



**PREVENTIVE
MAINTENANCE
MAXIMUM
EFFICIENCY**



The Contamination Sensor CS1500 is used to continuously monitor the particle contamination in fluids. The cleanliness class results can be displayed according to ISO/SAE or ISO/NAS classifications. Using the latest technologies, combined with more than 20 years of tried-and-tested engineering, we can now provide the user with a small and robust sensor. Thanks to the new digital interface, operating the sensor with mobile devices is easy and intuitive. The field of application is now also being expanded with new industry standard communication interfaces.

FEATURES AND BENEFITS

- Early detection of critical machine conditions
- Continuous oil condition monitoring
- Condition-based maintenance planning
- Straightforward operation & integration into industrial control systems
- Safe operation thanks to smart features such as turbidity detection (beta validation)
- Rapid creation of measurement reports
- Price-performance ratio

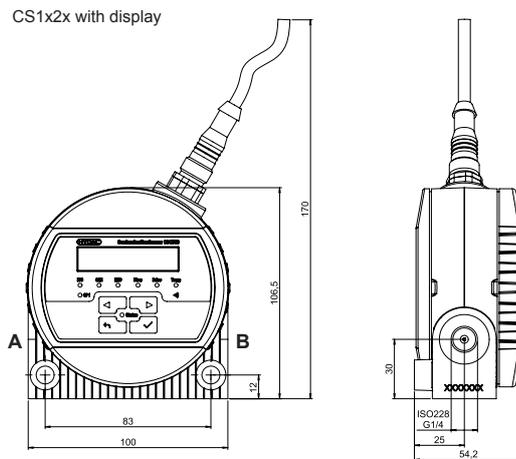
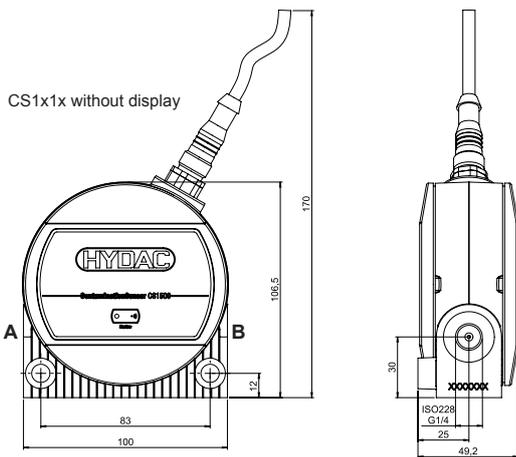
APPLICATIONS

Hydraulic and lubrication systems in industrial and mobile applications

TECHNICAL DATA	
Smart Features	<ul style="list-style-type: none"> • Last 10 events displayed as histogram on digital user interface • Adaptive measuring cycles for very clean fluids and changing measuring conditions • Continuous self-diagnosis with fault indication via LED, display and a digital interface
Digital Interface	<ul style="list-style-type: none"> • Wireless configuration and control via smartphone • Visualization of measured data and sensor status • Cleanliness limit assistant • Creation of reports in PDF format
Display (only for CS152X)	LED, 6 digits, 17 segments each
Measured Variables	<ul style="list-style-type: none"> • ISO classes (>4 µm >6 µm >14 µm >21 µm) only ISO code in the display (>4 µm >6 µm >14 µm) SAE (SAE AS 4059) or • ISO classes (>2 µm >5 µm >15 µm >25 µm) only ISO code in the display (>2 µm >5 µm >15 µm) NAS (NAS 1638)
Service Variables	• Flow in ml/min · Drive (%) · Temperature [°C or °F]
Installation Position	No restrictions (recommended: vertical flow direction)
Ambient Temp. Range	-30 °C to 80 °C / -22 °F to 176 °F
Storage Temp. Range	-40 °C to 80 °C / -40 °F to 176 °F
Relative Humidity	Max. 95 %, non-condensing
Sealing Material	• CS15X0: FPM · CS15X1: EPDM
Protection Class	III (safety extra-low voltage) IP67 (with screw-in connector)
Weight	1.3 kg

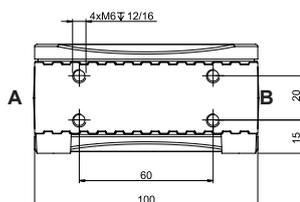


DIMENSIONS

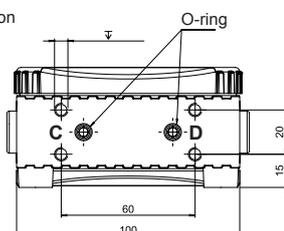


View of underside

Pipe or hose connection



Flange connection



HYDRAULIC DATA

Measuring Range	From 20 to 32,000,000 particles per 100 ml, corresponding to ISO class 4 to 25
Accuracy	+/- 1/2 ISO class in the range ISO13/11/10 to 23/21/18
Operating Pressure	Max. 350 bar / 5075 psi
Hydraulic Connection	Pipe or hose connection (A,B): thread G1/4, ISO 228 or flange connection (C,D): DN 4
Permitted Measurement Flow Rate	30 to 500 ml/min
Permitted Viscosity Range	1 to 1000cSt (32 to 4635 SUS)
Fluid Temperature Range	0 to 85 °C / 32 to 185 °F

ELECTRICAL DATA

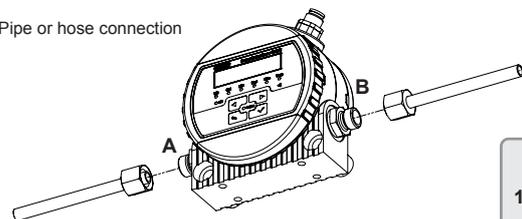
Supply Voltage	24VDC +/-10%, residual ripple <10%
Power Consumption	5W plus connected loads - switching output / analogue output

INTERFACE DEPENDING ON TYPE

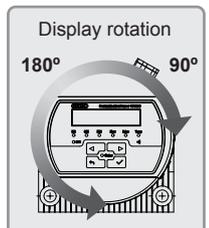
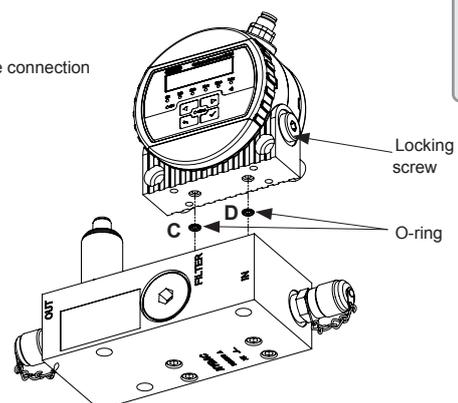
Connection Plug	<ul style="list-style-type: none"> Plug-in connector M12x1, 8-pin, male, in accordance with VDE0627 or IEC61984 Plug-in connector M12x1, 5-pin, male, in accordance with VDE0627 or IEC61984
Ethernet Interface	ModBus TCP, HTTP
RS485 (2-wire)	ModBus RTU or HSI (HYDAC proprietary protocol)
HSI (single wire)	HYDAC proprietary protocol
Analogue output (2-conductor technology)	4 to 20 mA output (active): max. load of 500 Ω Accuracy: ± 1% FS
Switching output	p-, n-switching or push-pull, parameterisable, switching current < 300 mA

HYDRAULIC CONNECTION TYPES

Pipe or hose connection

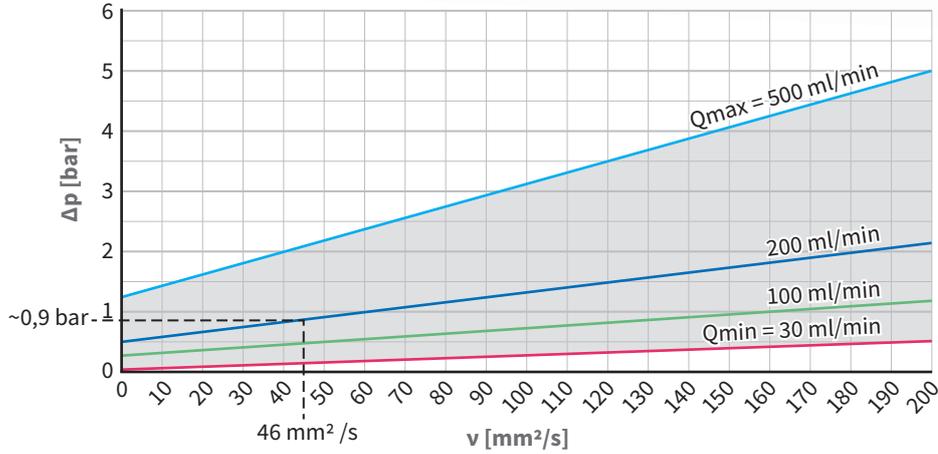


Flange connection



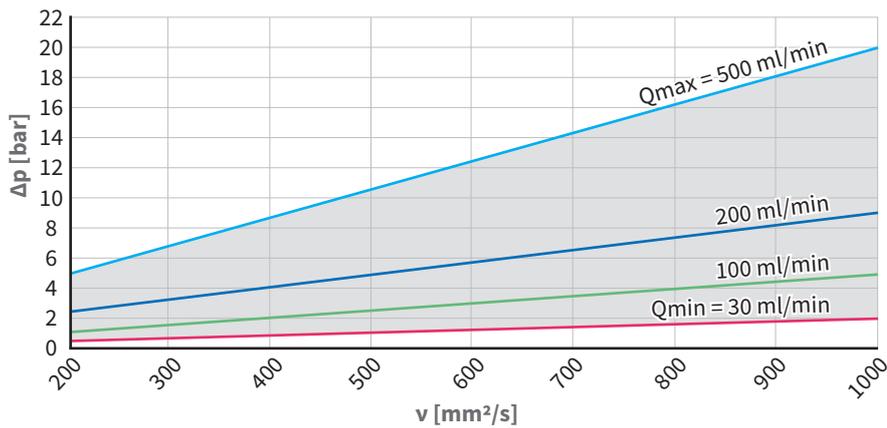
PRESSURE - VISCOSITY RANGE

Low to Medium Viscosity Range (0-200 mm²/s)



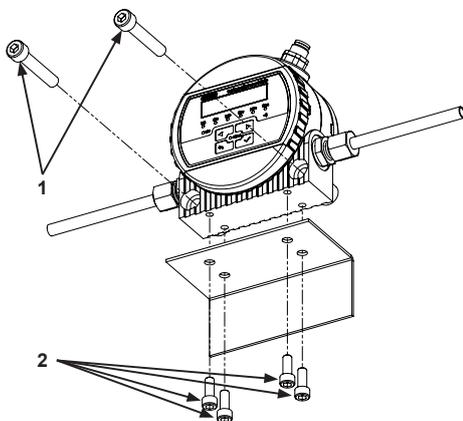
Δp : Pressure
v : Viscosity

High Viscosity Range (200-1000 mm²/s)



INSTALLATION TYPES (EXAMPLES)

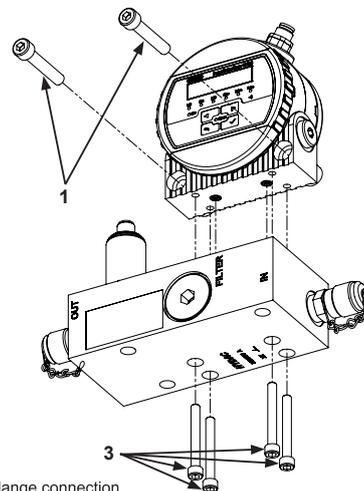
Wall or console mounting



for pipe or hose connection

1: with 2 x M8 (ISO 4762) or
2, 3: with 4 x M6

Mounting on flange plate,
connection plate or control block



for flange connection

