Typical Applications

- Billing measurement places
- Infiltration measurement
- Influent control
- Discharge construction
- Precipitation discharge measurements

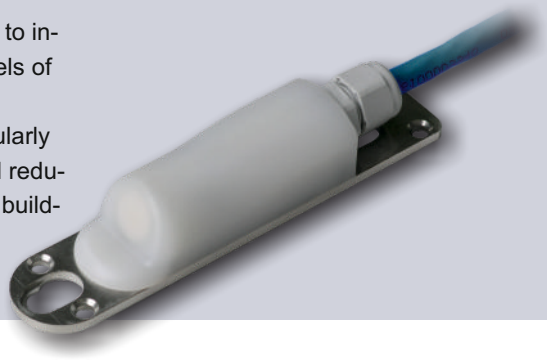
Mini Sensor Family

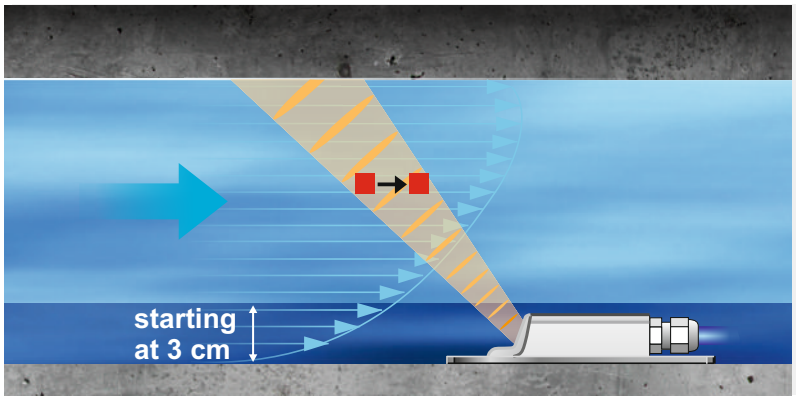
Flow Measurement for low Flow Levels

Latest sensor technology for flow velocity measurement in lowest levels.

The Mini sensor family provides the best possible measurement system to detect lowest dicharges e.g. for infiltration measurement (extraneous water) or indirect discharge measurements. The sensors use our patented and proven ultrasonic cross correlation method.

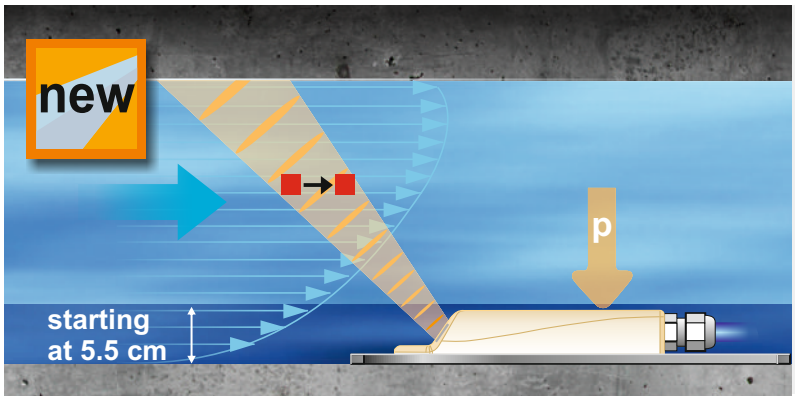
This method allows to detect and to indicate flow profiles starting at levels of only a few centimeters.
The sensor construction is particularly suitable for small dimensions and reduces backwater effects, the risk of build-up or blockage.





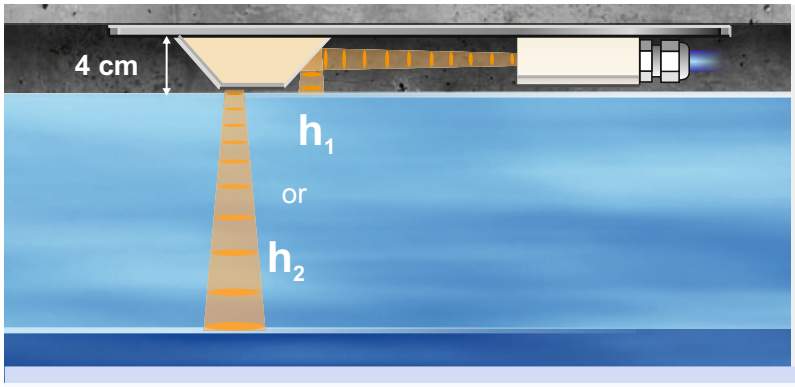
Flow velocity sensor

- Proven cross correlation technology
- Profile measurement
- Stable flow velocity measurement starting at levels as low as 3 cm



Flow velocity sensor with integrated pressure cell

- Proven cross correlation technology
- Profile measurement
- Stable flow velocity measurement starting at levels as low as 5.5 cm
- Level measurement using reliable pressure measurement cell
- Overflow detection

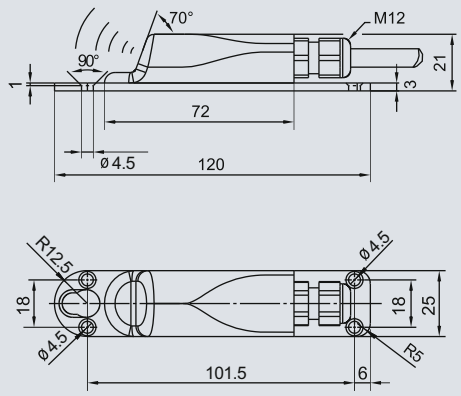


Level sensor

- Lowest dead zone
- Absolutely stable zero point

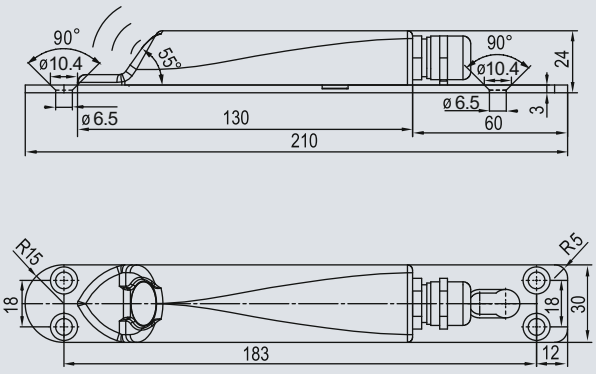
Specifications

v-Sensor, Type CSM



All dimensions in **mm**

v-Sensor with pressure cell, Type CSM-D



All dimensions in **mm**

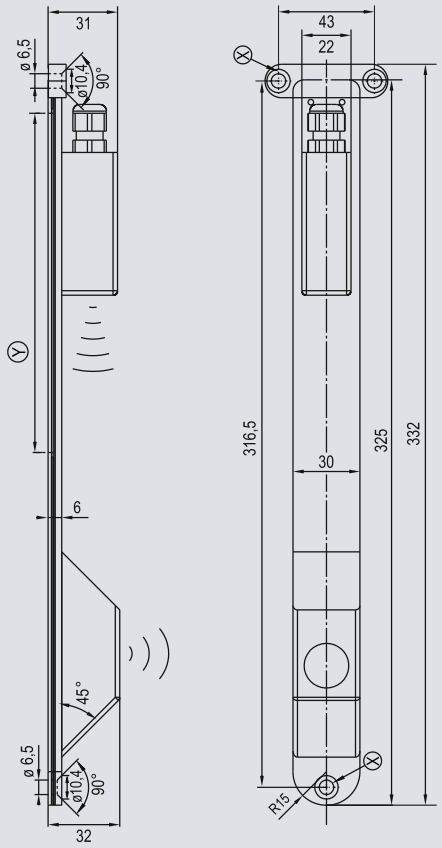
Mini Sensor Family

Flow velocity sensor, Type CSM	
Measurement principle	cross correlation detecting the real flow profile
Minimum fill level	3 cm
Measurement frequency	1 MHz
Protection	IP68
Ex-Approval (optional)	II 2 G Ex ib IIB T4 Gb
Operating temperature	-20 °C to +50 °C -20 °C to +40 °C if using the sensors in Ex Zone 1
Storage temperature	-30 °C to +70 °C
Operating pressure	max. 4 bar
Cable length	7 m, for connection to Electronic Box
Medium contacting materials	Polyurethane, PVDF, stainless steel 1.4571, PA
Measurement range	-100 cm/s to +600 cm/s
Number of scan layers	max. 16
Zero point drift	absolutely stable zero point
Error limits (per scan layer)	<1 % of measurement value (v >1 m/s) <0.5 % of measurement value +5 mm/s (v <1 m/s)

Flow velocity sensor, Type CSM-D	
Measurement principle	cross correlation detecting the reale flow profile
Minimum fill level	5.5 cm
Measurement frequency	1 MHz
Protection	IP68
Ex-Approval (optional)	II 2 G Ex ib IIB T4 Gb
Operating temperature	-20 °C to +50 °C -20 °C to +40 °C if using the sensors in Ex Zone 1
Storage temperature	-30 °C to +70 °C
Operating pressure	max. 4 bar
Cable length	7 m or 15 m, for connection to Electronic Box
Medium contacting materials	Polyurethane, PPO GF30, stainless steel 1.4571, PA
Measurement range	-100 cm/s to +600 cm/s
Number of scan layers	max. 16
Zero point drift	absolutely stable zero point
Error limits (per scan layer)	<1 % of measurement value (v >1 m/s) <0.5 % of measurement value +5 mm/s (v <1 m/s)
Level measurement - pressure	
Measurement range	0 to 500 cm
Zero point drift	max. 0.75% of final value
Measurement uncertainty	< 0.5 % of final value

Specifications

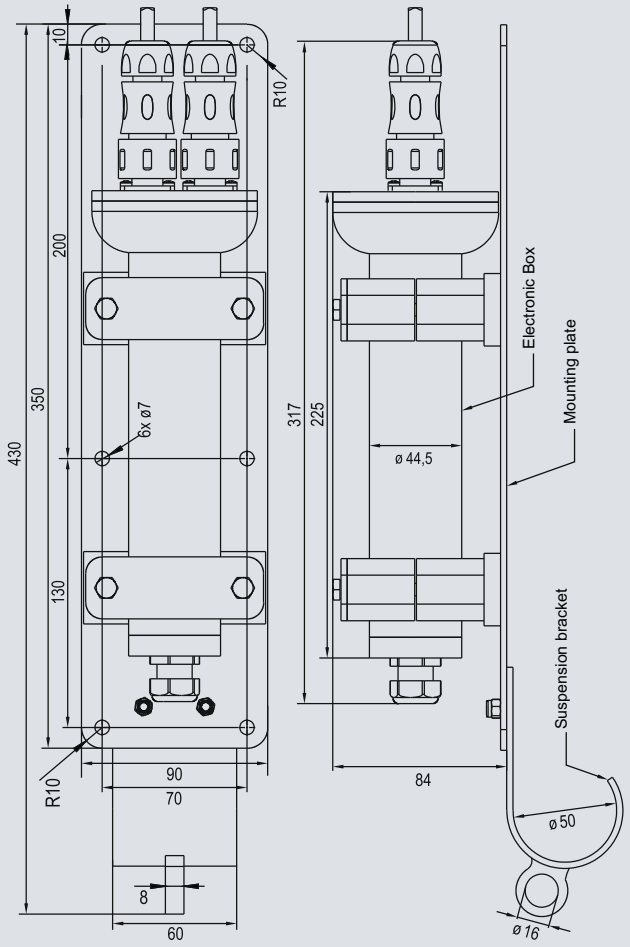
h-Sensor, Type DSM



For direct fastening (X)
or for fastening using a pipe mounting system (Y)

All dimensions in **mm**

Electronic box, Type EBM



All dimensions in **mm**

Mini Sensor Family

Level sensor, Type DSM	
Measurement principle	transit time using air-ultrasound
Meas. frequency	120 kHz / 200 kHz
Protection	IP68
Ex-approval (optional)	II 2 G Ex ib IIB T4 Gb
Operating temperature	-20 °C to +50 °C -20 °C to +40 °C if using the sensors in Ex Zone 1
Storage temperature	-30 °C to +70 °C
Operating pressure	max. 1 bar
Cable length	7 m or 15 m, for connection to Electronic box
Materials	Polyurethane, stainless steel 1.4571, PPO GF30, PA
Measurement range	0 to 200 cm
Dead zone	(starting at mounting plate) 4 cm
Meas. uncertainty	lower than ±5 mm
Zero point drift	absolutely stable zero point

Electronic Box, Type EBM	
Protection	IP68
Ex-Approval (optional)	II 2 G Ex ib IIB T4 Gb
Operating temperature	-20 °C ti +50 °C (+40 °C in Ex Zone 1)
Storage temperature	-30 °C to +70 °C
Operating pressure	max. 1 bar
Cable length	3, 10, 20, 30, 50, 100 m, for connection to PCM 4, PCM Pro or OCM Pro CF transmitters
Materials	Polyurethane, stainless steel 1.4571, PP

You can find more information in the instruction manual or on **www.nivus.com**

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