

weber

flow-captor smart meter



The adjustable flow meter

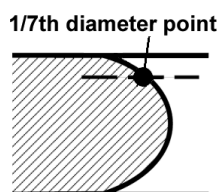
- Suitable for pipes up to 24"
- Measuring range from 0.2 m/s up to 3.5 m/s
- A flow meter for everything that flows
- Made for the 1/7th law



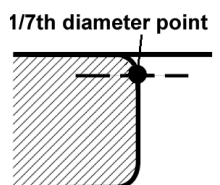
flow-captor smart meter Type 4115.30 sm

The flow-captor smart meter solves the problems inherent with insertion type flow meters and achieves high accuracy over a wide range of pipe sizes by applying the 1/7th law. The flow-captor smart meter measures even very low flow rates due to the applied calorimetric principle.

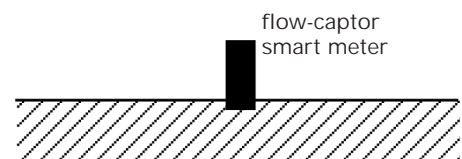
Laminar flow is the ideal flow condition, with no obstruction or bends. Under this condition, the flow rate at an insertion depth of 1/7th of the pipe diameter represents the average flow rate.



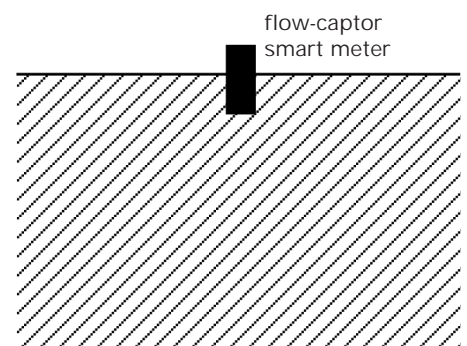
Turbulent flow is a very common flow condition characterized by a flat flow profile across the pipe diameter starting almost immediately after the pipe wall. Applying the 1/7th law creates the same accurate metering as under laminar flow conditions.



Small pipe diameter



Large pipe diameter



flow-captor smart meter

Type 4115.30 sm



Application

Metering of all fluid media, like water, oil, aggressive media, paste, glue, sludge, grease etc.

Principle of operation

The flow-captor smart meter's operation is based on an advanced calorimetric technology.

The sensor head of the flow-captor contains two PT-resistors. One of them is measuring the temperature of the media, while the other is heated by an attached heating resistor, resulting in a temperature difference between the two PT-resistors.

The temperature difference between the two PT-resistors is predetermined and a control circuit keeps this temperature difference constant.

The flow of the media cools the heated PT-resistor proportional to the speed of the flow. The heating power fed into the system by the control circuit, in order to keep the temperature difference between the two PT-resistors constant, is the equivalent to the heat dissipation by the flow of the media. This results in a linear output signal proportional to the flow speed.

Technical Data

Type	4115.30 sm2	4115.30 sm3	4115.30 sm4	4115.30 sm5
Measuring range ^{1) 2)}	0 to 0,5 m/s	0 to 1 m/s	0 to 2 m/s	0 to 3 m/s

²⁾ other ranges on request

Sensor Data

Medium temperature	0 °C to +80 °C (+32 °F to +176 °F)
Ambient temperature	-20 °C to +70 °C (-4 °F to +160 °F)
Pressure	18 bar, max.
Accuracy	< 3% ¹⁾
Repeatability	< 1% / Response time to flow rate change 10 sec. typ.

Mechanical Data

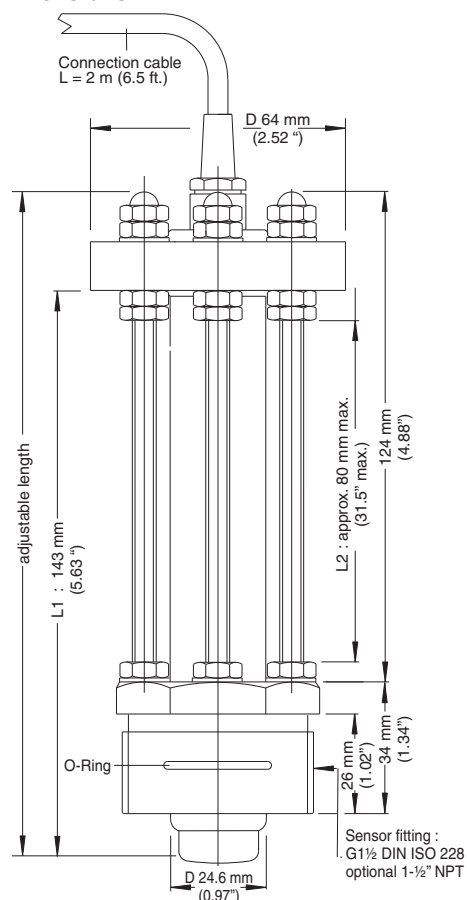
Protection class	IP65
Housing material	Stainless steel WN 1.4571 (V4A), 316 Ti
Sensor head material	Stainless steel WN 1.4571 (V4A), 316 Ti
Sensor fitting	G1½ DIN ISO 228, stainless steel (optional 1-½" NPT)
Electrical connection	2 m (6.5 ft.) moulded oilflex cable, 3 x 0.5 mm ²

Electrical Data

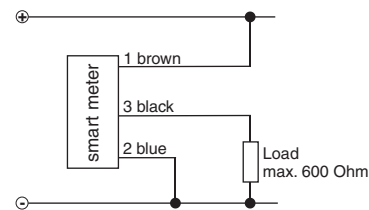
Supply voltage	24 VDC +10% -15%
Current consumption	100 - 200 mA
Output current	4 to 20 mA
Resistive load	600 Ohm, max.

¹⁾ data applies to water

Dimensions



Connection Diagram



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