

- Sensor in solid state technology
- Shows both flow rate and volume
- Simulation: all outputs signals provided without the need for real flow
- Clean in process (CIP)
- FDA approved

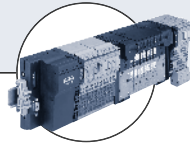
Type 8045 can be combined with...



Type S020
Fitting in
Stainless steel /
Brass / PVC /
PVDF / PP



Type S020
Fitting in
Stainless steel /
PVC / PVDF / PP



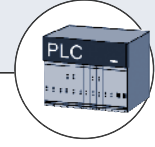
Type 8644-P
AirLINE
Valve Island with
electronic I/O



Type 2030
Diaphragm Valve



Type 2712 (8630)
Continuous
TopControl



PLC

The Magflowmeter 8045 has been designed for pipes with diameters ranging from 1/4" to 16" and liquids having a conductivity > 20 µS/cm. The

transmitter has a large display, a keyboard and provides 4-20 mA, relay and pulse outputs. The version with a stainless steel sensor has been

designed for applications with high pressures 230 PSI and high temperatures (up to 230°F).

Fitting and sensor data

| | |
|-----------------------------------------|------------------------------------------------------------------------------------------------------|
| Pipe diameter | 1/4" (DN 6) to 16" (DN 400) |
| Measuring range | 0.33 ft/s (0.1 m/s) to 32.8 ft/s (10 m/s) |
| Fitting | S020 (see corresp. data sheet) |
| Sensor element | Electrodes |
| Materials wetted parts | |
| Sensor armature | PVDF or Stainless steel 316L (DIN1.4404) |
| Electrodes | Stainless steel 316L (DIN1.4404) |
| Seal | FKM (standard on version with PVDF sensor) EPDM (standard on version with Stainless steel sensor) |
| Earth ring (PVDF sensor vers.) | Stainless steel 316L (DIN1.4404) |
| Electrode holder (St. St. sensor vers.) | PEEK |

Medium data

| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Medium temperature | |
| PVDF sensor version | 32°F up to 176°F (0°C up to 80°C) (dep. on fitting) |
| Stainless steel sensor version | -13°F up to 230°F (-25°C up to 110°C) (dep. on fitting) |
| Fluid pressure | |
| PVDF sensor version | 87psi (PN6) (see temperature-pressure diagram) |
| Stainless steel sensor version | 145psi or 230psi (PN10 or PN16) (Depends on temperature and fitting material, see temperature-pressure diagram) |
| Conductivity | min. 20 µS/cm |

Electronic module data

| | |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy | |
| Teach-In, manually works calibration | ±2% of measured value ¹⁾ .033 to 32.8 ft/s |
| Standard K-factor | ±4% of measured value ¹⁾ .033 to 32.8 ft/s |
| Linearity | ±(1% of measured value + 0.1% of FS*) |
| Repeatability | 0.25% of measured value ¹⁾ |
| Voltage supply | 18-36 VDC, regulated (3 wires) |
| Outputs 8045 | |
| Pulse | NPN and PNP, open collector, galvanic insulation, up to 36 VDC, 100 mA max., protected against short-circuits and polarity reversals |

Electronic module data (continued)

| | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Relay (programmable) (option) | 2 normally open relays, freely adjustable 250 VAC, 3A or 30 VDC, 3A (resistive load) max. cutting power of 750 VA (resistive load) |
| Process value | Hysteresis thresholds 4-20 mA, max. load: 1300 Ω at 30 V, 1000 Ω at 24 V, 700 Ω at 18 V |
| Current consumption | max. 300 mA |
| Materials | |
| Housing, Cover (with PVDF sensor version) | PC, (glass fibre reinforced for Housing) |
| (with St. St. sensor version) | PPA, glass fibre reinforced |
| Front panel foil | Polyester |
| Protection lid | PSU |
| Electrical connections | Cable gland M 20 x 1.5 |

General data

| | |
|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Ambient temperature | 14°F to 140°F (-10°C to 60°C) (operating) -4°F to 140°F (-20°C to 60 °C) (storage) |
| Relative humidity | < 80%, non condensed |
| Protection class | IP65 |
| Standards | |
| EMC | EN 50081-1, 50082-2 |
| Security | EN 61010-2 |
| Vibration | EN 60068-2-6 |
| Shock | EN 60068-2-27 |
| The device also complies with directive N° 97/23/EC about the devices set under pressure, according to the following methods: | |
| - Fluids of group 1 according to §1.3b of the directive: | PN ≤ 230 PSI and DN < 5" |
| - Fluids of group 2 according to §1.3b of the directive: | PN ≤ 230 PSI and DN ≤ 8" |
| It has been designed and manufactured professionally (Article 3.3). The CE mark is not for pressure. | |
| The CE mark complies with directives 89/336/EC (EMC) and 73/23/EC (LVD). | |

¹⁾ In the reference conditions, where: fluid = water, water and ambient temperatures = 20°C, upstream and downstream distances complied with, pipe dimensions adapted.

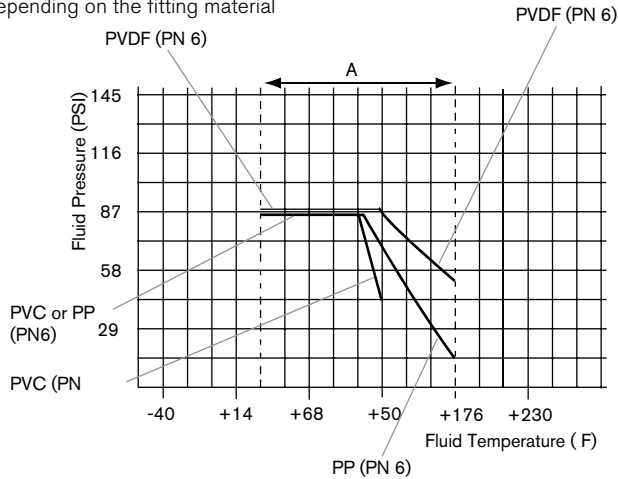
* FS = Full scale

Pressure/temperature diagrams

Please be aware of the fluid pressure–temperature dependence according to the respective fitting+sensor material as shown in the diagrams.

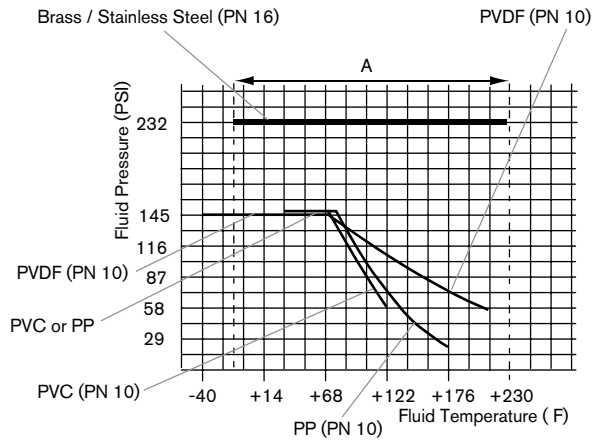
8045 with a PVDF sensor

Depending on the fitting material



8045 with a stainless steel sensor

Depending on the fitting material

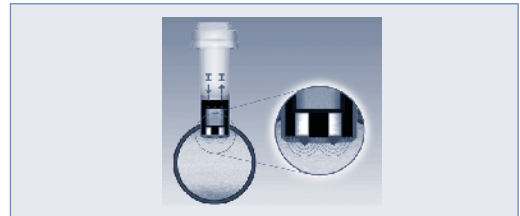


A: Application range for complete device (fitting + transmitter)

Measuring principle

The E-shaped magnetic system inside the sensor induces a magnetic field into the fluid, which is perpendicular to the direction of flow.

Two electrodes are in galvanic contact with the liquid. Based on the Faraday law a voltage can be measured between these electrodes once a liquid (min. conductivity of 20 $\mu\text{S}/\text{cm}$) flows along the pipe. This voltage is proportional to the flow velocity. Using the K factor for the individual pipe diameter the speed of flow is converted into volume per time.



Possible applications

- Flow control of fluids, charged or not:
- ▶ Waste water treatment
- ▶ Flow control of drinking water (FDA approval)
- ▶ Laundries: measurement and control of the water consumption
- ▶ Swimming pools: pump protection and flow control
- ▶ Food-processing industry: monitoring of the cleaning cycles (FDA approval)
- ▶ Irrigation

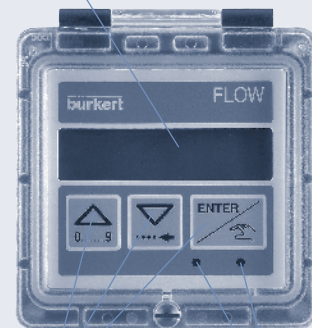
Software main features

- International measuring units
- Choice of the display language
- Teach-In for a better accuracy, or K-factor
- 4-20 mA current output
- Pulse output
- 2 relays (option)
- Filter function
- Reset of the main totalizer
- Simulation mode to adjust Zero and Span and simulate flow in dry-run condition

Display

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

- the measured flow
- the value of the current output
- the value of the main totalizer
- the value of the daily totalizer



3 keys to go through the menus and program the device

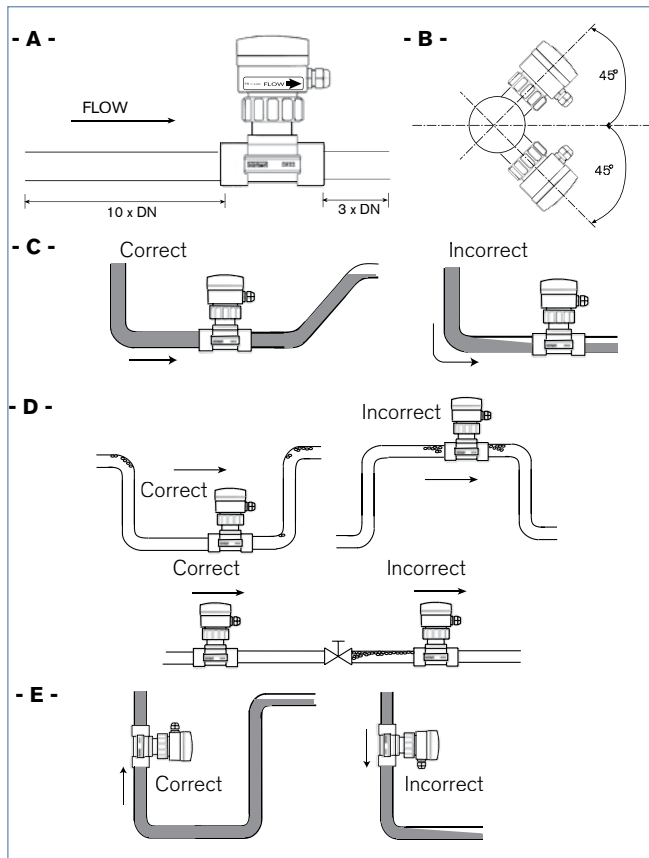
LEDs indicating the relay status

Installation recommendations

A-
The minimum straight upstream (10 x DN) and downstream (3 x DN) distances must be observed.

B-
It is advisable to mount the transmitter at a 45° angle to the horizontal centre of the pipe to avoid having deposits on the electrodes and false measurements due to air bubbles.

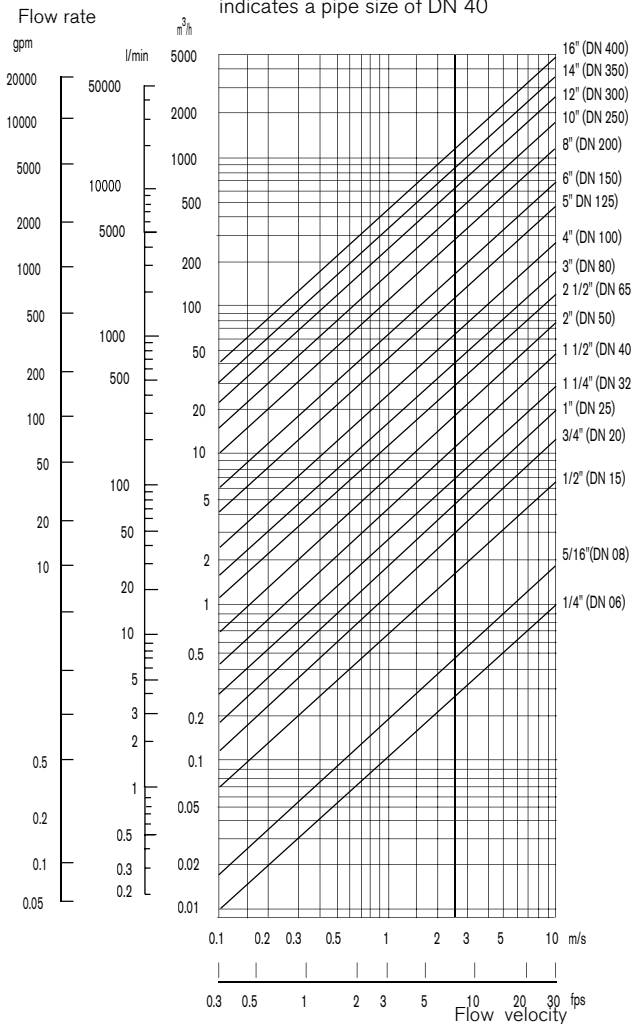
C, D and E -
Mount the 8045 transmitter in these ways to obtain an accurate flow measurement.



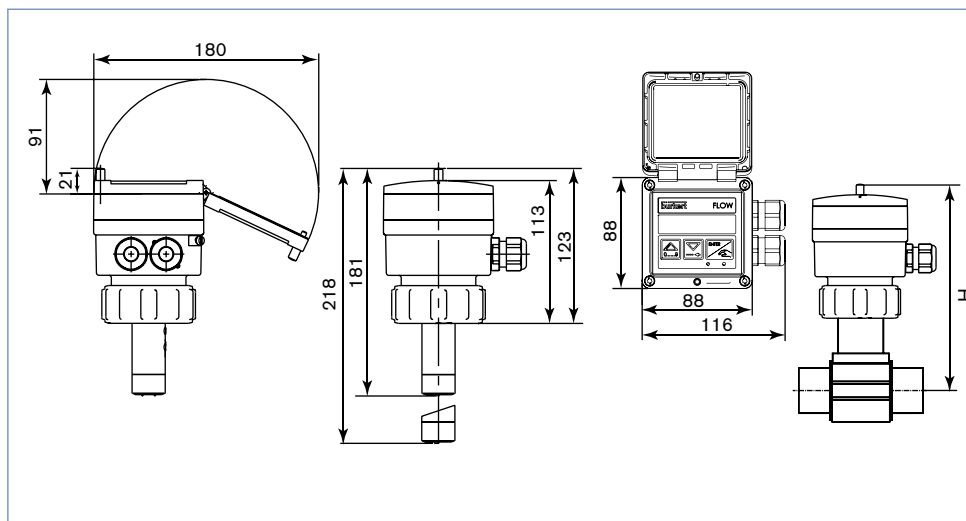
Selection of fitting / pipe size

Example 1:

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



Dimensions [mm]



| DN [mm] | T-Fitting | Saddle | H [mm] Plastic Spigot | St;St. Spigot |
|---------|-----------|--------|-----------------------|---------------|
| 6 | 181 | | | |
| 8 | 181 | | | |
| 15 | 186 | | | |
| 20 | 183 | | | |
| 25 | 183 | | | |
| 32 | 187 | | | |
| 40 | 191 | | | 187 |
| 50 | 197 | 221 | | 192 |
| 65 | 197 | 220 | 202 | 196 |
| 80 | | 224 | 207 | 203 |
| 100 | | 229 | 214 | 213 |
| 110 | | 225 | | |
| 125 | | 232 | | 224 |
| 150 | | 242 | 260 | 235 |
| 180 | | 266 | | |
| 200 | | 278 | 281 | 256 |
| 250 | | | 299 | |
| 300 | | | 304 | |
| 350 | | | 324 | |
| 400 | | | 338 | |

DTS 1000079057 EN Version: A Status: RL (released | freigegeben | validé) printed: 22.09.2017

Ordering chart for transmitter 8045 – for fitting Type S020 (see corresp. datasheet)

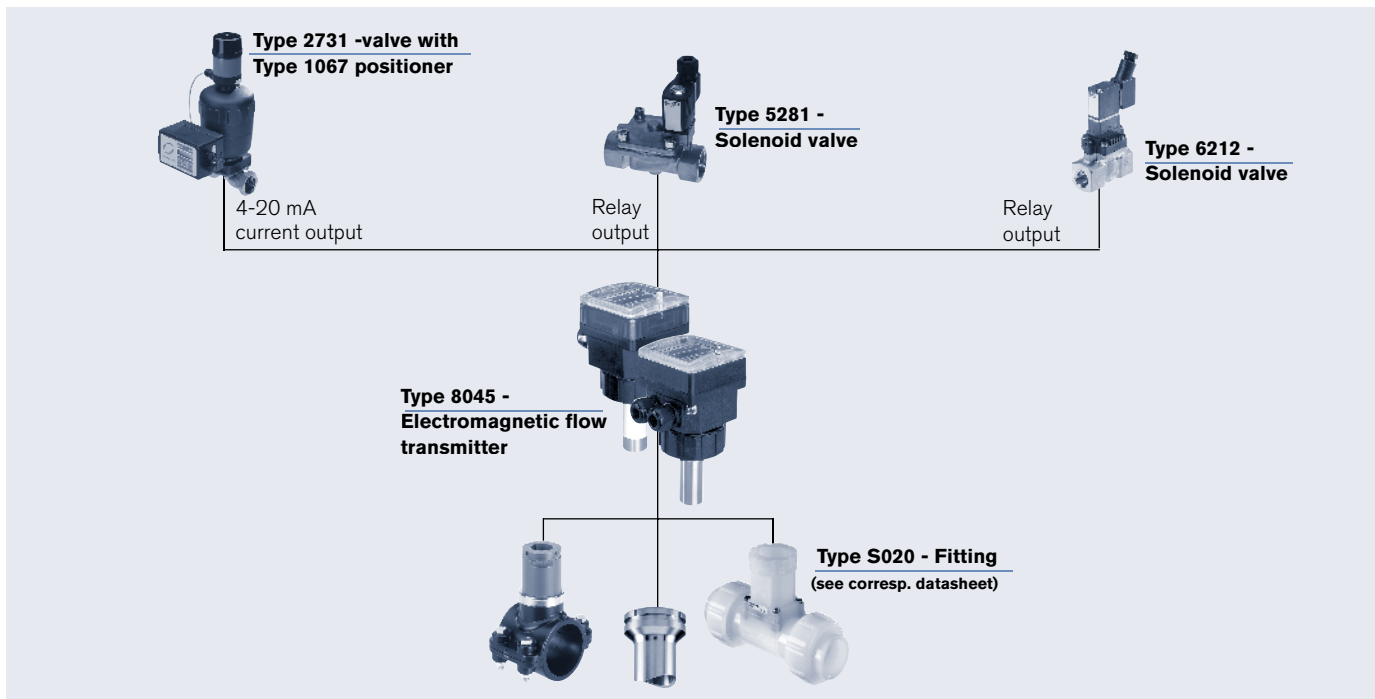
| Voltage supply | Output | Relays | Housing material | Gasket | Sensor | Connector | Item no. |
|----------------|----------------|--------|------------------|--------|------------------------|------------------------|-----------|
| 18-36 VDC | 4-20 mA, pulse | No | PC | FKM | Short, PVDF | 2 cable glands M20x1.5 | 426 498 R |
| | | | | | Long, PVDF | 2 cable glands M20x1.5 | 426 499 J |
| | | 2 | PC | FKM | Short, PVDF | 2 cable glands M20x1.5 | 426 506 R |
| | | | | | Long, PVDF | 2 cable glands M20x1.5 | 426 507 J |
| | | No | PPA | EPDM | Short, Stainless steel | 2 cable glands M20x1.5 | 449 670 X |
| | | | | | Long, Stainless steel | 2 cable glands M20x1.5 | 449 672 M |
| | | 2 | PPA | EPDM | Short, Stainless steel | 2 cable glands M20x1.5 | 449 671 L |
| | | | | | Long, Stainless steel | 2 cable glands M20x1.5 | 449 673 N |

Note: Delivered with 1 set 551 775

Ordering chart of accessories for transmitter 8045 (to be ordered separately)

| Accessories | Item no. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Set with 2 cable glands M20x1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20x1.5 + 2 multiway seals 2x6 mm | 449 755 Q |
| Set with 2 reductions M20x1.5/NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20x1.5 | 551 782 S |
| Set with 1 stopper for not used cable gland M20x1.5 + 1 multiway seal 2x6 mm for cable gland or plug + 1 black EPDM gasket for the sensor + 1 mounting instruction sheet | 551 775 A |
| Ring | 619 205 L |
| PC nut | 619 204 K |
| PPA nut | 440 229 L |
| Set with 1 green FKM + 1 black EPDM gaskets | 552 111 J |
| Calibration certificate | 550 676 J |
| FDA -Approval | 449 788 J |

Interconnection with other Burkert products



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

We reserve the right to make technical changes without notice.

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