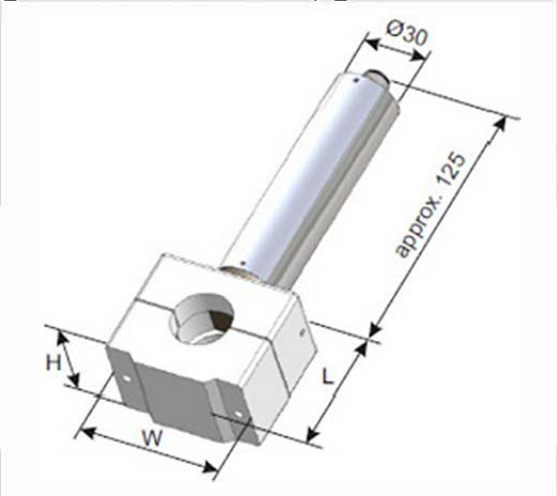


System	SONOCONTROL 15, SONOCONTROL 15 Ex																	
Function	Non-intrusive full/empty limit switch at pipes with smaller nominal diameters (DN8 ... DN50) Application examples: Low level control in chromatography plant systems (HPLC) Protection against dry running for ultrapure / deionized water supply Overflow indication at ultrafiltration systems																	
Measuring principle	Ultrasound through the pipe wall, detected is the complete filling with liquids in the sensor axis; no direct contact between sensor and liquids; no need for constructional changes mounting the sensor at the pipe																	
Material of the sensor	Stainless steel 1.4301, PEEK																	
Mounting	PVDF-clamp, coupling medium																	
Liquids	Water and watery liquids, liquids of low viscosity; Less suitable for emulsions, dispersions, suspensions, liquids with a lot of bubbles or solids																	
Material of the pipe	Steel, Stainless steel, plastics, glass, ceramics																	
Coatings of the pipe	Without coating, galvanized, lacquering, plastic coating, and the like																	
Teach-in	The sensor takes the characteristics of the pipe in the empty and in the filled condition (in this order), triggered by an operating magnet.																	
Mounting at the pipe / dimensions	<p>Together with a coupling medium the sensor is mounted laterally at the pipe. The fastening element consists of two parts. Together with the coupling medium, the sensor forms a complex connection around the pipe.</p>  <p>The sensor is available in 4 sizes, which correspond to the different outer pipe diameters. The pipe clamp is delivered in a customized version adapted to the outer pipe diameter (when ordering quote the exact diameter). The given dimension L_{max} applies for the corresponding maximum possible pipe diameter.</p> <table border="1"> <thead> <tr> <th>Size</th> <th>Outer pipe diameter</th> <th>Dimensions of the PVDF-fastening element $L_{max} \times W \times H$</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>10 mm ... 23 mm</td> <td>42 x 50 x 40 mm</td> </tr> <tr> <td>2</td> <td>> 23 mm ... 36 mm</td> <td>58 x 65 x 40 mm</td> </tr> <tr> <td>3</td> <td>> 36 mm ... 54 mm</td> <td>77 x 80 x 40 mm</td> </tr> <tr> <td>4</td> <td>> 54 mm ... 63,5 mm</td> <td>82 x 86 x 40 mm</td> </tr> </tbody> </table>			Size	Outer pipe diameter	Dimensions of the PVDF-fastening element $L_{max} \times W \times H$	1	10 mm ... 23 mm	42 x 50 x 40 mm	2	> 23 mm ... 36 mm	58 x 65 x 40 mm	3	> 36 mm ... 54 mm	77 x 80 x 40 mm	4	> 54 mm ... 63,5 mm	82 x 86 x 40 mm
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Temperature range	Storage temperature: -40 ... 85 °C Pipe temperature: -40 ... 140 °C Ambient temperature: -40 ... 80 °C (the acceptable pipe temperature and ambient temperature are interdependent)																	
Time response / switching delay	Full → empty: 0,5 s Empty → full: 0,5 s																	

Connection / power supply	4-pole M12 sensor connector (2 contacts connected) Direct current 12 - 40 V (non-Ex), 12 - 33 V (Ex) Ripple max. 5 % (peak value: min. 12 V, max. 40V (non-Ex), 33 V (Ex))
Output / switching display	2-wire system (4...20 mA concept) The switching status is represented by the current consumption of the sensor. There is no additional switching output. Current consumption: empty: 8 mA \pm 2 % full: 16 mA \pm 2 % error: approx. 22 mA failed teach-in: approx. 0.2 mA Display: 2 LED (operating state, switching status)
Scope of delivery	SONOCONTROL 15 Operating manual Magnet
Accessories	Sensor connector M12x1 Mounting set (coupling medium included)