







Positive displacement flowmeter

- Flow rate, 2 totalized volumes shown on display
- Calibration via Teach-In
- All outputs can be checked without the need for actual flow



Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

	Type 8611 eCONTROL - Universal controller	▶
	Type 8619 multiCELL - Multi-channel and multi-function transmitter/controller	▶
	Type 8802 ELEMENT continuous control valve systems - overview	▶
	Type 8644 Remote Process Actuation Control System AirLINE	▶

Type description

This positive displacement flowmeter with display is designed for use in highly viscous fluid like glue, honey or oil and specially to switch a valve and to establish a monitoring system or an On/Off control loop.

The flowmeter is made up of a compact sensor-fitting with oval rotor (S077) and a transmitter (SE35) quickly and easily connected together by a bayonet fitting.

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1. General technical data

Note:

If the device is mounted in a humid environment or outside, then the maximum voltage allowed is **35 V DC** instead of 36 V DC.

Product properties	
Material	
Please make sure the device materials are compatible with the fluid you are using. Detailed information can be found in chapter "3.1. Chemical Resistance Chart – Bürkert resistApp" on page 6.	
Non wetted parts	
Housing, cover, lid	PC
Front panel folio	Polyester
Screws	Stainless steel
Female cable plug/male fixed plug or cable glands	PA
Wetted parts	
Sensor-fitting body	Aluminium or stainless steel (316L)
Seal	FKM or FEP/PTFE encapsulated
Rotor	PPS, aluminium or stainless steel (316L)
Shaft	Stainless steel (316L)
Dimensions	Detailed information can be found in chapter "4. Dimensions" on page 7.
Compatibility	Any pipe from DN 15...DN 100 which is fitted with Bürkert S077 Inline sensor-fitting. For the selection of the nominal diameter of the Inline sensor-fittings, see data sheet Type S077 ▶.
Display	15 × 60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
Pipe diameter	DN 15...DN 100
Measuring range	<ul style="list-style-type: none"> • Viscosity > 5 mPa.s: 2...1200 l/min (0.53...320 gpm) • Viscosity < 5 mPa.s: 3...616 l/min (0.78...320 gpm)
Performance data	
Measurement deviation	<ul style="list-style-type: none"> • ± 1 % of measured value (if "standard" K-factor is used) • ± 0.5 % of measured value (if "specific" K-factor is used, on label of the product)
Repeatability	± 0.03 % of measured value
4...20 mA output uncertainty	± 0.16 mA
Electrical data	
Operating voltage	<ul style="list-style-type: none"> • 12...36 V DC ± 10 %, filtered and regulated Connection to main supply: permanent (through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply) • 115/230 V AC 50/60 Hz Voltage supply available inside the device: <ul style="list-style-type: none"> – Supplied voltage: 27 V DC regulated – Maximum current: 125 mA – Integrated protection: 125 mA time delay fuse – Power: 3 VA
Power source (not supplied)	Limited power source according to UL/EN 60950-1 standards or limited energy circuit according to UL/EN 61010-1 §9.4
Protection against DC polarity reversal	Yes
Current consumption	With sensor and without pulse output consumption. For version 12...36 V DC: ≤ 70 mA (with relay), 25 mA (without relay)

Output signal	<ul style="list-style-type: none"> • Pulse (transistor): <ul style="list-style-type: none"> – Polarized, potential-free – NPN or PNP (wiring dependant) – Function: pulse output, adjustable pulse value – 2.5...400 Hz – 5...36 V DC; 100 mA max., – Line drop at 100 mA: 2.5 V DC – Duty cycle (pulse duration/period): 0.5 – Galvanic insulation and protected against overvoltage, polarity reversals and short circuit • Relay: <ul style="list-style-type: none"> – 2 relays, hysteresis, adjustable thresholds, normally open – Non UL recognized device: 230 V AC/3 A or 40 V DC/3 A (resistive load) – UL recognized device: 30 V AC/42 V_{peak}/3 A or 60 V DC/1 A • Current: <ul style="list-style-type: none"> – 4...20 mA (3-wire with relays; 2-wire without relay), sourcing or sinking (wiring dependant) – Max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply – Response time (10...90 %) for the measured value: 6 s (default)
Voltage supply cable	<p>Cable with maximum operating temperature greater than 80 °C (90 °C for UL-Recognized version), max. 50 m length, shielded</p> <ul style="list-style-type: none"> • For female cable plug (supplied): external diameter of wire: 5...8 mm, cross section of wires (except for the local ground wire): 0.2...1.5 mm² • For M20x1.5 cable glands: external diameter of wire: 6...12 mm (1 cable per cable gland) or 3...5 mm when using a multiway seal (2 cables per cable gland) cross section of wires (except for the local ground wire): max. 0.75 mm² • Cross section the local ground wire: 0.75 mm²
Media data	
Fluid temperature	<p>With sensor-fitting body in:</p> <ul style="list-style-type: none"> • Aluminium: -20...+80 °C (-4...+176 °F) • Stainless steel: -20...+120 °C (-4...+248 °F)
Fluid pressure	<p>Depend on the pipe diameter:</p> <ul style="list-style-type: none"> • DN 15: max. 55 bar (798.05 PSI) (threaded process connection) • DN 25: max. 55 bar (798.05 PSI) (or in accordance to the value of the used flanges) • DN 40 or DN 50: max. 18 bar (261.18 PSI) • DN 80: max. 12 bar (174.12 PSI) • DN 100: max. 10 bar (145.1 PSI) <p>Detailed information can be found in the data sheet of the Inline sensor-fittings, see data sheet Type S077 ▶ for more information.</p>
Dynamic viscosity	1 Pa.s max. (higher on request)
Process/Port connection & communication	
Process connection	<ul style="list-style-type: none"> • Thread connection: ½", 1", 1½", 2" or 3" (G or NPT) • Flange connection: <ul style="list-style-type: none"> – 25, 40, 50, 80 or 100 mm DIN PN 16 flange – 1", 1½", 2", 3" or 4" ANSI 150LB flange <p>See data sheet Type S077 ▶ for more information.</p>
Electrical connection	Cable plug acc. to EN 175301-803 or M20x1.5 cable glands
Approvals and Certificates	
Standards	
Protection class according to IEC/EN 60529	IP65 when device wired, cover and lid screwed tight and cable plug or glands mounted and tightened or with blind plug if not used

Directives

CE directives	The applied standards, which verify conformity with the EU Directives, can be found on the EU Type Examination Certificate and/or the EU Declaration of conformity (if applicable).
Pressure equipment directives	Complying with Article 4, Paragraph 1 of 2014/68/EU directive Detailed information on the pressure equipment directive can be found in chapter “2.2. Pressure Equipment Directive” on page 5.
Certification	UL-Recognized for US and Canada

Environment and installation

Ambient temperature	Operation and storage: <ul style="list-style-type: none"> - 10...+60 °C (+ 14...+ 140 °F) for version 12...36 V DC - 10...+50 °C (+ 14...+ 122 °F) for version 115/230 V AC
Relative air humidity	≤80 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Device mobility	Fixed
Application range	Indoor and outdoor (protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, against the effects of climatic conditions)
Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

2. Approvals

2.1. Certification UL

Certificate	Description
	UL-Recognized for USA and Canada Products are UL-certified products and comply also with the following standards: <ul style="list-style-type: none"> UL 61010-1 CAN/CSA-C22.2 No.61010-1

2.2. Pressure Equipment Directive

The device conforms to Article 4, Paragraph 1 of the Pressure Equipment Directive 2014/68/EU under the following conditions:

Device used on a pipe

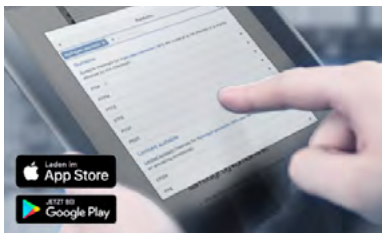
Note:

- The data in the table is independent of the chemical compatibility of the material and the fluid.
- PS = maximum admissible pressure; DN = nominal diameter of the pipe

Type of fluid	Conditions
Fluid group 1, Article 4, Paragraph 1.c.i	DN ≤25
Fluid group 2, Article 4, Paragraph 1.c.i	DN ≤32 or PS*DN ≤1000
Fluid group 1, Article 4, Paragraph 1.c.ii	DN ≤25 or PS*DN ≤2000
Fluid group 2, Article 4, Paragraph 1.c.ii	DN ≤200 or PS ≤10 or PS*DN ≤5000

3. Materials

3.1. Chemical Resistance Chart – Bürkert resistApp

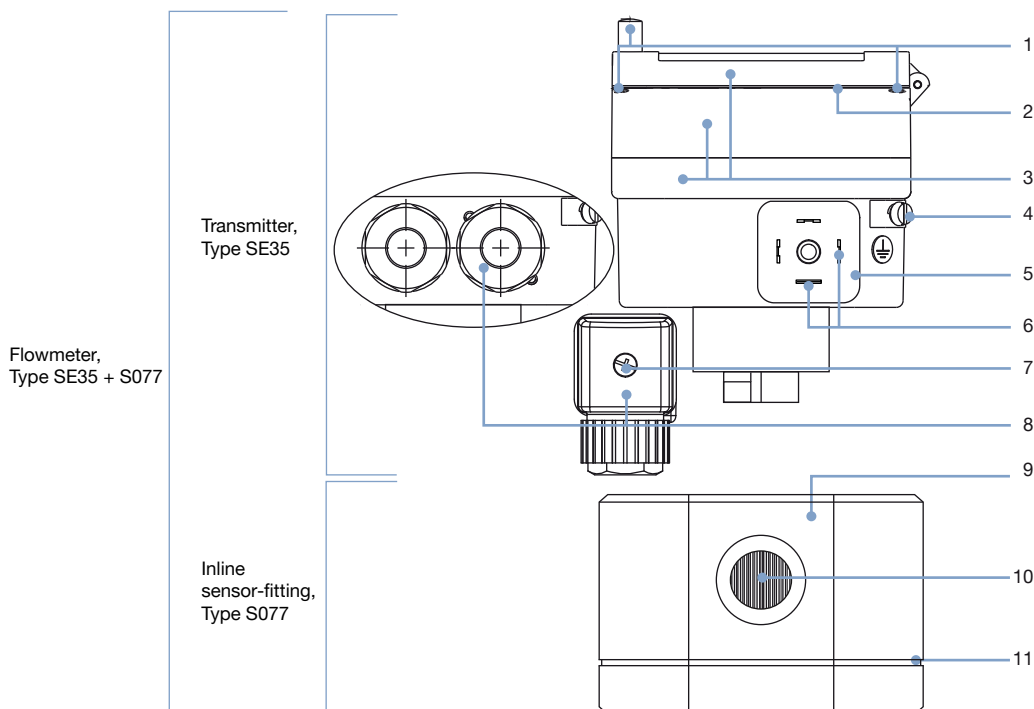


Bürkert resistApp – Chemical Resistance Chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

3.2. Material specifications



No.	Description	Material
1	Screws	Stainless steel
2	Front panel folio	Polyester
3	Housing, cover, lid	PC
4	Screws	Stainless steel
5	Male fixed plug (EN 175301-803)	PA
6	Electrical contact	Sn
7	Screw	Stainless steel
8	Female cable plug (EN 175301-803) or M20x 1.5 cable gland	PA
9	Sensor-fitting body	Stainless steel
10	Rotor and Shaft	PPS, aluminium or stainless steel (316L) and stainless steel (316L)
11	Seal	FKM or FEP/PTFE encapsulated

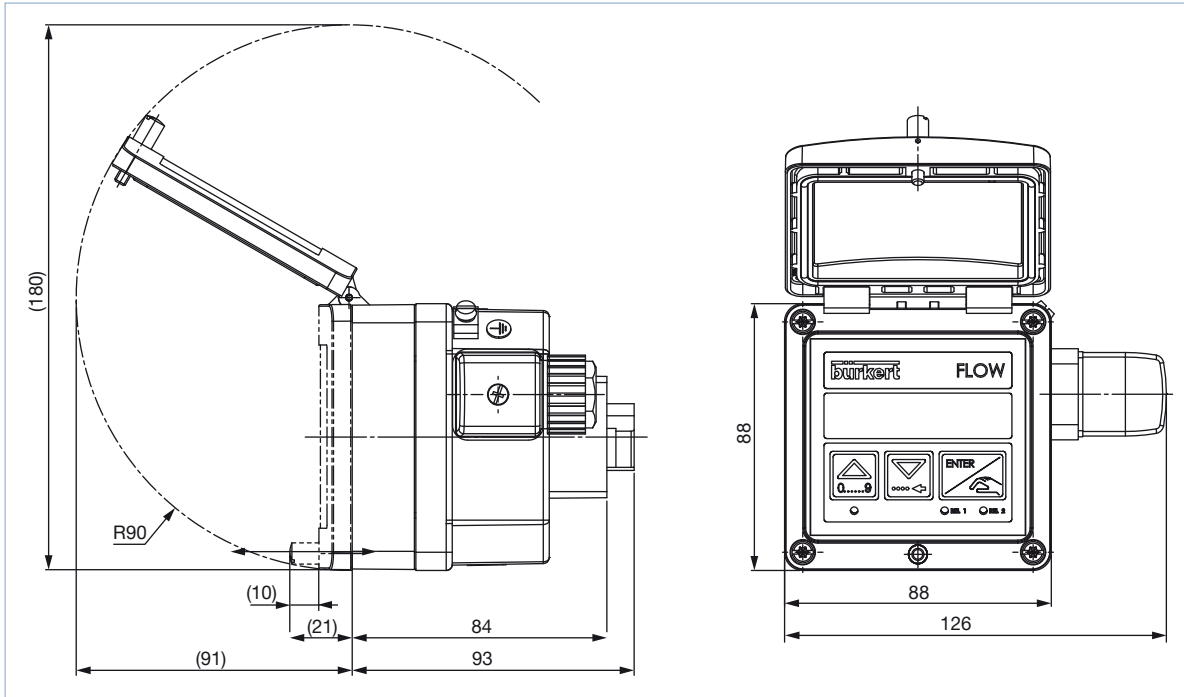
4. Dimensions

4.1. Transmitter SE35

Version with cable plug (EN 175301-803)

Note:

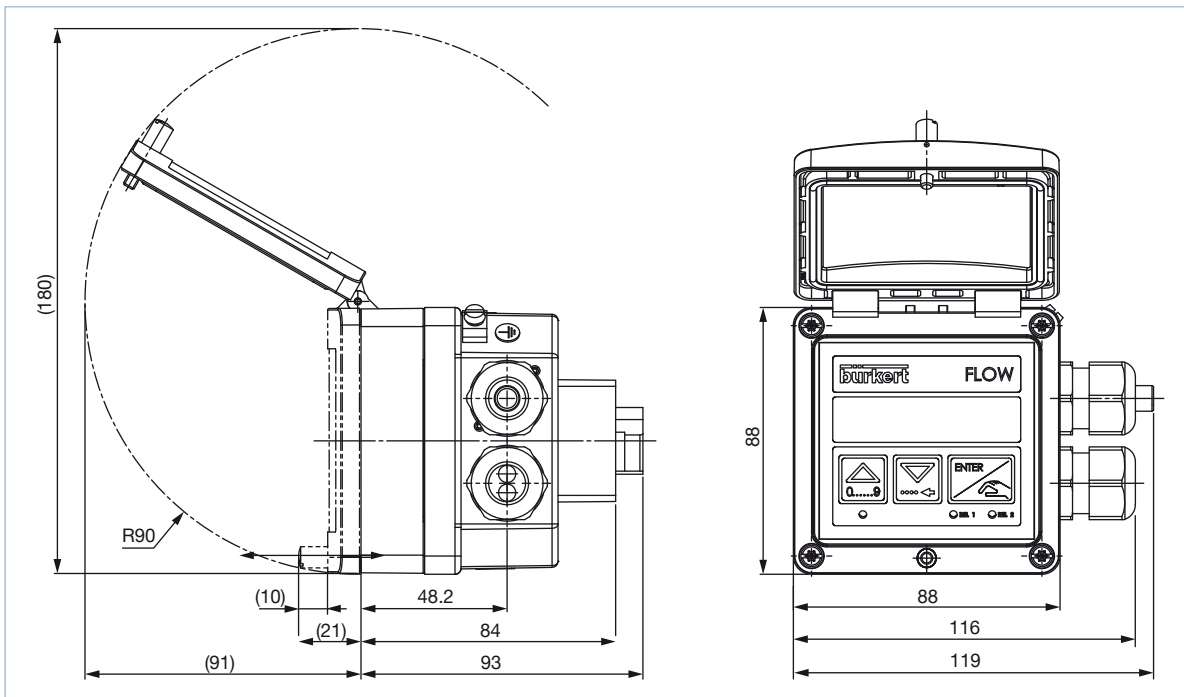
Specifications in mm



Version with M20x 1.5 cable glands

Note:

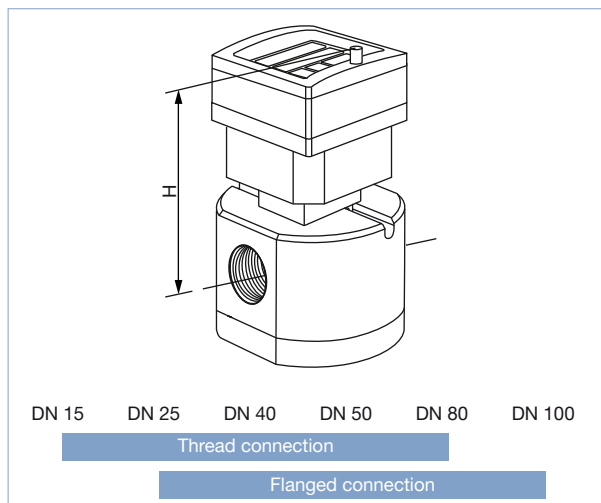
Specifications in mm



4.2. Transmitter SE35 mounted in a S077 sensor-fitting

Note:

Specifications in mm



DN	H
15	126
25	135
40	147
50	157
80	207
100	223

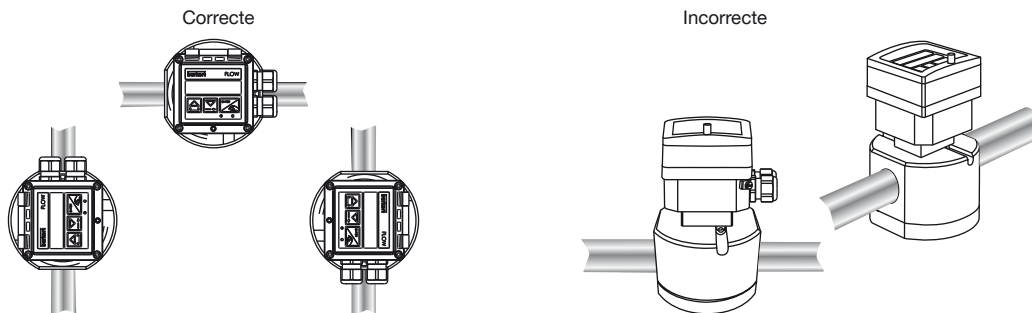
5. Product installation

5.1. Installation notes

Note:

The flowmeter is not designed for gas and steam flow measurement.

The sensor fitting can be installed in any orientation as long as **the rotor shafts are always in a horizontal plane.**



The pipe must be filled with liquid and free from air bubbles. Avoid air purge of the system which would cause damages and to prevent damage from dirt or foreign matter, we strongly recommend the installation of a 250 µm strainer as close as possible to the inlet side of the meter.

6. Product operation

6.1. Measuring principle

When liquid flows through the pipe, the rotors turn. This rotation produces a measuring signal in the associated hall sensor. The frequency and amplitude are proportional to the flow. The volume of the fluid being transferred in this way is exactly determined through the sensor geometry.

A conversion coefficient, specific to each meter size, enables the conversion of this frequency into a flow rate. The standard K-factor depending on the meter size is available in the instruction manual of the sensor fitting S077. To improve the measurement deviation, a specific K-factor is given with each device on its label.

The electrical connection is provided via a cable plug according to EN 175301-803 or two cable glands (according to the flowmeter version).

6.2. Functional overview

The display is used to:

- Read the value of certain parameters such as the measured flow rate, the main totalizer
- Set parameters of the device by means of 3 keys
- Read the configuration of the device
- Get notification of some events

Display and operating keys	No.	Description
	1	"Back" key: <ul style="list-style-type: none"> • to change the value (0...9) of the selected digit • to go back to the previous function
	2	"Next" key: <ul style="list-style-type: none"> • to select the digit at the left • to go to the next function
	3	"Confirm" key: <ul style="list-style-type: none"> • to confirm the function displayed • to confirm the parameters set
	4	Status of relay 2 (not for battery version)
	5	Status of relay 1 (not for battery version)
	6	Status of device (only for battery version): <ul style="list-style-type: none"> • blinking orange: A warning message is generated in the information menu • blinking red: A fault message is generated

The device can be calibrated by means of the K-factor of the sensor-fitting used, or via the Teach-In function. User adjustments, such as engineering units, output, filter, bargraph are carried out on site.

The device has 2 operating levels:

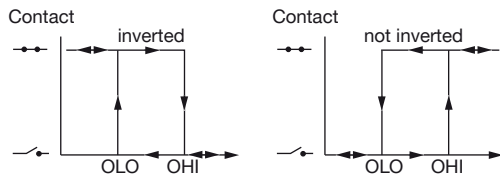
- the process level
- the configuration level, which comprises the parameters and the test menus

Operating level	Functions
Process	<ul style="list-style-type: none"> • Indication of <ul style="list-style-type: none"> – the value of the measured flow – the value of the 4...20 mA output – the value of the main totalizer – the value of the daily totalizer • Reset the daily totalizer • Access to the Parameters and Test menus of the Configuration level
Configuration - parameters menu	<ul style="list-style-type: none"> • To make the settings needed for operation: <ul style="list-style-type: none"> – language – engineering units (International measuring units) – K-factor/Teach-In function – 4...20-mA-current output – pulse output – relay (on devices with relays) – filter (damping) – reset both totalizers
Configuration - test menu	<ul style="list-style-type: none"> • To adjust the Offset and Span of the 4...20 mA current output • To read the rotational frequency of the paddle wheel • To check the correct operating of the outputs with simulating a flow rate

6.3. Function modes

- 4...20 mA output + Pulse
- 4...20 mA output + Pulse + relay output
Hysteresis switching mode (both relays) for the output, inverted or not

Hysteresis mode



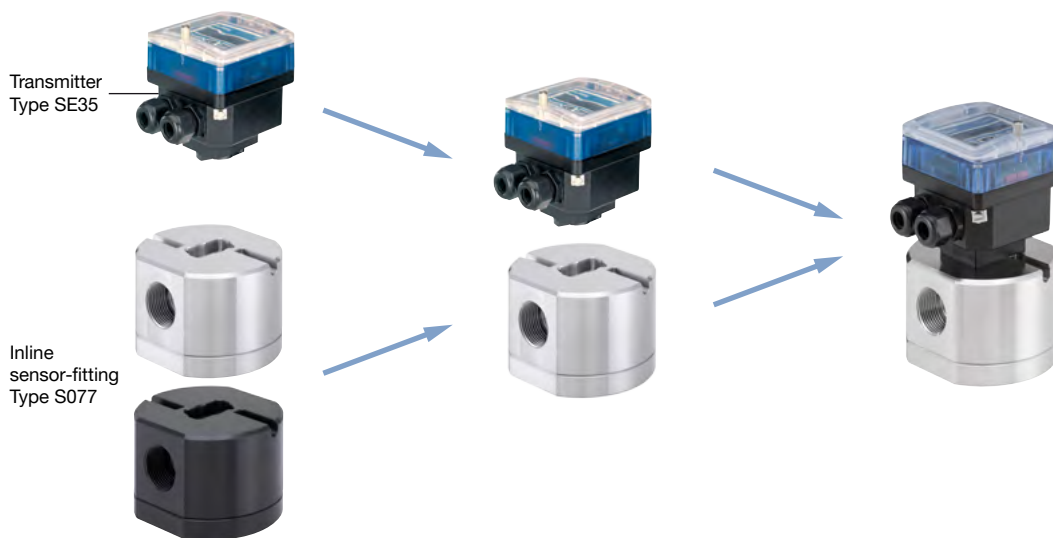
7. Product design and assembly

7.1. Product assembly

Note:

- The device is made up of a compact Inline sensor-fitting (S077) equipped with a sensor with rotors and a transmitter (SE35). The electronic housing of the 8035 integrates the electronic board with display, keys and also a transducer (Hall).
- The S077 Inline sensor-fitting ensures simple installation into pipes from DN 15...DN 100. The SE35 transmitter can easily be installed into any Bürkert sensor-fitting system, by means of a quarter turn.

See [data sheet Type S077](#) ▶ for more information.



8. Networking and combination with other Bürkert products

Example:



9. Ordering information

9.1. Bürkert eShop – Easy ordering and quick delivery

Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

9.2. Recommendation regarding product selection


A flowmeter consists of a compact SE35 flow transmitter and a Bürkert S077 Inline sensor-fitting.

See [data sheet Type S077](#) for more information.

Two different components must be ordered in order to select a complete device. The following information is required:

- **Article no.** of the desired compact SE35 flow transmitter (see chapter “[9.4. Ordering chart](#)” on page 12)
- **Article no.** of the selected S077 Inline sensor-fitting (See [data sheet Type S077](#))

9.3. Bürkert product filter



Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

9.4. Ordering chart

Note:

The S077 Inline sensor-fitting must be ordered separately.

Voltage supply	Output	Relays	Sensor version	UL certification	Electrical connection	Article no.
Flow transmitter Type SE35, 2 totalizers						
12...36 V DC	4...20 mA (2 wires) + Pulse	None	Hall	– UL-Recognized	Female cable plug EN 175301-803	444005
					2 cable glands	444006
	4...20 mA (3 wires) + Pulse	2	Hall	– UL-Recognized	2 cable glands	444007
					2 cable glands	553433
115/230 V AC	4...20 mA (2 wires) + Pulse	None	Hall	–	2 cable glands	423922
	4...20 mA (3 wires) + Pulse	2	Hall	–	2 cable glands	423924

9.5. Ordering chart accessories

Description	Article no.
Set with 2 cable glands M20×1.5+2 neoprene flat seals for cable gland or plug +2 screw plugs M20×1.5+2 multiway seals 2×6 mm	449755
Set with 2 reductions M20×1.5 /NPT ½" + 2 neoprene flat seals for cable gland or plug +2 screw plugs M20×1.5	551782
Set with 1 stopper for unused cable gland M20×1.5+1 multiway seal 2×6 mm for cable gland +1 black EPDM seal for the sensor +1 mounting instruction sheet	551775
Female cable plug EN 175301-803 with cable gland - see Type 2508 ▶	438811
Female cable plug EN 175301-803 with NPT ½" reduction without cable gland - see Type 2509 ▶	162673

DTS 1000285920 EN Version: C Status: RL (released | freigegeben | validé) printed: 17.12.2019

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DTS 1000285920 EN Version: C Status: RL (released | freigegeben | validé) printed: 17.12.2019

