



FluidControl Unit FCU 5000 Metal Working Fluid Applications

Description

The FluidControl Unit FCU 5000 is a measuring unit that monitors the condition of metal working fluids [MWF]. The measured variables of MWF concentration, pH value, conductivity, temperature and flow rate of the process medium are monitored On Line. An FCU 5000 can be connected to the circulating line of a central MWF system. The output of the measured variables takes place on a (optionally built-in) touch display. In addition, the FCU 5000 has an integrated web server and can be integrated into company networks or higher-level condition monitoring (CM) systems via an Ethernet interface.

Fields of application

- MWF applications in machining processes
- Monitoring centralized and decentralized MWF systems in production equipment
- Clean tank monitoring in coolant systems

Advantages

- Reliable determination of coolant concentration in machining processes
- Defined samples from bypass
- Display of measured values on a 7" touch panel and/or via a web server
- Measured data storage with date and time (data logger)
- Automatic alarms in case of exceeded thresholds
- Switching output for fully automatic metering pumps (concentrate and pH-stabilizer)

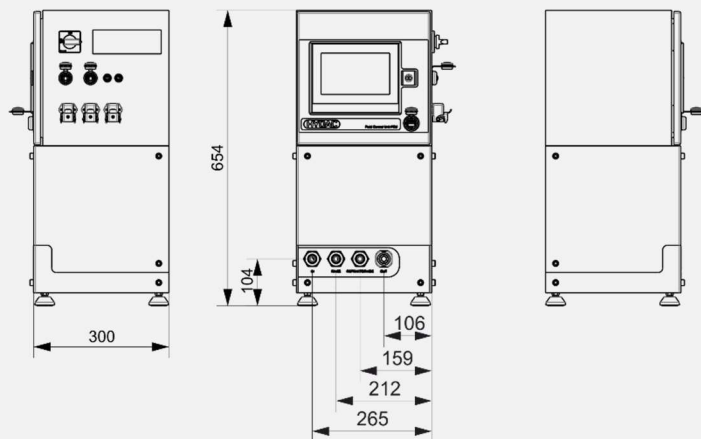
Technical data

General data	
Operating mode	Suitable for continuous operation
Self diagnostics	Continuously with error indication using status LED and display (if available)
Display	Using a mobile device (web server), LED (1x device ready for operation and 1x alarm) and also a 7" touch panel (optional)
Measured variables/ measurement ranges	Concentration: 0 ... 20 %
	pH value 0 ... 14
	Electrical conductivity 0 ... 10000 µS
	Temperature 0 ... 70 °C / 32 ... 158 °F
	Flow rate 3.2 ... 22 l/min
	Inlet pressure 0 ... 8 bar / 116 psi (optional)
Calibration accuracy	Concentration: ± 0.15 Brix
	pH value ± 2,5% (full scale)
	Electrical conductivity ± 1,5% (full scale)
	Temperature ± 1% (full scale)
	Flow rate ± 2.5% (full scale)
	Pressure ± 1% (full scale)
Sealing material	FKM
Ambient temperature range	0 ... +60 °C / -17,8 ... +140 °F
Storage temperature range	0 ... +50 °C / -17,8 ... +122 °F
Relative humidity	0 ... 70%, non-condensing
CE - mark	EN 61000-6-1 / 2 / 3 / 4
Protection class to DIN 40050	IP 44
Housing	Aluminum/ steel
Weight (without accessories)	~ 44 kg
Hydraulic data	
Operating pressure/pressure stability	0 ... 8 bar (0 ... 145 psi) / 10 bar (145 psi)
Measurement flow rate	~ 5-20 l/min
Permissible viscosity range	1 ... 40 mm²/s; 1 ... 180 Sus
Fluid temperature range	+10 ... +40°C / +50 ... +104 °F
Electrical data	
Power supply	24 V DC
Max. power / current consumption	5 A
Interfaces / data logs	Analog IN (2x) 4 ... 20 mA
	Digital IN (2x) 0V / 24V
	Ethernet (1x) TCP/IP, Modbus TCP, Profinet (optional)
	Switching output NC contact (2x)
	Pulse output (2x) (metering pump)

Model code:

	FCU 5 3 3 7 - 0 - 1 - 1 - U - 1 / 000
Type FCU = FluidControl Unit	
Series 5 = 5000 series; concentration measurement	
Measured variables 3 = concentration, pH value, electrical conductivity, temperature	
System integration / housing / display 3 = with touch panel 4 = with touch panel and assembly frame	
Fluids 7 = water-based MWF's	
Options 0 = without 1 = with metering pump (Model3), pre-connected	
Data interface (output) 0 = standard (Ethernet: TCP/IP, Modbus TCP) 1 = standard + Profinet	
Device protection equipment 0 = without 1 = with pressure cut-off 2 = with filter (WBF201) 3 = with level switch, type HNS-3226-3-0730 4 = with pressure cut-off, filter and level switch	
Power supply U = 24 V DC	
Power supply adapter 0 = without 1 = with power supply	
Modification 000 = standard	

Dimensions:



All dimensions in mm

Accessories

Designation	p/no.
Metering Pump	
Metering Pump Model 1 Flow Rate 2 l/h	6240743
Metering Pump Model 2 Flow Rate 5 l/h	6240744
Metering Pump Model 3 Flow Rate 10 l/h	6240745
Metering Pump Model 4 Flow Rate 15 l/h	6240746
Metering Pump Model 5 Flow Rate 20 l/h	6240747
Metering Pump Model 6 Flow Rate 30 l/h	6240748
Metering Pump Accessories	4569150
Hydraulics	
Wombat filter housing WBF201-B-B-L-F-Z	4158239

Consumable materials

Designation	p/no.
Pre-filtration	
Filter bag 5µm FCU5000	4619116

Note:

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

In the event of deviating applications and/or operating conditions, please contact the respective department concerned.
Subject to technical modifications.

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