



FCU 2210-4

FCU 2210-1

## Description

The FluidControl Unit FCU 2000 is used as a portable service instrument for the measurement of solid particle contamination in hydraulic systems and lubrication systems.

The measured values are recorded by means of infrared technology and output in accordance with ISO 4406, SAE 4059 and NAS 1638.

## Applications

- Hydraulic systems and lubrication systems
- Maintenance
- Test benches
- Sample bottle analysis
- Tank analysis

## Advantages

- Robust design
- Cleanliness classes in accordance with ISO 4406, SAE 4059 and NAS 1638
- Integrated, graphics-capable printer
- Data output on display or connection to a PC
- RS232 or RS485 interface

## FluidControl Unit FCU 2000 series

### Technical details

	FCU 2xxx -1	FCU 2xxx -4
<b>Continuous display of measured values with display screen (LCD)</b>		
Self diagnostics	Continuous with error indication on display (LCD)	
Measurement range (calibrated)	ISO 12/10/9 to 23/21/18 Instrument is calibrated within this range. Displays up to class ISO 25/23/21.	
Data memory (battery-backed)	3000 measurements	
Operating pressure: Pressure port Return port	INLET: 1 to 350 bar, with clean filter element OUTLET: max. 3 bar	
Ports	INLET (pressure): Minimesstest coupling type 1604; Connection to standard 1620 ports via the supplied measurement hose is possible OUTLET: male coupling DN 7 INLET (suction): male shut-off coupling DN 6.4	
Measurement flow rate	50 to 150 ml/min	
Total flow rate	50 to 800 ml/min (depending on the pressure)	
Permitted viscosity range	1 to 1000 mm <sup>2</sup> /s	1 to 1000 mm <sup>2</sup> /s 1 to 150 mm <sup>2</sup> /s (suct. port continuous operation) 150 to 350 mm <sup>2</sup> /s (suct. port brief operation)
Fluid temperature range	0 to 70°C	
Supply voltage FCU	24 VDC, ± 25%	
Power consumption	25 watts max.	100 watts max.
Built-in printer	Dot-matrix printer	
Serial interface	Standard: RS 232 Optional: RS 485	
Ambient temperature range:	0 to 55 °C	
Storage temperature range	-20 to 85°C	
Relative humidity	Max. 90%, non-condensing	
Protection class	III (safety extra-low voltage)	
IP class	IP40	
Weight	≈ 11.3 kg	≈ 15.8 kg
Operating time with rechargeable battery	≈ 6 hours	≈ 6 hours without pump ≈ 2 hours with pump

## Model code

**FCU 2 2 1 0 - 4 - M - /-BUS**

### Type

FCU = FluidControl Unit

### Resolution

2 = 4 particle size channels

### ISO code format

1 = ISO 4406 : 1987; NAS 1638 / >2 µm  
>5 µm >15 µm >25 µm

2 = ISO 4406 : 1999; SAE AS 4059 (D) /  
>4 µm<sub>(c)</sub> >6 µm<sub>(c)</sub> >14 µm<sub>(c)</sub> >21 µm<sub>(c)</sub>

### Housing

1 = for portable use

### Fluids

0 = for standard mineral oils

1 = for phosphate esters (HFD-R)

### Options

1 = standard, without options

4 = with integrated pump (not for phosphate esters (HFD-R))

### Supply voltage power supply adapter

K = 120VAC / 60 Hz / 1 phase, USA/CDN

M = 230VAC / 50 Hz / 1 phase, Europe

N = 240VAC / 50 Hz / 1 phase, UK

O = 240VAC / 50 Hz / 1 phase, Australia

P = 100VAC / 50 Hz / 1 phase, Japan

### Supplementary details

No details = standard

- BUS = RS 485 interface instead of RS 232

## Scope of delivery

- FCU
- Power supply adapter
- High pressure inlet hose DN 4 (2m long)
- Low pressure outlet hose DN 7 (2m long)
- Operating instructions
- Calibration certificate
- PC software package FluMoS Light
- Connection cable FCU/PC

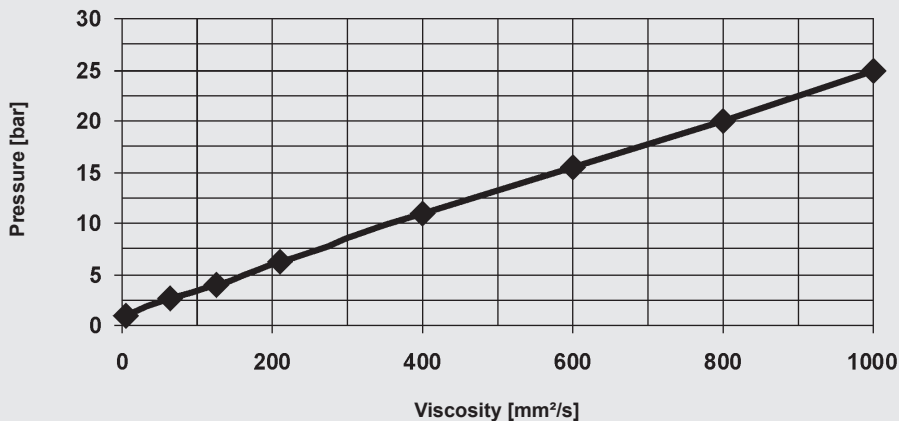
## Additional for FCU 2xxx - 4

- Power supply adapter for integrated pump
- Suction hose DN 6 (1m long)
- Suction hose DN 6 (0.2m long)

## Equipment

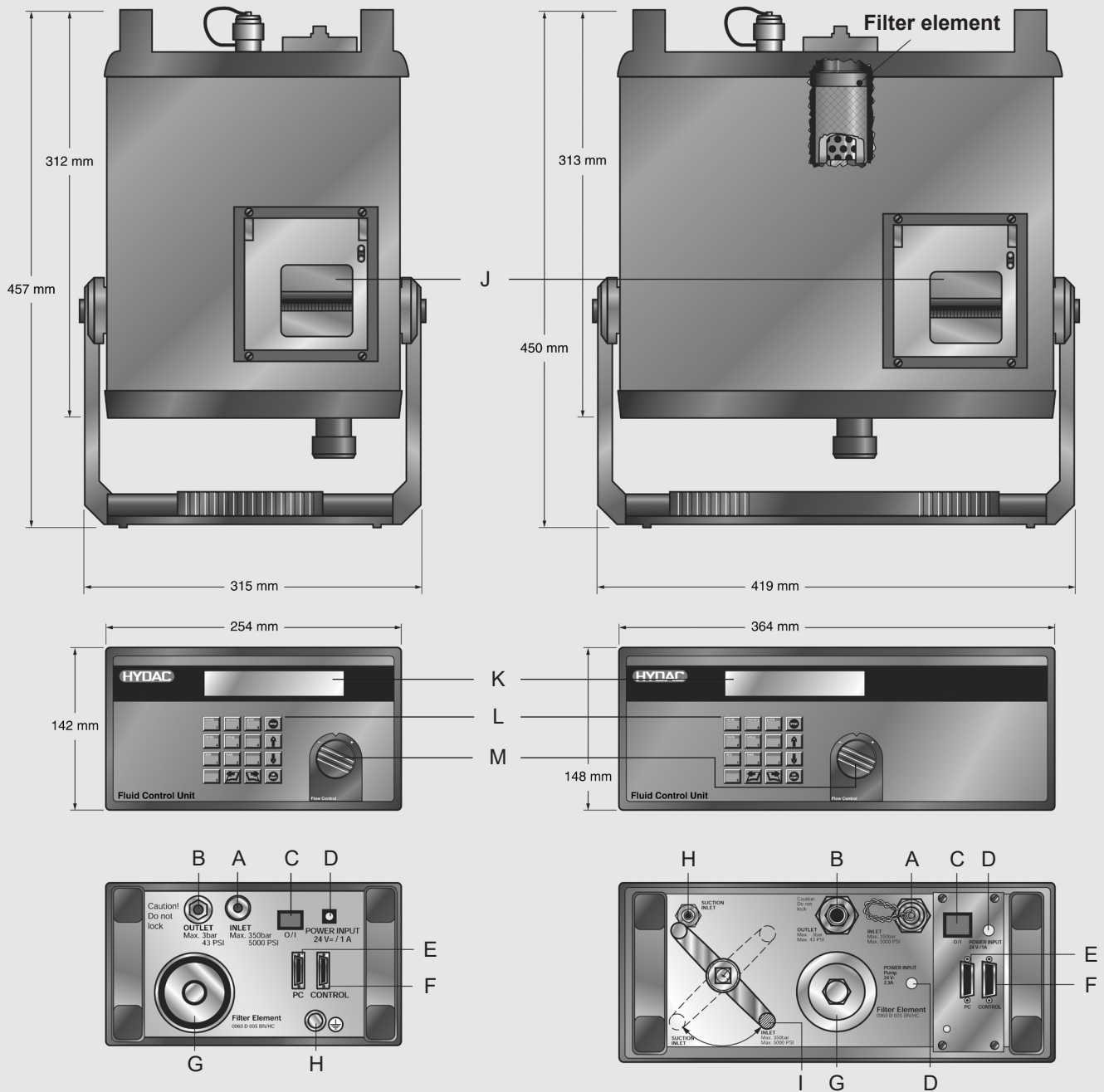
- Reservoir Extraction Unit REU
- Inlet and outlet hoses 5m long
- PC software package FluMoS Professional
- Aluminium transport case

## Pressure required at high-pressure port\*



\* For a flow rate of 100 ml/min, flow control valve fully open, new filter element

## DIMENSIONS



- A = High pressure port
- B = Outlet
- C = On/off switch
- D = Power input 24 volts
- E = Serial interface for PC connection
- F = Control port
- G = Cover for filter
- H = Suction port
- I = Change-over ball valve high pressure/suction port
- J = Dot-matrix printer
- K = LCD display
- L = Keypad
- M = Flow control valve

**NOTE**

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

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

Subject to technical modifications.

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