

# Technical Data Sheet M-PS 301



2/2-Way solenoid valve – valve normally closed (NC).

When energized the solenoid first opens the pilot hole and then lifts directly or supported by a pressure difference the piston from the valve seat. The valve is closed by spring power.

Solenoid valve for neutral, gaseous and liquid media

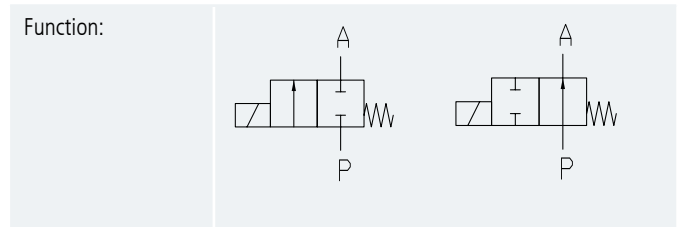
- No pressure difference is required
- High life time
- Simple compact valve design
- Reliable and sturdy sealing elements
- Long-term availability of spare parts
- High-quality materials

## TECHNICAL SPECIFICATIONS

Type of control:	Force pilot operated, no pressure difference required
Design:	Piston design
Connection:	Threaded G $\frac{1}{4}$ - G3, DIN ISO 228 (BSP) Other connections like NPT on request
Installation:	Actuator in upright position Lying position of actuator on request
Pressure:	0-40 bar (see table page 2)
Medium:	Clean, neutral, gaseous and liquid medium
Viscosity:	22 mm $^2$ /s
Temperature range:	Medium: -40 °C up to +80 °C Ambient: -40 °C up to +50 °C In consideration of the restrictions described on page 4
Body material:	Brass 2.0402 Stainless steel 1.4581
Metallic inner parts:	Brass and stainless steel
Sealing:	PTFE
Supply voltage:	AC~ 24V, 110V, 230V DC= 12V, 24V, 110V Other supply voltages on request

Voltage tolerance:	-10% / +10%	
Power consumption:	A05 = 24 Watt	E05 = 24 Watt
	A06 = 30 Watt	E06 = 24 Watt
	A07 = 46 Watt	E07 = 30 Watt
	A08 = 100 Watt	E08 = 47 Watt
		E09 = 75 Watt

Protection class:	IP65 according to DIN EN 60529
Duty factor:	100% ED-VDE 0580
Connection type:	Plug / Terminal box
Ex-proof:	Ex e mb II T4 Further Ex-proof on request



Certificates:




## ORDERING SYSTEM

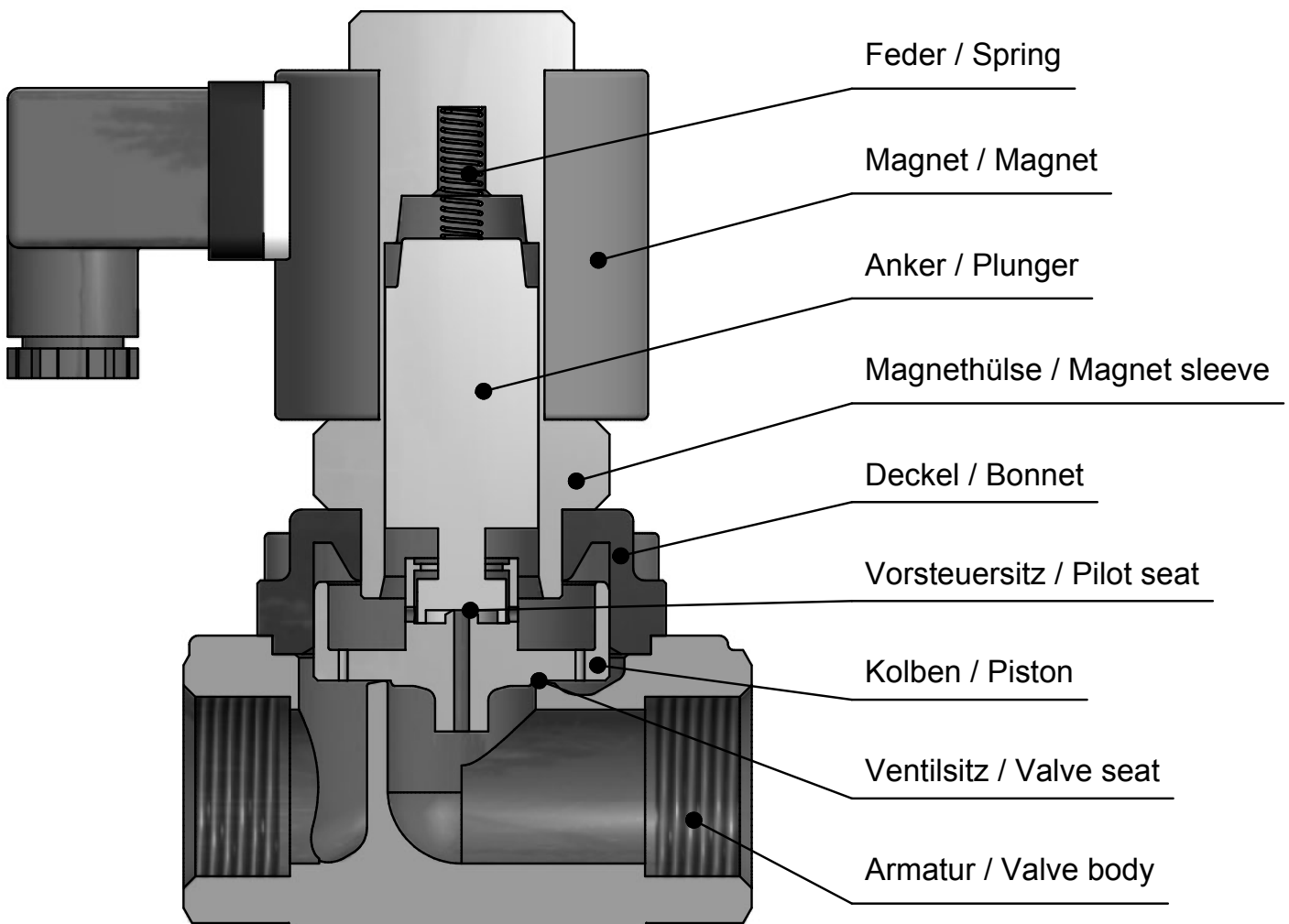
M-PS	3	01	-G	-D	-13.5	-A	-D	-A05	A	Standard IP65
Type	Control type	Code	Connection type	Connection size	Nominal diameter mm	Body material	Sealing material	Solenoid coil system	E	Explosion-proof acc. to 94/9/EG (ATEX)
	3 Force pilot operated		G BSP N NPT	B 1/4" C 3/8" D 1/2" E 3/4" F 1" G 1 1/4" H 1 1/2" I 2"		A C	D PTFE Brass			
								Stainless steel AISI316(Ti) (1.4571, 1.4581)		



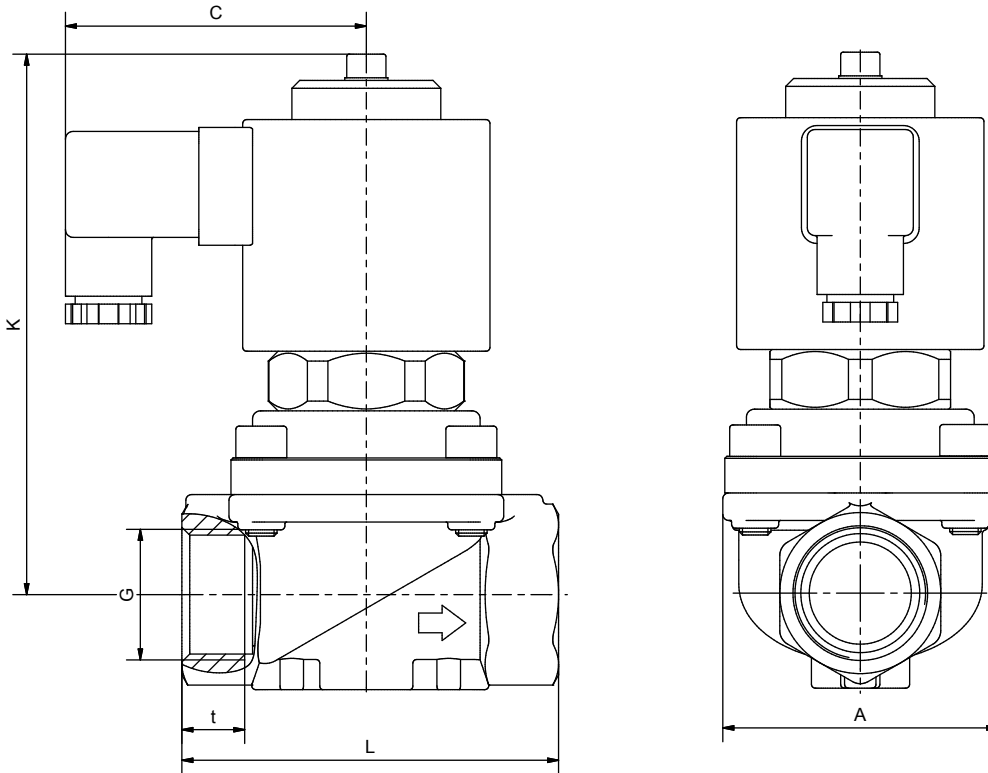
# Technical Features

Standard type	G	Seat Ø mm	Kv-value m <sup>3</sup> /h	max. pressure									
				A05	A06	A07	A08	E05	E06	ATEX 			
M-PS 301-?-B	1/4	13,5	1,8	0-40*	-	-	-	-	0-40*	-	-	-	-
M-PS 301-?-C	3/8	13,5	4,0	0-40*	-	-	-	-	0-40*	-	-	-	-
M-PS 301-?-D	1/2	13,5	4,5	0-40*	-	-	-	-	0-40*	-	-	-	-
M-PS 301-?-E	3/4	27,5	11,5	0-16	0-40*	-	-	-	0-16	0-25	0-40*	-	-
M-PS 301-?-F	1	27,5	13,0	0-16	0-40*	-	-	-	0-16	0-25	0-40*	-	-
M-PS 301-?-G	1 1/4	40	29,0	-	0-30	0-40*	-	-	-	0-16	0-25	0-40*	-
M-PS 301-?-H	1 1/2	40	33,0	-	0-30	0-40*	-	-	-	0-16	0-25	0-40*	-
M-PS 301-?-I	2	50	49,0	-	0-6	0-16	0-40*	-	-	0-2	0-10	0-16	0-40*

The flow rate mentioned in the table applies to the \*marked coil.



# Dimensions



Coil	A05/E05*					A06/E06*				
	M-PS 301-? -B	M-PS 301-? -C	M-PS 301-? -D	M-PS 301-? -E	M-PS 301-? -F	M-PS 301-? -E	M-PS 301-? -F	M-PS 301-? -G	M-PS 301-? -H	M-PS 301-? -I
G	1/4	3/8	1/2	3/4	1	3/4	1	1 1/4	1 1/2	2
A	48	48	48	70	70	70	70	96	96	112
C	70	70	70	70	70	77	77	77	77	77
K	104	104	104	122	122	138	138	148	148	183
L	67	67	67	96	96	96	96	140	140	168
t	12	12	12	16	16	16	16	22	22	22
kg	1,3	1,3	1,2	2,1	2,0	3,0	3,0	5,0	4,5	6,5

\*Differing dimension "C" for ATEX-coils

Coil	A07/E07*			A08/E08*		E09*	
	M-PS 301-? -G	M-PS 301-? -H	M-PS 301-? -I	M-PS 301-? -G	M-PS 301-? -H	M-PS 301-? -I	M-PS 301-? -I
G	1 1/4	1 1/2	2	1 1/4	1 1/2	2	2
A	96	96	112	96	96	112	112
C	93	93	93	107	107	107	107
K	189	188	194	220	220	238	306
L	140	140	168	140	140	168	168
t	22	22	22	22	22	22	22
kg	6,5	6,5	7,5	10,0	10,0	12,5	23,0

\*Differing dimension "C" for ATEX-coils

- It is imperative to observe the installation and safety instructions in our operating and service manuals.
- For information on our **GVT** ordering code, please refer to our catalogs. If you have any questions, we will be glad to assist you.
- Required ordering information: valve type, function NC/NO, pressure range, connection, nominal width, medium, flow rate, medium and ambient temperatures, connection voltage.
- **Detailed production-specific drawings and other technical information will be made available when an order is placed.**

## PLEASE NOTE

Each individual application decides which valve type is required, the main factor being the resistance of the materials to the operating medium. The correct selection of materials requires knowledge of the concentration, temperature and degree of contamination of the medium. Other criteria include the operating pressure and max. volumetric flow, since, in addition to high temperatures, high pressures and high flow rates must also be taken into account when selecting the materials.

**All materials used for our valves, be it housing, seals or magnets, will be carefully selected in view of the different application areas. Any information given is non-binding and serves for orientation only. No claims under warranty can be derived therefrom.**

### Heating and power of solenoid coils

The default solenoid valves are designed for continuous operation (100% ED = power-on time) under normal operating conditions.

The pulling force of a solenoid coil is basically influenced by three elements:

- The self-heating of the magnetic coil
- The medium temperature
- The ambient temperature

Solenoid coils are by default designed for a maximum ambient temperature of +40 °C. This specification applies for the maximum allowable operating pressure specified in the data sheet of the corresponding valve and a medium temperature of +80 °C.

A higher ambient temperature is possible, when lower values are applied for the other influencing parameters. When the max. operation pressure and max. ambient temperature of +50 °C is given the medium temperature is not allowed to be higher than max. +50 °C. In addition to that, deviations from the default design temperature range are possible, e.g. when coils or other constructive measures are used.

More precise specifications and technical data with regard to the operating conditions can be found in the data sheets of the solenoid coils and the solenoid valve regarded. Please observe that the surface temperature of a permanently loaded coil can amount up to +120 °C, solely by the self-heating of the coil. The power consumption of our default solenoid valves was calculated to DIN VDE 05820 for a coil temperature of +20 °C.

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