

## HYDAC INTERNATIONAL



FCU 2210-4

FCU 2210-1

### FluidControl Unit

#### FCU 2000 series

#### Description

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

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

#### Applications

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

#### Advantages

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

#### 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 Unit is calibrated within this range. Measures up to class ISO 25/23/21.	
Data memory (battery back-up)	3000 measurements	
Operating pressure: Pressure inlet Return port connection	INLET: 1 to 350 bar, with clean filter element OUTLET: max. 3 bar	
Ports	INLET (pressure): Minimes test coupling type 1604; Connection to standard 1620 port via the supplied test hose is possible OUTLET: male coupling DN 7 INLET (suction): male shut-off coupling DN 6.4	
Sensor 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 (Suction operation, continuous) 150 to 350 mm <sup>2</sup> /s (Suction operation, short-time)
Fluid temperature range	0 to +70°C	
Supply voltage FCU	24 VDC, ± 25%	
Power consumption	25 watts max.	100 watts max.
Integral 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

E7.922.7/01.16

## Model code

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

### Type

FCU = FluidControl Unit

### Resolution

2 = 4 particle size channels

### ISO Code format

0 = ISO 4406 : 1987; NAS 1638 / >5 µm

>15 µm >25 µm >50 µm

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 integral pump (not for phosphate esters (HFD-R))

### Supply voltage mains 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

## Items supplied

- 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

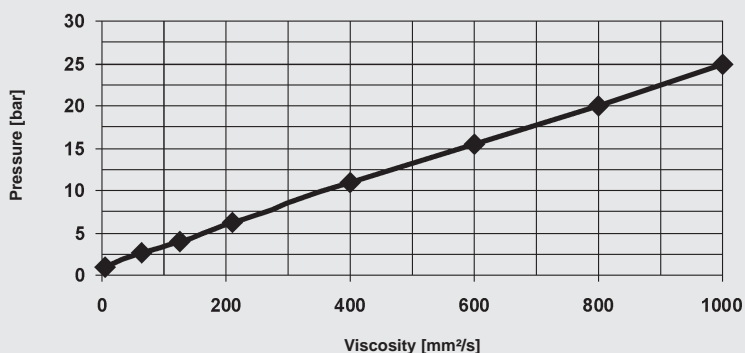
## Additional for FCU 2xxx - 4

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

## Accessories

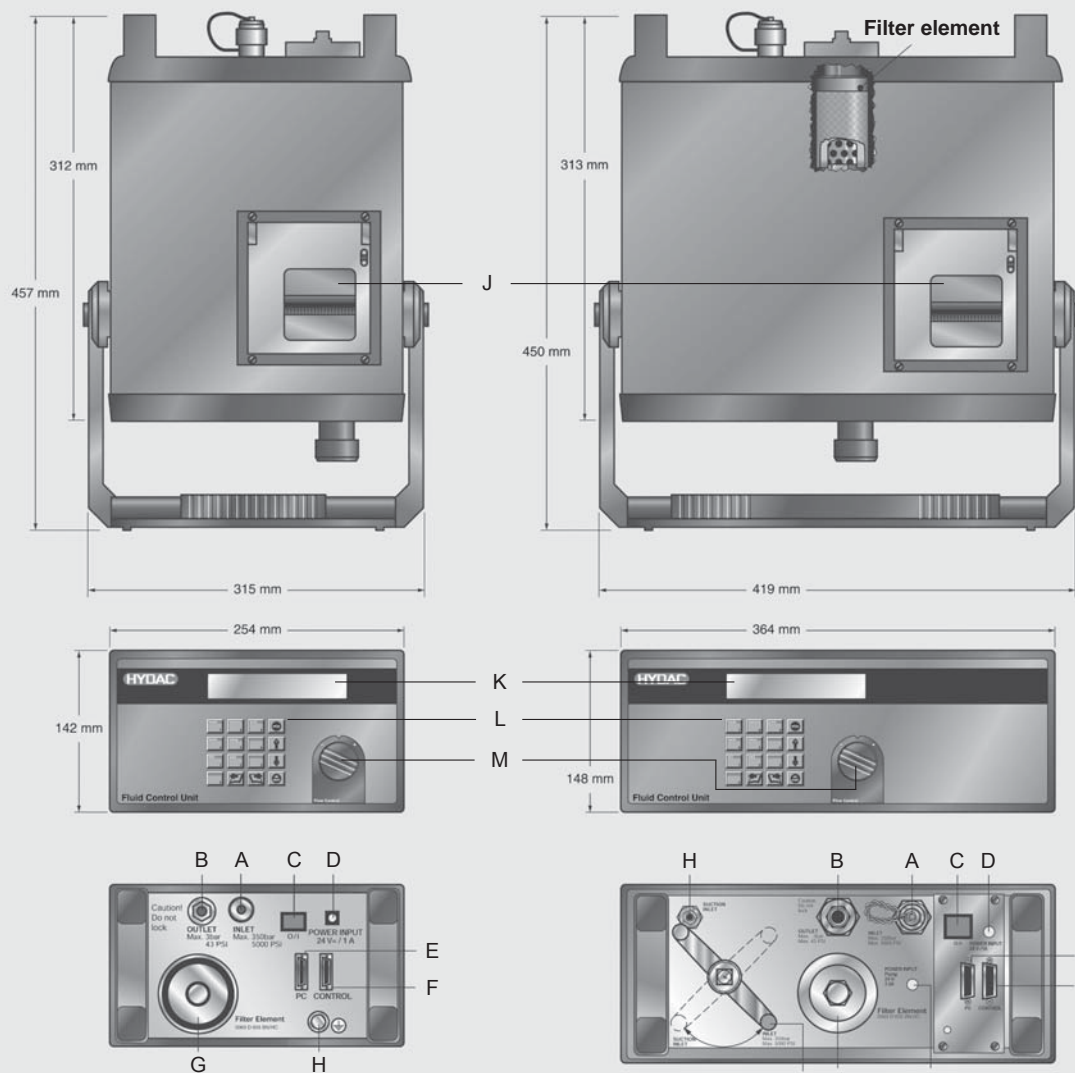
- Reservoir Extraction Unit REU
- Inlet and outlet hoses 5 m long
- PC software package FluMoS Professional
- Aluminium transport case

## Pressure required at FCU 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 port for PC connector
- F = Control port
- G = Cover for filter
- H = Suction port
- I = Change over ball valve high pressure port/suction port
- J = Dot-matrix printer
- K = LCD display
- L = Keypad
- M = Flow control valve