

## Servo-assisted 2/2 way diaphragm valve



Type 6281 can be combined with...



**Type 2508**  
Cable plug



**Type 2511**  
ASI Cable Plug



**Type 2513**  
Cable plug  
(ATEX Cat. 3 GD)

- Servo-assisted diaphragm with diameter of up to DN 50
- Vibration-proof, central screwed coil system
- Damped design for quiet closing
- Moulded housing with high surface quality
- Service-friendly manual override

The 6281 valve is a servo-assisted solenoid valve of the S.EV series. A minimum differential pressure is always required for the proper function of the valve. Various diaphragm material combinations and methods of operation are available depending on the application. The standard brass housing satisfies all European drinking water requirements. Dezincification-resistant brass is available for other markets. The housing offering is rounded out by a stainless steel version. The solenoid coils are moulded with a chemically resistant epoxy. For reduced energy requirement, all coils can be delivered with electronic power reduction. The valve can be equipped with manual override for easy maintenance and commissioning. In combination with a plug in accordance with DIN EN 17301-803 Form A, the valves satisfy protection class IP65 – in combination with a stainless steel housing NEMA 4X.

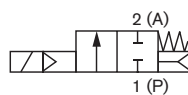
Technical data	
<b>Orifice</b>	DN13 - 50 mm
<b>Body material</b>	Brass acc. to DIN EN 50930-6 (Stainless steel, dezincification resistant on request)
<b>Inner part of valve</b>	Stainless steel, Brass, Plastic (PPS)
<b>Seal material</b>	NBR, EPDM, FKM
<b>Media</b>	
NBR	Neutral fluids, e.g. compressed air, water
EPDM	Oil and fat-free fluids, hot water, acetone, aqueous alkali solution
FKM	Hot air, per-solution
<b>Ambient temperature</b>	max. +55 °C
<b>Media temperature</b>	
NBR	-10° to +80 °C
EPDM	-30° to +90 °C (with epoxy coil to +100 °C)
FKM	0° to +90 °C (with epoxy coil to +120 °C)
<b>Voltages</b>	024/DC, 024/50-60, 230/50-60
<b>Voltage tolerance</b>	±10%
<b>Duty cycle</b>	100% continuous rating
<b>Electrical connection</b>	Tag connector acc. to DIN EN 175301-803 Form A (previously DIN 43650) for cable plug Type 2508 (see Ordering chart for accessory, p. 10)
<b>Protection class</b>	IP65 with cable plug and cable connection IP65 with junction box
<b>Installation</b>	As required, preferably with actuator upright
<b>Response times<sup>2)</sup></b>	0.1 - 4 seconds (depending on orifice and differential pressure)
<b>Coil isolation class</b>	Polyamide class B Epoxy class H

Power consumption		
Inrush AC [VA]	Hold (with coil)	
	AC [VA/W]	DC hot/cold coil [W]
<b>Circuit function A</b>		
24	14/8	8/9.5
<b>Circuit function B</b>		
24	16/7	8/9.5
<b>Ex-coil<sup>1)</sup> (Circuit functions A and B)</b>		
9	9	9

<sup>1)</sup> with internal rectifier

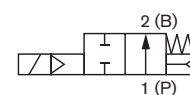
<sup>2)</sup> Measured at valve outlet at 6 bar and +20 °C. *Opening:* pressure build-up 0 to 90%, *Closing:* pressure decay 100 to 10%

**Circuit function A**



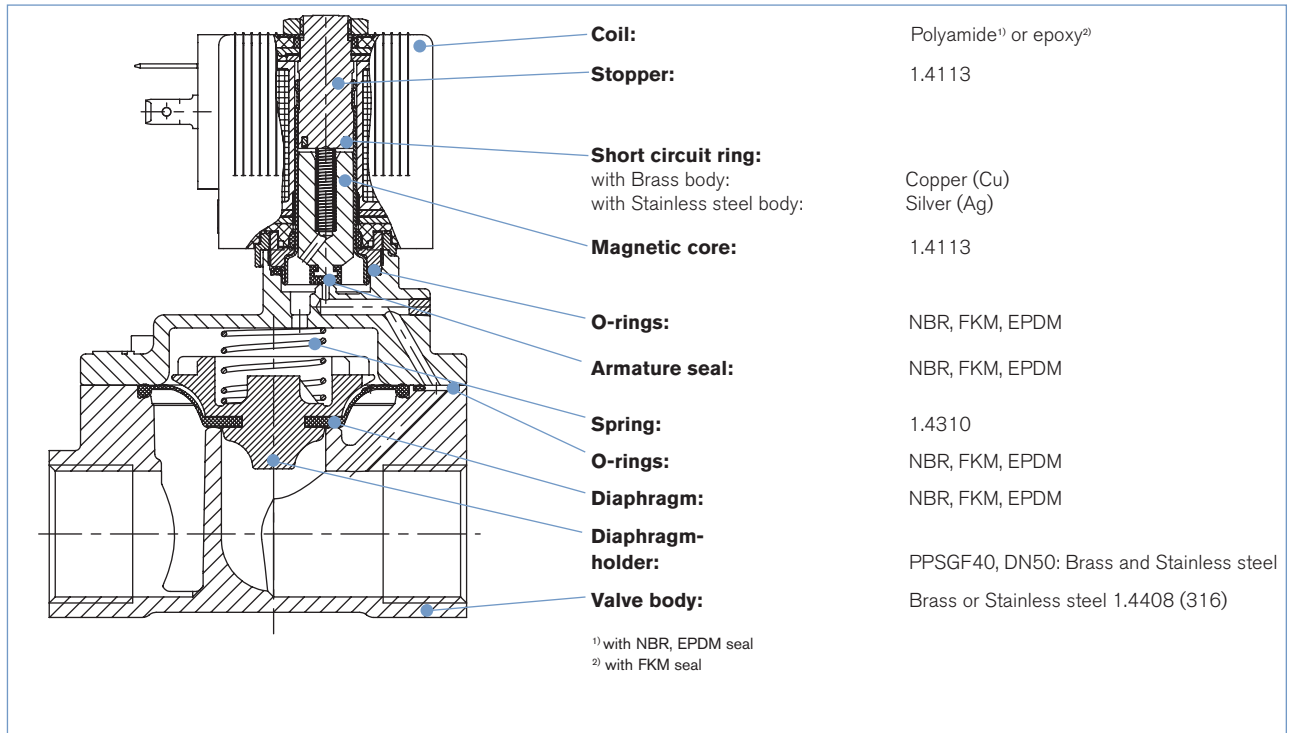
2/2 way valve NC,  
normally closed

**Circuit function B**

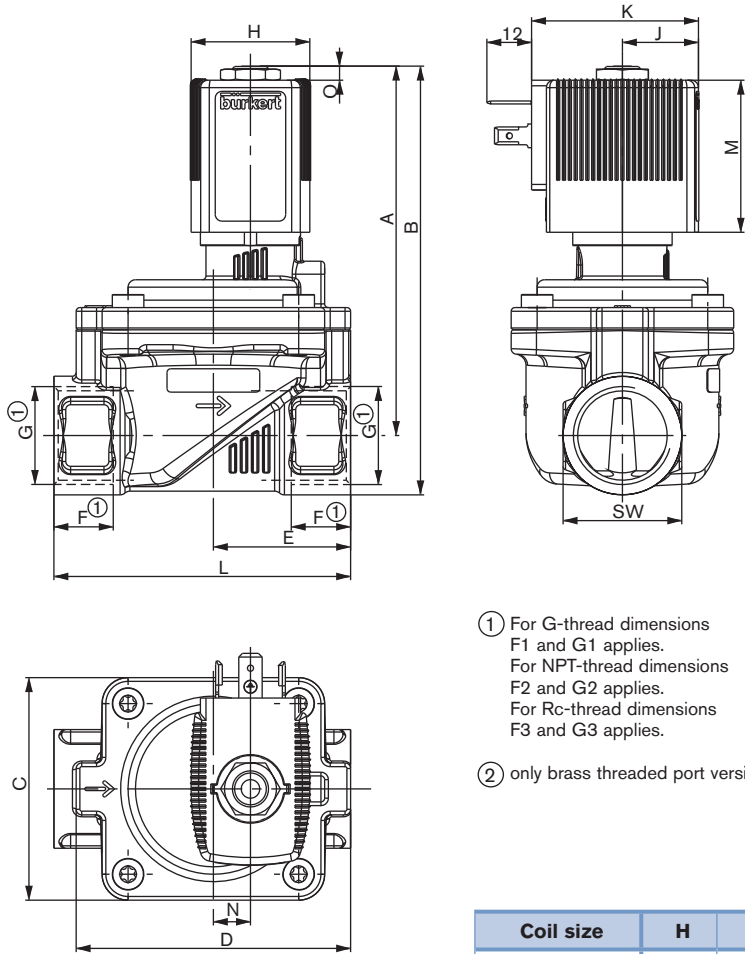


2/2 way valve NO,  
normally open

## Materials



Dimensions [mm]



- ① For G-thread dimensions  
F1 and G1 applies.  
For NPT-thread dimensions  
F2 and G2 applies.  
For Rc-thread dimensions  
F3 and G3 applies.

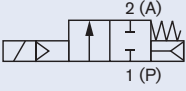
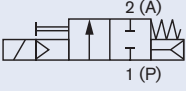
- ② only brass threaded port version

Coil size	H	J	K	M	O
5	32	20.5	45	41	3.4
6	40	23.5	51	41.4	3.8

DN	A	B	C	D	E	* G		* NPT		* Rc		L	SW	N
						F1 <sup>①</sup>	G1 <sup>①</sup>	F2 <sup>①</sup>	G2 <sup>①</sup>	F3 <sup>①</sup>	G3 <sup>①</sup>			
② 13	91.1	104.6	42	54.5	27.25	12	G 3/8	-	-	-	-	58	27	
						14	G 1/2	13.7	NPT 1/2	13.2	Rc 1/2	65	27	
13	93.1	109.1	60	74	32.5	16	G 3/4	14	NPT 3/4	-	-	65	32	
						18	G 1	16.8	NPT 1	-	-	80	41	
20	99.6	115.6	70	85	37	16	G 3/4	14	NPT 3/4	14.5	Rc 3/4	80	32	10
						18	G 1	16.8	NPT 1	16.8	Rc 1	95	41	
25	106.6	127.1	99	114	46	18	G 1	16.8	NPT 1	16.8	Rc 1	95	41	15
						20	G 1 1/4	17.3	NPT 1 1/4	19.1	Rc 1 1/4	95	50	
② 40	120.1	145.1	115	132	61	20	G 1 1/4	17.3	NPT 1 1/4	19.1	Rc 1 1/4	126	50	
						22	G 1 1/2	17.3	NPT 1 1/2		Rc 1 1/2	126	60	
40	125.6	155.6	115	132	64	24	G 2	17.6	NPT 2	23.4	Rc 2	132	70	
						24	G 2	17.6	NPT 2	23.4	Rc 2	164	70	
② 50	119.9	154.9	115	132	82	24	G 2	17.6	NPT 2	23.4	Rc 2	164	70	37
						27	G 2 1/2	23.6	NPT 2 1/2	-	-	179	85	

## Ordering chart for valves (other versions on request)

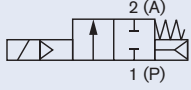
## Circuit function A (NC, normally closed), Brass body

Circuit function	Port connection	Orifice [mm]	Kv value water [m <sup>3</sup> /h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50-60	230/50-60
<b>A 2/2 way valve NC</b> 	<b>Seal material NBR, Polyamide coil, Medium temperature -10...+80 °C</b>							
	G 3/8	13	3.8	0.2-16	0.58	221 841	221 842	221 843
	G 1/2	13	3.8	0.2-16	0.54	221 844	221 845	221 846
	G 3/4	13	3.8	0.2-16	0.59	221 847	221 848	221 849
	G 3/4	20	8.5	0.2-16	0.89	221 850	221 851	221 852
	G 1	20	8.5	0.2-16	1.0	221 853	221 854	221 855
	G 1	25	12	0.2-16	1.3	221 856	221 857	221 858
	G 1 1/4	25	12	0.2-16	1.5	221 859	221 860	221 861
	G 1 1/4	40	23	0.2-16	2.7	270 131	268 550	270 132
	G 1 1/2	40	30	0.2-16	3.0	221 862	221 863	221 864
	G 2	40	30	0.2-16	3.2	221 865	221 866	221 867
	G 2	50	40	0.2-16	4.5	253 156	253 157	253 158
	G 2 1/2	50	40	0.2-16	5.2	253 159	253 160	253 161
<b>A 2/2 way valve NC.</b> manual override 	<b>Seal material NBR, Polyamide coil, Medium temperature -10...+80 °C, with manual override</b>							
	G 1/2	13	3.8	0.2-16	0.54	221 952	–	221 953
	G 3/4	13	3.8	0.2-16	0.59	221 954	–	221 955
	G 3/4	20	8.5	0.2-16	0.89	221 956	–	221 957
	G 1	20	8.5	0.2-16	1.0	221 958	–	221 959
	G 1	25	12	0.2-16	1.3	221 960	–	221 961
	G 1 1/4	25	12	0.2-16	1.5	221 962	–	221 963
	G 1 1/4	40	23	0.2-16	2.7	270 142	–	270 143
	G 1 1/2	40	30	0.2-16	3.0	221 964	–	221 965
	G 2	40	30	0.2-16	3.2	221 966	–	221 967

**Please note** that the cable plug has to be ordered separately, see Ordering chart for accessory and separate datasheet, Type 2508

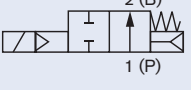
## Ordering chart for valves, continued

## Circuit function A (NC, normally closed), Brass body

Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50-60	230/50-60
<b>A 2/2 way valve NC</b> 	<b>Seal material FKM, Epoxy coil, Medium temperature 0...+120 °C</b>							
	G 3/8	13	3.8	0.2-16	0.58	221 868	221 869	221 870
	G 1/2	13	3.8	0.2-16	0.54	221 871	221 872	221 873
	G 3/4	13	3.8	0.2-16	0.59	221 874	221 875	221 876
	G 3/4	20	8.5	0.2-16	0.89	221 877	221 878	221 879
	G 1	20	8.5	0.2-16	1.0	221 880	221 881	221 882
	G 1	25	12	0.2-16	1.3	221 883	221 884	221 885
	G 1 1/4	25	12	0.2-16	1.5	221 886	221 887	221 888
	G 1 1/4	40	23	0.2-16	2.7	270 133	270 134	270 135
	G 1 1/2	40	30	0.2-16	3.0	221 889	221 890	221 891
	G 2	40	30	0.2-16	3.2	221 892	221 893	221 894
	G 2	50	40	0.2-16	4.5	253 168	253 169	253 170
	G 2 1/2	50	40	0.2-16	5.2	253 171	253 172	253 173
	<b>Seal material EPDM, Polyamide coil, Medium temperature -30...+90 °C</b>							
	G 3/8	13	3.8	0.2-16	0.58	221 895	221 896	221 897
	G 1/2	13	3.8	0.2-16	0.54	221 898	221 899	221 900
	G 3/4	13	3.8	0.2-16	0.59	221 901	221 902	221 903
	G 3/4	20	8.5	0.2-16	0.89	221 904	221 905	221 906
	G 1	20	8.5	0.2-16	1.0	221 907	221 908	221 909
	G 1	25	12	0.2-16	1.3	221 910	221 911	221 912
	G 1 1/4	25	12	0.2-16	1.5	221 913	221 914	221 915
	G 1 1/4	40	23	0.2-16	2.7	270 136	270 137	270 138
	G 1 1/2	40	30	0.2-16	3.0	221 916	221 917	221 918
	G 2	40	30	0.2-16	3.2	221 919	221 920	221 921
	G 2	50*	40	0.2-16	4.5	253 162	253 163	253 164
	G 2 1/2	50*	40	0.2-16	5.2	253 165	253 166	253 167

\*Drinking water approved acc. to KTW and W270.

## Circuit function B (NO, normally open), Brass body

Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
<b>B 2/2 way valve NO</b> 	<b>Seal material NBR, Epoxy coil, Medium temperature -10...+80 °C</b>							
	G 3/8	13	3.8	0.2-16	0.58	221 923	221 924	221 925
	G 1/2	13	3.8	0.2-16	0.54	221 926	221 928	221 929
	G 3/4	13	3.8	0.2-16	0.59	221 930	221 931	221 933
	G 3/4	20	8.5	0.2-16	0.89	221 934	221 935	221 936
	G 1	20	8.5	0.2-16	1.0	221 937	221 938	221 939
	G 1	25	12	0.2-16	1.3	221 940	221 941	221 942
	G 1 1/4	25	12	0.2-16	1.5	221 943	221 944	221 945
	G 1 1/4	40	23	0.2-16	2.7	270 139	270 140	270 141
	G 1 1/2	40	30	0.2-16	3.0	221 946	221 947	221 948
	G 2	40	30	0.2-16	3.2	221 949	221 950	221 951
	G 2	50	40	0.2-16	4.5	253 174	253 175	253 176
	G 2 1/2	50	40	0.2-16	5.2	253 177	253 178	253 179

Please note that the cable plug has to be ordered separately, see Ordering chart for accessory and separate datasheet, Type 2508

Ordering chart for valves, continued

Circuit function A (NC, normally closed), Stainless steel body

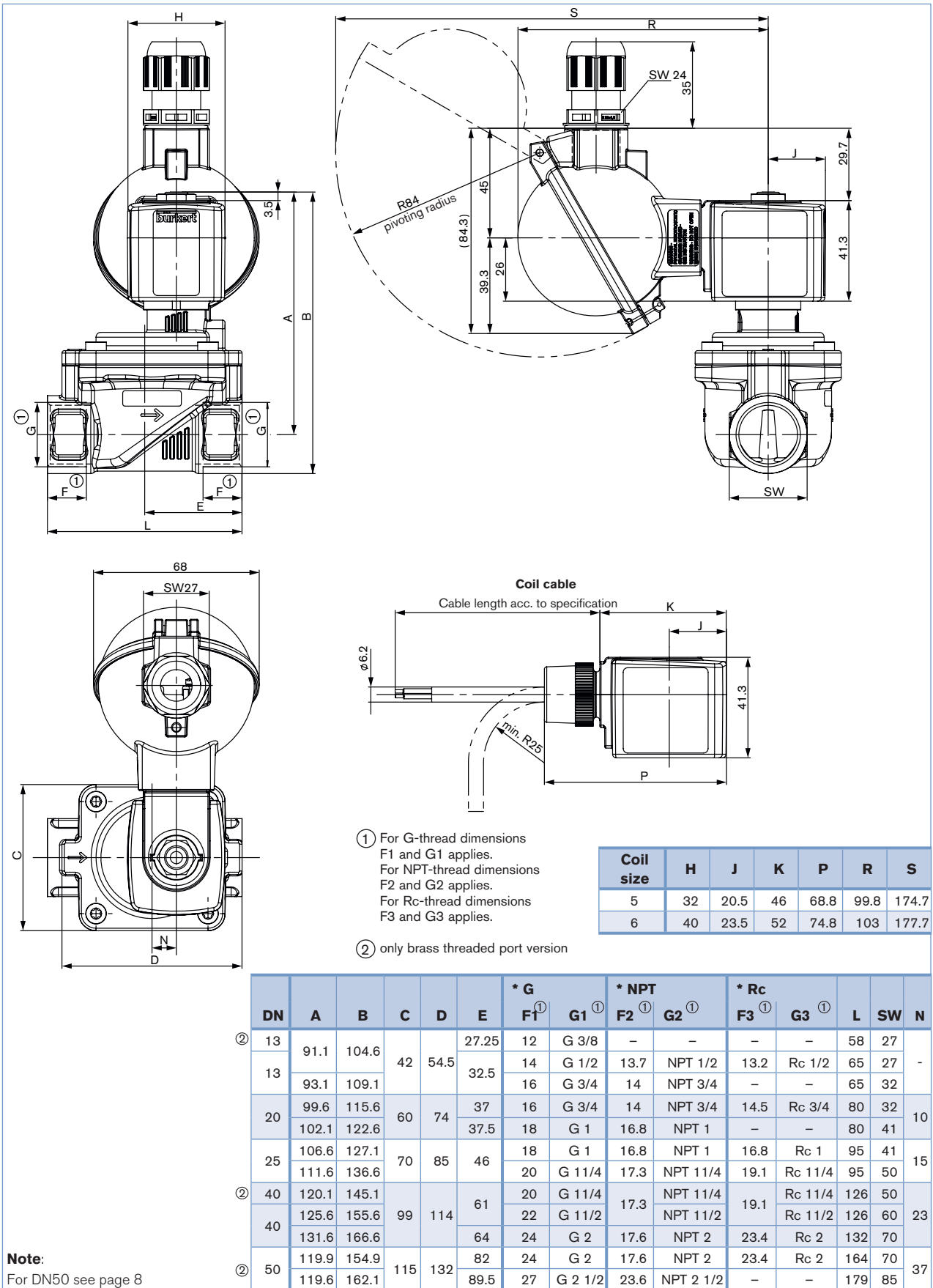
Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50-60	230/50-60
<b>A</b> 2/2 way valve NC 	<b>Seal material NBR, Polyamide coil, Medium temperature -10...+80 °C</b>							
	G 1/2	13	3.8	0.2-16	0.54	221 968	221 969	221 970
	G 3/4	20	8.5	0.2-16	0.86	221 971	221 972	221 973
	G 1	20	8.5	0.2-16	0.97	221 974	221 975	221 976
	G 1	25	12	0.2-16	1.3	221 977	221 978	221 979
	G 1 1/4	25	12	0.2-16	1.4	221 980	221 981	221 982
	G 1 1/2	40	30	0.2-16	2.8	221 983	221 984	221 985
	G 2	40	30	0.2-16	3.0	221 986	221 987	221 988
	<b>Seal material FKM, Epoxy coil, Medium temperature 0...+120 °C</b>							
	G 1/2	13	3.8	0.2-16	0.54	221 989	221 990	221 991
	G 3/4	20	8.5	0.2-16	0.86	221 992	221 993	221 994
	G 1	20	8.5	0.2-16	0.97	221 995	221 996	221 997
	G 1	25	12	0.2-16	1.3	221 998	221 999	222 000
	G 1 1/4	25	12	0.2-16	1.4	222 001	222 002	222 003
	G 1 1/2	40	30	0.2-16	2.8	222 004	222 005	222 006
	G 2	40	30	0.2-16	3.0	222 007	222 008	222 009
	<b>Seal material EPDM, Polyamide coil, Medium temperature -30...+90 °C</b>							
	G 1/2	13	3.8	0.2-16	0.54	222 010	222 011	222 012
	G 3/4	20	8.5	0.2-16	0.86	222 013	222 014	222 015
	G 1	20	8.5	0.2-16	0.97	222 016	222 017	222 018
	G 1	25	12	0.2-16	1.3	222 019	222 020	222 021
	G 1 1/4	25	12	0.2-16	1.4	222 022	222 023	222 024
	G 1 1/2	40	30	0.2-16	2.8	222 025	222 026	222 027
	G 2	40	30	0.2-16	3.0	222 028	222 029	222 031

Circuit function B (NO, normally open), Stainless steel body

Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/DC	024/50	230/50
<b>B</b> 2/2 way valve NO 	<b>Seal material FKM, Epoxy coil, Medium temperature 0...+120 °C</b>							
	G 1/2	13	3.8	0.2-16	0.54	228 387	228 388	228 389
	G 3/4	20	8.5	0.2-16	0.86	228 390	228 391	228 392
	G 1	25	12	0.2-16	1.3	228 393	228 394	228 395
	G 1 1/4	25	12	0.2-16	1.4	228 396	228 397	228 398
	G 1 1/2	40	30	0.2-16	2.8	228 399	228 400	228 401
	G 2	40	30	0.2-16	3.0	228 402	228 403	228 404

Please note that the cable plug has to be ordered separately, see Ordering chart for accessory and separate datasheet, Type 2508

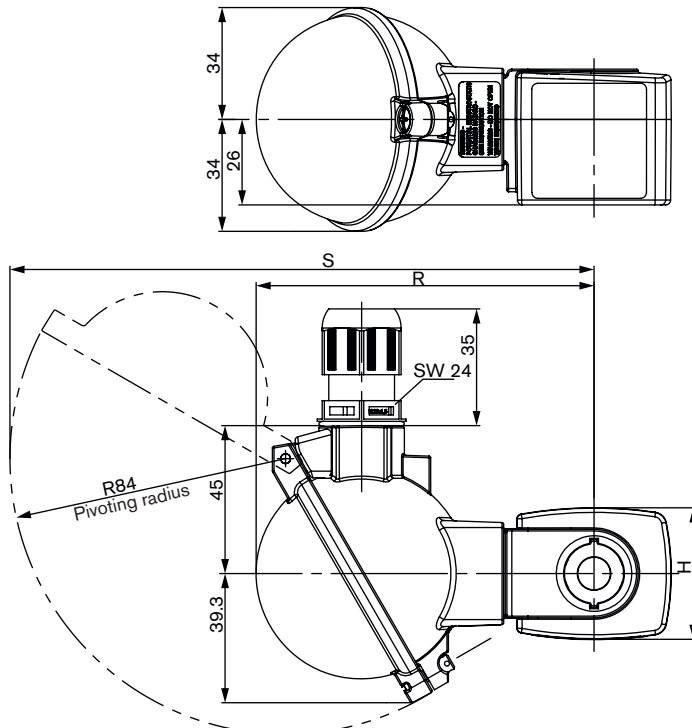
Dimensions [mm] - ATEX



DTS 1000152082 EN Version: H Status: RL (released | freigegeben | valide) printed: 24.10.2016

Dimensions [mm] - ATEX

Rotated view of the junction box



Coil size	H	J	K	P	R	S
5	32	20.5	46	68.8	99.8	174.7
6	40	23.5	52	74.8	103	177.7

**Note:** Standard at DN50



Ordering chart for valves, continued

**Circuit function A, (NC, normally closed)<sup>1)</sup> explosion proofed version ATEX and IECEx  
Electrical connection with 3 m cable**

The maximum fluid temperature must not in any case exceed the permissible temperature class (T4 135 °C, 100 °C T5, T6 85 °C), minus 5 K.

Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/UC	230/UC	
<b>A 2/2 way valve NC</b> 	<b>Seal material NBR, Brass body, Medium temperature -10...+80 °C</b>							
	G 1/2	13	3.8	0.2-16	0.84	277 539	277 535	
	G 3/4	20	8.5	0.2-16	1.2	278 095	278 097	
	G 1	25	12	0.2-16	1.7	277 543	277 540	
	G 1 1/4	25	12	0.2-16	1.8	278 103	278 105	
	G 1 1/4	40	23	0.2-16	3.0	279 557	279 558	
	G 1 1/2	40	30	0.2-16	3.3	278 106	278 107	
	G 2	40	30	0.2-16	3.5	278 191	278 250	
	G 2	50	40	0.2-16	4.8	278 109	278 112	
	G 2 1/2	50	40	0.2-16	5.5	278 248	278 249	
	<b>Seal material FKM, Stainless steel body, Medium temperature 0...+90 °C</b>							
	G 1/2	13	3.8	0.2-16	0.84	277 545	277 544	
	G 3/4	20	8.5	0.2-16	1.2	278 187	278 188	
	G 1	25	12	0.2-16	1.6	277 547	277 546	
	G 1 1/4	25	12	0.2-16	1.7	278 251	278 252	
	G 1 1/2	40	30	0.2-16	3.1	278 193	278 194	
	G 2	40	30	0.2-16	3.3	278 253	278 254	

**Circuit function A, (NC, normally closed)<sup>1)</sup> explosion proofed version ATEX and IECEx  
Electrical connection with junction box**

The maximum fluid temperature must not in any case exceed the permissible temperature class (T4 135 °C, 100 °C T5, T6 85 °C), minus 5 K.

Circuit function	Port connection	Orifice [mm]	Kv value water [m³/h]	Pressure range [bar]	Weight [kg]	Item no. per voltage/frequency [V/Hz]		
						024/UC	230/UC	
<b>A 2/2 way valve NC</b> 	<b>Seal material NBR, Brass body, Medium temperature -10...+80 °C</b>							
	G 1/2	13	3.8	0.2-16	0.84	289 544	289 550	
	G 3/4	20	8.5	0.2-16	1.2	289 560	289 561	
	G 1	25	12	0.2-16	1.7	289 565	289 568	
	G 1 1/4	25	12	0.2-16	1.8	289 571	289 572	
	G 1 1/4	40	23	0.2-16	3.0	289 575	289 576	
	G 1 1/2	40	30	0.2-16	3.3	289 577	289 579	
	G 2	40	30	0.2-16	3.5	289 583	289 584	
	G 2	50	40	0.2-16	4.8	289 587	289 591	
	G 2 1/2	50	40	0.2-16	5.5			
	<b>Seal material FKM, Stainless steel body, Medium temperature 0...+90 °C</b>							
	G 1/2	13	3.8	0.2-16	0.84	289 556	289 557	
	G 3/4	20	8.5	0.2-16	1.2	289 562	289 563	
	G 1	25	12	0.2-16	1.6	289 569	289 570	
	G 1 1/4	25	12	0.2-16	1.7	289 573	289 574	
	G 1 1/2	40	30	0.2-16	3.1	289 580	289 581	
	G 2	40	30	0.2-16	3.3	289 585	289 586	

<sup>1)</sup> only with Epoxy coil available

**Explosion proofed approvals**

ATEX: PTB 14 ATEX 2023 X	IECEX: IECEX PTB 14.0049 X
II 2G Ex mb IIC T4 Gb	Ex mb IIC T4 Gb
II 2D Ex mb IIIC T130 °C Db	Ex mb IIIC T130 °C Db

**ATEX and IECEX approval for the assembly of the coil and the junction box**

ATEX: EPS 16 ATEX 1046 X	IECEX: IECEX EPS 16.0021 X
II 2G Ex eb mb IIC T4 Gb	Ex eb mb IIC T4 Gb
II 2D Ex mb tb IIIC T130 °C Db	Ex mb tb IIIC T130 °C Db

**i Further versions on request**

**Port connection**  
NPT, Rc

**Temperature**  
EPDM version up to +100°C with epoxy coil  
FKM version up to +120°C with epoxy coil


**Voltage**  
Further voltages

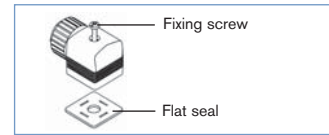
**Material**  
Brass dezincification resistant

**Approvals**  
European gas approval  
EPDM with KTW W270  
VDE mark approval  
acc. to DIN EN 60730

**Ordering chart for accessory**

**Cable plug Type 2508 according to DIN EN 175301-803 Form A**

	Circuitry	Voltage / frequency	Item no.
	None (standard)	0 - 250 V AC/DC	008 376
	further versions see datasheet Type 2508		


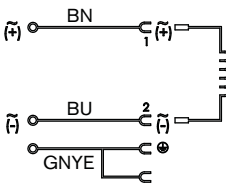


The delivery of a cable plug includes the flat seal and the fixing screw. For other cable plug versions acc. to DIN EN 175301-803 Form A (previously DIN 43650), see separate datasheet Type 2508.

**Cable plug Type 2513 acc. to DIN EN 175301-803, Form A**


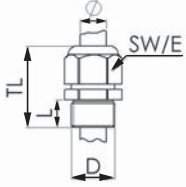

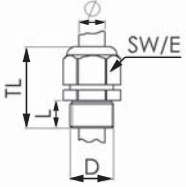
Meets the requirements of ATEX category 3 GD

Should only be used in connection with specially marked devices acc. to ATEX Cat. 3.

		Cable length [mm]	Item no. [in mm]
		12000	260 893
5000	260 892		
3000	260 891		
300	260 890		

**Ex-Cable glands**

(polyamide version included in delivery / surcharge applied for brass nickel plated version)

Photo	Description	Ex Approvals		Item no	Drawing										
		Certification	Identifica-tion												
	Brass, nickel-plated, 6-13 mm	PTB 04 ATEX 1112 X, IECEx PTB 13.0027X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	773 278	 <table border="1"> <tr><td>TL</td><td>29-37 mm</td></tr> <tr><td>L</td><td>6 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>27 mm</td></tr> </table>	TL	29-37 mm	L	6 mm	D	20	SW	24 mm	E	27 mm
TL	29-37 mm														
L	6 mm														
D	20														
SW	24 mm														
E	27 mm														
	Polyamide, 7-13 mm	PTB 13 ATEX 1015 X, IECEx PTB 13.0034X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	773 277	 <table border="1"> <tr><td>TL</td><td>36-45 mm</td></tr> <tr><td>L</td><td>10 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>28 mm</td></tr> </table>	TL	36-45 mm	L	10 mm	D	20	SW	24 mm	E	28 mm
TL	36-45 mm														
L	10 mm														
D	20														
SW	24 mm														
E	28 mm														

**Special tool to turn the junction box (not included in delivery)**

Photo	Description	Item no.
	Set SC02-AC10 Special wrench Service Manual	293 488

To find your nearest Bürkert facility, click on the orange box → [www.buerkert.com](http://www.buerkert.com)

In case of special application conditions, please consult for advice.

Subject to alteration.  
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