions

Part No.	Voltage	Frequency [Hz]	Rated Power [W]	[VA]	Power Level	$\Delta\vartheta_{32}$ [K]
106-030-0070	12 V DC	–	3,1		4	62
106-030-0071	24 V DC	–	0,8		1	20
106-030-0072	24 V DC	–	1,3		2	30
106-030-0073	24 V DC	–	2,0		3	44
106-030-0068	24 V DC	–	3,0		4	62
106-030-0069	24 V AC	50		3,6	4	63
106-030-0069	24 V AC	60		3,0	4	63
106-030-0067	110 V AC	50		3,7	4	58
106-030-0067	120 V AC	60		3,7	4	58
106-030-0066	220 V AC	50		3,7	4	63
106-030-0066	240 V AC	60		3,7	4	63

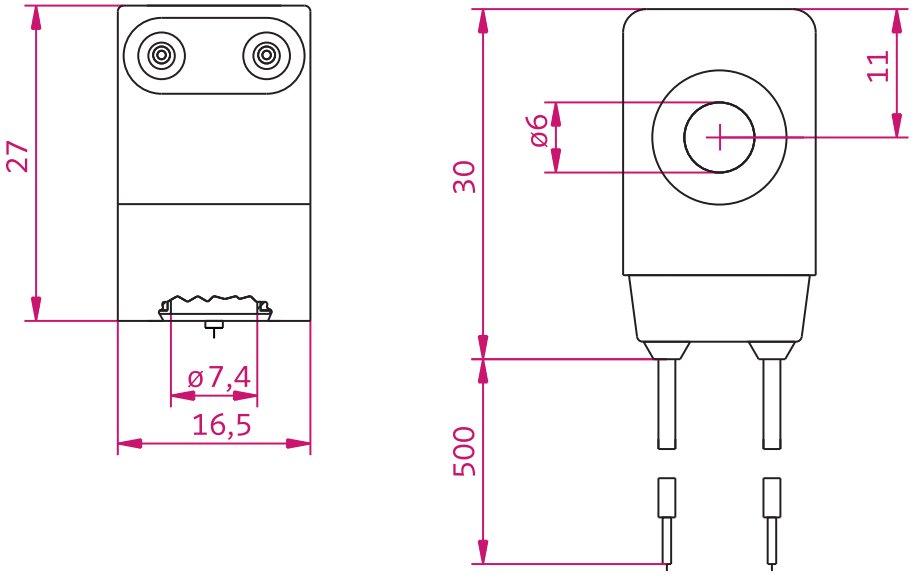
$\Delta\vartheta_{32}$ [K]: steady-state over-temperature according to VDE 0580

SOLENOID COIL

Width:	16,5 mm
Connection type:	flying leads
Moulding material:	thermoplastic

General Data

Voltage tolerance	± 10 %
Ambient temperature	- 20 °C to + 50 °C
Relative duty cycle	100 %
Insulation class of insulating materials according to DIN VDE 0580	F
Degree of protection with connector according to EN 60529	IP 65
Imprint	*nass magnet* (customer imprint possible)

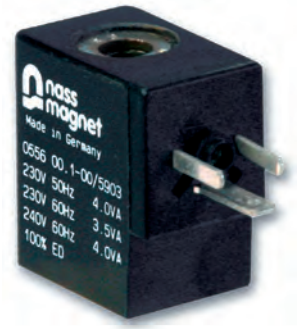


Technical Data Standard Versions

Part No.	Voltage	Frequency [Hz]	Rated Power [W]	[VA]	Power Level	$\Delta\vartheta_{32}$ [K]
106-030-0053	24 DC	–	2,0		3	44
106-030-0039	24 DC	–	3,0		4	62
106-030-0038	230 AC	50		4,0	4	63
106-030-0038	230 AC	60		3,4	4	63

Note: alternative length of flying leads on request

$\Delta\vartheta_{32}$ [K]: steady-state over-temperature according to VDE 0580



Width: 16 mm
Connection type: form C
Moulding material:
thermoset resin

Width: 16 mm
Connection type: form C
Moulding material:
thermoplastic

Width: 16 mm
Connection type: flying leads
Moulding material:
thermoplastic

SPECIAL REMARKS

The technical data are valid for the indicated standard voltages. Other voltages are available on request.

Perfect function of these solenoid coils with the pertinent components included in this catalogue is assured with the winding having reached its operating temperature (max. ambient temperature and max. voltage tolerance). The steady-state over-temperature is reached in case of valve body of plastic and coil jacketing made of thermoplastic. All valves are designed in compliance with DIN VDE 0580. Arrangement of the valves in modular design is possible, however, it may ensue a higher temperature increased by up to 20 K and may limit the function.

A general lifetime of the products cannot be specified, as it is decisively influenced by ambient conditions, the single application and combination with other components. The function can only be fulfilled in case of exclusive use of *nass magnet* products.

Should there be deviating or additional operating conditions compared to the abovementioned conditions, special testing is necessary in order to verify the usability of the *nass magnet* products. – ***nass magnet* will be glad to give you the required advice.**

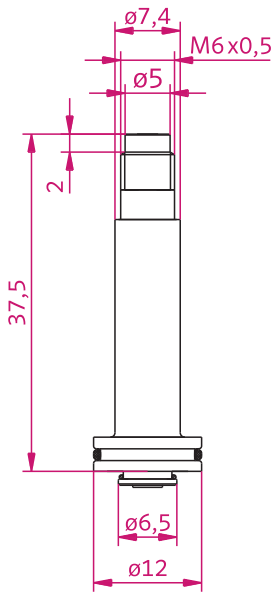
ARMATURE ASSEMBLY FL

Switching function:	2/2 and 3/2 way
De-energized state:	NC (normally closed)
Connection type:	flange

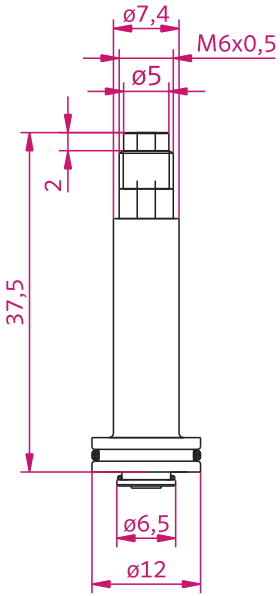
General Data

Ambient temperature ..... - 10 °C to + 50 °C
Quality of medium according to ISO 8573-1 ..... compressed air class 4, 3, 4
Mounting position ..... any (preferably plunger in vertical direction)

2/2 way



3/2 way



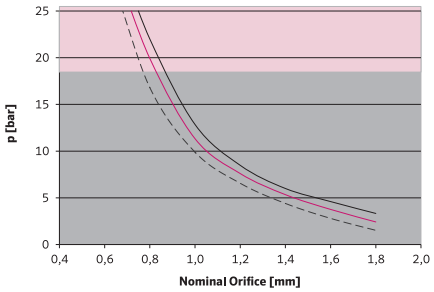
Technical Data Standard Versions

Part No.	Function	Power Level	Nominal Orifice [mm] inlet	exhaust	Pressure [bar]	Appropriate for		Armature Guide brass	stainless steel	Sealing Material
106-010-0003	3/2 way	1	0,6	0,7	8	DC		x		FPM
106-010-0007	3/2 way	1	0,6	0,7	8	DC		x		HNBR
106-010-0012	3/2 way	1	0,6	0,7	8	DC			x	FPM
106-010-0002	3/2 way	2	0,8	0,9	8	DC		x		FPM
106-010-0005	3/2 way	3	0,8	0,9	10	DC	AC	x		FPM
106-010-0004	2/2 way	3, 4	see below			see below	DC	AC	x	FPM
106-010-0001	3/2 way	4	1,0	1,1	10	DC	AC	x		FPM

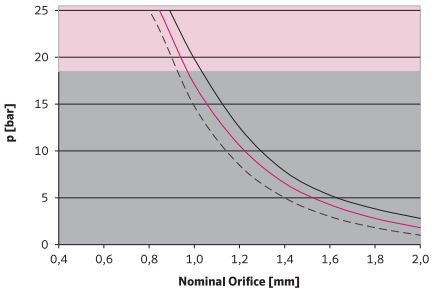
Power Levels for 2/2 Way Versions

AC - 50 Hz AC - 60 Hz DC - 5 % residual ripple max. test pressure: 18 bar · special versions on request

Power Level 3



Power Level 4

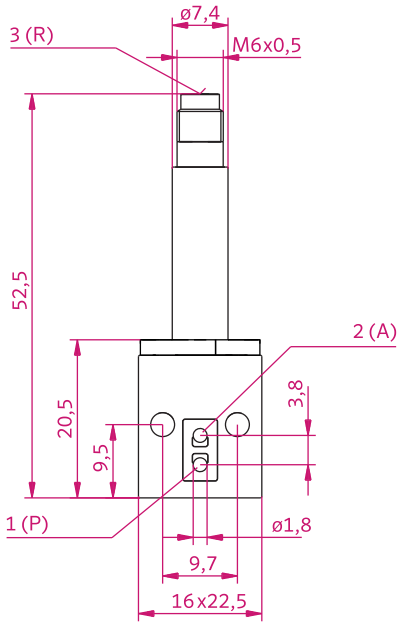


VALVE SYSTEM SF

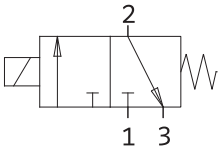
Switching function:	3/2 way
De-energized state:	NC (normally closed)
Valve body:	plastics
Gasket of the pneumatic interface:	O'rings, asymmetrical, side flange (SF) sealing material FPM

General Data

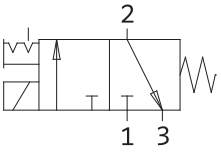
Ambient temperature	- 10 °C to + 50 °C
Quality of medium according to ISO 8573-1	compressed air class 4, 3, 4
Mounting position	any (preferably plunger in vertical direction)



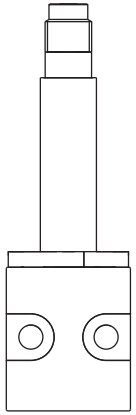
Pneumatic Diagram



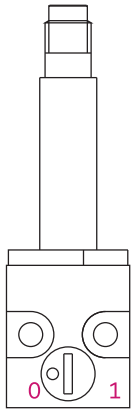
without manual override



bistable manual override



without manual override



bistable manual override

Technical Data Standard Versions

Part No.	**Power Level**	**Nominal Orifice** [mm] inlet	exhaust	**Pressure** [bar]	**Flow Rate** [l/min]* 1–2	2–3	**Manual Override** bistable	**Appropriate for**		**Armature Guide** brass	stainless steel
106-050-0002	1	0,6	0,7	8	12	14	x	DC		x	
106-050-0003	2	0,8	0,9	8	20	26	x	DC		x	
106-050-0008	2	0,8	0,9	8	20	26		DC		x	
106-050-0016	3	0,8	0,9	10	23	31	x	DC	AC	x	
106-050-0025	4	1,0	1,1	10	27	37		DC	AC	x	
106-050-0017	4	1,0	1,1	10	27	37	x	DC			x
106-050-0004	4	1,0	1,1	10	27	37	x	DC	AC	x	

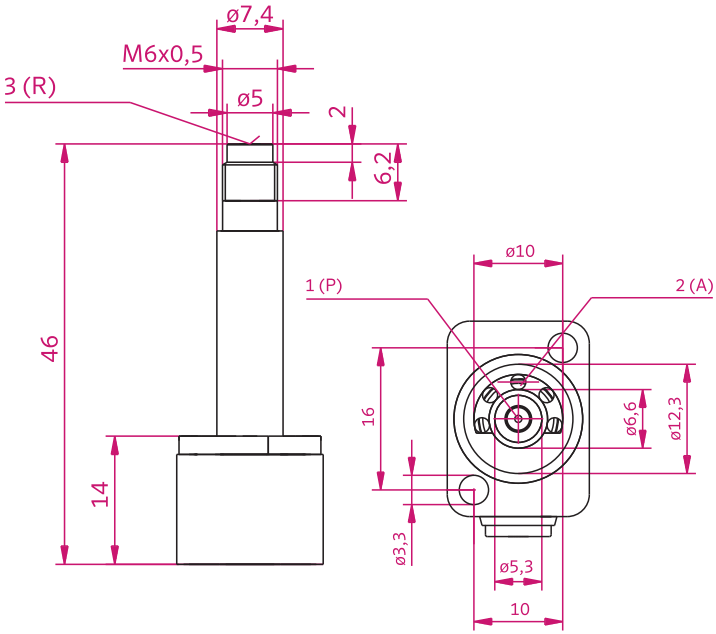
* qv flow rate at an inlet pressure of 6 bar (ΔX = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358

VALVE SYSTEM KR

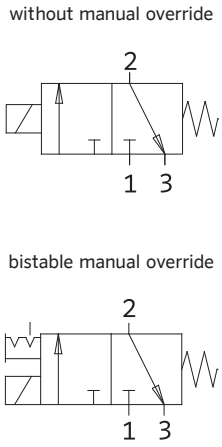
Switching function:	3/2 way
De-energized state:	NC (normally closed)
Valve body:	plastics
Gasket of the pneumatic interface:	concentric O'rings (KR) sealing material FPM

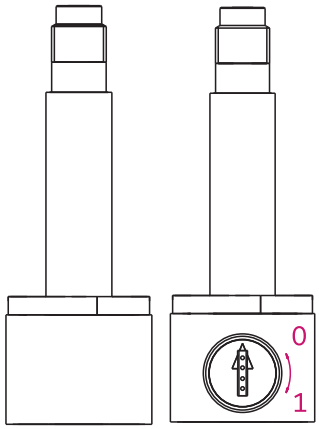
General Data

Ambient temperature	- 10 °C to + 50 °C
Quality of medium according to ISO 8573-1	compressed air class 4, 3, 4
Mounting position	any (preferably plunger in vertical direction)



Pneumatic Diagram

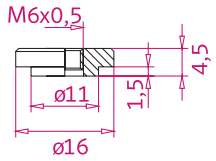




Technical Data Standard Versions

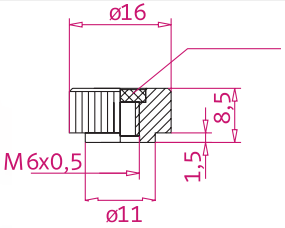
Part No.	**Power Level**	**Nominal Orifice** [mm] inlet	exhaust	**Pressure** [bar]	**Flow Rate** [l/min]* 1–2	2–3	**Manual Override** bistable	monostable	**Appropriate for**		**Armature Guide** brass	stainless steel
106-050-0026	1	0,6	0,7	8	12	14			DC		x	
106-050-0005	1	0,6	0,7	8	12	14	x		DC		x	
106-050-0006	2	0,8	0,9	8	23	28	x		DC		x	
106-050-0010	3	0,8	0,9	10	23	28	x		DC	AC	x	
106-050-0020	3	0,8	0,9	10	23	28	x		DC	AC	x	
106-050-0001	4	1,0	1,1	10	32	40		x	DC	AC	x	
106-050-0007	4	1,0	1,1	10	32	40	x		DC	AC	x	

* qv flow rate at an inlet pressure of 6 bar (ΔX = 1 bar) and 0 °C; flow rate detection in compliance with ISO 6358



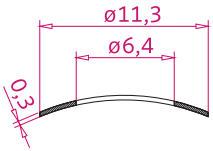
Knurled nut · M 6 x 0,5 mm

Part No.: 106-080-0001
Explanation: tightening torque max. 1,0 Nm; use with spring washer #106-080-0009



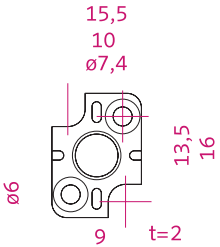
Silencer · M 6 x 0,5 mm

Part No.: 106-080-0004
Explanation: inclusive sintered filter; tightening torque max. 1,0 Nm; use with spring washer #106-080-0009



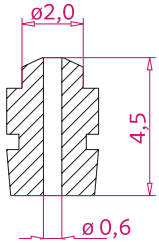
Spring washer

Part No.: 106-080-0009
Explanation: use with knurled nut #106-080-0001 or silencer #106-080-0004



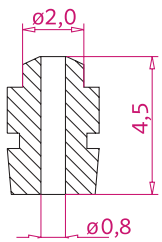
Mounting plate

Part No.: 106-702-0001
Explanation: only for armature assembly FL



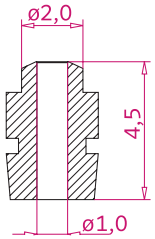
Valve seat · orifice size 0,6

Part No.: 106-034-0001

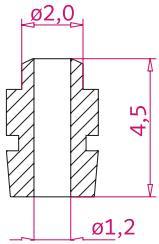


Valve seat · orifice size 0,8

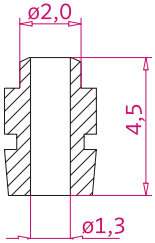
Part No.: 106-034-0002



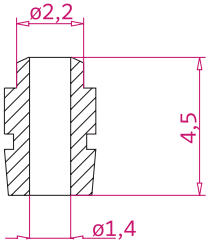
Valve seat · orifice size 1,0
Part No.: 106-034-0003



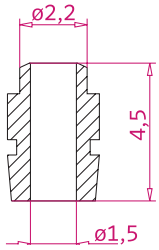
Valve seat · orifice size 1,2
Part No.: 106-034-0006



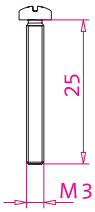
Valve seat · orifice size 1,3
Part No.: 106-034-0004



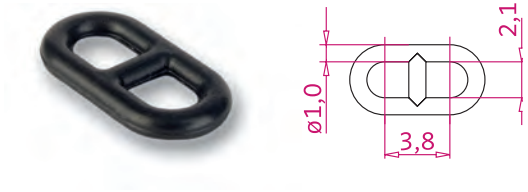
Valve seat · orifice size 1,4
Part No.: 106-034-0007



Valve seat · orifice size 1,5
Part No.: 106-034-0005



Fillister head screw · M 3 x 25 mm
Part No.: 900-822-0049
Explanation: with slots and cross slots; only for valve system SF (for one valve system two srews are required); tightening torque max. 0,5 Nm

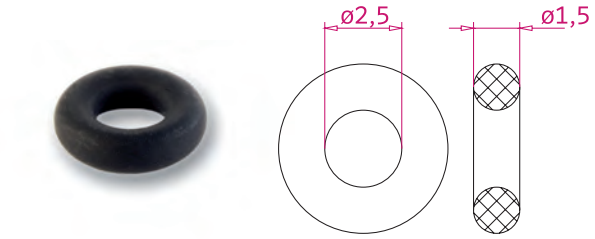


Flange seal NBR

Part No.: 106-723-0001
Explanation: only for valve system SF

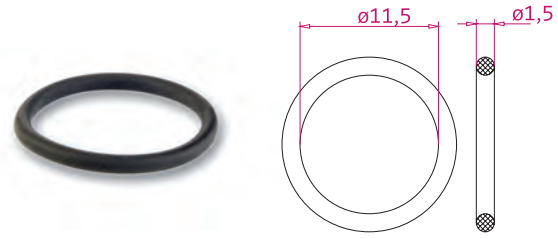
Cheese-head screw · M 3 x 18 mm

Part No.: 900-822-0037
Explanation: with slots and cross slots; only for valve system KR (for one valve system two srews are required); tightening torque max. 0,5 Nm



O'ring FPM · 2,5 x 1,5 mm

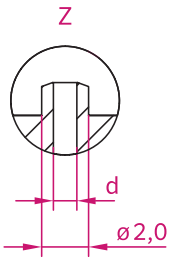
Part No.: 900-841-0065
Explanation: only for valve system KR

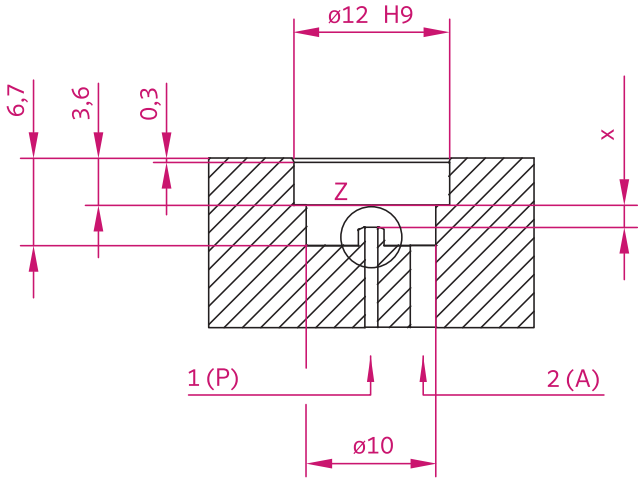


O'ring FPM · 11,5 x 1,5 mm

Part No.: 900-841-0077
Explanation: only for valve system KR

PNEUMATIC CONNECTION SOLENOID OPERATOR





d	x	
	1 / 2	2 / 1 3
0,6	1,60	1,70
0,8	1,63	1,75
1,0	1,68	1,75
1,2	1,70	-
1,3	1,70	-
1,4	1,75	-
1,5	1,75	-

Note:

Specifications regarding the characteristic of the customer interface are available at *nass magnet* on request.