2/2-way-valves ND 12 to 50

for neutral gaseous and liquid fluids
Solenoid actuated, with forced lifting
Piston seat valves
Internal threads G 1/2 to G 2 or 1/2" NPT to 2" NPT
Operating pressure 0 to 25 bar

85000
85010

Description (standard valve)

Solenoid valve for air, water and oil

Switching function:	Normally closed
Flow direction:	determined
Fluid temperature:	–10 °C to max. +90 °C
Ambient temperature:	–10 °C to max. +50 °C
Mounting position:	optional, solenoid preferably vertical on top

Material

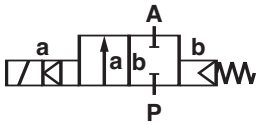
Material Body:	Brass (CW617N)
Seat seal:	NBR
Internal parts:	Stainless steel, Brass, Gun metal

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
- Suitable for vacuum

Symbol



Ordering information

To order, quote model number from table overleaf; e. g. 8500200.8301 for a G 1/2 valve with standard solenoid.

Characteristic data

See page 2 valve and solenoid informations

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D-32502 Bad Oeynhausen

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Characteristic data

Valves

Cat no Solenoid DC	Cat no. Solenoid AC	ND (mm)	Connection	Operating pressure * min max (bar)	kv-value ** (Base m^3/h)	Weight (kg)
8500200.8301 8501200.8301	8500200.8304 8501200.8304	12	G 1/2 1/2" NPT	0 25	3,80	1,45
8500300.8401 8501300.8401	8500300.8404 8501300.8404	20	G 3/4 3/4" NPT	0 25	11,00	3,65
8500400.8401 8501400.8401	8500400.8404 8501400.8404	25	G 1 1" NPT	0 25	13,00	3,50
8500500.8401 8501500.8401	8500500.8404 8501500.8404	32	G 1 1/4 1 1/4" NPT	0 25	30,00	5,30
8500600.8401 8501600.8401	8500600.8404 8501600.8404	40	G 1 1/2 1 1/2" NPT	0 25	31,00	5,10
8500700.8401 8501700.8401	8500700.8404 8501700.8404	50	G 2 2" NPT	0 25	46,00	6,60

* with gaseous and liquid fluids up to 40 mm^2/s (cSt)
** C_V-value (US) ≈ k_V-value x 1,2

State voltage [V] and frequenzy [Hz]

8301/8304 and 8401/8404 Solenoid

Standard voltages

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

Design acc. to DIN VDE 0580
Voltage rage ±10 %
100 % duty cycle
Protection class acc. to DIN EN 60529 IP65
Socket acc. to DIN 175301-803 (included)
AC solenoid with rectifier

Power consumption

According to DIN VDE 0580 at coil temperature +20 °C. In operating the solenoid decrease the power consumption appr. 30%.

Solenoid	DC	AC Inrush	Holding
8301	22 W	–	–
8304	–	25 VA	25 VA
8401	40 W	–	–
8404	–	45 VA	45 VA

Attention!

Restricted temperature range for explosion proof solenoids

For technical details see catalog register „Solenoids“

Further models (valves)

XXXXX**01.**XXXX	Normally open, mounting position: solenoid vertical on top [2]
XXXXX**02.**XXXX	Manual override, from G 3/4 (3/4" NPT)
XXXXX**03.**XXXX	Seat seal FPM, max. fluid temperature +110 °C [1]
XXXXX**06.**XXXX	Seat seal PTFE, max. fluid temperature +110 °C [1], max. operating pressure 16 bar
XXXXX**14.**XXXX	Seat seal EPDM, max. fluid temperature +110 °C
XXXXX**17.**XXXX	Normally open, seat seal FPM, max. fluid temperature +110 °C, mounting position: solenoid vertical on top [2]
XXXXX**22.**XXXX	max. operating pressure 40 bar [2]
XXXXX**23.**XXXX	Position indicator with two solenoid switches [2]
XXXXX**25.**XXXX	Seat seal FPM with larger bleed orifices in the piston, for e. g. fuel and oil, viscosity max. 80 mm^2/s (cSt), max. fluid temperature +110 °C [1]
XXXXX**28.**XXXX	Temperature design; up to –20 °C, all materials suitable
XXXXX**34.**XXXX	Enlarged closing force at 20 % kv-value-reduce – advisable at low flow rate and low switching cycles
On request	further versions

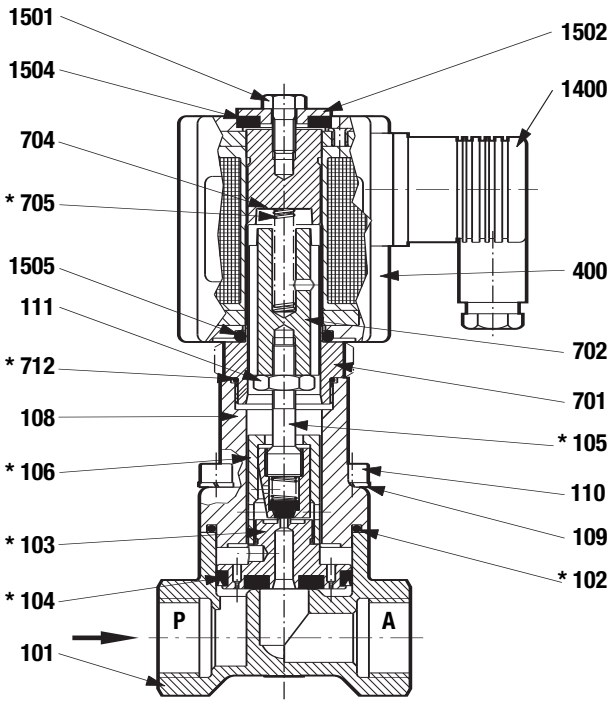
Further models (solenoids)

XXXXXXX**.8402**	Solenoid for higher temperature, max. fluid temperature +200 °C, mounting position: vertical, with solenoid underneath, only for DC
XXXXXXX**.8406**	Same as 8402, only for AC
XXXXXXX**.8436**	Solenoid in protection class Ⓔx II 2 GD EEx me II T4 T 140 °C, begin at DN 20
XXXXXXX**.8441**	Solenoid in protection class Ⓔx II 2 GD EEx me II T3 T 140 °C, begin at DN 20
XXXXXXX**.8900**	Solenoid in protection class EEx de IIC T4 and T5
XXXXXXX**.8920**	Solenoid in protection class EEx d IIC T4 und T5
On request	Overexcitation, protection class EEx d I, protection class EEx de I resp. Special connections

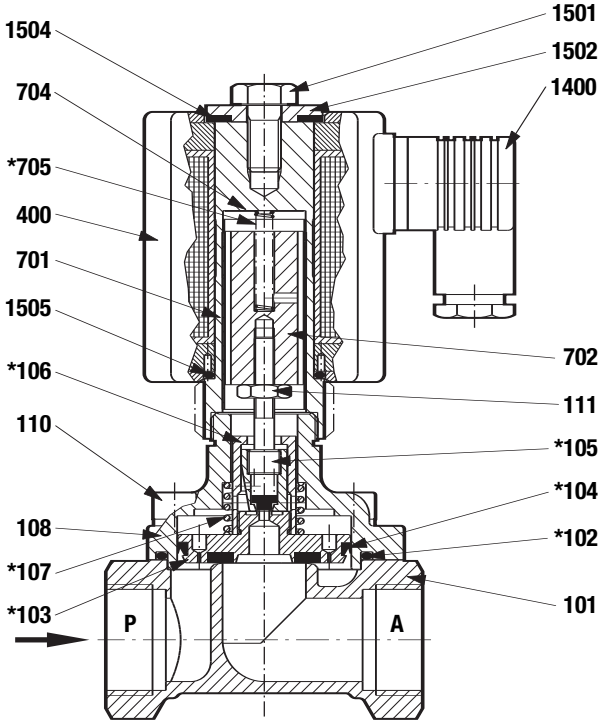
1) max. fluid temperaturen +200 °C see solenoid for higher temperatures
2) G 1/2 with solenoid 8401/8404

Sectional drawings

to G 1/2 resp. 1/2" NPT



from G 3/4 resp. 3/4" NPT



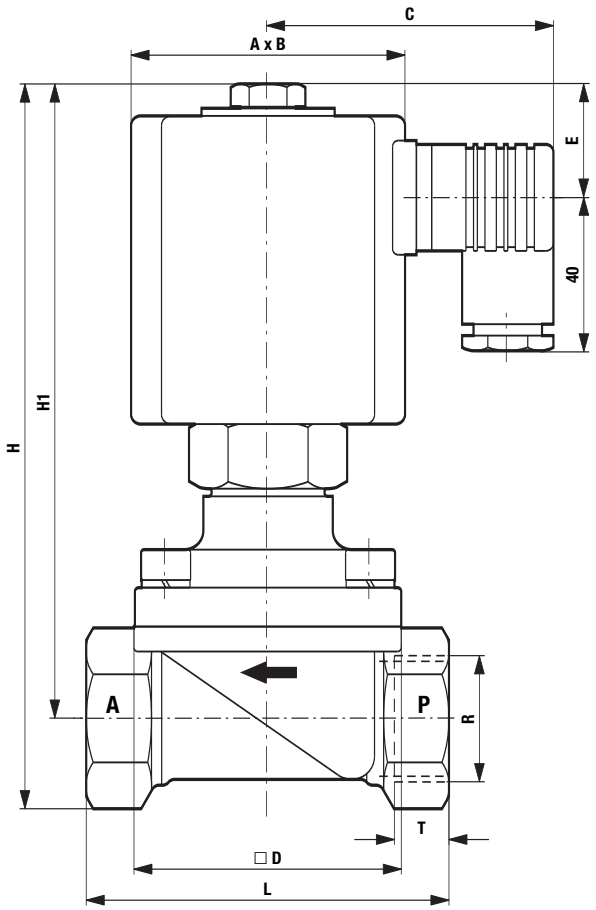
101 Valve body
*102 O-Ring
*103 Valve plate
*104 Grooved ring
*105 Valve spindle
*106 Screw piece
*107 Pressure spring, at G 3/4 (3/4" NPT)
108 Body cover
109 Spring washer
110 Cheese head cap screw
111 Hexagon nut
400 Solenoid
701 Core tube
702 Core
704 Round plate
*705 Pressure spring
*712 O-Ring, just G 1/2 and 1/2" NPT
1400 Socket
1501 Hexagon screw
1502 Round plate
1504 Gasket
1505 O-Ring

* These individual parts form a complete wearing unit.

When ordering spare parts please state Cat. No. and series-No.

Dimensional drawing

Solenoid may be rotated 360°
Socket turnable 4 x 90°



Cat.-No.	A x B	C	□ D	E	H	H1	L	R	T
8500200.830x 8501200.830x	52 x 65	65	45	26	160	145	67	G 1/2 1/2" NPT	14,0 13,5
8500300.840x 8501300.840x	72 x 92	75	70	31	196	172	95	G 3/4 3/4" NPT	12,5 14,0
8500400.840x 8501400.840x	72 x 92	75	70	31	196	172	95	G 1 1" NPT	14,0 17,0
8500500.840x 8501500.840x	72 x 92	75	96	31	220	187	132	G 1 1/4 1 1/4" NPT	18,0 17,0
8500600.840x 8501600.840x	72 x 92	75	96	31	220	187	132	G 1 1/2 1 1/2" NPT	18,0 17,0
8500700.840x 8501700.840x	72 x 92	75	112	31	238	198	160	G 2 2" NPT	20,0 17,5

Note to Pressure Equipment Directive (PED):
The valves of this series, including the connection-size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (1) No.1.4 applies.
The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this directive will be available on request.

Note to Electromagnetic Compatibility Guideline (EEC):
The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 50081-1 and EN 50082-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (89/336/EEC) satisfield.