

# INSERTION Magmeter with display

8045

## For use with fitting DN15-350 mm

- Simple to read display
- Easy push button menu
- Clean in place
- FDA approved

Please see fitting S020

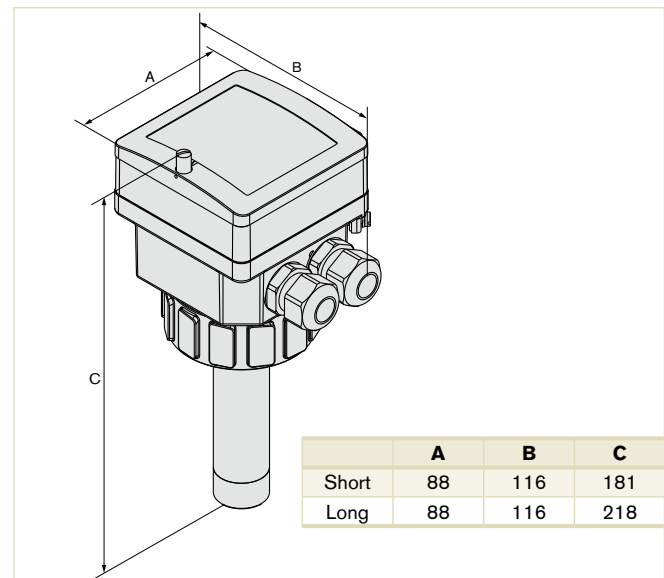


With a stainless steel insertion finger and high quality electronic display module this unit is perfect for contaminated or aggressive fluids. 4-20 mA and pulse output with optional 3A relays makes this a flexible solution for flow control, batching or CIP control in FDA applications.

## Technical Data

General data	
<b>Compatibility</b>	with Fittings S020 (see corresp. datasheet)
<b>Materials</b>	
<b>Housing, cover, nut / seal</b>	
PVDF sensor version	PC (glass fibre reinforced for housing) / NBR
Stainless steel sensor version	Black PPA (glass fibre reinforced) / NBR
<b>Front panel foil</b>	Polyester
<b>Protection lid / seal</b>	
PVDF sensor version	PC / silicone
Stainless steel sensor version	PSU / silicone
<b>Screws / Seal</b>	Stainless steel / NBR
<b>Cable glands</b>	PA with neoprene seal
<b>Wetted parts material</b>	
Sensor holder	PVDF or Stainless steel 1.4404/316L
Electrodes	Stainless steel 1.4404/316L or Alloy C22
Seals	G 2" connection: FKM (FDA approved) [EPDM (KTW approved)]
Earth ring (PVDF sensor version)	Clamp connection: EPDM or FEP (to be ordered separately)
Electrode holder (St. Steel sensor version)	Stainless steel 1.4404/316L or Alloy C22 PEEK (FDA approved)
<b>Surface finishing quality</b>	Ra < 0.8 mm (Clamp connection)
<b>Electrical connections</b>	2 cable glands M20 x 1.5
<b>Recommended cable</b>	0.5 to 1.5 mm <sup>2</sup> cross-section, shielded cable, 6... 12 mm diameter (if only one cable is used per cable gland) or 4 mm diameter (if two cables are used per cable gland with using the supplied multi-way seal)
<b>Environment</b>	
<b>Ambient temperature</b>	-10 °C to +60 °C (14 to 140°F) (operating) -20 °C to +60 °C (-4 to 140°F) (storage)
<b>Relative humidity</b>	< 85%, without condensation
<b>Height above sea level</b>	max. 2000 m
<b>Complete device data (Fitting S020 + flowmeter)</b>	
<b>Pipe diameter</b>	
G 2" connection	DN06 to DN400
Clamp connection	DN32 to DN100
<b>Measuring range</b>	0.2 to 10 m/s
<b>Sensor element</b>	Electrodes

## Envelope Dimensions [mm] (see datasheet for details)




## Options

- PVDF finger for +80 °C and 6 bar with PC housing
- Hastelloy electrodes

<b>Medium temperature</b>	
PVDF sensor version	see Pressure/Temperature diagram 0 °C to 80 °C (32 to 176°F)
Stainless steel sensor version	(depends on fitting) -15 °C to 110 °C (5 to 230°F) (depends on fitting)
<b>Medium pressure max.</b>	
PVDF sensor version	see Pressure/Temperature diagram PN10 (145.1 PSI)
Stainless steel sensor version	PN10 (145.1 PSI) (with plastic fitting) PN16 (232.16 PSI) (with metal fitting)
<b>Conductivity</b>	
	min. 20 mS/cm
<b>Accuracy</b>	
Teach-In	±0.5% of Reading <sup>1)</sup>
Standard K-factor	(at the teach flow rate value) ±3.5% of Reading <sup>1)</sup>

## Technical Data (continued)

<b>Linearity</b>	±0.5% of F.S. <sup>1)</sup>
<b>Repeatability</b>	±0.25% of Reading <sup>1)</sup>
<sup>1)</sup> Under reference conditions i.e. measuring fluid=water, ambient and water temperature = 20 °C (68°F), applying the minimum inlet and outlet straight pipe lengths, matched inside pipe dimensions.	
* F.S.= of Full scale (10 m/s)	
<b>Electrical data</b>	
<b>Operating voltage</b>	18 - 36V DC filtered and regulated (3 wires) Tolerance: ±0.5%
<b>Reversed polarity of DC</b>	protected
<b>Current consumption</b>	≤ 300 mA (at 18V DC)
<b>Digital input DI1</b>	Supply voltage: 18 - 36V DC, input impedance 15 kΩ min. pulse duration: 200 ms Galvanic insulation, protected against polarity reversals of DC and voltage spikes
<b>Digital outputs</b>	
Transistor (DO1)	Type: NPN or PNP (wiring dependent), open collector Function: pulse output (by default), user configurable 0 - 250 Hz, 5 - 36V DC, 100 mA max., duty cycle if frequency > 2 Hz: 1/2; min. pulse duration if frequency < 2 Hz: 250 ms
Relay (DO2 and DO3)	Galvanic insulation, protected against polarity reversals of DC and short-circuits 2 normally open relays, freely adjustable (hysteresis by default), 250V AC/3 A or 30V DC/3 A (resistive load), max. cutting power of 750 VA (resistive load); life span of min. 100000 cycles
<b>Analogue output</b>	
<b>Current (AO1)</b>	4... 20 mA, sink or source (wiring dependent), 22 mA to indicate a fault max. loop impedance: 1300 Ω at 36V DC, 1000 Ω at 30V DC, 700 Ω at 24V DC, 450 Ω at 18V DC
<b>4... 20 mA output accuracy</b>	±1%

<b>Standards, directives and approvals</b>	
<b>Protection class</b>	IP65, device wired and cable glands tightened and lid screwed tight
<b>Standards and directives</b>	
<b>EMC</b>	EN 61000-6-2, EN 61000-6-3
<b>Low voltage (LVD)</b>	EN 61010-1
<b>Pressure</b>	Complying with article 3 of §3 from 97/23/CE directive.*
<b>Vibration</b>	EN 60068-2-6
<b>Shock</b>	EN 60068-2-27
<b>Approvals</b>	FDA (only for device with FKM seal and PEEK electrode holder) KTW (only for device with EPDM seal and PVDF sensor holder) Available version with CSA-Approved for US and Canada  , on request

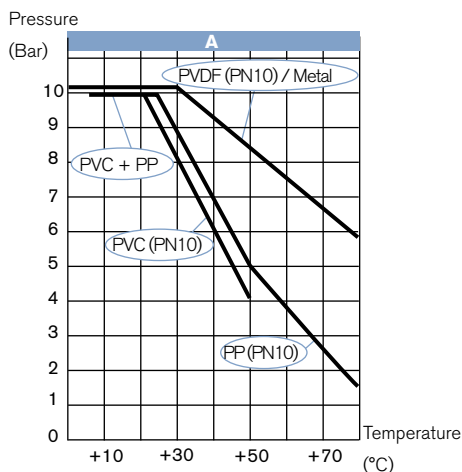
\* For the 97/23/CE pressure directive, the device can only be used under following conditions (dependent on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
<b>Fluid group 1, §1.3.a</b>	Forbidden
<b>Fluid group 2, §1.3.a</b>	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
<b>Fluid group 1, §1.3.b</b>	PN*DN ≤ 2000
<b>Fluid group 2, §1.3.b</b>	DN ≤ 200 or PN ≤ 10 or PN*DN ≤ 5000

## Pressure/Temperature diagram

### 8045 with a PVDF sensor

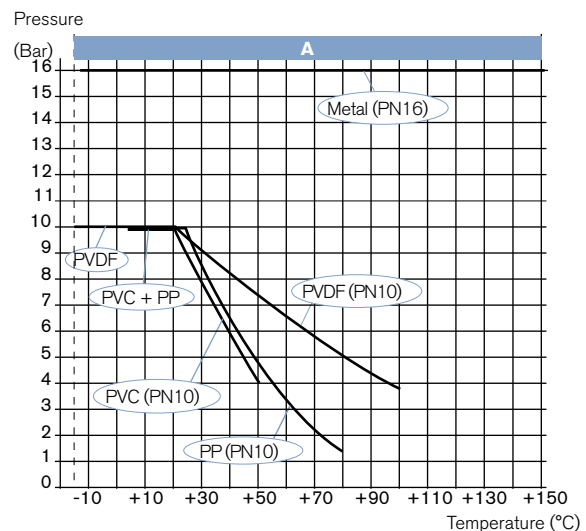
(depending on the fitting material)



A : application range for complete device (Fitting + transmitter)

### 8045 with a stainless steel sensor

(depending on the fitting material)



Ordering Chart (please order fitting separately)

8045

Relays	Housing material	Sensor version	Item no.
No	PC	Short, PVDF	426 498
		Long, PVDF	426 499
2		Short, PVDF	426 506
		Long, PVDF	426 507
No	PPA	Short, Stainless Steel (FDA)	449 670
		Long, Stainless Steel (FDA)	449 672
2		Short, Stainless Steel (FDA)	449 671
		Long, Stainless Steel (FDA)	449 673

**Note**

Delivered with 1 set 551 775 and 1 EPDM seal.

To select a complete device the following items need to be ordered:

- Product no. of the desired flow meter for Type 8045
- Product no. of the Type S020 fitting, for gauges with G 2" connector, must be ordered separately

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