



Inline flow-captor Type 4311.30

The inline flow-captor type 4311.30 is a flow meter for Industrial applications. The small compact unit is self-contained and needs no additional parts. The stainless steel pipe itself, running through the center of the inline flow-captor, is the actual sensor element. According to a calorimetric principle a small part of this pipe is electrically heated, such that it is marginally above the temperature of the medium. This heat flow, depending on the flow speed of the medium, is measured electronically and provides an output signal linear and proportional to the flow speed.

Decisive for compatibility with corrosive media is the material of the pipe. Standard is stainless steel WN 1.4571(V4A, 316 Ti) although other types of metals are available.

The inline flow-captor is completely resin encapsulated, thus rugged, shock and vibration proof; for extremely harsh environmental conditions it may be supplied in aluminium housing.

Self-contained flow meter for measurement and control applications, non-intrusive sensing, ideal for small diameters, suitable for liquids, semi-solids and a wide range of corrosive media, 4 - 20 mA, no moving parts

Sensing Data

Medium	liquids, pastes (corrosive media which are compatible with pipe material)
Measuring range	continuously adjustable from 0 - 20 cm/s to 0 - 100 cm/s (related to water; extended range for other media)
Measuring time	2 - 10 s, according to measuring conditions
Linearity deviation	< 5 % (best fitting slope)
Repeatability tolerance	< 2%
Temperature drift	< 0.3 % / K

All data related to water

Inline flow-captor

Type 4311.30

Compact Inline flow meter



Typical Application Examples:

With the inline flow-captor, type 4311.30 the pipe wall itself is part of the sensor element, a technique which permits non intrusive sensing, thus no interference in flow profile. The small sensor pipe diameters correspond to existant small-bore systems and are consequently ideally suited to low flow rates.

Applications where these features are especially important are in process control of food as well as chemical industries.

Electrical Data

Voltage supply	24 V DC \pm 10%
Current consumption	max. 100 mA
Output current	4 - 20 mA
Resistive load	0 - 600 Ohm

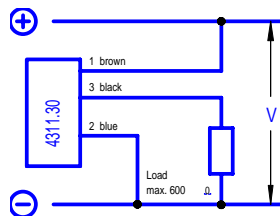
Measurement range adjustment:

The two potentiometers can be adjusted to set the measuring range and zero point. Operation within the measuring range is indicated by a green LED (within the range: ON; beyond the range: OFF)

Mechanical Data

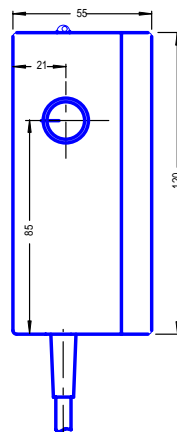
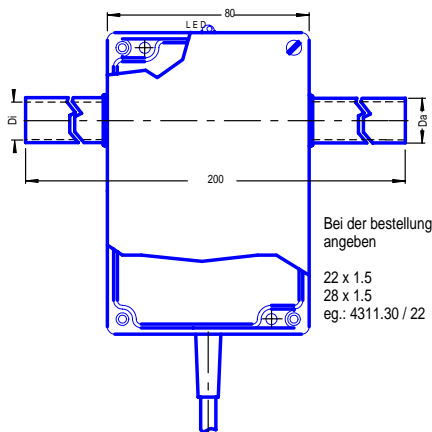
Material	Inline sensor pipe	Housing
	stainless steel WN 1.4571 (V4A, 316 Ti), other qualities and metals (Titan, Hastelloy) on request	Makrolon
Dimensions in mm	6 x 1; 8 x 1 diameter x wall thickness 12x1; 18x1.5 diameter x wall thickness 22x1; 28x1.5 diameter x wall thickness	65 x 50 x 35 (L x W x H) 65x98x37 (L x W x H) 80x120x55 (L x W x H)
Operating pressure	max. 30 bar	
Medium temperature range	-10 °C to + 80 °C (14 °F to 176 °F) (higher temperatures on request)	
Ambient temperature	-10 °C to + 60 °C (14 °F to 140 °F)	
Electrical connection	2 m moulded oilflex cable, 3 x 0.5 mm ²	
Protection standard	IP 65	
Torsion: pipe to housing	max. 5 Nm at medium and ambient temperature <_ 40 °C. At higher temperatures no torsion allowed	

Connection diagram

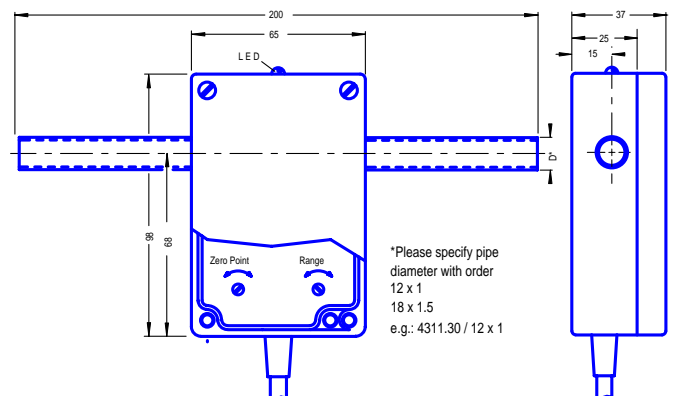
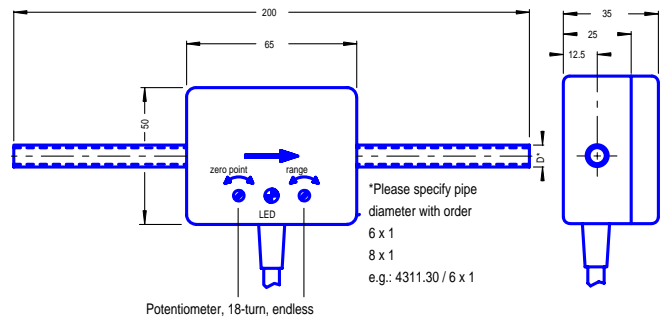


4 - 20 mA current output

Dimensions in mm



Makrolon housing



weber

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