



FluidControl Unit

FCU 1000 Series

Description

The FCU 1000 is a portable service unit designed for short-term measurement of particle contamination, humidity level in % saturation and temperature of the fluid in hydraulic systems.

The integral pump and hoses supplied make it possible to use the FCU 1000 series for the following applications:

- control circuits
- pressure circuits
- unpressurized tanks

In the internal FCU 1310 memory, all measured data (ISO, SAE/NAS, % saturation and temperature in °C or °F) is stored in files (measured value file) and folders (test points).

Data is stored with a time stamp.

Evaluation can then be carried out conveniently on a PC in MS Excel or in our FluidMonitoring Software (FluMoS), Version 1.30 or higher.

Applications

- Hydraulic systems
- Service for mobile hydraulics
- Maintenance

Advantages

- Cleanliness classes to ISO and SAE or NAS
- Integrated AquaSensor AS 1000 for measuring humidity and temperature
- Suitable for hydraulic fluids up to 350 mm²/s (hydraulic fluids up to ISO VG 68)

Technical Details

General data

	FCU 1210	FCU 1310
Type of operation	Intermittent duty (S4, to DIN EN 60034/VDE 0530)	x x
Self diagnostics	Continuously with error display via status LED and display	x x
Display	LED, 6 / 4 / 4-digit, each with 17 segments LED 6 with 17 segments	— x x —
Measured value	Contamination after ISO 4406, SAE AS 4059 NAS 1638	x x — x
	Water content as degree of saturation	— x
	Temperature °C / °F	— x
Measuring range	Contamination ISO 9/8/7 ... ISO 25/24/23	x x
	Water content 0 ... 100 %	— x
	Temperature -25 ... 100 °C	— x
Accuracy	Contamination ± 1/2 ISO-Code in calibrated range of ISO 13/11/10 ... ISO 23/21/18	x x
	Water content ± max. 2 % (Full scale)	— x
	Temperature ± max. 2 % (Full scale)	— x
Material of seal	FPM	x x
Ambient temperature range:	0 ... +45 °C / 32 ... 113 °F	x x
Storage temperature range	-40 ... +80 °C / -40 ... 176 °F	x x
Protection class	IP50 in operation IP67 when closed	x x
Weight:	≈ 13 kg	— x
	≈ 9 kg	x —

Hydraulic specifications

Operating pressure	IN: - 0.5 ... 45 bar / -7.25 ... 650 psi OUT: 0 ... 0.5 bar / 0 ... 7.5 psi	x	x
with adapter for pressure lines	IN: 15 ... 345 bar / 217 ... 5000 psi OUT: 0 ... 0.5 bar / 0 ... 7.5 psi		
Pressure max.	345 bar / 5000 psi	x	x
Sensor flow rate	≈180 ml/min (viscosity-dependent)	x	x
Max. suction height	0.5 m	x	x
Permitted viscosity range	10 ... 350 mm ² /s; 46 ... 1622 SUS (for hydraulic oils up to ISO VG 68)	x	x
Temperature range of medium	0 ... +70 °C / 32 ... 158 °F	x	x

Electrical data

Supply voltage	24 V DC ±20%, residual ripple < 10% The FCU must not be used with on-board supply systems without load dump protection of maximum 30 V DC.	x	x
Max. power / current consumption	100 Watt / 4000 mA	x	x
Interfaces	USB (A) for memory stick, male connection 5-pole, M12x1 and Bluetooth 1.2, class 3 (only HYDAC Sensor Interface - HSI)	—	x

Model code

Type _____
FCU = FluidControl Unit

Series _____
1 = 1000 series, 4 particle size channels

Contamination codes _____
2 = ISO 4406:1999; SAE AS 4059 (D) / > 4 $\mu\text{m}_{(c)}$ > 6 $\mu\text{m}_{(c)}$ > 14 $\mu\text{m}_{(c)}$ > 21 $\mu\text{m}_{(c)}$
3 = ISO 4406:1987; NAS 1638 / 2-5 μm , 5-15 μm , 15-25 μm , > 25 μm
can be switched over to
ISO 4406:1999; SAE AS 4059 (D) / > 4 $\mu\text{m}_{(c)}$ > 6 $\mu\text{m}_{(c)}$ > 14 $\mu\text{m}_{(c)}$ > 21 $\mu\text{m}_{(c)}$

Housing _____
1 = for portable use (plastic case with external compartment for hoses and cables)

Media _____
0 = based on mineral oils

Options _____
4 = with integrated pump

Supply voltage _____
U = 24 V DC

Integrated sensor _____
AS = AquaSensor (AS 1000 series) (only 1310)
Z = without

Power supply adapter _____
1 = 100 ... 240 V AC / 50/60 Hz / 1 Phase / 5000 mA (Europe, USA/Canada, UK, Australia, Japan)

Items supplied

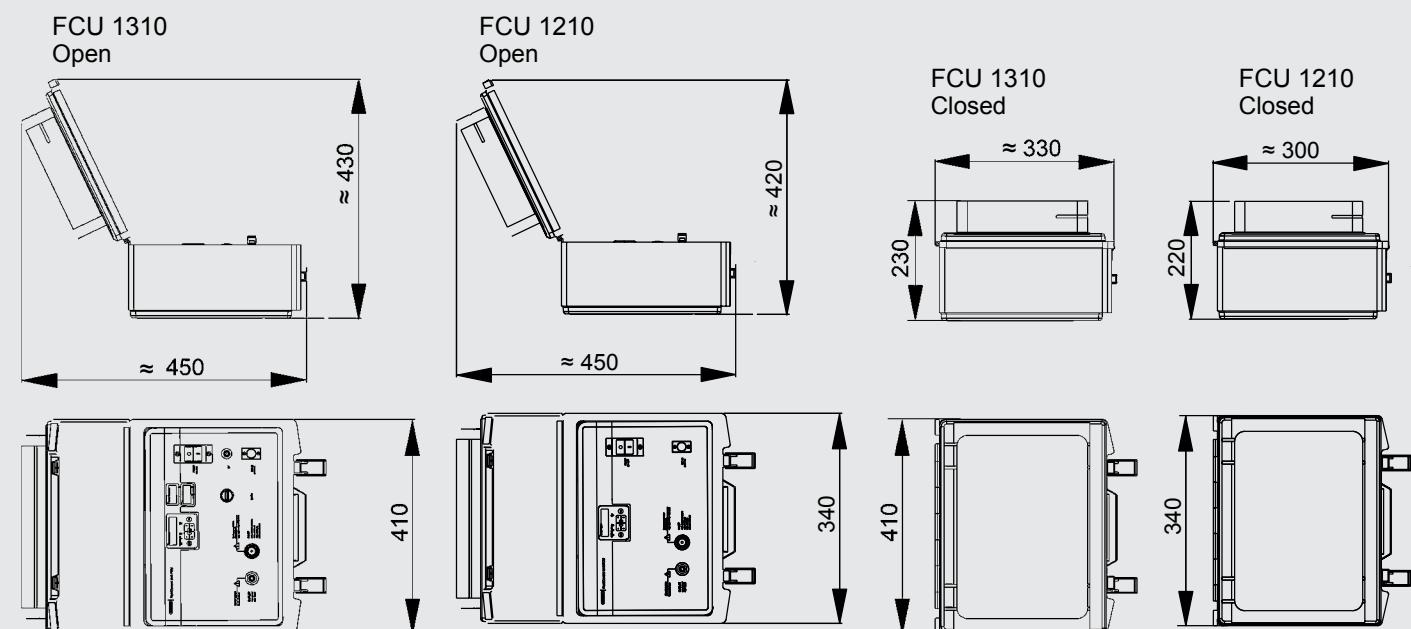
- FluidControl Unit FCU 1000
- Power supply adapter for Europe, USA/Canada, UK, Australia and Japan
- Adapter for pressure lines
- INLET pressure hose with screw connection for test point type 1620, black, length = 2 m
- INLET suction hose, open end, transparent, length = 0.3 m
- OUTLET return line hose, open end, transparent, length = 1 m
- Operating and maintenance instructions / calibration certificate
- USB memory stick (only FCU 1310)

Accessories

- Battery pack (p/n: 350 4605)
- Field Verification Start-Up Kit (p/n: 344 3253)
- Field Verification Kit (p/n: 344 3249)
- Cable with universal connection (for cigarette lighter or on-board power connection), length = 10 m (p/n: 330 6236)

Dimensions

(All dimensions in mm)



NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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