- **Port size: DN 15 ... 50**
- **High flow rate**
- **For robust industry solutions**
- **Damped operation**
- **Suitable for vacuum**
- **Valve operates without differential pressure**
- **Solenoid interchangeable without tools (*Click-on*®)**
- **Fluids of Group 2 acc. Pressure Equipment Directive 97/23/EC**



Technical features

Medium:
Neutral gases and liquid fluids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting
Mounting position:
Optional, preferably solenoid vertical on top

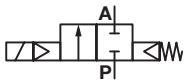
Flow direction:
Determined
Port size:
DN 15, DN 20, DN 25, DN 32, DN 40, DN 50
Operating pressure:
0 … 10/16 bar (0 ... 145/232 psi)

Fluid temperature:
–10° ... +90°C (+14° ... +194°F)
Ambient temperature:
–10° ... +50°C (+14° ... +122°F)

Material:
Body: Cast steel, Brass
Seat seal: NBR
Internal parts: Stainless steel, PVDF, Brass

For contaminated fluids insertion of a strainer is recommended.

Technical data - standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	3,4	0 ... 10	1,9	8304200.9151.xxxxx	8304200.9154.xxxxx
	15	3,4	0 ... 16	2,4	8304200.8301.xxxxx	8304200.8304.xxxxx
	20	5,8	0 ... 10	2,5	8304300.9151.xxxxx	8304300.9154.xxxxx
	20	5,8	0 ... 16	3	8304300.8301.xxxxx	8304300.8304.xxxxx
	25	8	0 ... 10	3	8304400.9151.xxxxx	8304400.9154.xxxxx
	25	8	0 ... 16	3,5	8304400.8301.xxxxx	8304400.8304.xxxxx
	32	23	0 ... 16	6,7	8304500.9401.xxxxx	8304500.9404.xxxxx
	40	25	0 ... 16	7,4	8304600.9401.xxxxx	8304600.9404.xxxxx
	50	41	0 ... 16	10	8304700.9401.xxxxx	8304700.9404.xxxxx

xxxxx Please insert voltage and frequency codes
*1) Cv-value (US) ≈ kv value x 1,2
*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

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Option selector

8304★★★.★★★★.★★★★★

Port size	Substitute
15	2
20	3
25	4
32	5
40	6
50	7

Valve options	Substitute
Normally open (NO), from DN 32 only with solenoid 8400	01
Manual override, only from DN 32	02
Seat seal FPM, Fluid temperature –5 ... +110°C	03
Seat seal EPDM, for hot water, Fluid temperature –10 ... +110°C	14
Normally open (NO), Seat seal FPM, Fluid temperatur –5 ... +110°C, from DN 32 only with solenoid 8400	17
Flanges acc.to ASME B 16.5 150 lb/sq.In.	47

Frequency	Substitute
See table frequency codes	xx

Voltage	Substitute
See Voltage codes	xxx

Solenoid options	Substitute
DN 15 ... 32 Operating pressure 0,1 ... 10 bar Solenoid in V d.c.	9151
DN 15 ... 32 Operating pressure 0,1 ... 10 bar Solenoid in V a.c.	9154
DN 15 ... 32 Operating pressure 0,1 ... 16 bar Solenoid in V a.c.	8301
DN 15 ... 32 Operating pressure 0,1 ... 16 bar Solenoid in V a.c.	8304
DN 32 ... 50 Operating pressure 0,1 ... 16 bar Solenoid in V d.c.	9401
DN 32 ... 50 Operating pressure 0,1 ... 16 bar Solenoid in V a.c.	9404

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Power consumption Holding
Voltage and Frequency Solenoid 9151/9154 *1)					
024	00	24 V d.c.	-	18 W	18 W
024	49	24 V a.c. *2)	40 ... 60 Hz	20 VA	20 VA
110	49	110 V a.c.*2)	40 ... 60 Hz	20 VA	20 VA
120	49	120 V a.c.*2)	40 ... 60 Hz	20 VA	20 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 9401/9404 *1)					
024	00	24 V d.c.	-	38 W	38 W
024	49	24 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
Voltage and Frequency Solenoid 8301/8304					
024	00	24 V d.c.	-	22 W	22 W
024	49	24 V a.c. *2)	40 ... 60 Hz	25 VA	25 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	25 VA	25 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	25 VA	25 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	25 VA	25 VA
Voltage and Frequency Solenoid 8401/8404					
024	49	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA

*1) c SA us coil only (with the exeption of solenoid 94xx up to 41 V a.c.)

*2) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C.
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard Voltages
II2GD	EEx me II T3 T 140°C	9191	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9176 *3)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9426 *3)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	8426 *3)	24 V d.c., 110 V a.c., 230 V a.c.

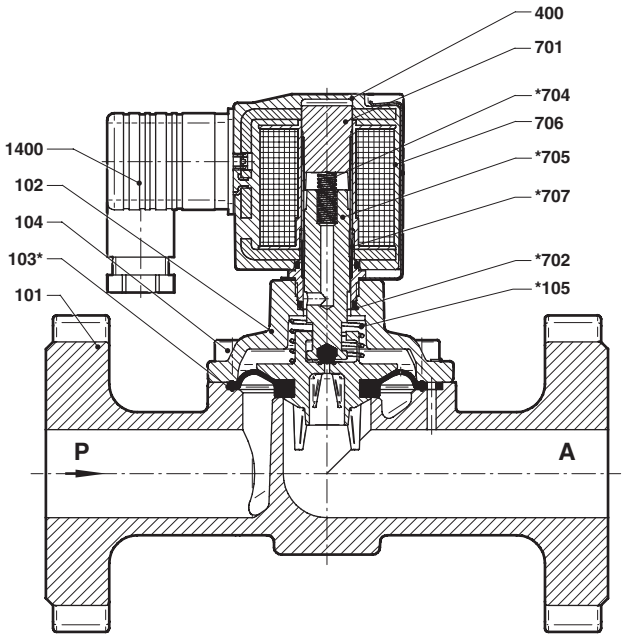
Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

*3) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. 83040
2/2-way diaphragm valves
x.8441

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Section View and Dimensions

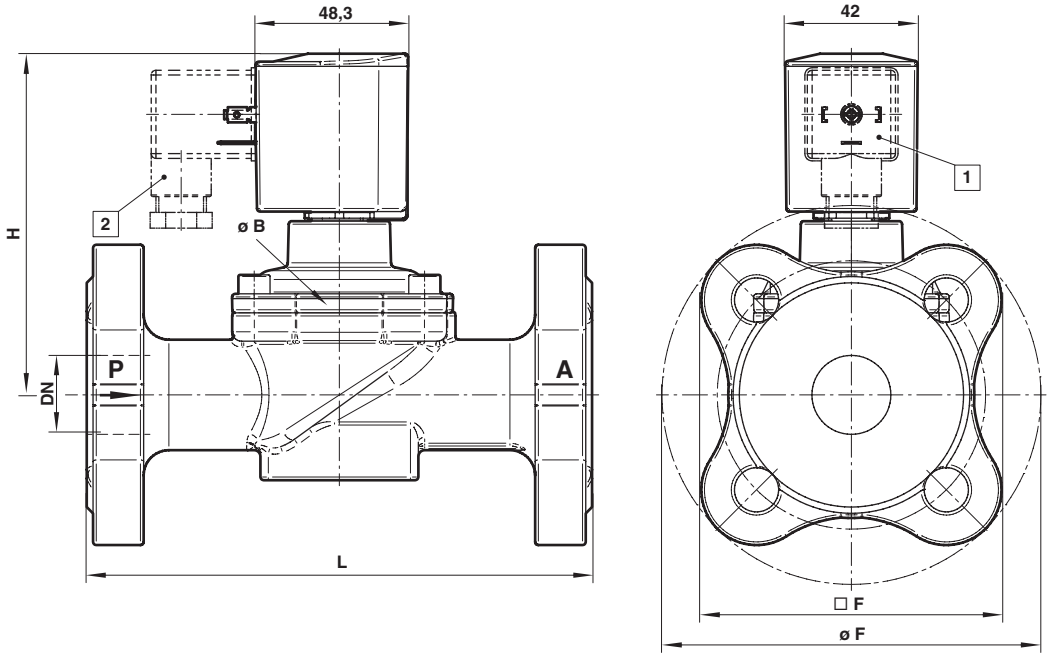
DN 15 ... 25 with solenoid 915x (10 bar)



No.	Description
101	Valve body
102	Valve cover
*103	Diaphragm
104	Straight pin
*105	Pressure spring
400	Solenoid
701	Core tube
*702	O-ring
*704	Pressure spring
*705	Core
706	Spring clip
*707	O-ring
1400	Socket (included)

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

Dimensions in mm
Projection/First angle



1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)

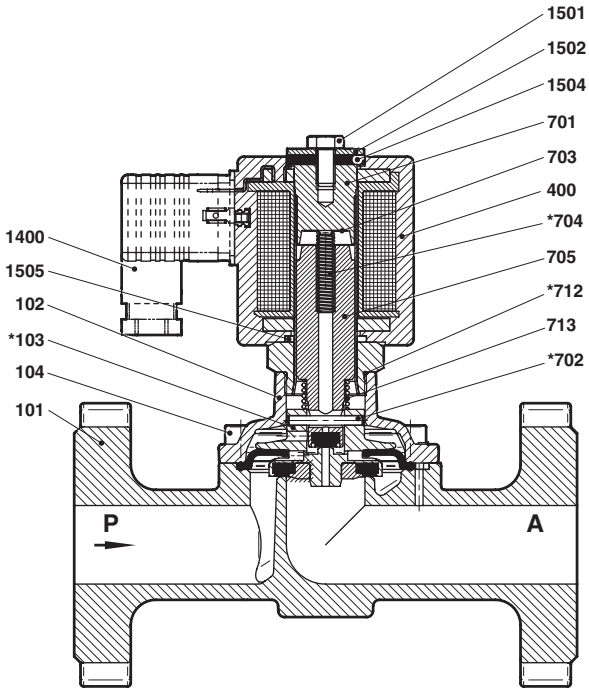
Orifice (mm)	ø B	ø F	¨F	H	L	Model
15	44	96	77	97	130	8304200.915x.xxxxx
20	50	110	86,6	105	150	8304300.915x.xxxxx
25	62	120	95,1	108	160	8304400.915x.xxxxx

Contact face acc to. DIN EN 1092-1/B

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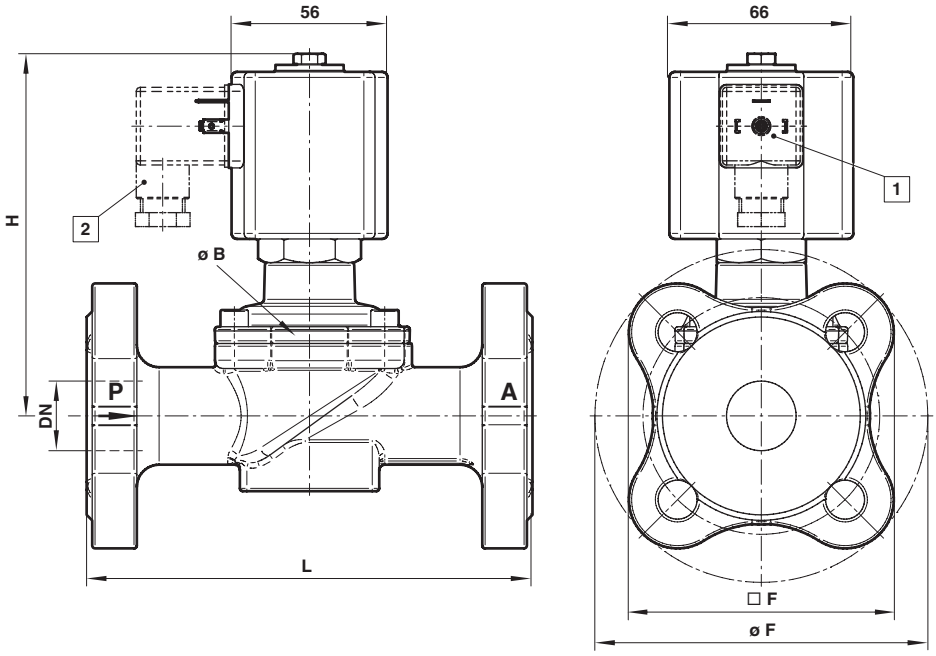
Section View and Dimensions

DN 15 ... 25 with solenoid 830x (16 bar)



No.	Description
101	Valve body
102	Valve cover
*103	Diaphragm
104	Socket head cap screw
*105	Pressure spring
400	Solenoid
701	Core tube
*702	Straight pin
703	Round plate
*704	Pressure spring
*705	Core
*712	O-ring
*713	Pressure spring
1400	Socket (included)
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.



Dimensions in mm
Projection/First angle

[1] Solenoid rotatable 360°
[2] Socket turnable 4 x 90°
(Socket included)

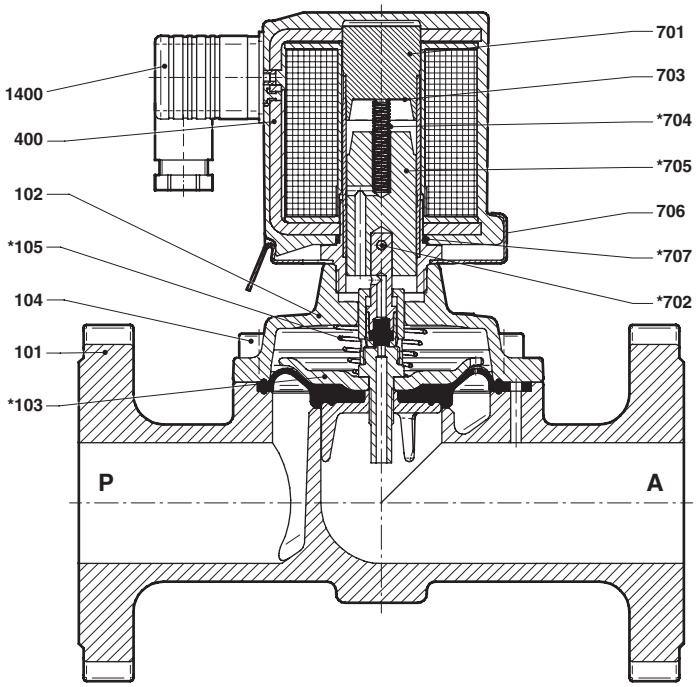
Orifice (mm)	ø B	ø F	□ F	H	L	Model
15	44	96	77	157,5	130	8304200.830x.xxxxx
20	50	110	86,6	170	150	8304300.830x.xxxxx
25	62	120	95,1	175	160	8304400.830x.xxxxx

Contact face acc to. DIN EN 1092-1/B

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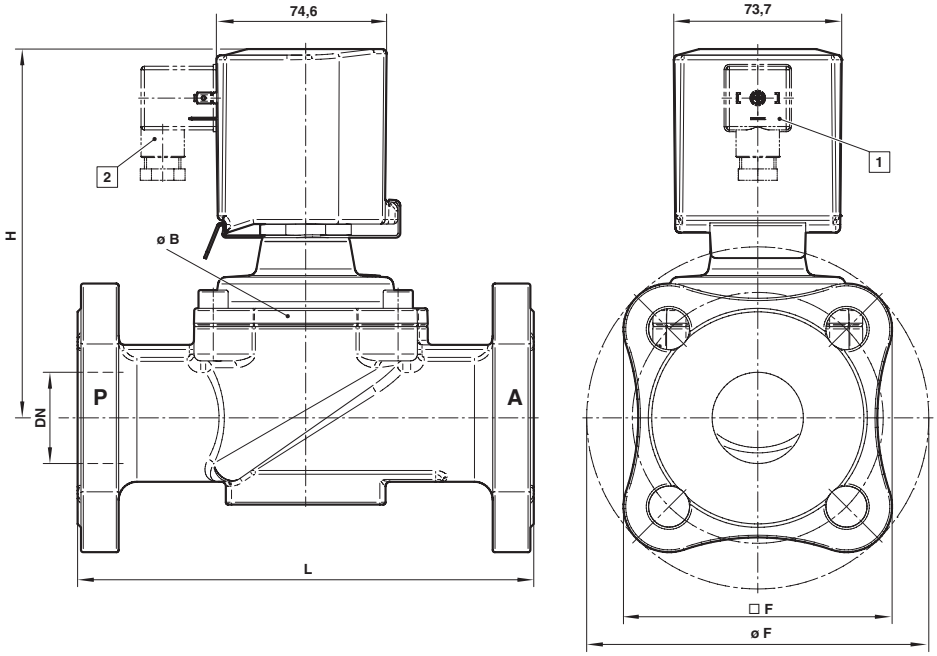
Section View and Dimensions

DN 32 ... 50 with solenoid 940x (16 bar)



No.	Description
101	Valve body
102	Valve cover
*103	Diaphragm
104	Straight pin
*105	Pressure spring
400	Solenoid
701	Core tube
*702	Straight pin
703	Round plate
*704	Pressure spring
*705	Core
706	Spring clip
*707	O-ring
1400	Socket (included)

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



1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)

Orifice (mm)	ø B	ø F	¨F	H	L	Model
32	92	140	110,7	158	180	8304500.940x.xxxxx
40	92	150	117,8	162	200	8304600.940x.xxxxx
50	109	165	128,4	171	230	8304700.940x.xxxxx

Contact face acc to. DIN EN 1092-1/B

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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 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (2004/108/EG) satisfield.

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