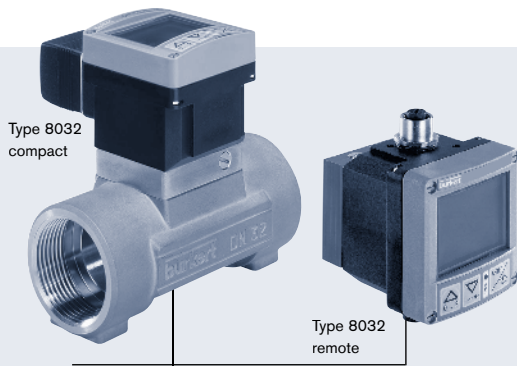
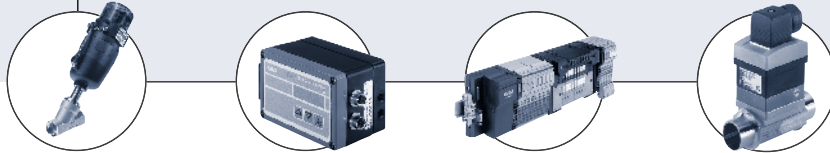


Paddle-wheel flow controller for On/Off control



- Indication, monitoring, transmitting and On/Off control in one device.
- Programmable outputs (Transistor or relay)
- Automatic-calibration: TEACH-IN
- Communication – external setpoints and/or process value (4–20 mA) or AS-interface
- Approvals:

Type 8032 can be combined with...



- Type 2702 (8630)**
Control valve with TopControl
- Type 1067**
Continuous SideControl
- Type 8644-P AirLINE**
Valve Island with electronic I/O
- Type 8030**
Only with 8032 remote

This intelligent paddle-wheel switch with display is designed for use in clear, neutral or aggressive liquids and specially to switch a valve and to establish a monitoring system or an On/Off control loop. The switching points can be programmed with the 3-key keypad under the display or optionally, for the compact 8032 only, from an external source over a 4–20 mA loop.

The compact 8032 is proposed with ON/OFF output, or with external setpoints and/or process value outputs or also in AS-interface version. The remote 8032 has a transistor output. The connection to the process in the piping is done with the quarter-turn technique of the INLINE fittings.

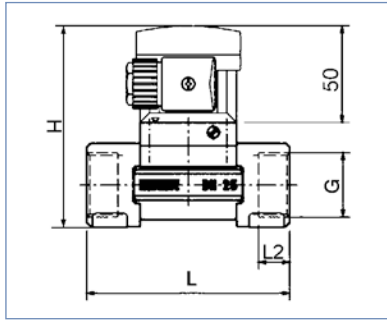
Fitting data	
Pipe diameter	1/4" – 2 1/2" (DN 6 up to DN 65)
Measuring range	1.0 f/s up to 32.8 f/s (0.3 m/s up to 10 m/s)
Fitting	Type S030 (see corresp. data sheet)
Sensor element	Paddle-wheel of the fitting S030
Materials wetted parts	PVDF, ceramic
Medium data	
Medium temperature (max.)	32°F up to 122°F (with PVC fitting) 32°F up to 176°F (with PP fitting) 32°F up to 212°F (with Stainless steel, brass, PVDF fitting)
Fluid pressure max.	140 PSI (PN10) (with plastic fitting) 230 PSI (PN16) (with metal fitting)
Viscosity	300 cSt.
Electronic module data	
Switching accuracy	Teach-In ±1% fs. Standard K-factor ±1% fs., ±3% of measured value
Programming mode	Threshold, window or hysteresis
Repeatability	0.4%
Voltage supply	8032 compact 12–30 VDC 8032 remote Depends on the remote sensor: 8041-→ 18–30 VDC 8020; 8030-→ 12–30 VDC other-→ min.12 VDC, max. 30 VDC
Reversed polarity of DC	Protected
Outputs transistor 8032 remote	NPN and PNP, 700 mA, 30 VDC max.
Outputs 8032	Transistor (programmable) NPN and PNP, open collector, 5–30 VDC, 700 mA max. protected against short circuits Relay (programmable) 3A/250 VAC or 3A/30 VDC 3A/48 VAC or 3A/30 VDC ¹⁾ Process value (option) 4–20mA, galvanic insulation Loop resistance: 1100 Ω at 32 V

Electronic module data (continued)	
	800 Ω at 24 V 500 Ω at 18 V
Input External Setpoint 8032	4-20 mA, galvanic insulation Max. input impedance: 250 Ω
Input frequency 8032 remote	Pulse signal: 2 to 400 Hz Input impedance: 10 kΩ
Fieldbus	AS-Interface
Current consumption	8032 Max. 80 mA (no load) 8032 remote Max. 50 mA (no load) + remote sensor current consumption
Materials	Housing PC +20% glass fiber Seal FKM (EPDM option) Front panel folio Polyester Wall-mounted holder PVC
Electrical connections	Cable plug EN 175301-803 Multipin 5 pin M12/ 4 pin M12 / 8 pin M12
General data	
Ambient temperature	32°F up to 140°F (0 to 60 °C)
Voltage supply cable	Cross-section 0.14 up to 0.5 mm ² Recommended length Max. 100m, shielded
Remote sensor connection length	Max. length /Max. cross-section 50 m / 0.5 mm ²
Protection class	IP65 with cable plug
Standards	EMC EN 50081-1, 50082 -2 Security EN 61010-2 Vibration EN 60068-2-6 Shock EN 60068-2-27

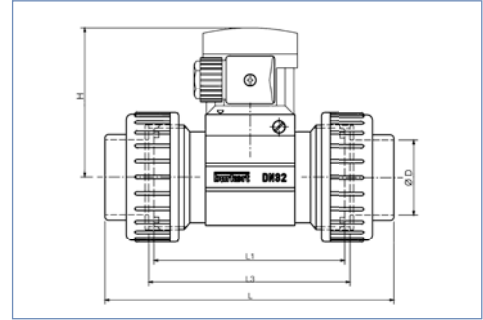
¹⁾Valid for: External setpoint input, process value output and AS-interface

Dimensions [mm]

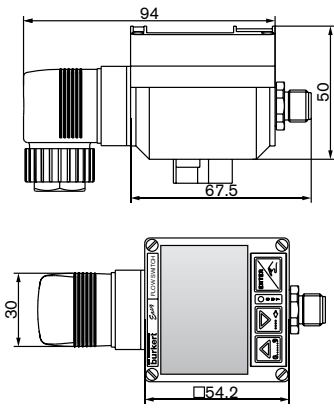
Type 8032 with brass or stainless steel fitting and threaded port connection. (Dimensions: see ordering chart for Type S030 compact body)



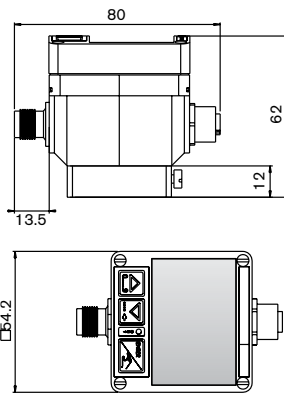
Plastic fitting with solvent or welded socket and union nut. (Dimensions: see ordering chart for Type S030 compact body)



8032 compact

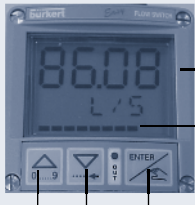


8032 remote



Main features

Display



Large digital display with 8 characters (4 digital characters and 4 alphanumeric characters)

Bargraph

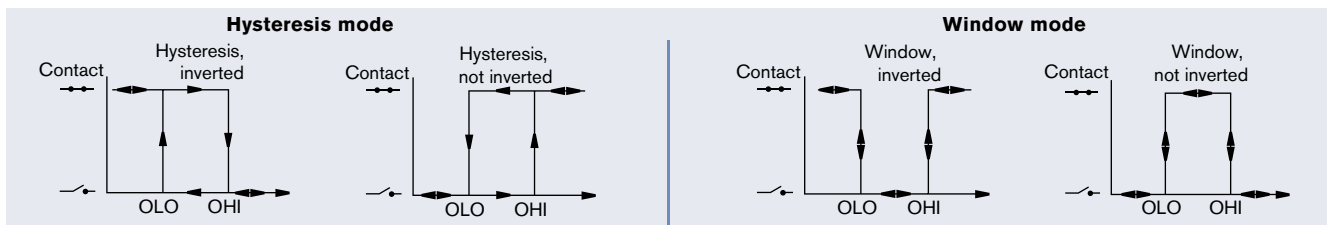
3 keys to go through the menus and program the device

Software main features

- International measuring units
- 10-segment bargraph
- Teach-In for a better accuracy
- Simulation mode to test the programming of the switching points, in dry conditions

8032 with standard On/Off output

- 2 switching modes for the output, either hysteresis or window, inverted or not



- Programmable delay before switching
- Possible outputs depending on the version: relay, transistor NPN, transistor PNP.

Main features (continued)

► **8032 with external setpoint option**

The switching points are automatically adjusted by the 4-20 mA input signal originating from a PLC.

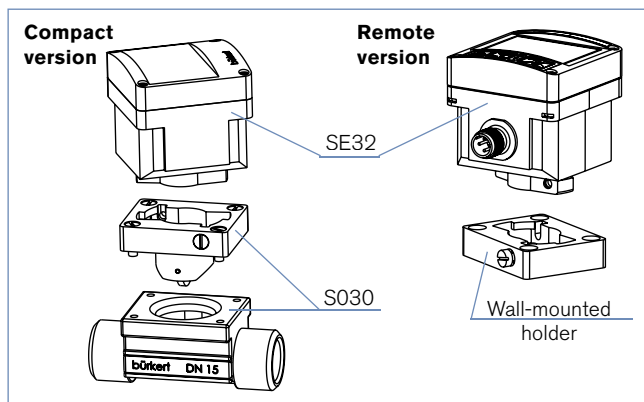
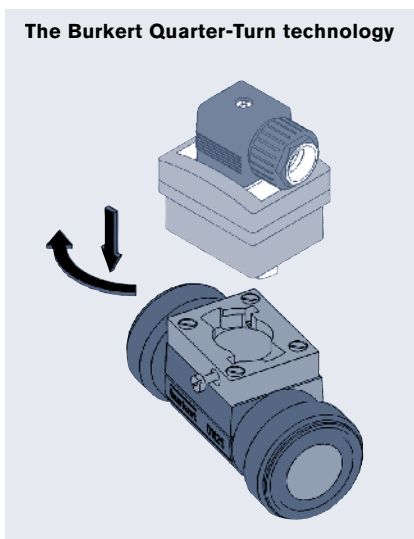
- Power supplied by the PLC
- On/Off relay output

► **8032 with process value option**

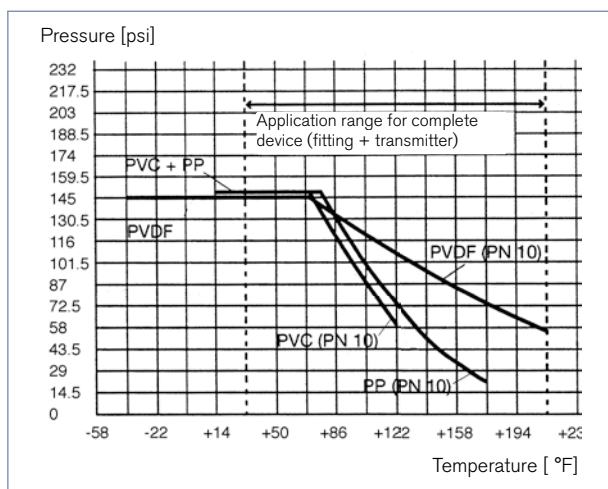
This version delivers an electric signal whose value is the image of the measured quantity.

- On/Off relay output
- 4-20 mA output
- External setpoint (4-20 mA input)

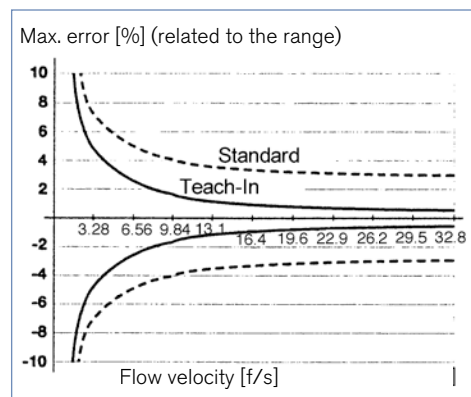
Design



Pressure-temperature chart for plastic fittings with INLINE sensors



Errors-in-measurement chart



Presentation of max. errors in measurement in %
 Standard: $\leq \pm(0.5\% \text{ o.F.S.} + 2.5\% \text{ o.R.})$
 Teach-In: $\leq \pm 0.5\% \text{ o.F.S.}$
 o.F.S. = of Full Scale (32.8 ft/s)
 o.R. = of Reading

Ordering charts

A compact flow controller Type 8032 consists of 2 basis units as follows:

1. Compact electronic module SE32
2. INLINE fitting S030 (has to be ordered separately - see corresponding data sheet)

Ordering chart display and electronic type SE32 for fitting S030

Voltage/ frequency	Inputs	Outputs	Connection possibilities	Item no. *
12 - 30 VDC	-	NPN transistor	Conduit cable plug Type 2508, DIN 43650	US08572
	-	PNP transistor	Conduit cable plug Type 2508, DIN 43650	US08571
	-	NPN and PNP transistors	5-pin circular connector M12	US08570
	-	NPN and PNP transistors (UR/CSA approved)	5-pin circular connector M12	US09678
	-	Relay	5-pin circular connector M12 and conduit cable plug type 2508 DIN 43650	US08569
	4-20 mA ¹⁾	Relay	5-pin circular connector M12 and conduit cable plug type 2508 DIN 43650	US08568
ASi Bus	ASi	ASi + Relay	4-pin circular connector M12 and conduit cable plug type 2508 DIN 43650	US08567
12 - 30 VDC	4-20 mA ¹⁾	4-20 mA ²⁾ + Relay	8-pin circular connector M12 and conduit cable plug type 2508 DIN 43650	US08566

¹⁾External setpoint ²⁾Process value output

* Includes all necessary electrical plugs

Ordering chart for display / electronics for Type 8032 remote

A remote controller Type 8032 consists of 2 basis units as follows:

1. Remote electronic module SE32
2. Flow sensor type 8020, 8030, 8030-HT, 804 or 8070 - frequency output with pulse signal (see corresponding data sheet).

Display and electronics Type 8032 remote version

Voltage supply	Input	Output	Connector	Item no. *
12-30 VDC	frequency	NPN and PNP	M12 male 5 pins and M12 female 4 pins	US07552

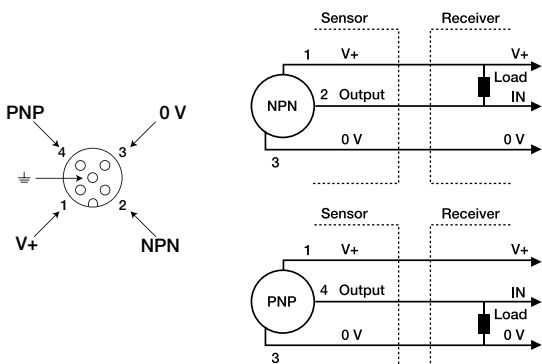
* Includes all necessary electrical plugs

Ordering chart for accessories

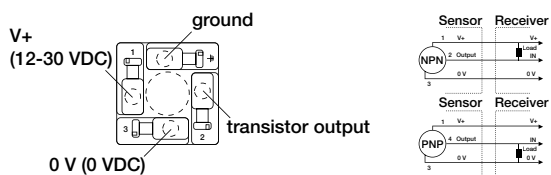
Accessories	Item no.
5-pin M12 female cable connector with plastic threaded locking ring	917 116
5-pin M12 female connector moulded-on cable (2 m, shielded)	438 680
4-pin M12 male cable connector with plastic threaded locking ring	448 856
4-pin M12 male connector moulded-on cable (2 m, shielded)	448 857
8-pin M12 female cable connector with plastic threaded locking ring	444 799
8-pin M12 female connector moulded-on cable (2 m)	444 800
2-pin M12 female coupler module for ribbon cable (AS-Interface version only)	440 653

Electrical connections

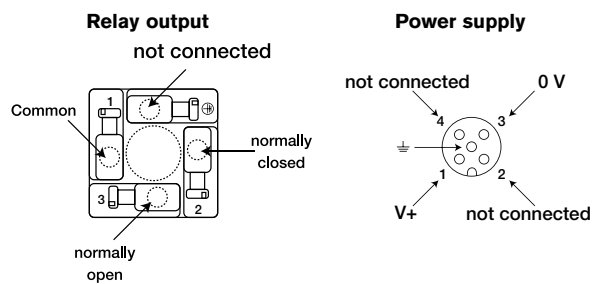
Transistor version (NPN/PNP)



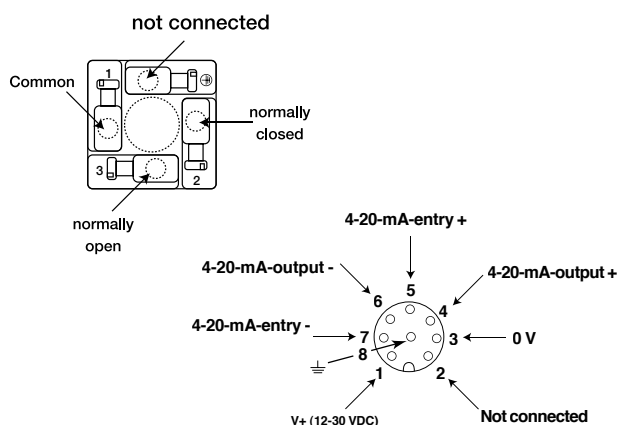
Transistor version NPN or PNP with cable plug 2508



Relay version



Relay version with external set point and process valve

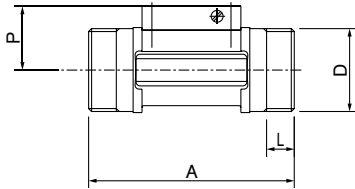


DTS 1000082466 EN Version: B Status: RL (released | freigegeben | validé) printed: 20.01.2015

INLINE fitting dimensions [mm]

Internal thread
Stainless steel (316L - 1,4404)
or brass (CuZn39Pb2)

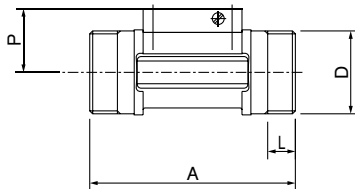
NPT
G
Rc



Orifice DN [mm]	P [mm]	A [mm]	D [inch]	L [mm]
1/2" (15)	34.5	85.0	NPT 1/2	17.0
			G 1/2	16.0
			Rc 1/2	15.0
3/4" (20)	32.0	95.0	NPT 3/4	18.3
			G 3/4	17.0
			Rc 3/4	16.3
1" (25)	32.2	105.0	NPT 1	18.0
			G 1	23.5
			Rc 1	18.0
1 1/4" (32)	35.8	120.0	NPT 1 1/4	21.0
			G 1 1/4	23.5
			Rc 1 1/4	21.0
1 1/2" (40)	39.6	130.0	NPT 1 1/2	20.0
			G 1 1/2	23.5
			Rc 1 1/2	19.0
2" (50)	45.7	150.0	NPT 2	24.0
			G 2	27.5
			Rc 2	24.0

Externall thread
Stainless steel (316L - 1,4404)
or brass (CuZn39Pb2)
or PVC (only DN6 and 8)
or PVDF (only DN 8)

G

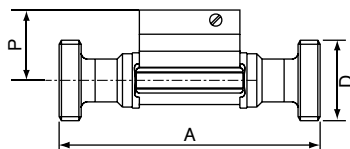


Orifice DN [mm]	P [mm]	A [mm]	D [inch]	D [mm]	L [mm]
1/4" (15)	29.5	90.0	1/4 or 1/2**	-	14.0
5/16 (8)	29.5	90.0	1/2**	M16 x 1.5	14.0
1/2" (15)	34.5	84.0	G 3/4	-	11.5
3/4" (20)	32.0	94.0	G 1	-	13.5
1" (25)	32.2	104.0	G 1 1/4	-	14.0
1 1/4" (32)	35.8	119.0	G 1 1/2	-	18.0
1 1/2" (40)	39.6	129.0	-	M 55 x 2	19.0
2" (50)	45.7	149.0	-	M 64 x 2	20.0

** NPT, G or RC according fitting version

Externall thread
Stainless steel (316L - 1,4404)

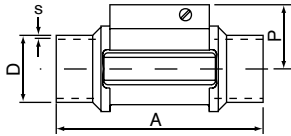
SMS1145



Orifice DN [mm]	P [mm]	A [mm]	D
25	32.0	130	Rd40 x 1/6"
40	35.8	164	Rd60 x 1/6"
50	39.6	173	Rd70 x 1/6"

INLINE fitting dimensions [mm]

Welding ends
Stainless steel (316L - 1,4404)
BS 4825 / ASME BPE
ISO 4200
SMS 3008
DIN 11850 Rg2

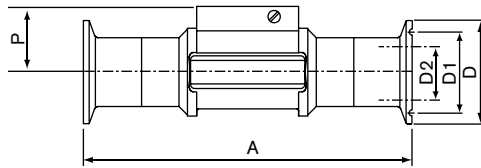


Orifice DN [mm]	P [mm]	A [mm]	Standard	D [mm]	S [mm]
5/16" (08)	29.5	90.0	ISO 4200 - SMS 3008 ASME BPE DIN 11850 Rg2	- - - 13.00	- - - 1.50
1/2" (15)	34.5	84.0	ISO 4200 21.30 SMS 3008 ASME BPE DIN 11850 Rg2	1.60 - - 19.00	- - - 1.50
3/4" (20)	32.0 34.5	94.0 84.0	ISO 4200 26.90 SMS 3008 ASME BPE DIN 11850 Rg2	1.60 20.00 19.05 23.00	1.00 1.65 1.50
1" (25)	32.2 32.0	104.0 94.0	ISO 4200 33.70 SMS 3008 BS 4825/ASME BPE DIN 11850 Rg2	2.00 25.00 25.40 29.00	1.20 1.65 1.50
1 1/4" (32)	35.8 32.2	119.0 104.0	ISO 4200 42.40 SMS 3008 BS 4825/ASME BPE DIN 11850 RG2	2.00 - 32.00 35.00	- 1.60 1.50
1 1/2" (40)	39.6 35.8	129.0 119.0	ISO 4200 48.30 SMS 3008 BS 4825/ASME BPE DIN 11850 Rg2	2.00 38.00 38.10 41.00	1.20 1.65 1.50
2" (50)	45.7 39.6	149.0 128.0	ISO 4200 60.30 SMS 3008 BS 4820/ASME BPE DIN 11850 Rg2	2.00 51.00 50.80 53.00	1.20 1.65 1.50
2 1/2" (65)	45.7	147.0	ISO 4200 - SMS 3008 BS 4825/ASME BPE DIN 11850 Rg2	- 63.50 63.50 -	1.60 1.65 -

INLINE fitting dimensions [mm]

Tri-Clamp®
Stainless steel (316L - 1,4404)
BS 4825 / ASME BPE*
ISO (for pipe ISO 4200)
SMS 3017 / ISO 2852*
DIN 32676

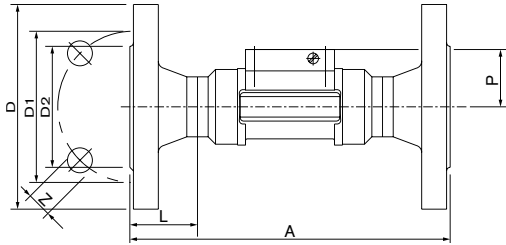
*Available with internal surface finish Ra=0.8µm



Orifice DN [mm]	P [mm]	A [mm]	Standard	D2 [mm]	D1 [mm]	D [mm]
5/16" (08)	-	-	ISO (for pipe ISO 4200)	-	-	-
			SMS 3017/ISO 2852	-	-	-
			ASME BPE	-	-	-
			DIN 32676	10.00	27.5	34.0
1/2" (15)	34.5	130.0	ISO (for pipe ISO 4200)	18.1	27.5	34.0
			SMS 3017/ISO 2852	-	-	-
			ASME BPE	-	-	-
			DIN 32676	16.00	27.5	34.0
3/4" (20)	32.0	150.0	ISO (for pipe ISO 4200)	23.7	43.5	50.5
			SMS 3017/ISO 2852	-	-	-
	34.5	-	ASME BPE	15.75	-	25.0
			DIN 32676	22.00	27.5	34.0
1" (25)	32.2	160.0	ISO (for pipe ISO 4200)	29.7	43.5	50.5
			SMS 3017/ISO 2852	22.6	43.5	50.5
	32.0	129.0	BS 4825/ASME BPE	22.1	43.5	50.5
			DIN 32676	26.0	43.5	50.5
1 1/4" (32)	35.8	180.0	ISO (for pipe ISO 4200)	38.4	43.5	50.5
			SMS 3017/ISO 2852	-	-	-
	-	-	ASME BPE	-	-	-
			DIN 32676	-	-	-
1 1/2" (40)	39.6	200.0	ISO (for pipe ISO 4200)	44.3	56.5	64.0
			SMS 3017/ISO 2852	35.6	43.5	50.5
	35.8	161.0	BS 4825/ASME BPE	34.8	43.5	50.5
			DIN 32676	38.0	43.5	50.5
2" (50)	45.7	230.0	ISO (for pipe ISO 4200)	55.1	70.5	77.5
			SMS 3017/ISO 2852	48.6	56.5	64.0
	39.6	192.0	BS 4825/ASME BPE	47.5	56.5	64.0
			DIN 32676	50.0	56.5	64.0
2 1/2" (65)	45.7	216.0	SMS 3017/ISO 2852	60.3	70.5	77.5
			BS 4825/ASME BPE	60.2	70.5	77.5
			DIN 32676	-	-	-

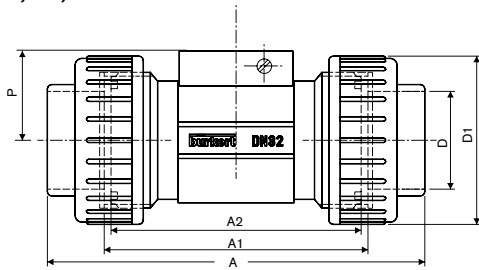
INLINE fitting dimensions [mm]

Flange
Stainless steel (316L - 1,4404)
ANSI B16-5-1988
DIN 2633 (ISO PN16)
JIS 10K



Orifice DN [mm]	P [mm]	A		NORM	L [mm]	Z [mm]	D2 [mm]	D1 [mm]	D [mm]				
		DIN/ ANSI [mm]	JIS [mm]										
1/2" (15)	34.5	130.0	152.0	DIN	23.5	4x14.0	45.0	65.0	95.0				
				ANSI						4x15.8	60.3	89.0	
				JIS						4x15.0	51.0	70.0	95.0
3/4" (20)	32.0	150.0	178.0	DIN	28.5	4x14.0	58.0	75.0	105.0				
				ANSI						4x15.8	42.9	69.8	99.0
				JIS						4x15.0	56.0	75.0	100.0
1" (25)	32.2	160.0	216.0	DIN	28.5	4x14.0	68.0	85.0	115.0				
				ANSI						4x15.8	50.8	79.4	108.0
				JIS						4x19.0	67.0	90.0	125.0
1 1/4" (32)	35.8	180.0	229.0	DIN	31.0	4x18.0	78.0	100.0	140.0				
				ANSI						4x15.8	63.5	88.9	117.0
				JIS						4x19.0	76.0	135.0	135.0
1 1/2" (40)	39.6	200.0	241.0	DIN	36.0	4x18.0	88.0	110.0	150.0				
				ANSI						4x15.8	73.0	98.4	127.0
				JIS						4x19.0	81.0	105.0	140.0
2" (50)	45.7	230.0	267.0	DIN	41.0	4x18.0	102.0	125.0	165.0				
				ANSI						4x19.0	92.1	120.6	152.0
				JIS						4x19.0	96.0	120.0	155.0

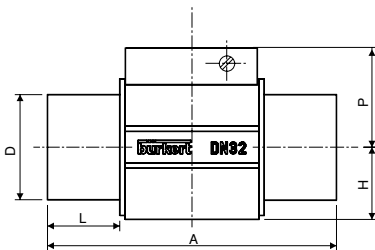
True union nut
with solvent or fusion spigot
PVC, PP, PVDF



Orifice ADN [mm]	P	D1	A			D			A2	A1
			DIN	ANSI	JIS	[DIN]	[ANSI]	[JIS]		
1/4" (08)*	29.5		122	-	-	12	-	-	90	92
1/2" (15)	34.5	43	128	130.0	129	20	21.3	18.40	90	96
3/4" (20)	32.0	53	144	146.5	145	25	26.7	26.45	100	106
1" (25)	32.2	60	160	161.4	161	32	33.4	32.55	110	116
1/4" (32)	35.8	74	168	170.0	169	40	42.2	38.60	110	116
1 1/2" (40)	39.6	83	188	190.2	190	50	48.3	48.70	120	127
2" (50)	45.7	103	212	213.6	213	63	60.3	60.80	130	136

Solvent or fusion spigot

PVC, PP, PVDF



Orifice DN [mm]	D [mm]	H [mm]	A		L		P [mm]
			PVC [mm]	PP PVDF [mm]	PVC [mm]	PP PVDF [mm]	
15	20	17.5	90	85	16.5	14	34.5
20	25	17.5	100	92	20.0	16	32.0
25	32	21.5	110	95	23.0	18	32.2
32	40	27.5	110	100	27.5	20	35.8
40	50	31.5	120	106	30.0	23	39.6
50	63	39.5	130	110	37.0	27	45.7

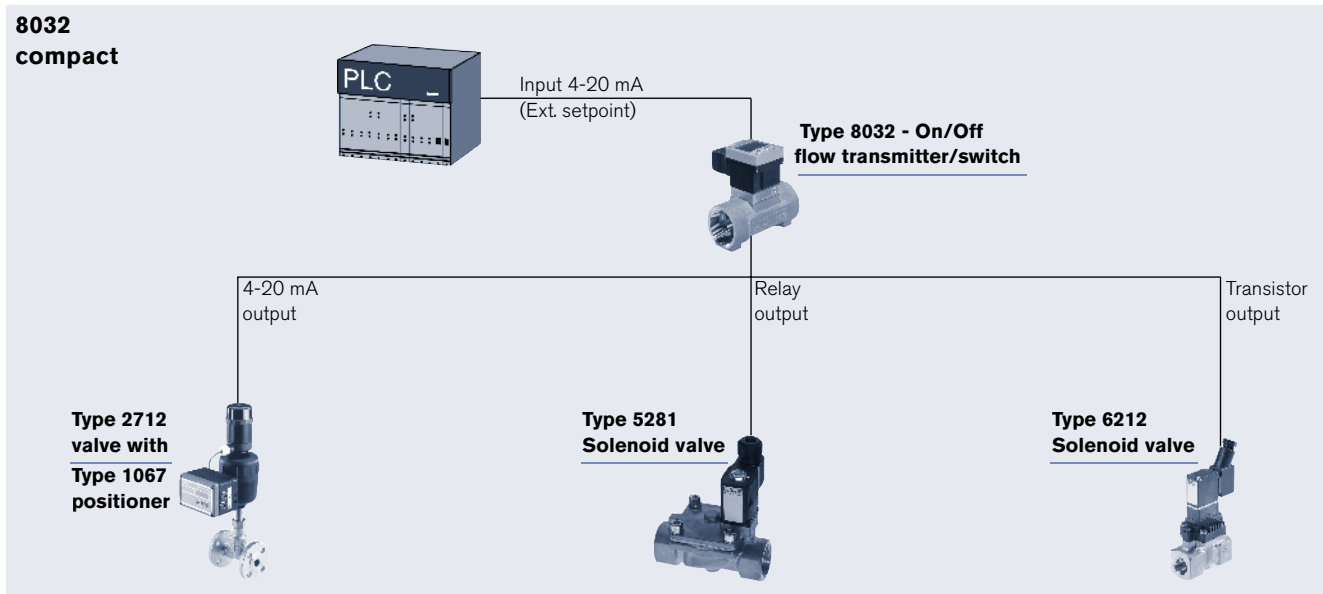
Ordering chart for fitting S030

Port connection	Specification		Item no. / Orifice									
	Seal	Standards	1/4" (DN6)	5/16" (DN 8)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	1 1/4" (DN 32)	1 1/2" (DN 40)	2" (DN 50)	2 1/2" (DN 65)	
Brass - with PVDF paddle-wheel - Temperature max. 212°F, 230 PSI (PN16)												
Internal thread	FKM	NPT	---	---	---	423 986	423 987	423 988	423 989	423 990	423 991	---
		G	---	---	---	423 980	423 981	423 982	424 983	424 984	424 985	---
		Rc (ISO7)	---	---	---	423 992	423 993	423 994	424 995	424 996	424 997	---
External thread	FKM	NPT	---	---	449 182	---	---	---	---	---	---	---
		G	552 557 ¹⁾	552 527 ²⁾	444 023	423 998	423 999	424 000	424 001	424 002	424 003	---
		Rc (ISO7)	---	---	448 668	---	---	---	---	---	---	---
Metric	FKM		---	---	16 x 1.5 mm 552 526	---	---	---	---	---	---	
Stainless steel - with PVDF paddle-wheel - Temperature max. 212°F, 230 PSI (PN16)												
Internal thread	FKM	NPT	---	---	---	424 010	424 011	424 012	424 013	424 014	424 015	---
		G	---	---	---	424 004	424 005	424 006	424 007	424 008	424 009	---
		Rc (ISO7)	---	---	---	424 016	424 017	424 018	424 019	424 020	424 021	---
External thread	FKM	NPT	---	---	449 050	---	---	---	---	---	---	---
		G	552 733 ¹⁾	552 559 ²⁾	444 029	424 022	424 023	424 024	424 025	424 026	424 027	---
		Rc (ISO7)	---	---	448 669	---	---	---	---	---	---	---
Weld ends	FKM	ISO 4200	---	---	552 845 ³⁾	424 028	424 029	424 030	424 031	424 032	424 033	---
		EPDM	BS4825 / ASME BPE	---	---	---	443 369 ⁴⁾	443 370	443 371	443 372	443 373	443 374
		EPDM	SMS 3008	---	---	---	---	443 298	---	443 299	443 300	443 301
		EPDM	DIN 11850 Rg2	---	---	551 788	551 789	551 790	551 791	---	551 792	551 793
Tri-Clamp®	FKM	ISO (for pipe ISO4200)	---	---	---	424 034	424 035	424 036	424 037	424 038	424 039	---
		EPDM	BS4825/ASME BPE	---	---	---	443 395	443 396	---	443 397	443 398	443 399
		EPDM	SMS3017/ISO2852	---	---	---	---	443 302	---	443 303	443 304	443 305
		EPDM	BS4825/ASME BPE*	---	---	---	443 400	443 717	---	443 718	443 719	443 720
		EPDM	SMS3017/ISO2852*	---	---	---	---	443 387	---	443 388	443 389	443 390
		EPDM	DIN 32676	---	---	551 794	551 795	551 796	551 797	---	551 798	551 799
Flange	FKM	ANSI B16-5-1988	---	---	---	424 046	424 047	424 048	424 049	424 050	424 051	---
		DIN 2633	---	---	---	424 040	424 041	424 042	424 043	424 044	424 045	---
		JIS 10K	---	---	---	430 108	430 109	430 110	430 111	430 112	430 113	---
Stainless steel - with PVDF paddle-wheel - Temperature max. 212°F, 580 PSI (PN40)												
External thread	FKM	G	---	---	---	427 138	425 737	425 729	427 152	427 153	427 154	---
* internal surface finish Ra = 0.8 µm												
port connection	Specification		Item no. / Orifice									
	Seal	Standards	1/4" (DN 6)	5/16" (DN 8)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	1 1/4" (DN 32)	1 1/2" (DN 40)	2" (DN 50)	2 1/2" (DN 65)	
PVC - with PVDF paddle-wheel - Temperature max. 122°F, 140 PSI (PN10)												
True union - solvent spigot	FKM	North America version	---	---	423 950	423 951	423 952	423 953	423 954	423 955	---	
		ISO	---	444 022	423 938	423 939	423 940	423 941	423 942	423 943	---	
		Standard JIS	---	---	429 072	429 073	429 074	429 075	429 076	429 077	---	
Solvent ends	FKM	ISO	---	---	423 944	423 945	423 946	423 947	423 948	423 949	---	
External thread	FKM	G	552 560 ²⁾	444 025 ²⁾	---	---	---	---	---	---	---	
True union without spigot	FKM		---	---	430 734	430 735	430 736	430 737	430 738	430 739	---	
		EPDM	---	---	430 740	430 741	430 742	430 743	430 744	430 745	---	
PP (metric pipe only)- with PVDF paddle-wheel - Temperature max. 176°F, 140 PSI (PN10)												
True union - solvent spigot	FKM	ISO	---	---	423 956	423 957	423 958	423 959	423 960	423 961	---	
Solvent ends	FKM	ISO	---	---	423 962	423 963	423 964	423 965	423 966	423 967	---	
PVDF (metric pipe only)- with PVDF paddle-wheel - Temperature max. 212°F, 140 PSI (PN10)												
True union - solvent spigot	FKM	ISO	---	---	423 968	423 969	423 970	423 971	423 972	423 973	---	
Solvent ends	FKM	ISO	---	---	423 974	423 975	423 976	423 977	423 978	423 979	---	
External thread	FKM	G	---	444 028 ²⁾	---	---	---	---	---	---	---	

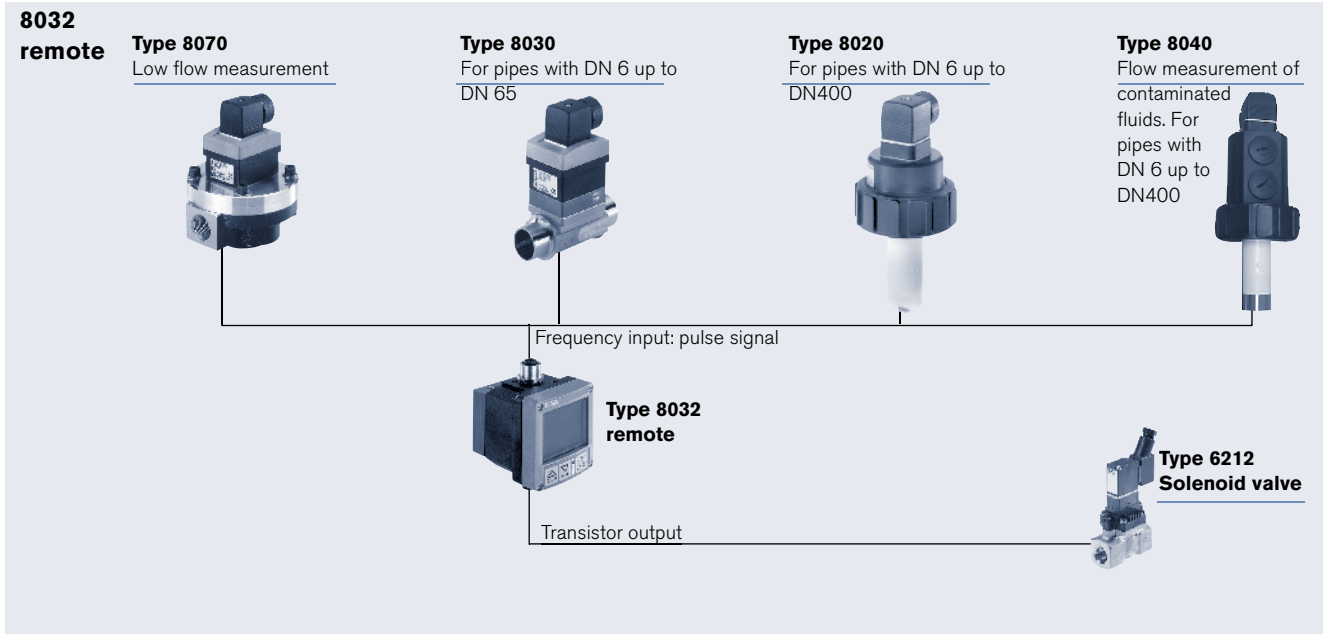
1) external thread 1/4" 2) external thread 1/2" 3) EPDM Seal 4) DN20 only available in ASME BPE

Interconnection possibilities with the 8032

8032 compact



8032 remote



DTS 1000082466 EN Version: B Status: RL (released | freigegeben | validé) printed: 20.01.2015

