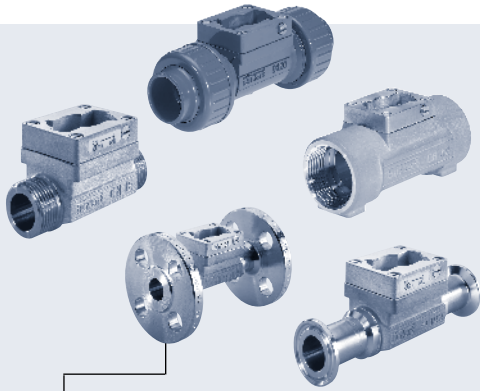


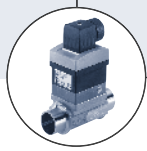
S030 Metal & Plastic

INLINE fitting with paddle-wheel for flow measurement

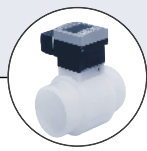


- Orifice pipe diameters 1/4" (DN 6) to 2 1/2" (DN 65)
- Closed pipe system, i.e. sensor paddlewheel inside fitting
- Quarter-Turn technology
- Electronics available for:
 - Indication, Monitoring, Transmitting,
 - On/Off control, Batch control

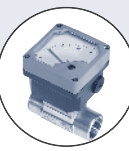
Type S030 can be combined with...



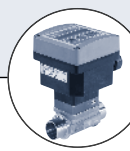
Type 8030
Control flow sensor



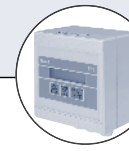
Type 8032
On/Off flow sensor/switch



Type 8034
Flow indicator



Type 8035
Control flow transmitter



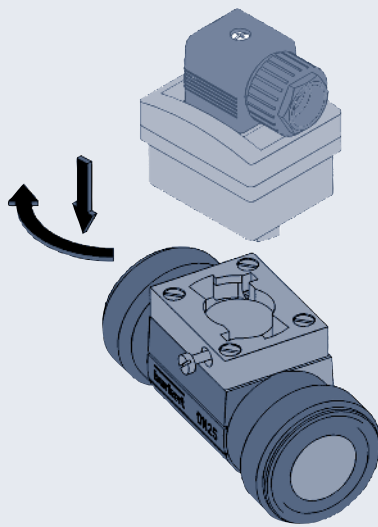
Type 8025
Control flow transmitter (remote)



Type 8023
Blind converter modules

The fitting S030 has a built-in paddle-wheel to measure the flowrate. When liquid flows through the pipe, the paddle-wheel is set in rotation producing pulses which frequency is proportional to the flowrate. This leads to a leak proof construction called the "INLINE Quarter-Turn" technology. The paddle-wheel rotation is detected contactless through the fitting wall. The sensor unit can be snapped-on or removed without opening the pipe or interrupting the process.

The Burkert Quarter-Turn technology



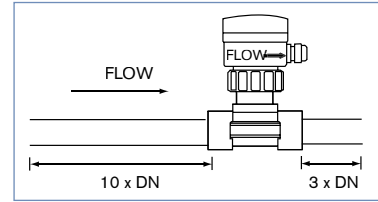
Fitting data	
Pipe diameter	1/4" (DN 6) up to 2 1/2" (DN 65)
Measuring range	1.0 f/s (0.3 m/s) up to 32.8 f/s (10 m/s) (see flow diagram)
Accuracy	Individual works calibration Standard mean K-factor
	≤ ±0.5% of full scale (at 32.8 f/s)* (on request) ≤ ±(0.5% of full scale + 2.5% of reading)*
Linearity	≤ ±0.5% of full scale (at 32.8 f/s)*
Repeatability	0.4% of reading*
Fitting port connections	Metal Plastic
	Internal or external thread, weld ends, Tri-clamp, flange Union nut and spigot, solvent joint, weld ends external thread
Materials	Seal Body Screws Paddle-wheel Shaft and bearing
	FKM or EPDM (depending on version, see ordering chart) Stainless steel (316L-1.4404), brass (CuZn39Pb2), PVC, PP or PVDF Stainless steel (316L-1.4404) PVDF (PP on request) or (Stainless steel, see datasheet 8030HT) Ceramics (Al ₂ O ₃)
Medium data	
Medium temperature (max.)	Stainless steel, brass, PVDF PP PVC
	212°F (100°C) 176°F (80°C) 122°F (50°C)
Fluid pressure max.	Plastic Metal
	140 PSI (PN 10) 230 PSI (PN16) (580 PSI on request)
Fluid	Clean, neutral or slightly aggressive, solid-free liquids
	Solide particles rate Viscosity
	Max. 1%, size of particles 0.5mm max. Max. 300cSt.
General data	
Ambient temperature	5°F to 140°F (-15°C to +60°C) (depending on electronics)
Approval / Certificate on request	3.1B Certificate 2.2 Certificate Rugosity Certificate Calibration Certificate FDA (with EPDM seal) – Stainless steel fitting only

* Under reference conditions, i.e. measuring fluid = water, ambient and water temperature = 68°F, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

Measuring principle and installation

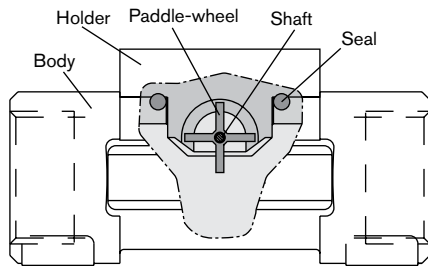
The sensor part consists of a transducer and an open cell paddle-wheel. When liquid flows through the pipe, the paddle-wheel is set in rotation producing a measuring signal in the transducer. The frequency and amplitude are proportional to the flow. The minimum straight upstream (10 x DN) and downstream (3 x DN) must be observed. According to pipe's design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy. For more informations, please refer to EN ISO 5167-1.

The fitting can be installed in either horizontal or vertical pipes. Pressure and temperature ratings must be respected according to the selected fitting material (see pressure/temperature chart). The suitable fitting size is selected using the diagrams of selection.

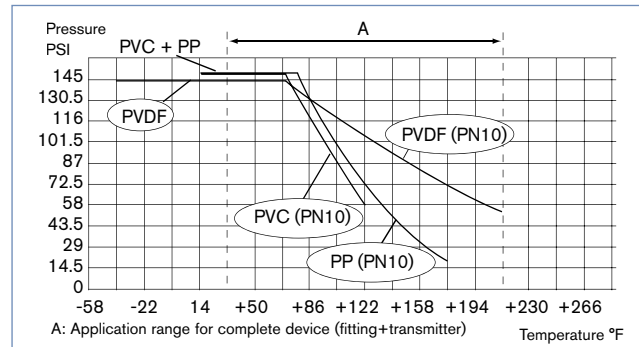


Conception

Fitting inner design



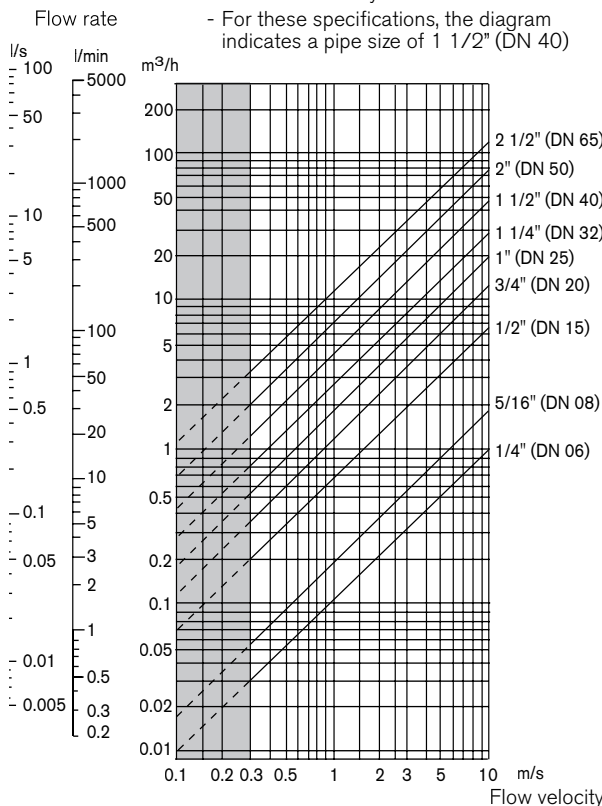
Pressure/temperature chart (for plastic)



Selection of fitting / pipe size

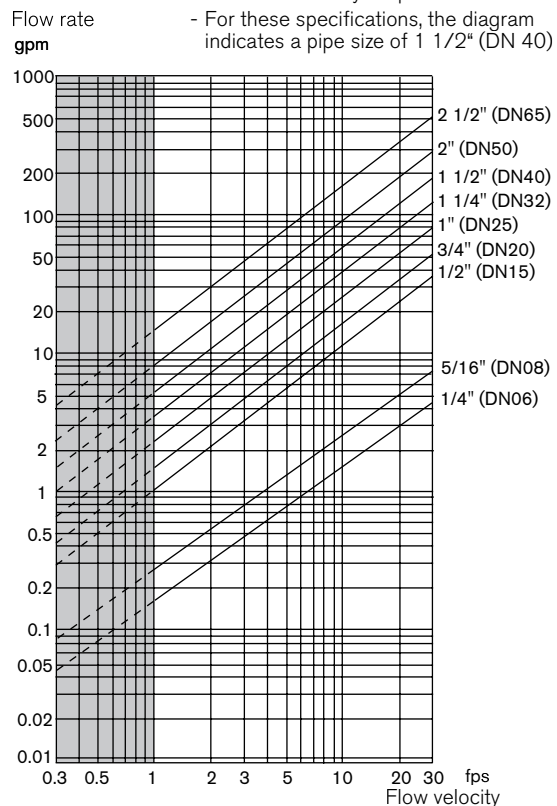
Exam 1:

- Specification of nominal flow: 10 m³/h
- Ideal flow velocity: 2...3m/s
- For these specifications, the diagram indicates a pipe size of 1 1/2" (DN 40)



Example 2:

- Specification of nominal flow: 50 gpm
- Ideal flow velocity: 8 fps
- For these specifications, the diagram indicates a pipe size of 1 1/2" (DN 40)

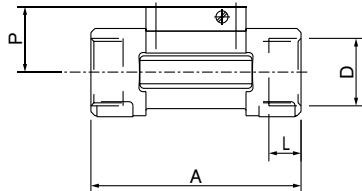


DTS 1000082505 EN Version: - Status: RL (released | freigegeben | validé) printed: 30.06.2006

INLINE fitting dimensions [mm]

Internal thread
Stainless steel (316L - 1.4404)
or brass (CuZn39Pb2)

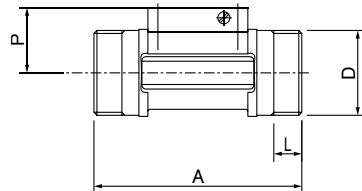
NPT
G
Rc



Orifice DN [mm]	P [mm]	A [mm]	D [mm]	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

External thread
Stainless steel (316L - 1.4404)
or brass (CuZn39Pb2)
or PVC (only DN6 and 8)
or PVDF (only DN 8)

G

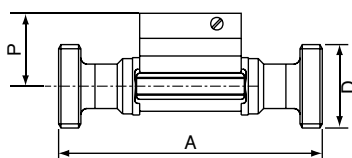


Orifice DN [mm]	P [mm]	A [mm]	D		L [mm]
			[inch]	[mm]	
1/4" (6)	29.5	90.0	1/4 or 1/2**	-	14.0
5/16" (8)	29.5	90.0	1/2**	M16x1.5	14.0
1/2" (15)	34.5	84.0	G 3/4	-	11.5
3/4" (20)	32.0	94.0	G 1	-	13.5
1" (25)	32.2	104.0	G 1 1/4	-	14.0
1 1/4" (32)	35.8	119.0	G 1 1/2	-	18.0
1 1/2" (40)	39.6	129.0	-	M 55 x 2	19.0
2" (50)	45.7	149.0	-	M 64 x 2	20.0

** NPT, G, or RC according fitting version

External thread
Stainless steel (316L - 1.4404)

SMS1145

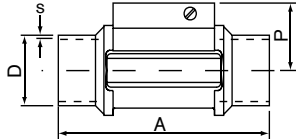


Orifice DN [mm]	P [mm]	A [mm]	D
25	32.0	130	Rd40 x 1/6"
40	35.8	164	Rd60 x 1/6"
50	39.6	173	Rd70 x 1/6"

INLINE fitting dimensions [mm]

Welding ends
Stainless steel (316L - 1.4404)

BS 4825 / ASME BPE
ISO 4200
SMS 3008
DIN 11850 Rg2

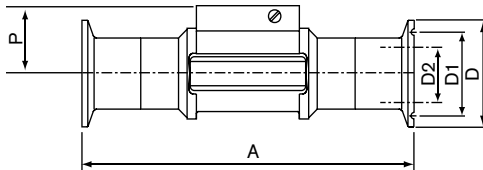


Orifice DN [mm]	P [mm]	A [mm]	Standard	D [mm]	s [mm]
5/16" (08)	29.5	90.0	ISO 4200	-	-
			SMS 3008	-	-
			ASME BPE	-	-
			DIN 11850 Rg2	13.00	1.50
1/2" (15)	34.5	84.0	ISO 4200	21.30	1.60
			SMS 3008	-	-
			ASME BPE	-	-
			DIN 11850 Rg2	19.00	1.50
3/4" (20)	32.0	94.0	ISO 4200	26.90	1.60
			SMS 3008	20.00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

Tri-Clamp®
Stainless steel (316L - 1.4404)

BS 4825/ASME BPE*
ISO (for pipe ISO4200)
SMS 3017 / ISO 2852*
DIN 32676

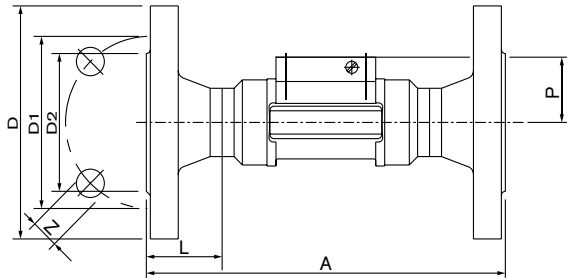
*Available with internal surface finish Ra=0.8µm



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)	18.10	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)	23.70	43.5	50.5
			SMS 3017/ISO 2852	-	-	-
	34.5		ASME BPE	15.75	-	25.0
				DIN 32676	22.00	27.5
1" (25)	32.2	160.0	ISO (for pipe ISO 4200)	29.70	43.5	50.5
			SMS 3017/ISO 2852	22.60	43.5	50.5
	32.0	129.0	BS 4825/ASME BPE	22.10	43.5	50.5
			DIN 32676	26.00	43.5	50.5
1 1/4" (32)	35.8	180.0	ISO (for pipe ISO 4200)	38.40	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)	44.30	56.5	64.0
			SMS 3017/ISO 2852	35.60	43.5	50.5
	35.8	161.0	BS 4825/ASME BPE	34.80	43.5	50.5
			DIN 32676	38.00	43.5	50.5
2" (50)	45.7	230.0	ISO (for pipe ISO 4200)	55.10	70.5	77.5
			SMS 3017/ISO 2852	48.60	56.5	64.0
	39.6	192.0	BS 4825/ASME BPE	47.50	56.5	64.0
			DIN 32676	50.00	56.5	64.0
2 1/2" (65)	45.7	216.0	SMS 3017/ISO 2852	60.30	70.5	77.5
			BS 4825/ASME BPE	60.20	70.5	77.5
			DIN 32676	-	-	-
			-	-	-	

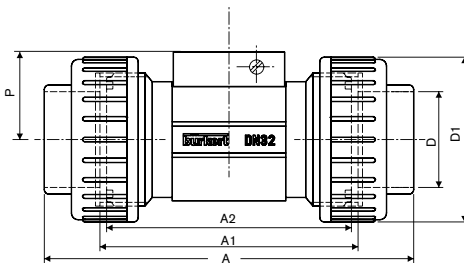
INLINE fitting dimensions [mm]

Flange
Stainless steel (316L - 1.4404)
ANSI B16-5-1988
DIN 2633 (ISO PN16)
JIS 10K



Orifice DN	P	A	NORM	L	Z	D2	D1	D
[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]
1/2" (15)	34.5	130.0	DIN ANSI JIS	23.5	4x14.0 4x15.8 4x15.0	45.0 34.9 51.0	65.0 60.3 70.0	95.0 89.0 95.0
3/4" (20)	32.0	150.0	DIN ANSI JIS	28.5	4x14.0 4x15.8 4x15.0	58.0 42.9 56.0	75.0 69.8 75.0	95.0 89.0 95.0
1" (25)	32.2	160.0	DIN ANSI JIS	28.5	4x14.0 4x15.8 4x19.0	68.0 50.8 67.0	85.0 79.4 90.0	95.0 89.0 95.0
1 1/4" (32)	35.8	180.0	DIN ANSI JIS	31.0	4x18.0 4x15.8 4x19.0	78.0 63.5 76.0	100.0 88.9 100.0	95.0 89.0 95.0
1 1/2" (40)	39.6	200.0	DIN ANSI JIS	36.0	4x18.0 4x15.8 4x19.0	88.0 73.0 81.0	110.0 98.4 105.0	95.0 89.0 95.0
2" (50)	45.7	230.0	DIN ANSI JIS	41.0	4x18.0 4x19.0 4x19.0	102.0 92.1 96.0	125.0 120.6 120.0	95.0 89.0 95.0

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

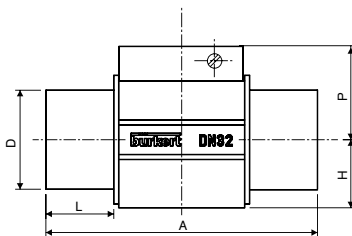


Orifice	P	D1	A			D			A2	A1
ADN [mm]			DIN	ANSI	JIS	(DIN)	(ANSI)	(JIS)		
1/4" (08)*	29.5		122	-	-	12	-	-	90	92
1/2" (15)	34.5	43	128	130.0	129	20	21.3	18.40	90	96
3/4" (20)	32.0	53	144	145.6	145	25	26.7	26.45	100	106
1" (25)	32.2	60	160	161.4	161	32	33.4	32.55	110	116
1 1/4" (32)	35.8	74	168	170.0	169	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

* Available only in PVC

Solvent or fusion spigot

PVC, PP, PVDF



Orifice DN	D	H	A		L		P
			PVC	PP PVDF	PVC	PP PVDF	
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[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	EPDM	SMS 1145	-	-	-	-	-	443 306	-	443 307	443 308	-
		FKM ISO 4200	-	-	552 845 ³⁾	424 028	424 029	424 030	424 031	424 032	424 033	-
		BS4825 / ASME BPE	-	-	-	-	443 369 ⁴⁾	443 370	443 371	443 372	443 373	443 374
		SMS 3008	-	-	-	-	-	443 298	-	443 299	443 300	443 301
Tri-Clamp®	EPDM	DIN 11850 Rg2	-	-	551 788	551 789	551 790	551 791	-	551 792	551 793	-
		FKM ISO (for pipe ISO4200)	-	-	-	424 034	424 035	424 036	424 037	424 038	424 039	-
		BS4825/ASME BPE	-	-	-	-	443 395	443 396	-	443 397	443 398	443 399
		SMS3017/ISO2852	-	-	-	-	-	443 302	-	443 303	443 304	443 305
		BS4825/ASME BPE*	-	-	-	-	443 400	443 717	-	443 718	443 719	443 720
SMS3017/ISO2852*	-	-	-	-	-	443 387	-	443 388	443 389	443 390		
Flange	FKM	DIN 32676	-	-	551 794	551 795	551 796	551 797	-	551 798	551 799	-
		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	-
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 * internal surface finish Ra = 0.8 µm

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Ordering chart for accessories / spare parts (other versions on request)

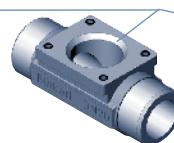
Accessories	Item no. (standard)
O-Ring set	
For metal fitting	
FKM 1/4" to 2 1/2" (DN 8 to DN 65)	426 340
EPDM 1/4" to 2 1/2" (DN 8 to DN 65)	426 341
For plastic fitting	
FKM - 1/4" (DN 8)	448 679
FKM - 1/2" (DN 15)	431 555
FKM - 3/4" (DN 20)	431 556
FKM - 1" (DN 25)	431 557
FKM - 1 1/4" (DN 32)	431 558
FKM - 1 1/2" (DN 40)	431 558
FKM - 2" (DN 50)	431 556
EPDM - 1/4" (DN 8)	448 680
EPDM - 1/2" (DN 15)	431 561
EPDM - 3/4" (DN 20)	431 562
EPDM - 1" (DN 25)	431 563
EPDM - 1 1/4" (DN 32)	431 564
EPDM - 1 1/2" (DN 40)	431 565
EPDM - 2" (DN 50)	431 566
Sensor holder set	
Stainless steel	
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/4" (DN 8)	448 678
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 306
Flowing-through paddle-wheel (PVDF), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 305
Flowing-through paddle-wheel (PP), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	449 425
Flowing-through paddle-wheel (PVDF), gasket (EPDM), screws and certificate, Ra int. = 0.8 µm for 1/2" to 2 1/2" (DN 15 to 65)	434 149
Brass	
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/4" (DN 8)	448 677
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 304
Flowing-through paddle-wheel (PVDF), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 303
Flowing-through paddle-wheel (PP), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	449 866
PVC	
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/4" (DN 8)	448 674
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 298
Flowing-through paddle-wheel (PVDF), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 297
Flowing-through paddle-wheel (PP), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	443 982
PP	
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 300
Flowing-through paddle-wheel (PVDF), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 299
Flowing-through paddle-wheel (PP), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	443 983
PVDF	
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/4" (DN 8)	448 676
Flowing-through paddle-wheel (PVDF), gasket (FKM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 302
Flowing-through paddle-wheel (PVDF), gasket (EPDM), screws and certificate for 1/2" to 2 1/2" (DN 15 to 65)	432 301
Approval / Certificate	
3.1B certificate	440 790
2.2 certificate	440 789
Rugosity certificate	444 898
Calibration certificate	550 676
FDA - approval	449 788

Accessories drawing:

O-ring set for plastic fitting



Sensor holder set

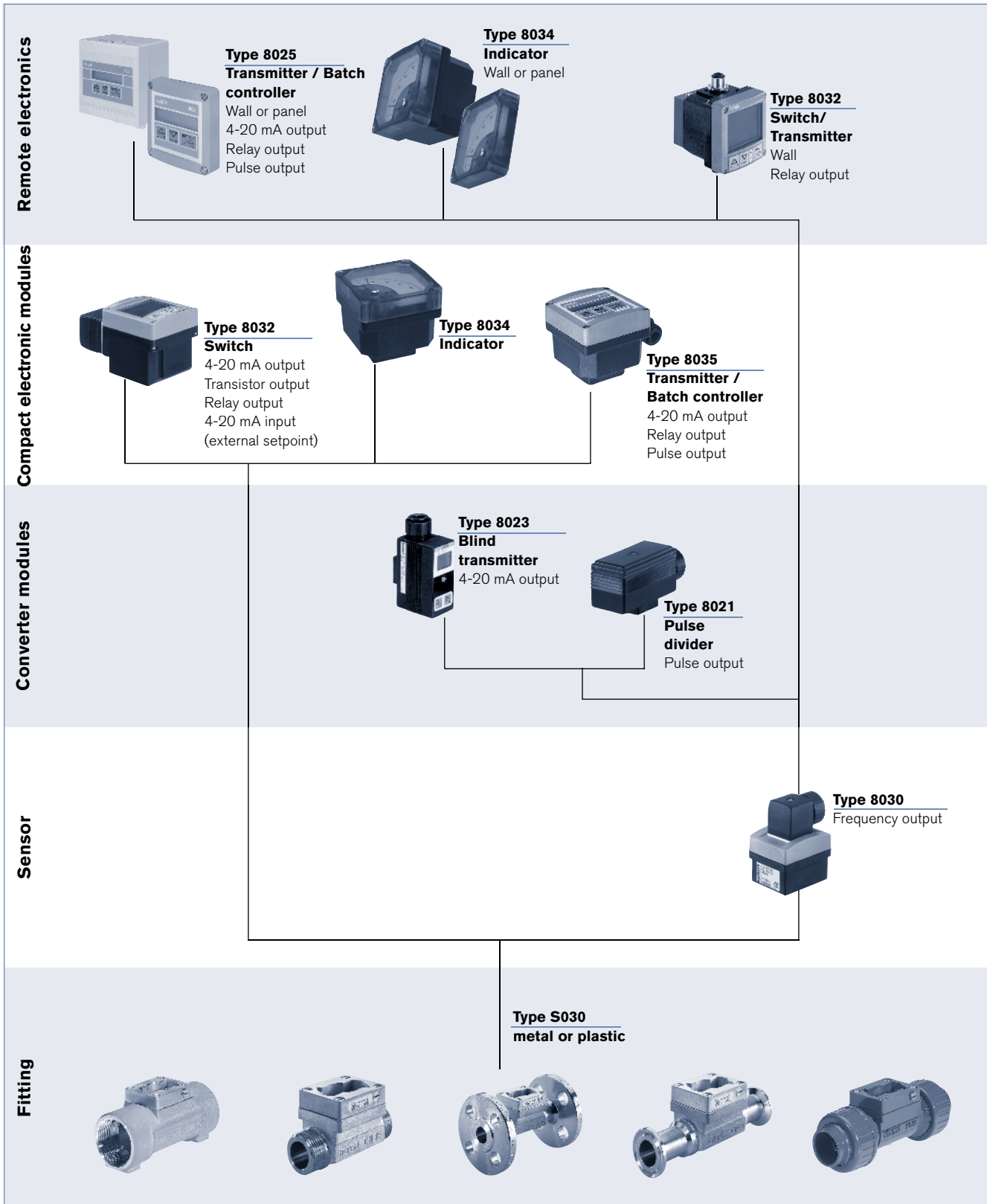


O-ring set for metal fitting

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Selection of fitting / pipe size

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

We reserve the right to make technical changes without notice.

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