

## Positive displacement flowmeter



- Flow rate, 2 totalized volumes shown on display
- Automatic calibration: Teach-In
- Simulation: all output signals provided without the need for real flow

Type SE35 + S077 can be combined with...



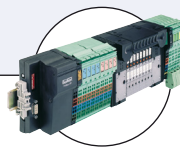
**Type 2100 (8692)**  
Control valve with TopControl



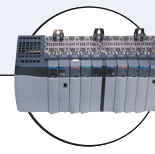
**Type 8619**  
multiCELL transmitter/controller



**Type 8792**  
Continuous SideControl



**Type 8644-P AirLINE**  
Valve island with electronic I/O




**PLC**

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.

General data	
<b>Compatibility</b>	with sensor fittings S077 (see corresponding data sheet)
<b>Materials</b>	Housing, cover, lid, nut Front panel foil / Screws Cable glands Wetted parts materials Sensor fitting body Rotor Shaft / Seal
	PC Polyester / Stainless steel PA Aluminium or stainless steel (316L) PPS, aluminium or stainless steel (316L) Stainless steel (316L) / FKM or FEP/PTFE encapsulated
<b>Display</b>	15 x 60 mm, 8-digit LCD, alphanumeric, 15 segments, 9 mm high
<b>Electrical connections</b>	Cable glands M20 x 1.5
<b>Recommended cable</b>	max. 50 m, shielded, 1.5 mm <sup>2</sup> max. cross-section
Complete device data (sensor fitting S077 + electronic module SE35)	
<b>Pipe diameter</b>	DN15...DN100
Thread connection	1/2"; 1"; 1 1/2"; 2"; 3" (G or NPT)
Flange connection	25; 40; 50; 80 or 100 mm DIN PN16 flange 1"; 1 1/2"; 2"; 3" or 4" ANSI 150LB flange
<b>Measuring range</b>	
Viscosity > 5 mPa.s	2 ... 1200 l/min (0.53... 320 gpm)
Viscosity < 5 mPa.s	3 ... 616 l/min (0.78... 320 gpm)
<b>Medium temperature with body</b>	
in aluminium / in stainless steel	-20 ... +80 °C (-4... +176 °F) / -20 ... +120 °C (-4... 248 °F)
<b>Fluid pressure max.</b>	
DN15	55 bar (798.05 PSI) (threaded process connection)
DN25 / DN40 or DN50	55 bar (798.05 PSI) <sup>1)</sup> / 18 bar (261.18 PSI)
DN80 / DN100	12 bar (174.12 PSI) / 10 bar (145.1 PSI)
<b>Viscosity</b>	1 Pa.s max (higher on request)
<b>Measurement deviation</b>	± 1 % of Reading (if "standard" K-factor is used) ± 0.5 % of Reading (if "specific" K-factor is used, on label of the product)
<b>Repeatability</b>	± 0.03 % of Reading

<sup>1)</sup> or in accordance to the value of the used flanges

Electrical data	
<b>Operating voltage</b>	115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)
<b>Current consumption</b> with sensor (without consumption of pulse output)	≤ 25 mA
<b>Output</b>	
Signal current	4 ... 20 mA (2-wire) max. loop impedance : 800 Ω
Pulse	Polarized, potential free, 5 ... 36 V DC; 100 mA, protected, line drop at 100 mA: 2.5 V DC
Technical specifications 115/230 V AC	
<b>Voltage supply available</b> inside the device	27 V DC regulated - max. current: 125 mA integrated protection: fuse 125 mA temporised power: 3 VA
Environment	
<b>Height above the sea</b>	max. 2000 m
<b>Ambient temperature</b>	0 ... + 50 °C (32 °F...122 °F) (operating and storage)
<b>Relative humidity</b>	≤ 80%, without condensation
Standards, directives and approvals	
<b>Protection class</b>	IP65 with cable or screws plug mounted and tightened
<b>Standard and directives</b> 	
EMC	EN 61000-6-3, EN 61000-6-2
Safety	EN 61010-1
Pressure (Sensor fitting S077, DN15... DN100, in aluminium or stainless steel)	Complying with article 3 of chap. 3 from 97/23/CE directive.* (without CE mark)
Vibration	EN 60068-2-6
Shock	EN 60068-2-27

\* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).

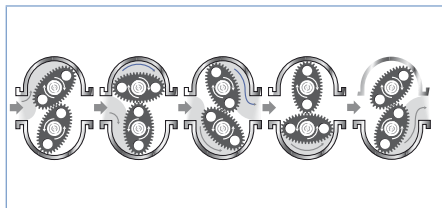
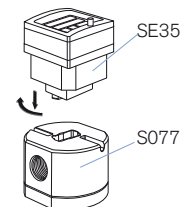
Type of fluid	Conditions
Fluid group 1, §1.3.a	Forbidden
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	PN*DN ≤ 2000
Fluid group 2, §1.3.b	DN ≤ 200

## Design and principle of operation

The Flowmeter is built up with an electronic module SE35 Transmitter associated to a sensor fitting S077 with integrated measurement oval rotor. This connection is made by means of a Quarter-Turn.

The output signal are provided via two cable gland.

### Quarter-Turn Technology

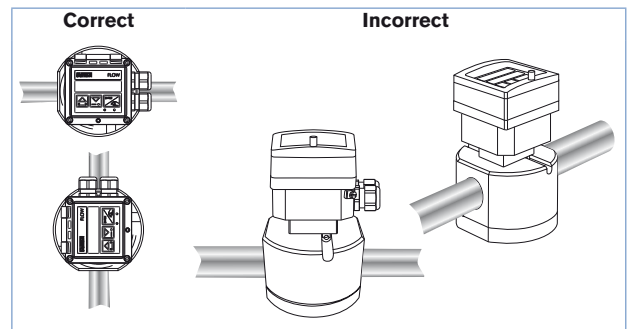


When liquid flows through the pipe, the rotors turn. This rotation produces a measuring signal in the associated hall sensor. The frequency and amplitude are proportional to the flow. The volume of the fluid being transferred in this way is exactly determined through the sensor geometry. A conversion 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, or to improve the measurement deviation, a specific K-factor is given with each device on its label

## Installation

The sensor fitting can be installed in any orientation as long as **the rotor shafts are always in a horizontal plane** (see figures to the right).

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.

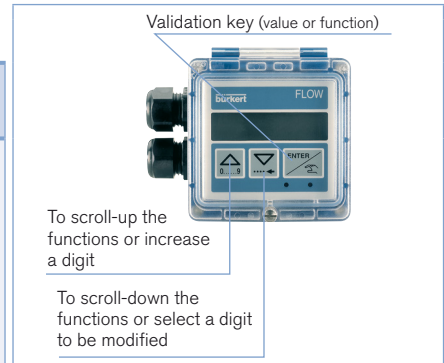


## Operation and display

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

The operation is specified according to three levels:

Indication in operating mode/display	Parameter definition	Test
<ul style="list-style-type: none"> <li>- flow rate</li> <li>- output current</li> <li>- main totalizer</li> <li>- daily totalizer with reset function</li> </ul>	<ul style="list-style-type: none"> <li>- language</li> <li>- engineering units</li> <li>- K-factor / Teach-In function</li> <li>- measuring range 4 ... 20 mA</li> <li>- pulse output</li> <li>- filter</li> <li>- reset main totalizer</li> </ul>	<ul style="list-style-type: none"> <li>- alteration of basic adjustment (offset, span)</li> <li>- frequency test of sensor</li> <li>- flow simulation</li> </ul>



## Dimensions

**Electronics SE35**

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

**DN15   DN25   DN40   DN50   DN80**  
Threaded connection

**DN25   DN40   DN50   DN80   DN100**  
Flanged connection

**Ordering information for complete flowmeter Type SE35 + S077**

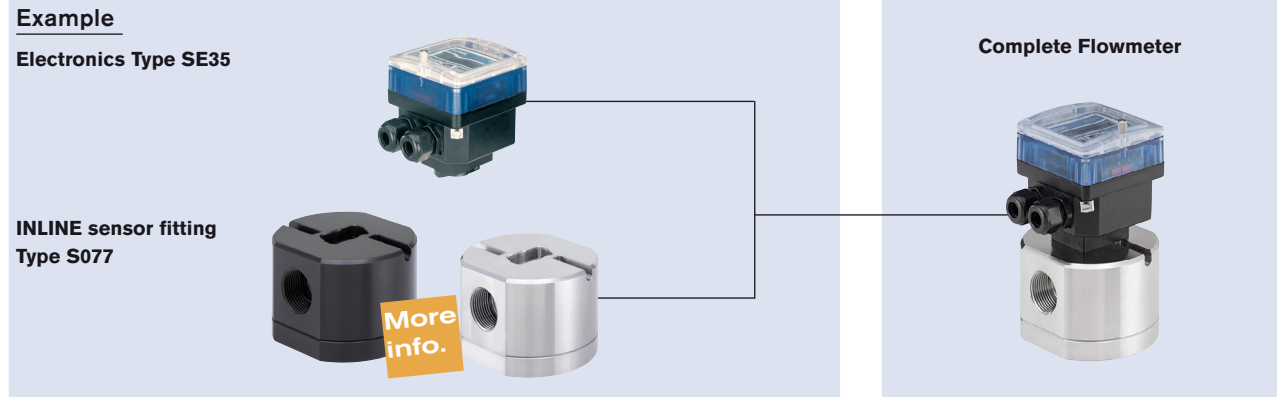
A complete flowmeter consists of an electronics Type SE35 and a Bürkert INLINE sensor fitting Type S077

The following information is necessary for the selection of a complete device:

- Article no. of the desired electronics **Type SE35** (see Ordering chart, below)
- Article no. of the selected INLINE sensor fitting **Type S077** (see separate data sheet- has to be ordered separately)

You have to order two components.

When you click on the orange box "More info." below, you will come to our website for the resp. product where you can download the data sheet.



**Ordering chart for electronics Type SE35**

Specifications	Operating voltage	Output	Sensor version	Electrical connection	Article no.
Standard output signal flowmeter, 2 totalizers	115/230 V AC	4 ... 20 mA (2-wire)+ pulse	Hall	2 cable glands	423922

**Ordering chart for accessories** (has to be ordered separately)

Specifications	Article no.
Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm	449755
Set with 2 reductions M20 x 1.5 /NPT 1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20 x 1.5	551782
Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet	551775

To find your nearest Bürkert office, click on the orange box →

[www.burkert.com](http://www.burkert.com)

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

Subject to alteration.  
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