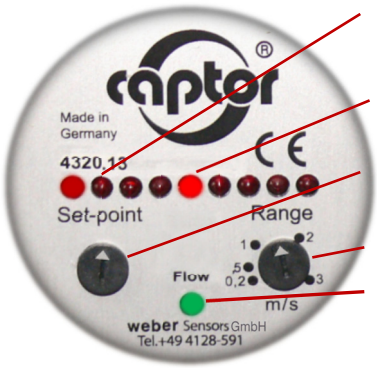
Metering flow switch for water-based media

Inline flow-captor 4320.1xM

The Inline **flow-captor** type 432x.1xM is a unique, compact, metering flow switch with adjustable set-point and analog display for industrial applications in stainless steel housing. The functionally is based on the calorimetric principle. The inline flow-captor allows to set an exact flow set-point while simultaneously displaying the flow velocity down to the smallest values.

- accurate switching flow monitor for water or oil-based solutions
- rugged industrial version
- high accuracy also under low flow conditions
- separate adjustment for "range"and "set-point"
- analog display of actual flow rate and display of adjusted set-point value
- LED for output status
- **ISO 9001 : 2015**

Control and display panel



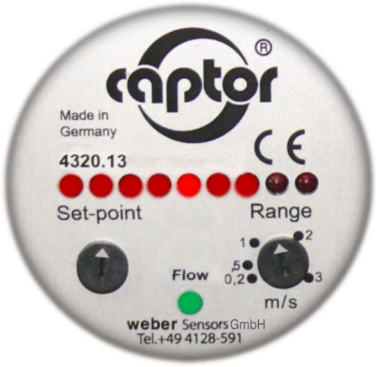
LED chain for display of flow speed

Flashing LED for display of adjusted set-point

Potentiometer for set-point adjustment

Potentiometer for range adjustment from .2 to 3 m/s.

example of operation

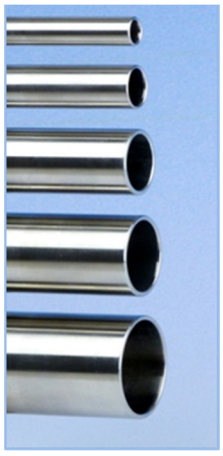


Measuring range adjusted to 3 m/s = 100% (9. LED)

Set-point adjusted to 50% of end value (5. LED)

Flow speed equates 75% (7. LED)

Green LED is **ON**: Flow rate is above the adjusted set-point

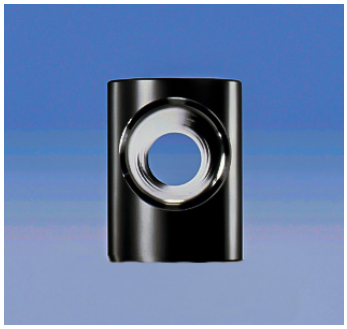


The sensor tube

The sensor tube (length 200 mm) is made of stainless steel 316Ti and is an integral part of the inline flow-captor.

This series is available with sensor tubes in different sizes as 8 x 1, 12 x 1, 18 x 1,5, 22 x 1,5 as well as 28 x 1,5 mm.

For aggressive media special sensor tube materials as Titanium and Hastelloy can be offered.



Free flow

The sensor element of the inline flow-captor is fitted to the out-side of the sensor tube. Since there is no element inside the tube, the sensor is non-intrusive to the flow. The robust housing is constructed of stainless steel 316 Ti (V4A). The electronics housing includes a full resin encapsulation.

Mechanical connection

Cutting ring couplings, to be ordered separately, have proven their value when mounting the sensor into pipe systems. By slightly tightening the swivel nut the v-shaped ring inside of the coupling cuts into the sensor tube wall and thus ensures a dense and reliable form closure.

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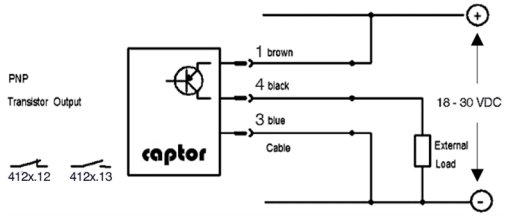
Inline flow-captor 4320.1xM

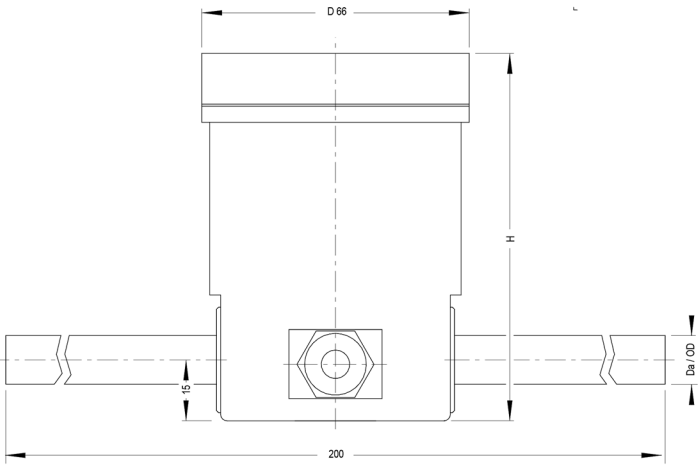
Technical Data					
Type	**flow-captor 4320.1xM**				
Medium	water-based media				
Sensor Data					
Measuring range	0 - 20 cm/s to 0 - 300 cm/s, cont. adjustable [*1]				
Flow volume[*1] at 300 cm/s related to tube inner diameter	8 x 1 mm 5,1 l/min	12 x 1 mm 14,1 l/min	18 x 1,5 mm 31,8 l/min	22 x 1,5 mm 51 l/min	28 x 1,5 mm 88,4 l/min
Set-point range	approx. 15% - 90% of measuring range setting				
Medium temperature	-20 °C to +80 °C				
Ambient temperature	-20 °C to +70 °C				
Pressure	max. 30 bar (3000 kPa)				
Response time	2 s to 10 s (according to range setting)				
Linearity deviation	< 5% *[1]				
Repeatability	< 2%				
Hysteresis	ca. 10%				
Temperature drift	< 0,3% K				
Mechanical Data					
Protection rate	IP67				
Housing material	stainless steel 316 Ti (V4A)				
Sensor material	stainless steel 316Ti (**B**: Titanium; **C**: Hastelloy ® C4 on request)				
Pipe sizes OD x wall thickness	8 x 1 mm	12 x 1 mm	18 x 1,5 mm	22 x 1,5 mm	28 x 1,5 mm
Connection	Plug M12x1, 4-pin				
Dimensions of housing	D 60 x L 200				
Electrical Data					
Operating voltage	18 to 30 VDC, incl. residual ripple				
Current consumption	max. 150 mA (pulsed)				
Power consumption	approx. 1 W				
Switching current	≤ 400 mA				
Circuit protection	reverse polarity / short circuit / overload				
Voltage drop	< 2 V at max. load				
State of readiness	approx. 10 s after connection of power				
Electrical output Without flow:	4320.12 PNP current-carrying (opener / n. c.) 4320.13 PNP currentless (closer / n. o.)				

[1] all data applies to water

Anschlussdiagramm
Connection diagram



Gehäuseabmessungen
Dimensions



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