



# POMIAR PRZEPŁYWU CIECZY Przepływomierze

Webtec typ FI / RFI



# F1750 Series

# **In-Line Flow Indicator**

## Up to

- 180 lpm, 48 US gpm
- 420 bar, 6000 psi

Flow Indicators are designed for continuous monitoring or intermittent use commissioning and servicing hydraulic systems up to 420 bar, 6000 psi.

The large clear 63mm (2 1/2") 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 Ipm and USgpm.

The FI750 flow indicators should not be installed in circuits where the flow is reversed.

See RFI series for reversible operation.





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#### **Features**

- FLOW: 2 180 lpm, 0.5 - 48 US gpm
- PRESSURE: 420 bar, 6000 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



Certificate No.8242

#### **Specifications**

Model Number	Model number	Calibrated flow range		Main ports	Top port	Max
with temperature	without temperature	LPM	US gpm			pressure
FI750-16ABOT	FI750-16ABO	2 - 16	0.5 - 4	3/4" BSPP	1/4" BSPP	420 bar
FI750-30ABOT	FI750-30ABO	2 - 30	0.5 - 8	3/4" BSPP	1/4" BSPP	420 bar
FI750-60ABOT	FI750-60ABO	2 - 60	0.5 - 16	3/4" BSPP	1/4" BSPP	420 bar
FI750-120ABOT	FI750-120ABO	4 - 120	1 - 32	3/4" BSPP	1/4" BSPP	420 bar
FI750-180ABOT	FI750-180ABO	10 - 180	4 - 48	3/4" BSPP	1/4" BSPP	420 bar
FI750-16ANOT	FI750-16ANO	2 - 16	0.5 - 4	3/4" NPSF	1/4" NPTF	6000 psi
FI750-30ANOT	FI750-30ANO	2 - 30	0.5 - 8	3/4" NPSF	1/4" NPTF	6000 psi
FI750-60ANOT	FI750-60ANO	2 - 60	0.5 - 16	3/4" NPSF	1/4" NPTF	6000 psi
FI750-120ANOT	FI750-120ANO	4 - 120	1 - 32	3/4" NPSF	1/4" NPTF	6000 psi
FI750-180ANOT	FI750-180ANO	10 - 180	4 - 48	3/4" NPSF	1/4" NPTF	6000 psi
FI750-16ASOT	FI750-16ASO	2 - 16	0.5 - 4	1 - 1/16" - 12 UNF #12 SAE ORB	1/4" NPTF	6000 psi
FI750-30ASOT	FI750-30ASO	2 - 30	0.5 - 8	1 - 1/16" - 12 UNF #12 SAE ORB	1/4" NPTF	6000 psi
FI750-60ASOT	FI750-60ASO	2 - 60	0.5 - 16	1 - 1/16" - 12 UNF #12 SAE ORB	1/4" NPTF	6000 psi
FI750-120ASOT	FI750-120ASO	4 - 120	1 - 32	1 - 1/16" - 12 UNF #12 SAE ORB	1/4" NPTF	6000 psi
FI750-180ASOT	FI750-180ASO	10 - 180	4 - 48	1 - 1/16" - 12 UNF #12 SAE ORB	1/4" NPTF	6000 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** 

Ambient temperature: -10 to 50°C (14 to 122°F)

Fluid type: Hydraulic oils

Fluid temperature: 20 to 80°C (65 - 176°F) continuous use. Intermittently (<10 minutes) up to 110°C (230°F)

Accuracy:

Flow:  $\pm$  4% of full scale Temperature:  $\pm$  2.5°C ( $\pm$ 5°F)

**Dimensions**: 146 x 74 x 49mm (5.75" x 2.9" x 1.92")

**Weight**: 1.4 kg (3.1 lbs)

**Construction material** 

Main block:Aluminium 2011T3Internal parts:Mainly brassSeals: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 Ipm and USgpm. The FI750 flow indicators should not be installed in circuits where the flow is reversed.

See our RFI series for reverse flow capability.

#### 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. Two 9 mm (0.35") diameter 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.

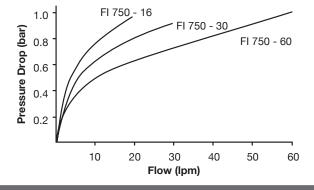
All hydraulic connections should be made by suitably trained personnel.

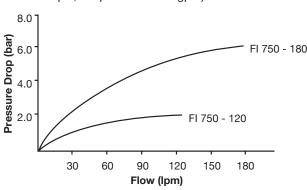
#### **Accessories**

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 US gpm)





# 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 Ipm and USgpm.

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

See RFI series for reversible operation.





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#### **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



Certificate No.8242

#### **Specifications**

Model Number	Model number	Calibrated flow range		Main ports	Top port	Max
with temperature	without temperature	LPM	US gpm			pressure
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** 

Ambient temperature: -10 to 50°C (14 to 122°F)

Fluid type: Hydraulic oils

Fluid temperature: 20 to 80°C (65 - 176°F) continuous use. Intermittently (<10 minutes) up to 110°C (230°F)

Accuracy:

Flow:  $\pm 4\%$  of full scale Temperature:  $\pm 2.5^{\circ}\text{C}$  ( $\pm 5^{\circ}\text{F}$ )

**Dimensions**: 199 x 87 x 74mm (7-7/8" x 3-1/2" x 3")

**Weight**: 3.2 kg (7 lbs)

**Construction material** 

Main block:Aluminium 2011T3Internal parts:Mainly brassSeals: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.

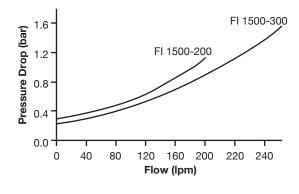
All hydraulic connections should be made by suitably trained personnel.

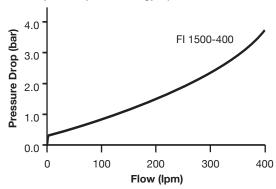
#### **Accessories**

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)





# RFI Series Reversible Flow Indicator

## Up to

- 200 lpm, 54 gpm
- 420 bar, 6000 psi

The RFI reversible flow indicator is designed for continuous monitoring or intermittent use commissioning and servicing hydraulic systems up to 420 bar, 6000 psi.

The large 63 mm diameter dial ensures that quick checks can be made to determine pump performance and setting of flow control valves. They can be used anywhere on mobile and industrial hydraulic circuits to test pumps, motors, valves and cylinders.

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.





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#### **Features**

- FLOW: 10 200 lpm, 4 - 54 gpm
- PRESSURE: 420 bar, 6000 psi
- FLOW accuracy within 4% FSD
- BUILT-IN thermometer
- ALLOWS reverse flow
- DUAL scale lpm/gpm
- HORIZONTAL or vertical mounting
- LARGE clear easy to read dial
- LOW cost rugged design
- PRESSURE gauge port
- WIDE operating range



#### **Specification**

Model number	Calibrated	d flow range	Main ports	Top port	
Wiodol Hallibor	lpm	gpm	Wall porto		
RFI120-B-6 RFI120-S-6 RFI200-B-6 RFI200-S-6	10 - 120 10 - 120 10 - 200 10 - 200	4 - 32 4 - 32 4 - 54 4 - 54	1" BSPP 1-5/16" -12UN #16 SAE ORB 1" BSPP 1-5/16" -12UN #16 SAE ORB	1/4" BSPP 1/4" NPTF 1/4" BSPP 1/4" NPTF	

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** 

Ambient temperature: -10 to 50 °C, 14 -122°F

Fluid type: Hydraulic mineral oil to ISO 11158 category HM.

Fluid temperature: 20 to 80°C, 68 - 176°F continuous use. Intermittently (< 10 minutes) up to 110 °C, 230 °F.

Maximum pressure 420 bar, 6000 psi

Temperature:  $\pm 2.5^{\circ}\text{C}, \pm 5^{\circ}\text{F}$ Dimensions:  $\pm 2.5^{\circ}\text{C}, \pm 5^{\circ}\text{F}$ 171 x 74 x 61 mm, 6.73" x 2.91" x 2.4"

Weight 2.0 kg, 4.4 lbs

**Construction material** 

Main blockAluminium 2011T6Internal partsStainless steel, brass

Seals Nitrile and FKM (wetted parts on BSPP models)

#### Operation -

The flow indicator body houses a metering piston which moves against a calibrated spring. The piston is magnetically coupled to a rotary pointer to provide a direct reading of flow on the dial, flow scale is displayed in both lpm and gpm. The thermometer is also mounted in the body near the fluid flow. Both flow and temperature scales are shielded behind impact resistant windows.

#### Reverse flow

The unit will allow reverse flow but will not measure the reverse flow, i.e. the flow needle will indicate zero.

#### Calibration

All units are calibrated at a mean viscosity of 28 cSt using hydraulic mineral oil to ISO32 category HM. 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. Two 9 mm, 0.35" diameter holes are provided for this purpose. 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 or consult sales office.



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