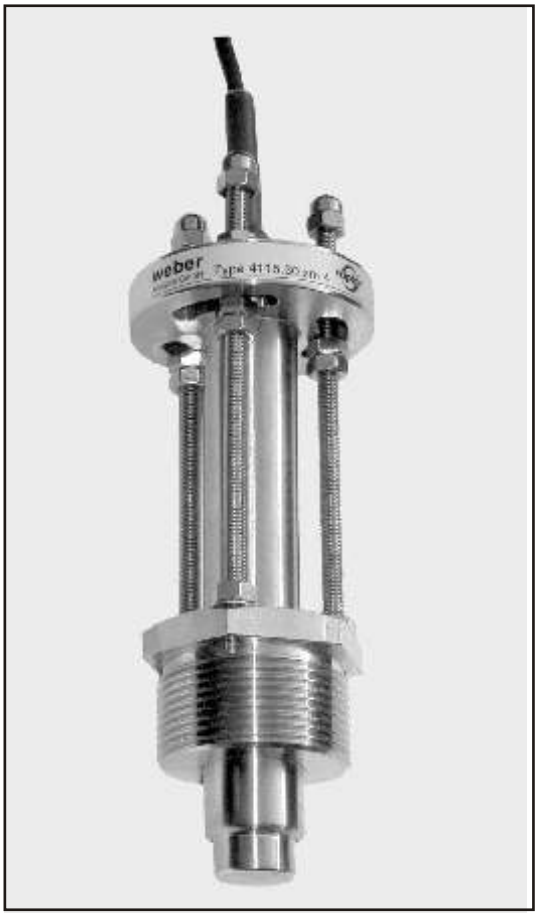
# weber

# flow-captor smart meter

## The adjustable flow meter

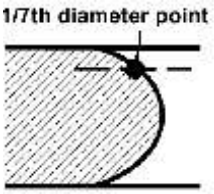
- Suitable for pipes up to 24”
- Measuring range from 0.2 m/s up to 2 m/s
- A flow meter for everything that flows
- Made for the 1/7th law



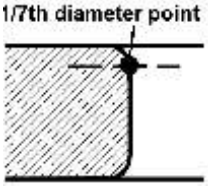
## flow-captor smart meter Type 4115.30 sm

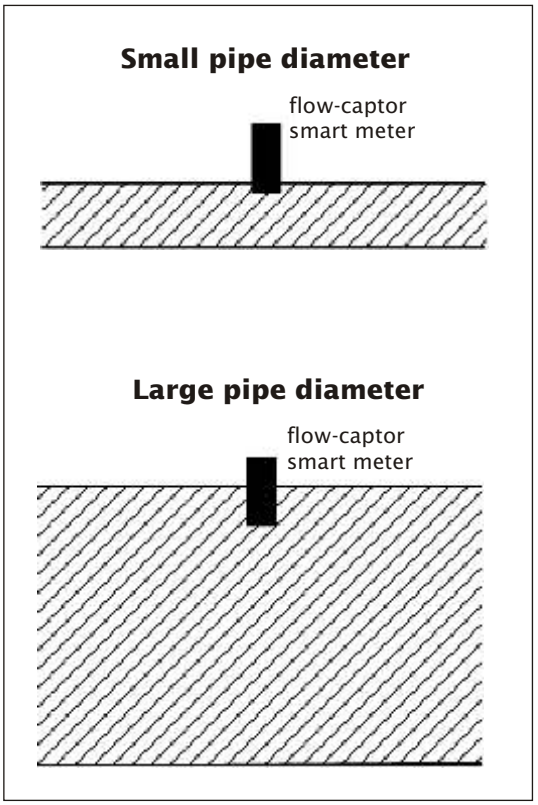
The flow-captor smart meter solves the problems inherent with insertion type flow meters and achieves high accuracy over a wide range of pipe sizes by applying the 1/7th law. The flow-captor smart meter measures even very low flow rate due to the applied calorimetric principle.

**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.



# 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 sm1 | 4115.30 sm2 | 4115.30 sm3 | 4115.30 sm4 |
|---|---|---|---|---|
| Measuring range [1) 2)] | 0 to 0,2 m/s | 0 to 0,5 m/s | 0 to 1 m/s | 0 to 2 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% |

**Mechanical Data**

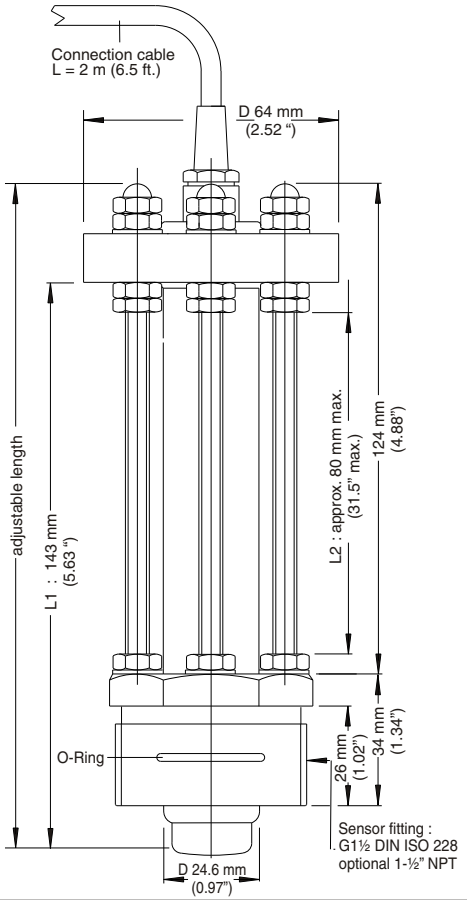
| | |
|---|---|
| Protection class | IP65 |
| Housing material | Stainless steel WN 1.4571 (V4A), 316 Ti |
| Sensor head material | Stainless steel WN 1.4571 (V4A), 316 Ti |
| Sensor fitting | G1½ DIN ISO 228, stainless steel (optional 1-½" NPT) |
| Electrical connection | 2 m (6.5 ft.) moulded oilflex cable, 3 x 0.5 mm² |

**Electrical Data**

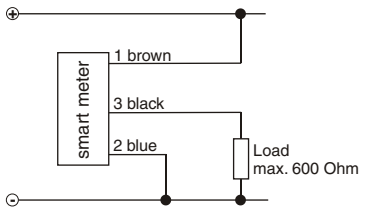
| | |
|---|---|
| Supply voltage | 24 VDC +10% -15% |
| Current consumption | 100 - 200 mA |
| Output current | 4 to 20 mA |
| Resistive load | 600 Ohm, max. |

[1)] data applies to water

**Dimensions**




**Connection Diagram**



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