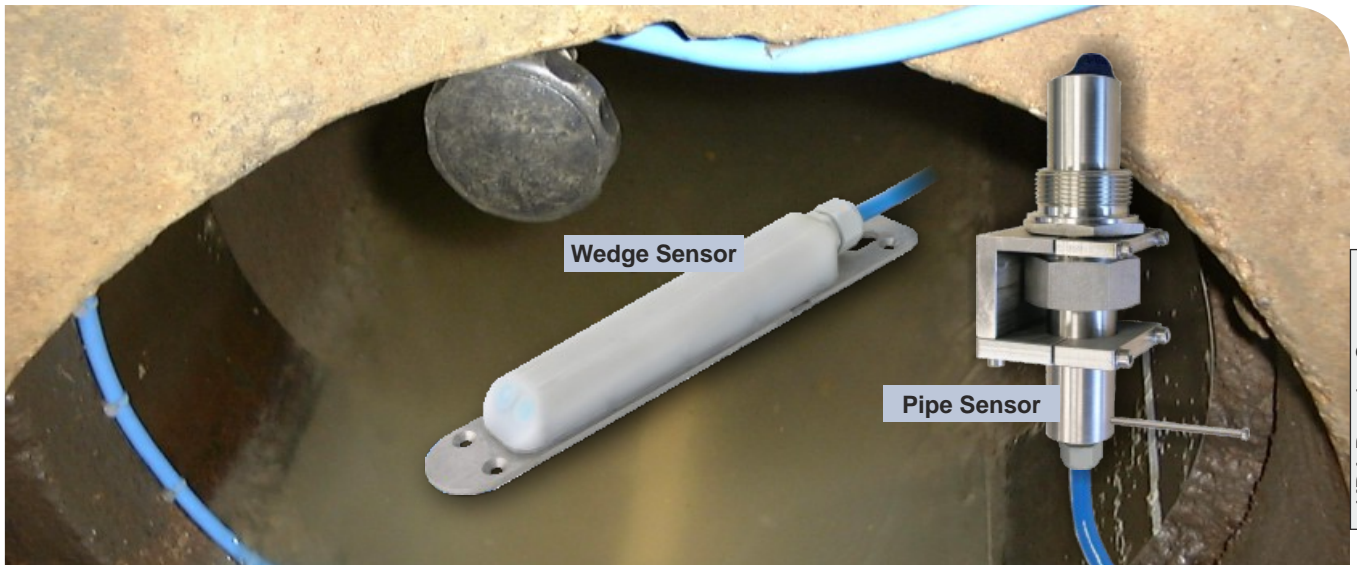




## KDA Doppler sensors for detection of flow velocity or flow level in part filled and full pipes and channels



KDA Doppler Sensors

Sensors	
Measurement principle	<ul style="list-style-type: none"> <li>• Piezo-resistive pressure measurement (level measurement)</li> <li>• Doppler (flow velocity)</li> </ul>
Measurement frequency	<ul style="list-style-type: none"> <li>• wedge sensors 1MHz</li> <li>• pipe sensors 750 kHz</li> </ul>
Protection	IP 68
Operation temperature	-20 °C to +50 °C
Storage temperature	-30 °C to +70 °C
Operating pressure	<ul style="list-style-type: none"> <li>• combi sensor with pressure measurement (only wedge sensor): max. 1 bar</li> <li>• sensors without pressure measurement: max. 4 bar</li> </ul>
Cable length	10/15/20/30/50/100 m pre-configured, extendable to max. 250 m; if using sensors with integrated pressure measurement cell it is necessary to use a pressure compensation element after 30 m
Cable types	<ul style="list-style-type: none"> <li>• combi sensor with pressure meas.: LiYC11Y 2x1.5 + 1x2x0.34 + PA 1.5/2.5</li> <li>• sensors without pressure meas.: LiYC11Y 2x1.5 + 1x2x0.34</li> </ul>
Outer cable diameter	<ul style="list-style-type: none"> <li>• combi sensor with pressure measurement: 9.75 mm ±0.25 mm</li> <li>• sensors without pressure measurement: 8.4 mm ±0.25 mm</li> </ul>
Sensor connection	<ul style="list-style-type: none"> <li>• cable with plug for connection to portable transmitter PCM F, for sensors without pressure measurement, cable type „S“</li> <li>• cable with plug and replaceable filter element for connection to portable transmitter PCM F, for sensors with pressure measurement, cable type „F“</li> </ul>
Sensor types	<ul style="list-style-type: none"> <li>• flow velocity sensor with v measurement using Doppler principle and temperature measurement to compensate temperature effects on velocity of sound</li> <li>• combi sensor (only wedge sensor) with flow velocity sensor using Doppler principle; level measurement via pressure and temperature measurement to compensate temperature effects on velocity of sound</li> </ul>
Constructions	<ul style="list-style-type: none"> <li>• wedge sensor for installation on channel bottom</li> <li>• Pipe sensor for installation using nozzle, sensor screw connection and retaining element in pipes</li> </ul>
Medium contacting materials	<ul style="list-style-type: none"> <li>• wedge sensor: Polyurethane, stainless steel 1.4571, PVDF, PA</li> <li>• Hastelloy C276 (only combi sensor)</li> <li>• pipe sensor: stainless steel 1.4571, Polyurethane, HDPE</li> </ul>
<b>Flow Velocity Measurement</b>	
Measurement range	-600 cm/s to +600 cm/s
Measurement uncertainty	±1 % of final values of measurement range
Zero point drift	absolutely stable zero point
Sonic lobe	±5 degrees
<b>Temperature Measurement</b>	
Measurement range	-20° C to +60° C
Measurement uncertainty	±0.5 K
<b>Level Measurement - Pressure</b>	
Measurement range	0 to 500 cm
Zero point drift	max. 0.75 % of final value (0 - 50° C)
Measurement uncertainty	(standing medium) <0.5 % of final value

Specifications subject to change.  
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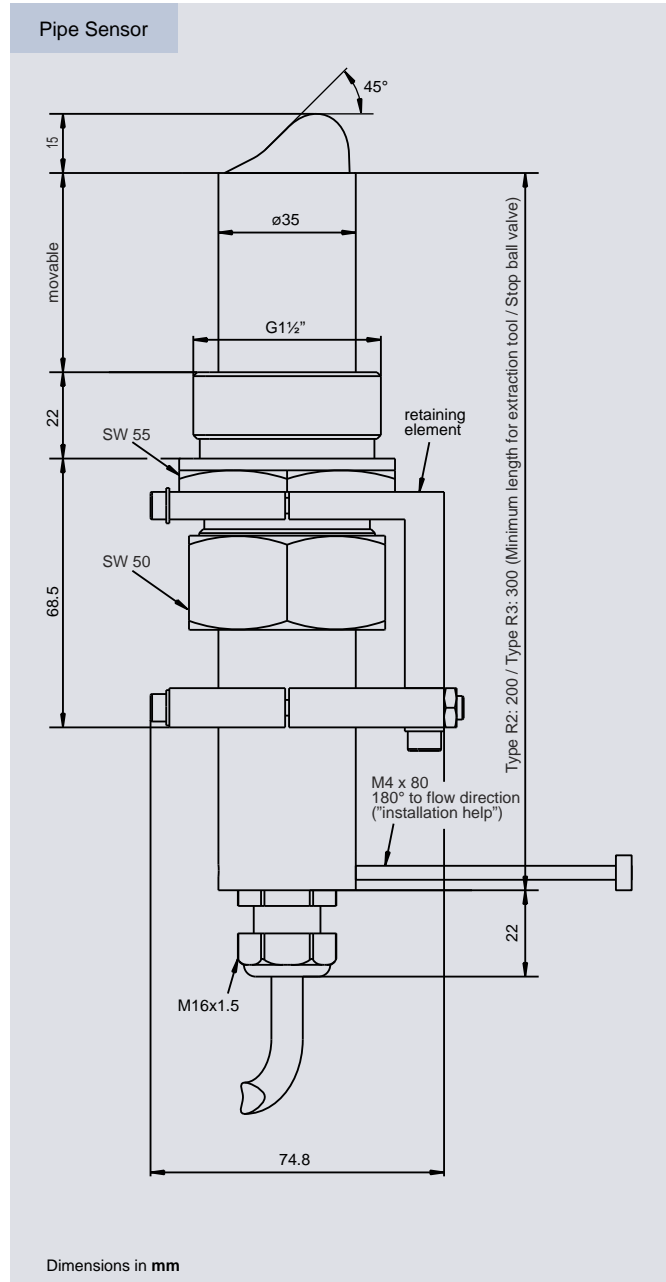
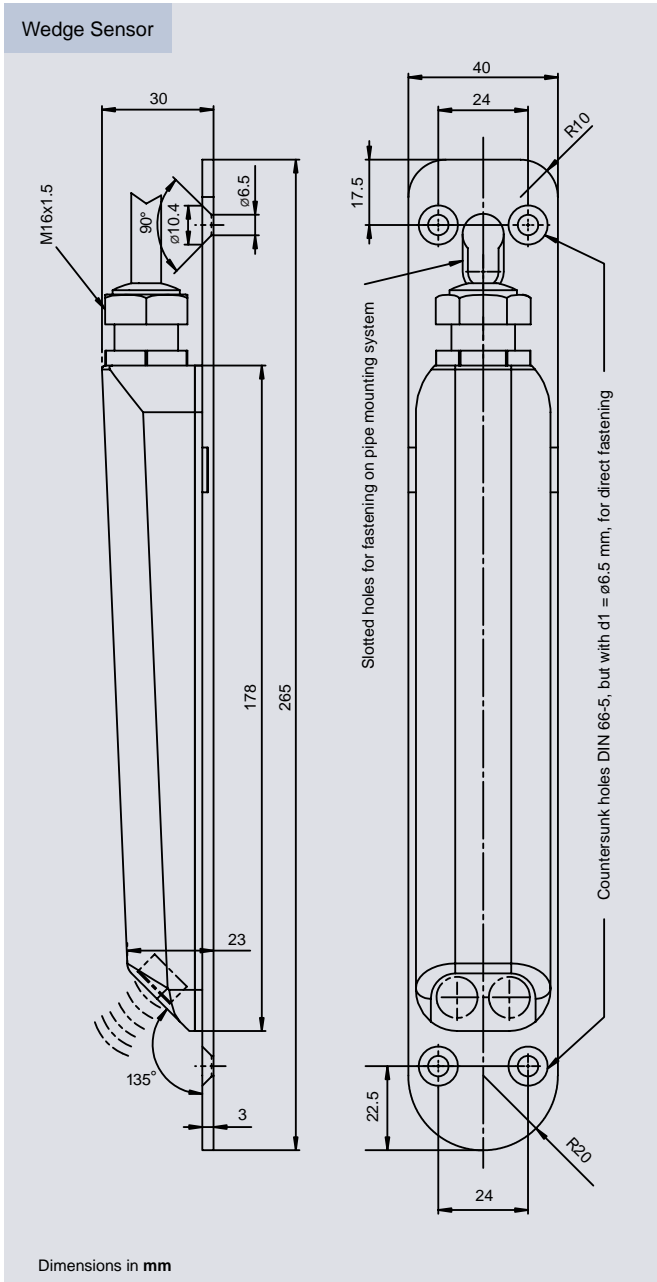
### Instrumentation For Water Industry

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## Sensor Dimensions



## Accessories

Tapping saddle	for pipe sensors (G1½") for sensor mounting in pipes with inner diameters from 100 to 800 mm
Retractable fitting	for removal of pipe sensors (G1½") under process conditions; retractable length 150 mm material: duralumin, brass, stainless steel 1.4571
Stop ball valve	for removal of sensors from pipes without pressure; material: stainless steel 1.4571
Welding nozzle	straight construction (90°) for pipe sensors, steel or stainless steel 1.4571, 1½" inner thread
Pipe mounting system	for temporary, non-permanent clamp fastening of wedge sensors in pipes with inner diameters 200 - 800 mm and egg profiles up to h = 600 mm
Sensor cover	for wedge sensors, stainless steel 1.4571
Pressure compensation element	for connection of combi wedge sensors