

Variable area oil flow meters **C-Flow FO**

C-Flow FO is a variable area oil flow meters solution that is based on unique self-cleaning FO-OilFlow™ technology. These flow meters especially designed for demanding industrial applications.

Operating Principle

A spring-loaded float and a flange of the cone act as an indicator of the flow rate. Together, with an in-built fixed cone, they form accurate and stable volume flow into the flow meter. The flow value can be read in the flow tube or on the scale in the module.

Cleaning of the Flow Tube

Thanks to the unique cleaning action, the flow tubes of the flow meter stay always clean. When the circulation lubrication stops and re-starts: the circulation lubrication meter removes the impurities and cleans the inner surface of the flow tube by means of the teflon ring of the indicator float.

Set of Flow Diagrams Unnecessary

Each module of the C-Flow FO oil circulation lubrication meter can be delivered for all the most common circulation lubrication oil types without needing a separate flow diagram for a flow adjustment.

Modular Construction

The modules of the circular oil flow meters are built modularly on a bottom plate. Thanks to this construction, the modules can easily be replaced by new ones or removed and replaced with a cover module, if needed. The modules are available in three different sizes, the flow values ranging from 0.1 to 16 l/min (0.2-34 US PPM).



Operating conditions

Viscosity	32...460 cSt
Temperature	Up to +85°C (+110°C opt.)
Pressure	up to 15 bars
Accuracy	5-10% o.F.S.
Model:	Oil flow:
FO-05	0,05 - 1 l/min
FO-10	0,1 - 3 l/min
FO-20	2 - 8 l/min
FO-30	6 - 16 l/min
FO-30/2	15 - 30 l/min
FO-40/2	15 - 40 l/min
FO-50	30 - 70 l/min
FO-60	40 - 80 l/min
FO-100	60 - 100 l/min



Monitoring System

Each module of a flow meter can be equipped with a low flow alarm sensor (upper limit as an extra option). The alarm detectors will be connected to a control unit allowing group-specific alarms to the DCS in control room. The control unit can be fitted anywhere next to the flow meter groups on separate installation plate.

- ✓ Built in modular construction (1-12 pcs/base plate)
- ✓ Direct flow capacity display in "l/min"
- ✓ No requirement for a flow curve (150-220 cSt)
- ✓ Wide range of models (0,05 to 100 l/min)
- ✓ Floats are always on the same level
- ✓ Spring loaded to ensure stable operation.
- ✓ Low viscosity dependence 150-220 cSt
- ✓ Quick and easy to adjust

Oval gear oil flow meters **C-Flow RF**

C-Flow RF oil flowmeters solution is based on RealFlow technology. This modern oval gear flow meters are specially designed for measuring and monitoring in a paper machine environment.

C-Flow RF oil unit measures and controls volumetric lubrication oil flow, as well as generating accurate real-time readings for monitoring systems e.g. oil monitoring panel, PLC or DCS systems. A pair of oval gears calculates the "real flow rate". The measurement signal is an inductive pulse (a coil sensor as option), which is wired to a PLC system. The status of the flow meters can be observed at a glance by the flashing LEDs.

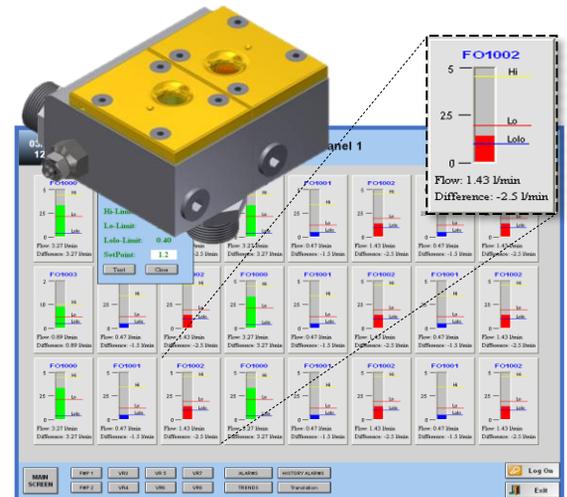
Measuring station and display (HMI)

C-Flow RF operator interface is a 4 x 20 lines local LCD display with six buttons and 4 status LEDs (Relay alarms, one of which is programmable).

The data communication to the remote system can be connected using either an RS-485 (Modbus RTU) or TCP/IP Ethernet (TCP), WLAN or GSM/GSPR communication protocol.

Monitoring software SCADA (Web Studio by InduSoft®)

Web Studio is very modern, multi-featured, and cost-effective SCADA software. It collects and monitor all necessary data of the oil flow meters in the field. Real time monitoring and flow trend ensure stable operation of your production.



Operating conditions	
Viscosity	30...900 cSt
Temperature	up to +70°C
Pressure	Up to 12 bars
Model:	Oil flow:
RF-mini	0,05 - 1 l/min
RF-1	0,15 - 2 l/min
RF-2	0,5 - 3 l/min
RF-3	1 - 6 l/min
RF-4	1 - 15 l/min
RF-5	2 - 22 l/min
RF-6	4 - 30 l/min
RF-6D:	8 - 60 l/min

- ✓ Almost viscosity independent (30 – 900 cSt)
- ✓ Up to 6 (8) flow meters per module
- ✓ Up to 40 flow meters per panel
- ✓ Wide flow ranges (0.05 up to 60 LPM)
- ✓ Number of measuring stations – up to 512 pcs
- ✓ Cleaning and service can be made on the run (models < 6 LMP).
- ✓ True service valve (bypass) function – opened service valve keeps the flow rate 80 % the same even if the oval gears are blocked
- ✓ Easy user interface - 4 lines LCD – display or touch screen (option).
- ✓ RS-485, TCP/IP Ethernet compatible
- ✓ Alarm LEDs in every meter available (option)

