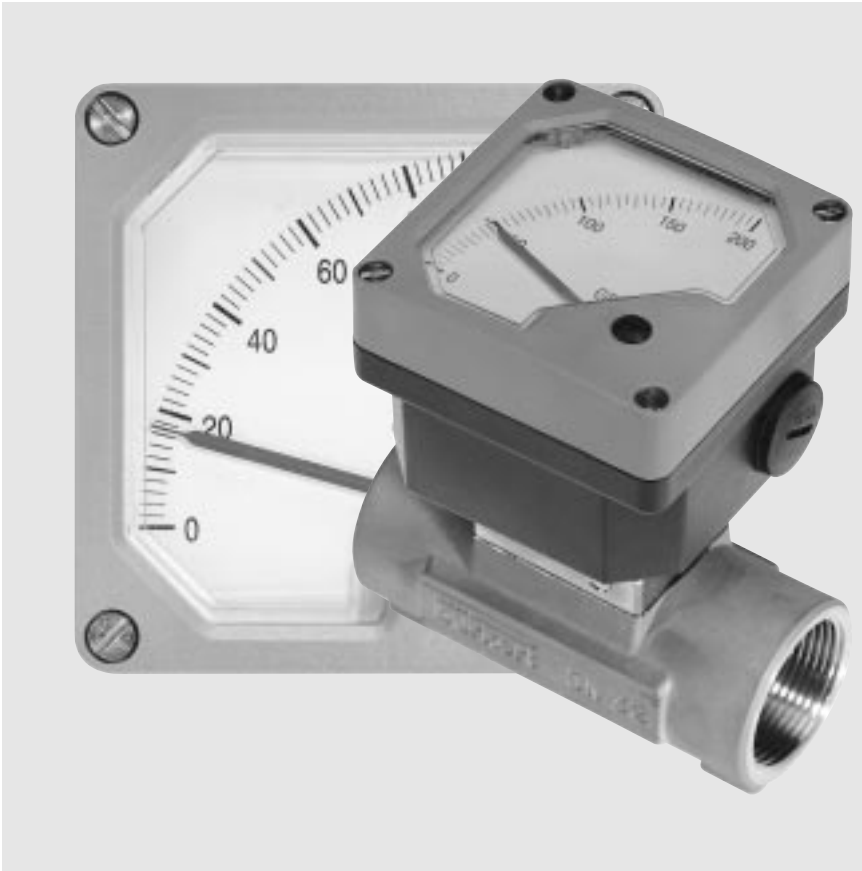


Analogue Flow Rate Indicator, DN 15...50; PN 10...16



Advantages / Benefits

- ▶ Reduced costs of ownership up to 60%
- ▶ Economic integration in pipe systems without any additional piping
- ▶ Shows flow rate with a large scaled analogue display to provide clear readability
- ▶ Adjustable flow range with standard scales for high flexibility
- ▶ Compact version for easy installation in pipe systems
- ▶ Remote indication away from the sensor for easy meter reading
- ▶ 1.5 V battery version or power supply 12-30 VDC
- ▶ Fittings available for plastic stainless steel and brass

Design

The paddle wheel flow rate indicator 8034 for continuous flow measurement is specially designed for use in neutral and slightly aggressive, solid free liquids. The measuring principle is based on a local velocity measurement.

The indicator is supplied by two 1.5 V batteries as a stand alone solution or by an external 12-30 VDC power supply. The external powered version has an integrated limit switch for Easy Link valve connection (on request).

The meter in compact version with the electronics and display on the top ensures simple installation of the device into all pipes from DN 15 – DN 50.

The remote version allows the electronics to be mounted with the

display on the wall or in a panel away from the inline sensor SE30 for easy meter reading.

A large range of standardized scales compatible to the sizes of the ROTAMETERS as well as customized scales are available.

- For aggressive and solid free liquids
- Paddlewheel-sensor, 1:30 measurement dynamic (max. 10 m/s)
- Compact version for INLINE fitting type S030 in stainless steel, brass or plastic material
- Remote Indication with separated display box for wall or panel mounting connected with coil or hall sensor SE30 for fitting type S030.

Application

Flow Rate Indication of Liquids

Water treatment and process technology

Industrial waste water treatment

Liquids in food industry

Cooling water monitoring

Utilities

Replace traditional Rotameters

bürkert
Easy Fluid Control Systems

Design

The compact flow indicator combines a flow sensor and an electronic module SE34 with an analogue display in an IP 65 enclosure.

The sensor part consists of a coil transducer and an open-cell paddle-wheel. The electronics converts the measured signal and displays the actual flow rate.

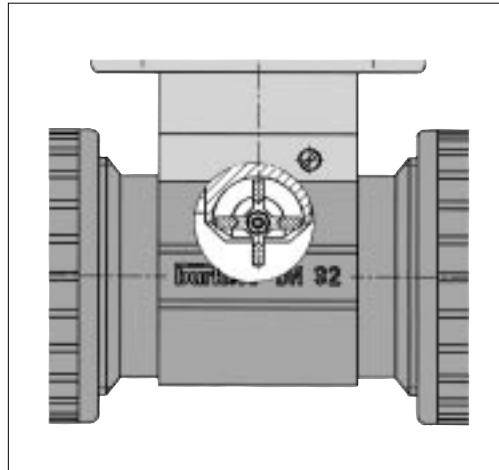
The panel version consists of an electronic module SE34 integrated in a front-cover. The associated flow sensor is a SE30 with coil or hall transducer, mounted with a quarter-turn socket on an INLINE fitting.

The wall-mount version consists of an electronic module SE34 in an IP 65 enclosure, that can be easily mounted on a socket with a quarter-turn connection. The associated flow sensor is a SE30 with coil (only battery version) or hall transducer. The above described remote versions allows a maximum shielded cable length between display electronics and sensor as follows:

- 10 meters for battery version
- 50 meters for 12-30 VDC-version with mounted Hall Sensor version.

Principle of operation

When the liquid flows through the pipe, the paddle-wheel is set in rotation producing a measuring frequency in the coil or hall of the transducer, which is proportional to the flow. The flow rate indicator can measure a flow rate as from 0.3 m/s (1.0 ft/s) up to max. 10 m/s (30 ft/s). The speed of flow is converted into volume per time showed at the analog display, e.g. l/h, m³/h or gallons per minute (GPM).

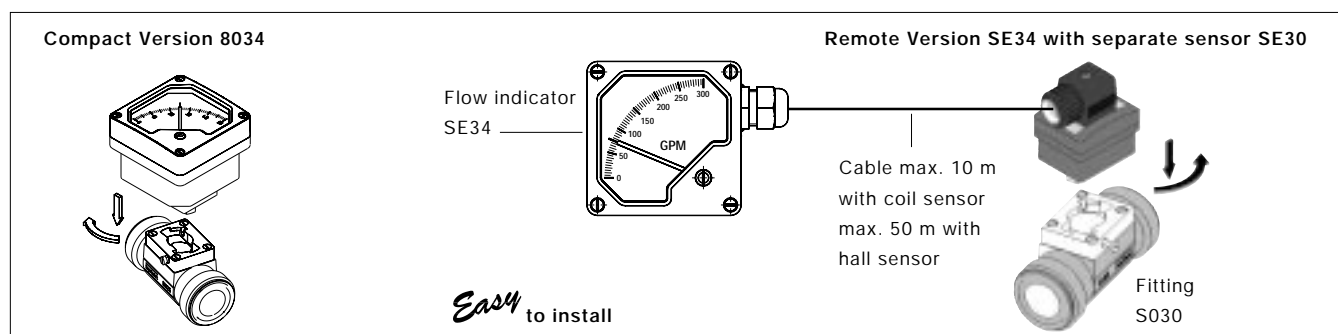


Installation

The 8034 flow rate indicator is made of a compact fitting and an electronic module SE34 which can be quickly and easily connected by means of a Quarter Turn.

The recommended in- and outflow straight pipe length should respect 10xD in and 3xD out. According to pipework designs necessary distances can be bigger. The flow rate indicator can be installed either in horizontal or vertical pipes. The suitable pipe size is selected using the diagram on the next page. Pressure and temperature ratings must be respected according to the selected fitting material (see next page).

The flow rate indicator is not designed for gas flow measurement.



Operation / Commissioning

The device can be calibrated by means of the K-Factor. Customized adjustments, such as measuring range, engineering units, scales are carried out on site. A large range of standard scales in l/h, m³/h or GPM are available. Special customized scales are available on request. The electronic module is factory calibrated according to the flow range and the used fitting type.

Examples of fitting selection

The suitable pipe size is selected using the diagram below.

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

Pressure-Temperature-Diagram for plastics

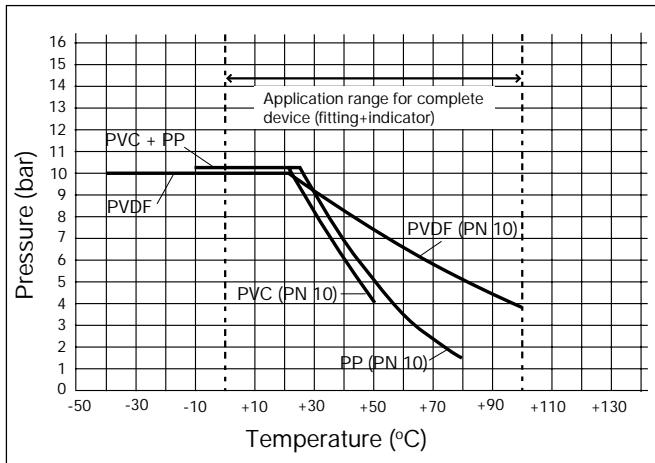
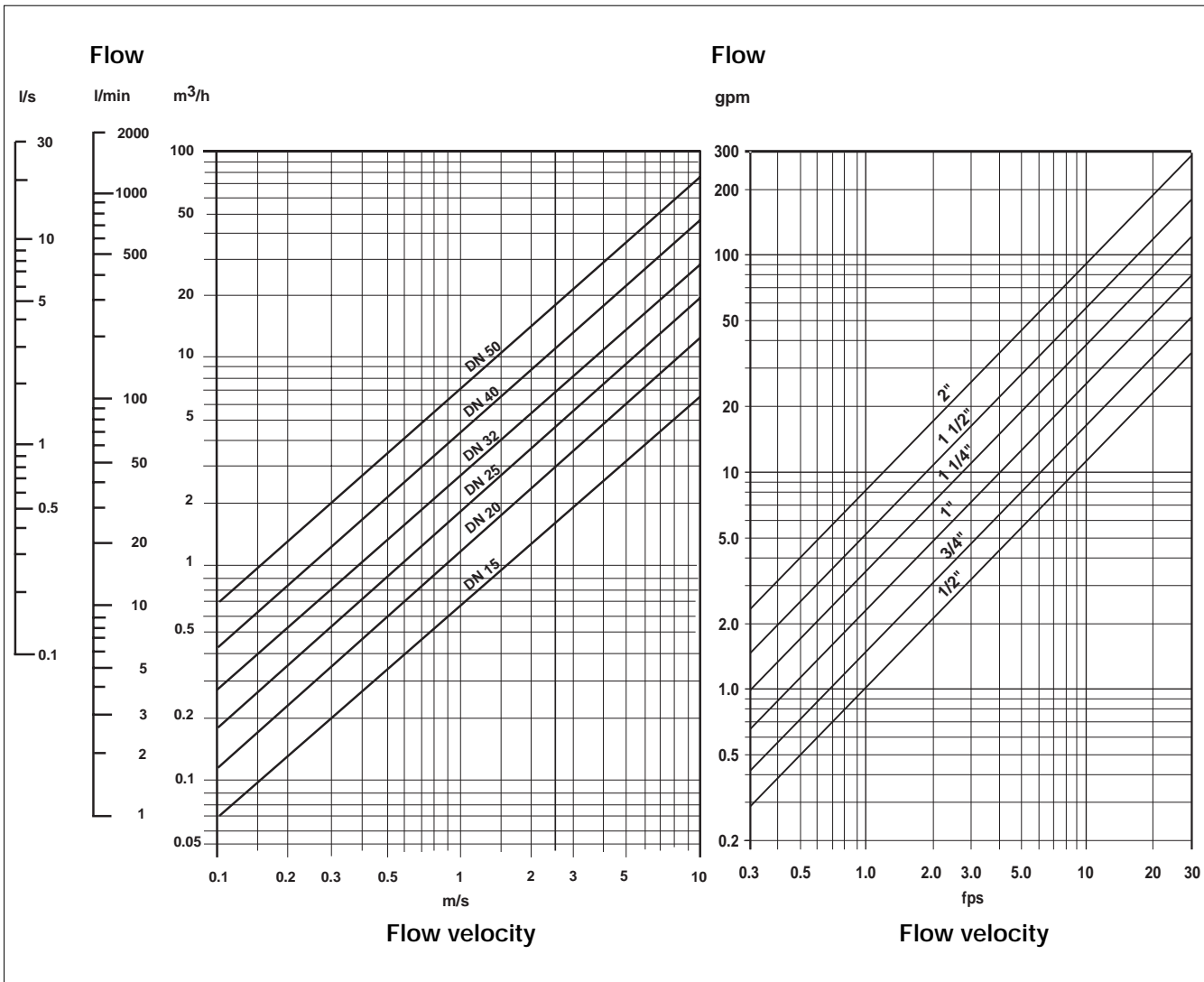
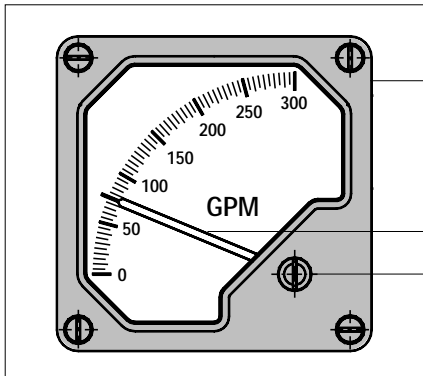


Diagram Flow-Pipe Size-Velocity



Operation and display



Span setting
red pointer
zero setting

► Indication of flow rate

► Test and Setting

- Battery test
- Zero point setting
 - Span setting according to flow range and fitting

Technical Data

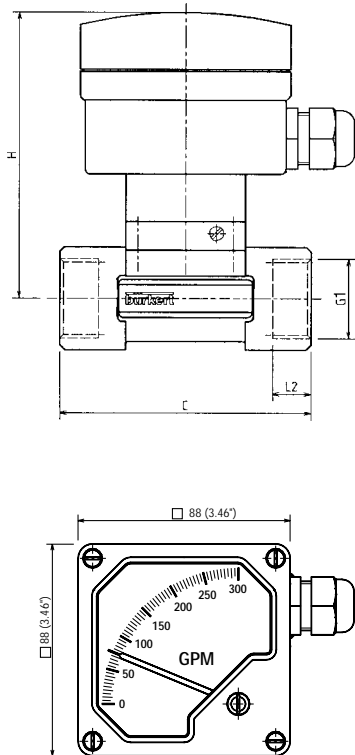
General Data

Pipe diameter	DN 15 to DN 50 (1/2" to 2")
Measuring range	0.3 m/s to 10 m/s (1.0 fps to 33 fps)
Flow range	as from 3 l/min (DN 15 pipe 0.3 m/s flow velocity) as from 0.9 gpm (1/2" pipe, 1.0 fps flow velocity)
Measuring error	± 4% o.R. (2...10 m/s) * ± 10% o.R. (0.8...2 m/s) *
Repeatability	1% of measured value o.R. *
Display	white background, black graduations, red pointer
Sensor	Coil (to 100°C); Remote version also with hall sensor (to 100°C, only 12-30 VDC version)
Pressure class plastic fitting	PN 10
Pressure class metal fitting	PN 16
Fluid temperature max.:	PVC: 50°C (122°F); PP: 80°C (176°F); PVDF: 100°C (212°F) Stainless steel and brass: 100°C (212°F)
Ambient temperature	0 to 60°C (32°F to 140°F)
Storage temperature:	-10°C to 80°C (14°F to 176°F)
Enclosure	IP 65 (NEMA 4). Relative humidity max. 80%
Fitting	PVC / PP / PVDF
Sensor holder	PVC / PP / PVDF
Paddle-wheel	PVDF
Axis and bearing	ceramic
O-Rings	FPM standard
Electronic housing	PC
Voltage supply	Two batteries 1.5 VDC (type LR 14) for compact and wall mounted versions. Battery life of 2 years at 20°C 12-30 VDC external power supply for compact-, panel- and wall-mount version
Relay output for flow alarm	Only 12-30 VDC versions (on request)
Cable length to remote version	Coil sensor: 10 m (use shielded cable of max. 1.5 mm ² wire cross section) Hall sensor: 50 m (use shielded cable of max. 1.5 mm ² wire cross section)

* Under reference conditions, i.e. measuring fluid = water, ambient and water temperature = 20 °C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions
o.R. = of reading

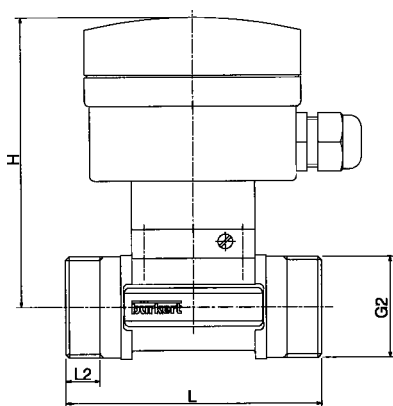
Dimensions [mm (inch)]

Internal threaded port connection



Stainless steel according to standard DIN 1.4404; BS 316 L

External threaded port connection



Stainless steel according to standard DIN 1.4404; BS 316 L

Dimensions G-Port connection - Brass and stainless steel

Port connection (Dimension G1)	DN	Variable dimensions [mm]		
		L	L2	H
G 1/2	15	85	16.0	122
G 3/4	20	95	17.0	119
G 1	25	105	23.5	120
G 1 1/4	32	120	23.5	123
G 1 1/2	40	130	23.5	127
G 2	50	150	27.5	134

Dimensions Rc-Port connection - Brass and stainless steel

Port connection (Dimension G1)	DN	Variable dimensions [mm]		
		L	L2	H
Rc 1/2	15	85	15.0	122
Rc 3/4	20	95	16.3	119
Rc 1	25	105	18.0	120
Rc 1 1/4	32	120	21.0	123
Rc 1 1/2	40	130	19.0	127
Rc 2	50	150	24.0	134

Dimensions NPT-Port connection - Brass and stainless steel

Port connection (Dimension G1)	DN	Variable dimensions [inch]		
		L	L2	H
NPT 9/16	15	3.35	0.67	4.81
NPT 3/4	20	3.74	0.72	4.69
NPT 1	25	4.14	0.71	4.73
NPT 1 1/4	32	4.73	0.83	4.85
NPT 1 1/2	40	5.12	0.79	5.00
NPT 2	50	5.91	0.95	5.28

Dimensions [mm] - Brass and stainless steel

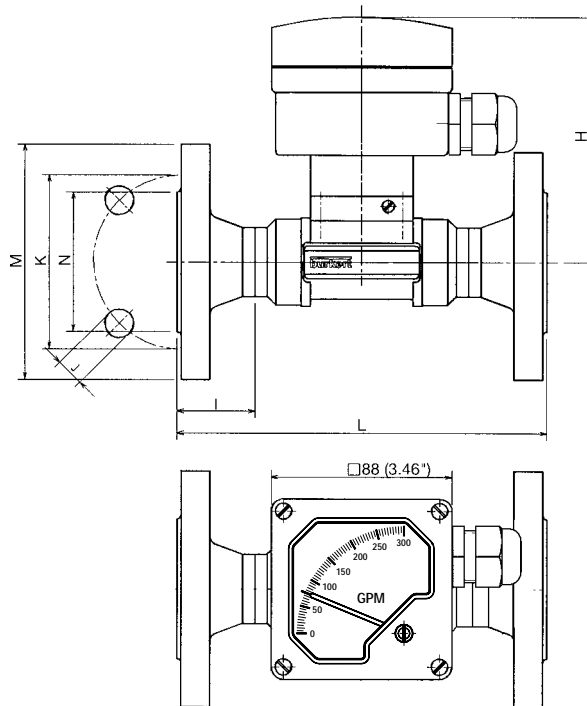
Port connection (Dimension G2)	DN	Variable dimensions [mm]		
		L	L2	H
G 3/4	15	84	11.5	122
G 1	20	94	13.5	119
G 1 1/4	25	104	14	120
G 1 1/2	32	119	18	123
M 55x2	40	129	19	127
M 64x2	50	149	20	134

Dimensions [inch] - Brass and stainless steel

Port connection (Dimension G2)	DN	Variable dimensions [mm]		
		L	L2	H
G 3/4	15	3.31	0.45	4.81
G 1	20	3.70	0.53	4.69
G 1 1/4	25	4.09	0.55	4.73
G 1 1/2	32	4.69	0.71	4.85
M 55x2	40	5.08	0.75	5.00
M 64x2	50	5.87	0.78	5.28

Dimensions [mm (inch)]

Flange port connection



Stainless steel acc. to standard DIN 1.4404; BS 316 L

Dimensions flange port connection in stainless steel

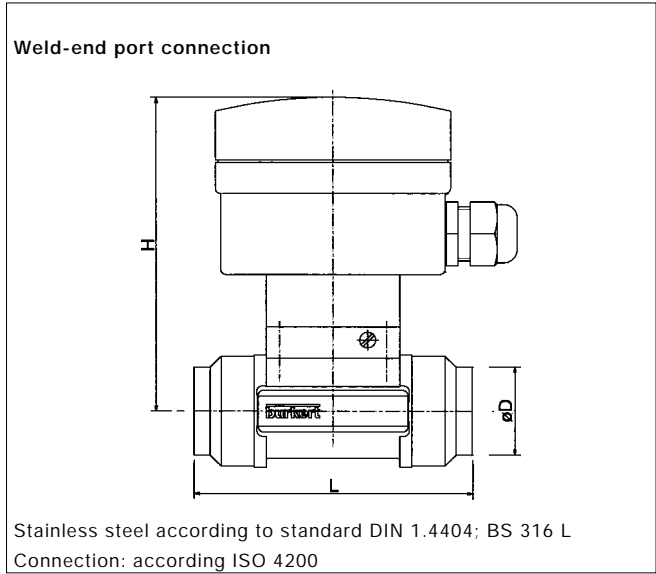
Port connection	DN	Variable dimensions [mm]						
		I	J (number x ø)	K	M	N	L	H
(Norm)								
DIN [mm]	15	23.5	4 x 14.0	65.0	95.0	45.0	130	122.0
ANSI [inch]	15 (9/16)	0.93	4 x .62	2.38	3.51	1.38	5.12	4.81
JIS [mm]	15	23.5	4 x 15.0	70.0	95.0	51.0	140	122.0
DIN [mm]	20	28.5	4 x 14.0	75.0	105.0	58.0	150	119.0
ANSI [inch]	20 (3/4)	1.12	4 x .62	2.75	3.90	1.69	5.91	4.69
JIS [mm]	20	28.5	4 x 15.0	75.0	100.0	56.0	152	119.0
DIN [mm]	25	28.5	4 x 14.0	85.0	115.0	68.0	160	120.0
ANSI [inch]	25 (1)	1.12	4 x .62	3.13	4.26	2.00	6.30	4.73
JIS [mm]	25	28.5	4 x 19.0	90.0	125.0	67.0	165	120.0
DIN [mm]	32	31.0	4 x 18.0	100.0	140.0	78.0	180	123.0
ANSI [inch]	32 (1 1/4)	1.22	4 x .75	3.50	4.61	2.50	7.09	4.85
JIS [mm]	32	31.0	4 x 19.0	100.0	135.0	76.0	178	123.0
DIN [mm]	40	36.0	4 x 18.0	110.0	150.0	88.0	200	127.0
ANSI [inch]	40 (1 1/2)	1.42	4 x .75	3.88	5.00	2.88	7.88	5.0
JIS [mm]	40	36.0	4 x 19.0	105.0	140.0	81.0	190	127.0
DIN [mm]	50	41.0	4 x 18.0	125.0	165.0	102.0	230	134.0
ANSI [inch]	50 (2)	1.62	4 x .75	4.75	5.99	4.02	9.06	5.28
JIS [mm]	50	41.0	4 x 19.0	120.0	155.0	96.0	216	134.0

* DIN 2501, length according to DIN 3202-F1;

* ANSI B16-5-1988, length according to DIN 3202-F1;

* JIS 10K, length according to ANSI B16-10

Dimensions [mm (inch)]

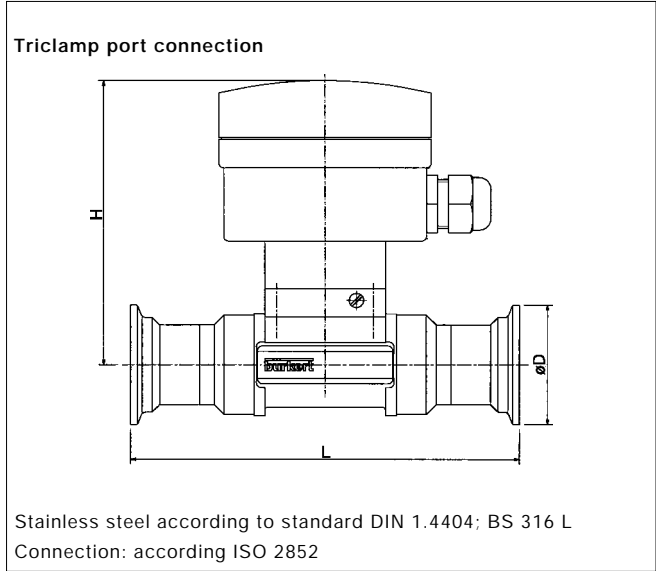


Dimensions [mm] - Stainless steel

Port connection	DN	Variable dimensions [mm]		
		L	øD	H
Weld-end port connection	15	84	21.3	122
	20	94	26.9	119
	25	104	33.7	120
	32	119	42.4	123
	40	129	48.3	127
	50	149	60.3	134

Dimensions [inch] - Stainless steel

Port connection	DN	Variable dimensions [inch]		
		L	øD	H
Weld-end port connection	15	3.31	0.84	4.81
	20	3.70	1.06	4.69
	25	4.09	1.33	4.73
	32	4.69	1.67	4.85
	40	5.08	1.90	5.00
	50	5.87	2.37	5.28



Dimensions [mm] - Stainless steel

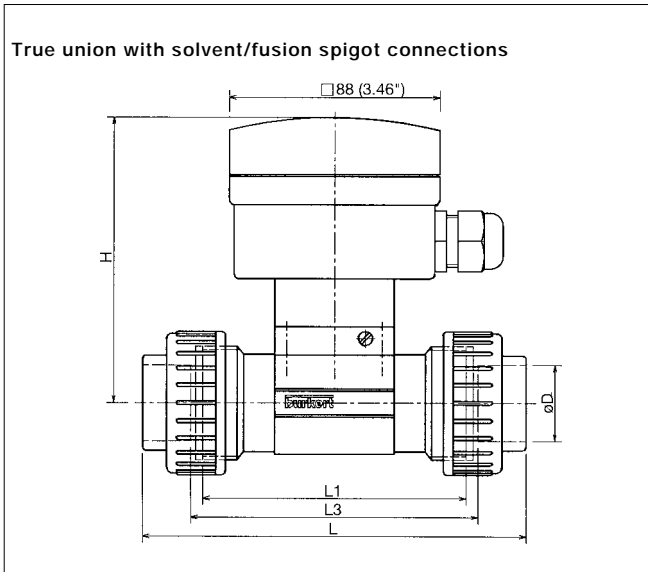
Port connection	DN	Variable dimensions [mm]		
		L	øD	H
Triclamp port connection	15	130	34	122
	20	150	50.5	119
	25	160	50.5	120
	32	180	50.5	123
	40	200	64	127
	50	230	77.5	134

Dimensions [inch] - Stainless steel

Port connection	DN	Variable dimensions [inch]		
		L	øD	H
Triclamp port connection	15	5.12	1.34	4.81
	20	5.91	1.99	4.69
	25	6.30	1.99	4.73
	32	7.09	1.99	4.85
	40	7.87	2.52	5.00
	50	9.06	3.05	5.28



Dimensions [mm (inch)]



Dimensions [mm] - PVC / PP / PVDF

True union ISO

DN [mm]	øD [mm]	L [mm]	L1 [mm]	L3 [mm]	H [mm]
15	20	128	90	96	122
20	25	144	100	106	119
25	32	160	110	116	120
32	40	168	110	116	123
40	50	188	120	127	127
50	63	212	130	136	134

Dimensions [inch] - PVC

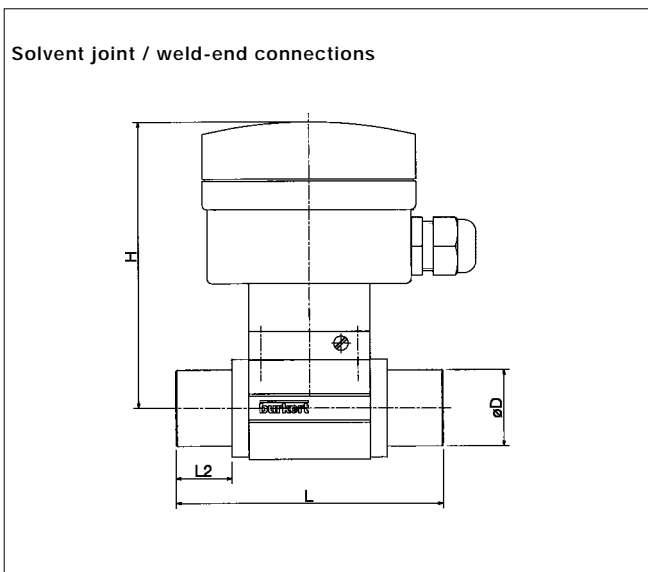
True union ANSI/ASTM

DN [mm] / [inch]	øD [inch]	L [inch]	L1 [inch]	L3 [inch]	H [inch]
15 / (9/16)	0.79	5.04	3.55	3.78	4.81
20 / (3/4)	0.99	5.67	3.94	4.18	4.69
25 / (1)	1.26	6.30	4.33	4.57	4.73
32 / (1 1/4)	1.58	6.62	4.33	4.57	4.85
40 / (1 1/2)	1.97	7.41	4.73	5.00	5.00
50 / (50)	2.48	8.35	5.12	5.36	5.28

Dimensions [mm] - PVC

True union JIS

Port connection	DN	Variable dimensions [mm]				
		ø D	L	L1	L3	H
True union	15	18.40	135	90	96	122
connection with	20	26.45	151	100	106	119
solvent/ fusion	25	32.55	167	110	116	120
spigot	32	38.60	175	110	116	123
	40	48.70	196	120	127	127
	50	60.80	219	130	136	134



Dimensions [mm] - PVC / PP / PVDF

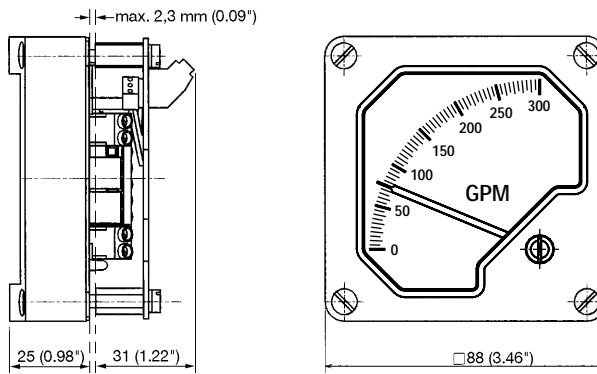
Port connection	DN	Variable dimensions [mm]					
		øD	L		L2		H
			PVC	PP PVDF	PVC	PP PVDF	
Solvent joint or	15	20	90	85	16.5	14	122
weld-end	20	25	100	92	20	16	119
connection	25	32	110	95	23	18	120
	32	40	110	100	27.5	20	123
	40	50	120	106	30	23	127
	50	63	130	110	37	27	134

Dimensions [inch] - PVC / PP / PVDF

Port connection	DN [mm (inch)]	Variable dimensions [inch]					
		øD	L		L2		H
			PVC	PP PVDF	PVC	PP PVDF	
Solvent joint or	15 (9/16)	.79	3.54	3.35	.65	.55	4.81
weld-end	20 (3/4)	.99	3.94	3.62	.79	.63	4.69
connection	25 (1)	1.26	4.33	3.74	.91	.71	4.73
	32 (1 1/4)	1.58	4.33	3.94	1.08	.79	4.85
	40 (1 1/2)	1.97	4.72	4.17	1.18	.91	5.00
	50 (2)	2.48	5.12	4.33	1.46	1.06	5.28

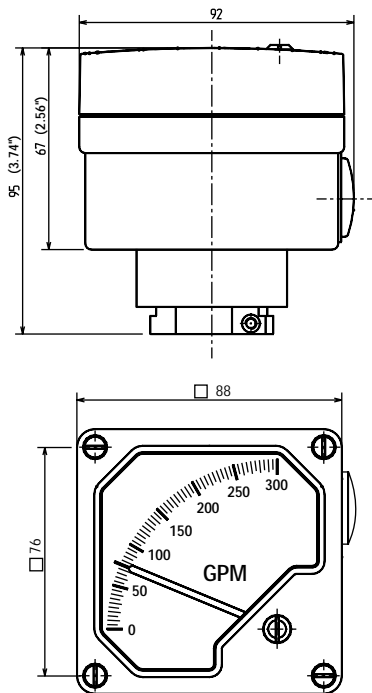
Ordering Data for Flow Indicator 8034

Panel version

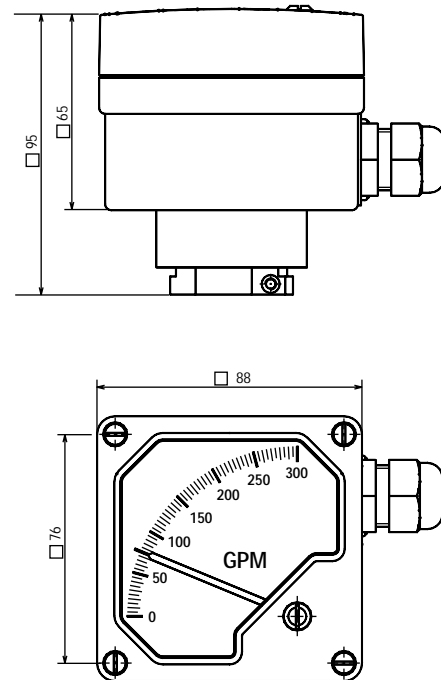


Wall-mount version

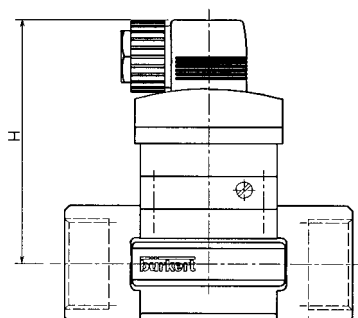
Battery version



12...30 VDC version



Sensor SE30 for Remote Version



Variable Dimensions [mm]

DN	H 4
15	92.0
20	89.0
25	89.5
32	93.0
40	97.0
50	104.0

Applicable for all fitting materials
DN 15 ...50 sizes and process
connections.

Ordering Data for Flow Indicator 8034

A compact Flow Indicator Type 8034 consists of three basic units as follows:

- 1 Compact Flow Indicator SE34
- 2 Standard scale according to the required max. flow rate.
- 3 Inline fitting type S030 (DN 15 to DN 50)

A remote Flow Indicator Type 8034 consisting of four basic units as follows:

- 1 Flow Sensor SE30 with Coil or Hall Sensor
- 2 Standard scale according to the required max. flow rate.
- 3 Remote Electronic SE34 as a wall- or panel-mount version
- 4 Fitting type S030 (DN 15 to DN 50)

Note: Flow sensor with Hall can only be connected to external powered (12...30 VDC) Flow Indicators

TYPE DESCRIPTION	Scale	Power Supply	Sealing	Sensor	Cable connector	ITEM-No.
STANDARD TYPES WORLDWIDE Compact Flow Indicator 8034						
SE34 compact flow indicator	no	2 x 1.5V battery	none	none	none	429 341 D
SE34 compact flow indicator	no	12 – 30 VDC	none	none	1 x PG 13.5	429 342 E

TYPE DESCRIPTION	Scale	Power Supply	Sealing	Sensor	Cable connector	ITEM-No.
STANDARD TYPES WORLDWIDE Panel Version SE34						
SE34 panel mount indicator	no	12 – 30 VDC	no	no	clamps	429 349 M

TYPE DESCRIPTION	Scale	Power Supply	Sealing	Sensor	Cable connector	ITEM-No.
STANDARD TYPES WORLDWIDE Wall-mount Version SE34						
SE34 wall mount indicator	no	1.5 VDC batteries	no	no	1 x PG 13.5	429 350 J
SE34 wall mount indicator	no	12 – 30 VDC	no	no	1 x PG 13.5	429 351 F

TYPE DESCRIPTION	Scale	Power Supply	Sealing	Sensor	Cable connector	ITEM-No.
STANDARD TYPES WORLDWIDE Flow Sensor Type SE30 for remote versions (Panel- and Wall-mount flow indicator)						
SE30 with coil		no	no	coil	PG 9	423 912 C
SE30 with hall sensor		from SE 34	no	hall	PG 9	423 914 E

Ordering Data for Flow Indicator 8034

TYPE DESCRIPTION	Measuring Range	ITEM-No.
STANDARD TYPES		
Scale for Analog Indicator Modul SE 34 / 8034	Metric range	
Scale for SE 34 / 8034	0 ... 100 %	427 215 M
Scale for SE 34 / 8034	0 ... 600 l/h	427 136 E
Scale for SE 34 / 8034	0 ... 1000 l/h	427 013 E
Scale for SE 34 / 8034	0 ... 1600 l/h	427 079 Y
Scale for SE 34 / 8034	0 ... 2500 l/h	427 080 N
Scale for SE 34 / 8034	0 ... 4000 l/h	427 081 B
Scale for SE 34 / 8034	0 ... 6000 l/h	427 082 C
Scale for SE 34 / 8034	0 ... 8000 l/h	427 083 D
Scale for SE 34 / 8034	0 ... 10000 l/h	427 084 E
Scale for SE 34 / 8034	0 ... 16 m ³ /h	427 087 H
Scale for SE 34 / 8034	0 ... 25 m ³ /h	427 146 Q
Scale for SE 34 / 8034	0 ... 40 m ³ /h	427 147 R
Scale for SE 34 / 8034	0 ... 60 m ³ /h	427 148 S
Scale for SE 34 / 8034	0 ... 100 m ³ /h	427 149 T
Scale for SE 34 / 8034	0 ... 160 m ³ /h	427 212 J
Scale for SE 34 / 8034	0 ... 250 m ³ /h	427 213 J
Scale for SE 34 / 8034	0 ... 400 m ³ /h	427 214 L

TYPE DESCRIPTION	Measuring Range	ITEM-No.
STANDARD TYPES		
Scale for Analog Indicator Modul SE 34 / 8034	US-Range	
Scale for SE 34 / 8034	0 ... 3 gpm	427 218 Y
Scale for SE 34 / 8034	0 ... 5 gpm	427 219 Z
Scale for SE 34 / 8034	0 ... 10 gpm	427 220 W
Scale for SE 34 / 8034	0 ... 15 gpm	427 221 K
Scale for SE 34 / 8034	0 ... 20 gpm	427 222 L
Scale for SE 34 / 8034	0 ... 25 gpm	427 223 M
Scale for SE 34 / 8034	0 ... 30 gpm	427 224 N
Scale for SE 34 / 8034	0 ... 50 gpm	427 076 M
Scale for SE 34 / 8034	0 ... 100 gpm	427 077 N
Scale for SE 34 / 8034	0 ... 150 gpm	427 225 P
Scale for SE 34 / 8034	0 ... 200 gpm	427 078 X
Scale for SE 34 / 8034	0 ... 300 gpm	427 226 Q
Scale for SE 34 / 8034	0 ... 400 gpm	427 227 R
Scale for SE 34 / 8034	0 ... 800 gpm	427 232 M
Scale for SE 34 / 8034	0 ... 1000 gpm	427 228 S
Scale for SE 34 / 8034	0 ... 1500 gpm	427 230 Y
Scale for SE 34 / 8034	0 ... 2000 gpm	427 231 M

Ordering Chart Fittings Type 8034

Stainless-Steel body

International Standard Version

Specifications	ITEM-No.					
	DN 15	DN 20	DN 25	DN 32	DN40	DN 50
S030 G-port connection (internal thread)	424 004 K	424 005 L	424 006 M	424 007 N	424 008 X	424 009 Y
S030 JIS (ISO 7)-port connection (internal thread)	424 016 E	424 017 F	424 018 Q	424 019 R	424 020 N	424 021 B
S030 NPT-port connection (internal thread)	424 010 L	424 011 H	424 012 A	424 013 B	424 014 C	424 015 D
S030 G-port connection (external thread)	424 022 C	424 023 D	424 024 E	424 025 F	424 026 G	424 027 H
S030 Weld-end port connection	424 028 J	424 029 K	424 030 Q	424 031 D	424 032 E	424 033 F
S030 Flange-port connection (DIN 2501/2633, DIN 3202-F1, ISO 5752-1)	424 040 S	424 041 P	424 042 Q	424 043 R	424 044 J	424 045 K
S030 Flange-port connection (ANSI B16-5-1988)	424 046 L	424 047 M	424 048 W	424 049 X	424 050 U	424 051 R
S030 Flange-port connection (JIS 10K))	430 108 A	430 109 B	430 110 X	430 111 L	430 112 M	430 113 N
S030 Triclamport connection (ISO 2852)	424 034 G	424 035 H	424 036 A	424 037 B	424 038 L	424 039 M

Brass body

International Standard Version

Specifications	ITEM-No.					
	DN 15	DN 20	DN 25	DN 32	DN40	DN 50
S030 G-port connection (internal thread)	423 980 M	423 981 A	423 982 B	423 983 C	423 984 D	423 985 E
S030 JIS (ISO 7)-port connection (internal thread)	423 992 D	423 993 E	423 994 F	423 995 G	423 996 H	423 997 A
S030 NPT-port connection (internal thread)	423 986 F	423 987 G	423 988 R	423 989 J	423 990 P	423 991 C
S030 G-port connection (external thread)	423 998 K	423 999 L	424 000 T	424 001 Q	424 002 R	424 003 J

PVC body

Specifications	ITEM-No.					
	DN 15	DN 20	DN 25	DN 32	DN40	DN 50
S030 True union connection with solvent spigot (International standard version)	423 938 N	423 939 P	423 940 U	423 941 R	423 942 J	423 943 K
S030 True union connection with solvent spigot (North America standard version)	423 950 W	423 951 K	423 952 L	423 953M	423 954 N	423 955 P
S030 True union connection (JIS standard)	429 072 T	429 073 U	429 074 V	429 075 W	429 076 X	429 077 Y
S030 Solvent joint connection	423 944 L	423 945 M	423 946 N	423 947 P	423 948 Y	423 949 Z

PP body

Specifications	ITEM-No.					
	DN 15	DN 20	DN 25	DN 32	DN40	DN 50
S030 True union connection with solvent spigot	423 956 Q	423 957 R	423 958 S	423 959 T	423 960 Y	423 961 M
S030 Weld-end connection	423 962 N	423 963 P	423 964 Q	423 965 R	423 966 J	423 967 K

PVDF body

Specifications	ITEM-No.					
	DN 15	DN 20	DN 25	DN 32	DN40	DN 50
S030 True union connection with solvent spigot	423 968 U	423 969 V	423 970 S	423 971 P	423 972 Q	423 973 R
S030 Weld-end connection	423 974 J	423 975 K	423 976 L	423 977 M	423 978 W	423 979 X

