

# FI1500 Series

## In-Line Flow Indicator

Up to

- 400 lpm, 100 US gpm
- 350 bar, 5000 psi

Flow Indicators are designed for continuous monitoring or intermittent use commissioning and servicing hydraulic systems up to 350 bar, 5000 psi.

The large clear 63mm diameter dial ensures that quick checks can be made to determine pump performance and setting of flow control valves. They can be used on mobile and industrial hydraulic circuits. Also lubrication and coolant systems using oil.

These direct acting flow indicators can be installed in hazardous areas or on applications where no power is available. The flow indicator design ensures good reliability and minimises the effects of contamination.

The flow indicator consists of a sharp edged orifice and tapered metering piston.

The piston movement is directly proportional to flow rate and the sharp edge orifice minimises the effects of viscosity. The piston is magnetically coupled to the rotary pointer assembly which registers on a clear 63mm (2 1/2") scale displayed in lpm and USgpm.

The FI 1500 flow indicators should not be installed in circuits where the flow is reversed.

**See RFI series for reversible operation.**



### Features

- **FLOW:** 10 - 400 lpm, 4 - 100 US gpm
- **PRESSURE:** 350 bar, 5000 psi
- **ACCURACY** within 4% FSD
- **BUILT-IN** thermometer available
- **DIRECT** reading
- **DUAL** scale lpm/US gpm
- **HORIZONTAL** or vertical mounting
- **LARGE** clear dial
- **LOW** cost rugged design
- **PRESSURE** gauge port
- **WIDE** operating range

Hydraulic measurement and control



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## Specifications

| Model Number<br>with temperature | Model number<br>without temperature | Calibrated flow range |         | Main ports               | Top port  | Max<br>pressure |
|----------------------------------|-------------------------------------|-----------------------|---------|--------------------------|-----------|-----------------|
|                                  |                                     | LPM                   | US gpm  |                          |           |                 |
| FI1500-200ABOT                   | FI1500-200ABO                       | 10 - 200              | 5 - 50  | 1-1/2" BSPP              | 1/4" BSPP | 350 bar         |
| FI1500-200ASOT                   | FI1500-200ASO                       | 10 - 200              | 5 - 50  | 1-7/8" -12UN #24 SAE ORB | 1/4" NPTF | 5000 psi        |
| FI1500-300ABOT                   | FI1500-300ABO                       | 20 - 300              | 4 - 80  | 1-1/2" BSPP              | 1/4" BSPP | 350 bar         |
| FI1500-300ASOT                   | FI1500-300ASO                       | 20 - 300              | 4 - 80  | 1-7/8" -12UN #24 SAE ORB | 1/4" NPTF | 5000 psi        |
| FI1500-400ABOT                   | FI1500-400ABO                       | 20 - 400              | 5 - 100 | 1-1/2" BSPP              | 1/4" BSPP | 350 bar         |
| FI1500-400ASOT                   | FI1500-400ASO                       | 20 - 400              | 5 - 100 | 1-7/8" -12UN #24 SAE ORB | 1/4" NPTF | 5000 psi        |

Note - All NPTF threads are to ANSI B1.20.3 -1976 Class 1. As stated in the standard it is recommended that "sealing is accomplished by the means of a sealant applied to the thread". NPT fittings may also be used to connect to NPTF ports (also with a sealant applied to the thread)

### Functional specification

|                             |  |
|-----------------------------|--|
| <b>Ambient temperature:</b> | -10 to 50°C (14 to 122°F)  |
| <b>Fluid type:</b>          | Hydraulic oils   |
| <b>Fluid temperature:</b>   | 20 to 80°C (65 - 176°F) continuous use. Intermittently (<10 minutes) up to 110°C (230°F) |
| <b>Accuracy:</b>            |  |
| <b>Flow:</b>                | ± 4% of full scale   |
| <b>Temperature:</b>         | ± 2.5°C (±5°F)   |
| <b>Dimensions:</b>          | 199 x 87 x 74mm (7-7/8" x 3-1/2" x 3")   |
| <b>Weight:</b>              | 3.2 kg (7 lbs)   |

### Construction material

|                        |                  |
|------------------------|------------------|
| <b>Main block:</b>     | Aluminium 2011T3 |
| <b>Internal parts:</b> | Mainly brass     |
| <b>Seals:</b>          | Viton            |

### Operation

The flow indicator consists of a sharp edged orifice and tapered metering piston. The piston movement is directly proportional to the flow rate and the sharp edge orifice minimises the effects of viscosity. The piston is magnetically coupled to the rotary pointer assembly which registers on a clear 63 mm (2.5") scale displayed in lpm and USgpm. The flow indicators should not be installed in circuits where the flow is reversed.

### Calibration

All units are calibrated with 28cSt oil as standard. Calibration certificates are available on request - this is a chargeable option. Other calibration on request - please consult sales office.

### Installation

The unit can be installed in any position, horizontal, vertical or anywhere in between. The unit is designed to panel mount or pipe mount. When panel mounting ensure that rear and

bottom faces of the unit are at least 12 mm (1/2") from any ferrous material such as an iron panel or base. The piston contains a magnet that can be affected by close proximity of ferrous material. The front face can be mounted directly to ferrous panels. Four mounting holes are provided for this purpose.

The indicator can be connected into pressure or return lines, however, do not reverse flow; the flow indicator may be damaged and will act as a non return valve.

All hydraulic connections should be made by suitably trained personnel.

### Accessories

Pressure gauge fitted directly into block or remotely connected by micro bore hose - See pressure gauge bulletin

### Performance

Typical pressure drop curves. Oil viscosity 25 centistokes. (1 bar = 14.5 psi, 10 lpm = 2.64 gpm)

