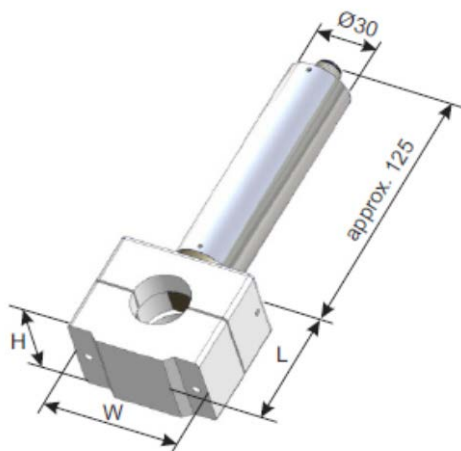


System	SONOCONTROL 15, SONOCONTROL 15 Ex		
Function	Non-intrusive full/empty limit switch at pipes with smaller nominal diameters (DN8 ... DN50) Application examples: Low level control in chromatography plant systems (HPLC) Protection against dry running for ultrapure / deionized water supply Overflow 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	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.		
			
	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.		
	Size	Outer pipe diameter	Dimensions of the PVDF-fastening element L _{max} x W x 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
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)
Explosion protection	II2G Ex ib IIC T6 Gb
Scope of delivery	SONOCONTROL 15 Operating manual Magnet
Accessories	Sensor connector M12x1 Mounting set (coupling medium included)

All figures and drawings are not to scale. Dimensions in mm, unless otherwise specified. Information is subject to change without notice.

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