

2/2-way valves ND 15 to 100



For neutral gaseous and liquid fluids
 Solenoid actuated, with forced lifting
 Piston seat valves
 Flange connection ANSI B 16.5 – 300 lbs RF
 Operating pressure 0 to 25 bar



06.09.95
 Catalogue index
A 5
 85 420/84 420 series

Description (standard valve)

Solenoid valve for air, water and oil

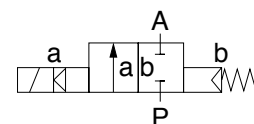
Flow direction: determined
Fluid temperature: max. +90 °C
Ambient temperature: max. +50 °C
Sum of fluid and ambient temperature: max. +130 °C
Mounting position: optional, solenoid preferably mounted vertical on top, ND 65 and larger, solenoid on top in vertical position imperative
Material Body: Cast steel
Seat seal: NBR
Internal parts: 1.4104, 1.4301, Brass, Gun metal



For contaminated fluids insertion of a strainer is recommended (see accessories).

Features

- Flat piston valve
- Valve operates without pressure differential (Δp)
- High flow rate
- Damped operation



Switching function:
 Normally closed

Characteristic data

ND	Operating pressure with gaseous and liquid fluids up to 40 mm ² /s (cSt) [bar]		K _v -value ¹⁾ (Base m ³ /h)	Weight [kg]	Section no	Dimension table no	Cat no			
	min.	max.					Valve XX XXX	Solenoid DC XX.XXXX	Valve XX XXX	Solenoid AC XX.XXXX
15	0	25	5.5	5.5	01	01	85 422	00.8401	85 422	00.8404
20	0	25	10.0	5.8	01	02	85 423	00.8401	85 423	00.8404
25	0	25	12.5	6.2	01	03	85 424	00.8401	85 424	00.8404
32	0	25	27.0	11.0	01	04	85 425	00.8401	85 425	00.8404
40	0	25	31.0	11.8	01	05	85 426	00.8401	85 426	00.8404
50	0	25	43.0	14.0	01	06	85 427	00.8401	85 427	00.8404
65	0	25	67.0	36.5	02	07	84 428	00.9501	84 428	00.9504
80	0	25	94.0	46.5	02	08	84 429	00.9501	84 429	00.9504
100	0	25	144.0	70.0	02	09	84 430	00.9501	84 430	00.9504

¹⁾ C_v-value (US) ≈ k_v-value x 1.2

State voltage [V] and frequency [Hz]

Remark: Blade Dimensions of the flanges do not correspond to ANSI standard. Produced from flanges acc. to DIN 2533.

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Solenoids

Standard-voltages	DC	AC 40 Hz to 60 Hz
	24 V – 205 V	24 V 110 V 230 V

Design acc. to VDE 0580
Voltage range $\pm 10\%$
100 % duty cycle
Protection class acc. to EN 60529 IP 65 (previous DIN 40 050)

Attention! Restricted temperature range for explosion proof solenoids.

For technical details see catalog-register "Solenoids"

Further models

available at extra cost

- XX XXX **01.XXXX** Normally open, mounting position: solenoid vertical on top
- XX XXX **02.XXXX** Manual override
- XX XXX **03.XXXX** Seat seal FPM, fluid temperature max. $+110\text{ }^{\circ}\text{C}^{2)}$
- XX XXX **06.XXXX** Seat seal PTFE, fluid temperature max. $+110\text{ }^{\circ}\text{C}^{2)}$, operating pressure: max. 16 bar up to ND 50
- XX XXX **14.XXXX** Seat seal EPDM, fluid temperature max. $+110\text{ }^{\circ}\text{C}$
- XX XXX **17.XXXX** Normally open, seat seal FPM, fluid temperature max. $+110\text{ }^{\circ}\text{C}^{2)}$, mounting position: solenoid vertical on top
- XX XXX **22.XXXX** Operating pressure: max. 40 bar, solenoid with higher power consumption
- XX XXX **23.XXXX** Position indicator with two solenoid switches
- XX XXX **25.XXXX** Seat seal FPM, only up to ND 50, with larger bleed orifices in the piston, viscosity max. $80\text{ mm}^2/\text{s}$ (cSt), temperature $+110\text{ }^{\circ}\text{C}^{2)}$
- XX XXX **28.XXXX** Fluid temperature min. $-20\text{ }^{\circ}\text{C}$
- XX XXX **34.XXXX** Enlarged closing force, advisable at low flow rate and low switching cycles; k_V -value reduced appr. -20%
- **On request** Further versions

Power consumption ¹⁾

Solenoid	DC	AC Inrush and Holding
	8401 8404 9501 9504	40 W – 80 W –

Socket acc. to DIN 43 650
AC solenoid with rectifier.

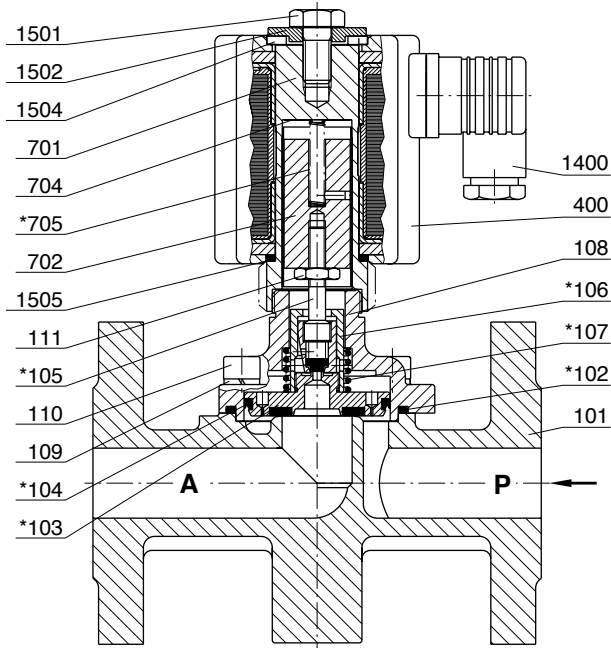
¹⁾ **According to VDE 0580 at coil temperature $+20\text{ }^{\circ}\text{C}$. In operating the solenoid coil decrease the power consumption appr. 30 %.**

- XX XXX XX.**8402** Solenoid for higher fluid temperature, fluid temperature max. $+200\text{ }^{\circ}\text{C}$, operating pressure: max. 20 bar for ND 50, mounting position: vertical with solenoid underneath, for DC only
- XX XXX XX.**8406** Same as 8402, for AC only
- XX XXX XX.**8436** Solenoid in protection class EEx me II T4
- XX XXX XX.**8441** Solenoid in protection class EEx me II T3
- XX XXX XX.**8900** Solenoid in protection class EEx de IIC T4 and T5, only, Size \leq ND 50
- XX XXX XX.**8920** Solenoid in protection class EEx d IIC T4 and T5, up to ND 50
- XX XXX XX.**9502** Solenoid for higher fluid temperature max. $+150\text{ }^{\circ}\text{C}$. Size \geq ND 65, operating pressure: max. 16 bar, for DC
- XX XXX XX.**9540** Solenoid in protection class EEx me T3/T4, Size \geq ND 65 and larger
- **On request** Further versions

²⁾ max. temp. $+200\text{ }^{\circ}\text{C}$ see solenoid for higher temperature (please observe DIN 2401)

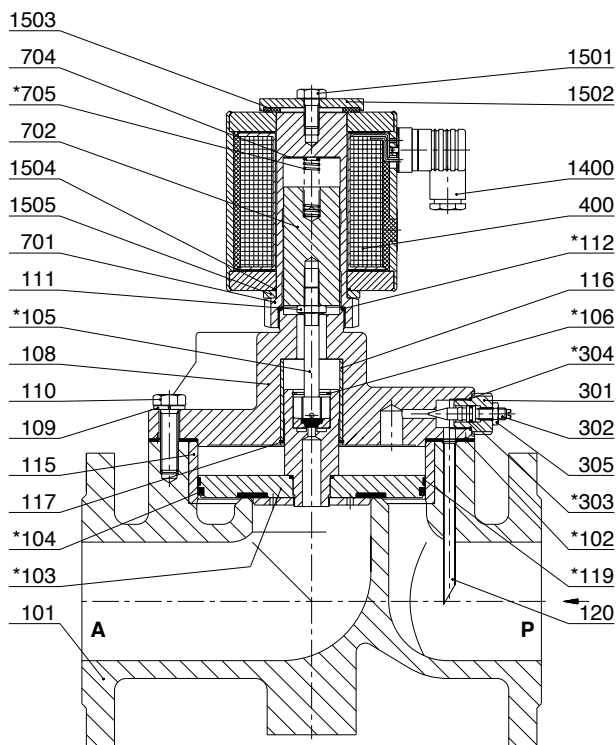
Sections

01



101	Valve body	111	Hexagon nut
*102	O-ring	400	Solenoid
*103	Valve plate	701	Core tube
*104	Grooved ring	702	Core
*105	Valve spindle	704	Anti magnetic spacer
*106	Screw piece	*705	Pressure spring
*107	Pressure spring, not for ND 15	1400	Socket
108	Body cover	1501	Hexagon screw
109	Spring washer	1502	Round plate
110	Cheese head cap screw	1504	Gasket
		1505	O-ring

02



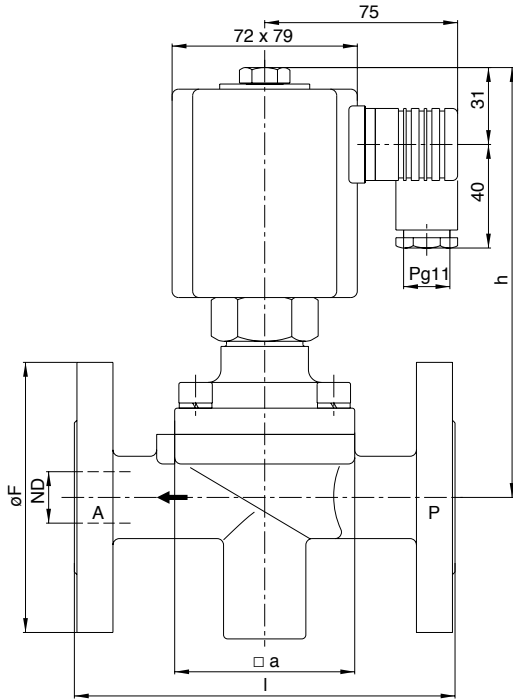
101	Valve body	302	Valve spindle
*102	Gasket	*303	O-ring
*103	Valve piston	*304	O-ring
*104	Grooved ring	305	Hexagon nut
*105	Valve spindle	400	Solenoid
*106	Locking ring	701	Core tube
108	Body cover	702	Core
109	Spring washer	704	Anti magnetic spacer
110	Hexagon screw	*705	Pressure spring
111	Hexagon nut	1400	Socket
*112	Seal ring	1501	Hexagon screw
115	Bushing	1502	Round plate
116	Bushing	1503	Gasket
117	Circilp	1504	O-ring
*119	Guide foil	1505	Round plate
120	Tube		
301	Screw piece		

To avoid high shock pressure, you can control the closing time with the adjusting stem pos. 302. Turning clockwise increases restriction and slows down closing speed. A totally closed restriction would result in a malfunction.

* These individual parts form a complete wearing unit.
When ordering spare parts please state Cat no and series no.

Dimensions

01

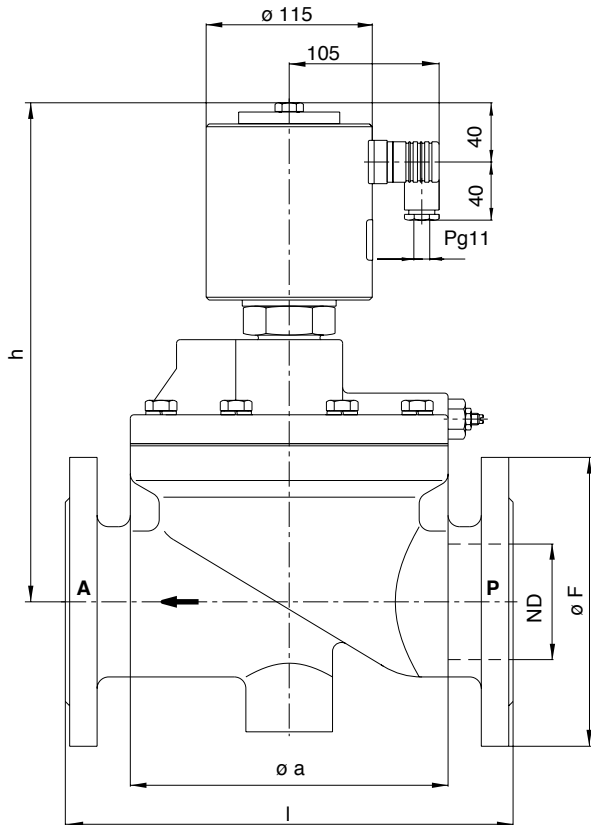


Flange connection ANSI B 16.5 – 300 lbs RF
Contact face „Stock Finish“

Dimension table no	□ a	h	l
01	70	170	130
02	70	172	150
03	70	172	160
04	96	187	180
05	96	191	200
06	112	200	230

Dimension table no	ND	Ø F	
01	15	96.0	
02	20	117.5	
03	25	123.8	
04	32	133.3	
05	40	150.0	
06	50	165.0	

02



Flange connection ANSI B 16.5 – 300 lbs RF
Contact face „Stock Finish“

Dimension table no	Ø a	h	l
07	195	327	290
08	220	347	310
09	265	376	350

Dimension table no	ND	Ø F	
07	65	185	
08	80	204	
09	100	254	

Solenoid may be rotated 360 °

Socket turnable 4 x 90°