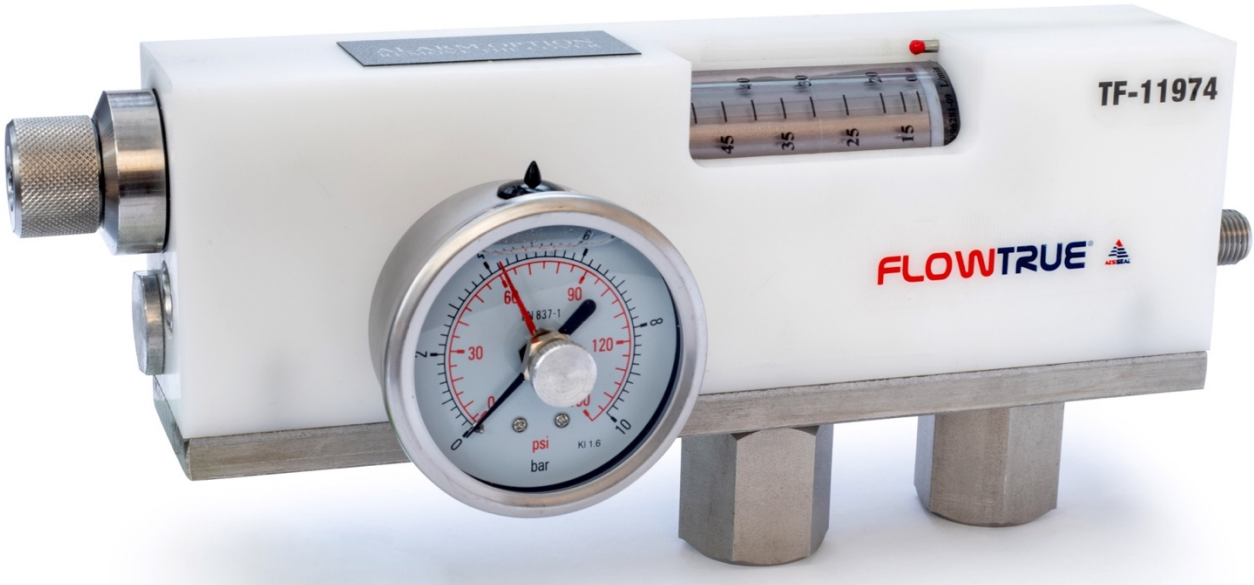
FLOWTRUE™ High Flow

High Flow Model FTP-50-145 / FTP-50-360
Installation Operations & Maintenance Instructions



AESSEAL®
ENVIRONMENTAL TECHNOLOGY

AESSEAL (MCK) Ltd.
139A Hillsborough Old Road
Lisburn, N. Ireland, BT27 5QE
Tel: +44 (0) 28 9266 9966
Email: MCK@aesseal.co.uk
www.aesseal.com

Health and Safety

- Before attempting work on any process equipment, ensure that all permit requirements are satisfied and all necessary process, electrical and mechanical isolations are in place.
- The system should be installed by competent engineering personnel.
- Do not over-pressurise the FLOWTRUE™ beyond the maximum design pressure. If there is any possibility of over-pressurisation the system must be fitted with a suitable protection device – contact AESSEAL® for advice.
- Do not exceed the operating limits of the FLOWTRUE™.
- Ensure the FLOWTRUE™ is completely leak free before full operation.
- The FLOWTRUE™ device has been designed for use only as a regulated flow meter for gland packing sealing arrangements and single mechanical seals.
- If there is a chance of high reverse pressure which could contaminate the water supply, we recommend the use of a non-return valve in the supply line to the Flowtrue™.

Environment

Once the device has reached the end of its serviceable life, it should be disposed of in accordance with local regulations and with due regard to the environment.

For further information please contact AESSEAL®

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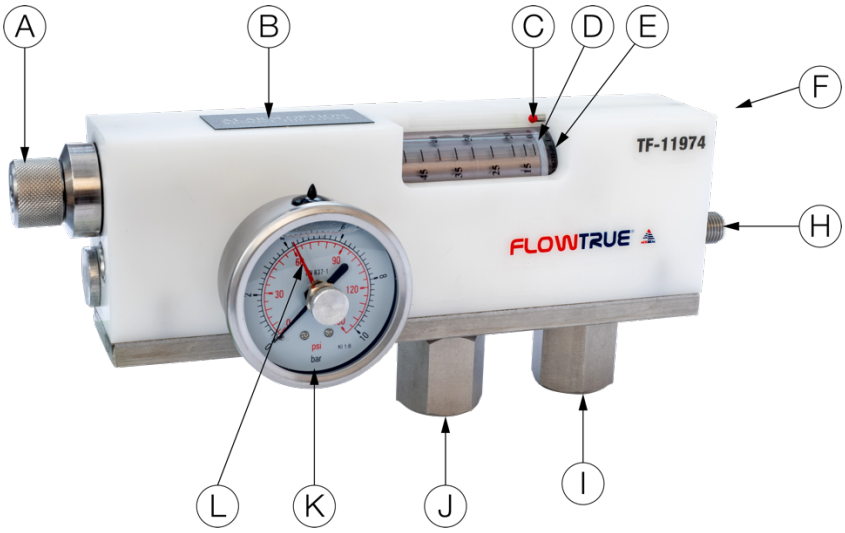
Installing & Commissioning

FIG.1 FLOWTRUE™ Labelled



Components

A = Cleaning Button

B = Inductive Alarm (option – not shown fitted)

C = Target flow indicator

D = Flow indicator ring

E = Cleaning ring

F = Flow indicator adjustment point

H = Flow adjustment valve

I = Plant water supply connection

J = Supply connection to the mechanical seal / stuffing box

K = Pressure gauge

L = Target pressure indicator

Installation & Commissioning

1. New or renewed plant water lines need to be flushed correctly to prevent harmful particles from passing through the FLOWTRUE™ valve and seal. **Ensure that the plant water supply is closed for stages 2 – 4**
2. Install the FLOWTRUE™ in a suitable location which is free from vibration and in close proximity to the pump. The meter should be mounted so that it is easy to read and maintain. Support stands and brackets are available on request.
3. Connect the hoses from the plant water supply to the FLOWTRUE™ (I) and from the FLOWTRUE™ connection (J) to the packing flush port or mechanical seal flush.
4. Ensure that the flow valve (H) is closed. This can be done by releasing the locking nut and using the 2.5mm Allen key supplied, screw the flow valve clockwise until fully closed.
5. Set the red target flow indicator (C) to the desired flow rate using the 2.5mm Allen key supplied. Turn clockwise to achieve larger target flow rate and anti-clockwise for lower target flow rate.
6. Switch on the plant water supply. Open the flow valve (H) until the white left-hand ring (D) is in line with the red flow indicator (C).
7. Once the flow is set, secure valve (H) into position by tightening the locking nut.
8. Set the target pressure indicator (L) on the pressure gauge (K) to the desired target pressure.
9. Upon start-up of the equipment, adjustments may need to be made to suit the running conditions.

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Alarm Option (if selected)

- Remove the alarm label from the top of the FLOWTRUE device and attached the alarm using the screws supplied.
- Attached the alarm cables to a suitable control panel.
- Using the FLOWTRUE Allen key (G), adjust the flow control value (H) until the flow indicator ring (D) is at the minimum flow rate acceptable for the application. This will be known as **flow alarm valve.**
- Loosen the screws and move the alarm to the far left of the alarm slot. Then, move the alarm to the right until the light on the alarm comes on.
- When the light comes on, tighten the alarm in position using the screws supplied.
- Using the FLOWTRUE Allen key, adjust the target flow indicator (C) (red marker) to the desired flow for the application.
- Using the FLOWTRUE Allen key, adjust the flow control valve (H) until the flow indicator ring (D) is in line with the target flow indicator (C) (red marker).
- The alarm light will remain on until the flow drops below the **flow alarm valve**. This will trigger the selected alarm device on the control panel.

Technical Data for Alarm Sensor

Hermetically sealed, inductive alarm switch

- Metal or plastic thread 12x1
- Sensing range is 4mm

Electrical design connection	DC PNP	DC NPN	DC quadronorm	AC
Normal sensing range	4mm			
Output	closed		opened	closed
Operating voltage	DC 10-36V		DC 10-55V	AC 20-250V
Current rating, continuous	250mA		400mA	250mA
Current rating, peak	250mA		400mA	0.9A (20ms/0.05Hz)
Minimum load current	-		4mA	8mA
Voltage drop	<2.5V		<4.6V	<8.5V
Leakage current	-		<0.5 mA	<3mA(AC 250V) <1.5mA(AC120V)
Switching frequency	400Hz		1500Hz	25Hz
Output status indication	yellow			
Operating temperature	-25°C ~ 80°C			
Protection EMC	IP67 Group 1			IP67 Group 2
Housing Material	Plastic, nickel	Plated brass, or stainless steel.		
Connection Cable	PVC 2m/3x0.34mm		PPU 2m/2x0.34mm	PVC 2m/2x0.5mm

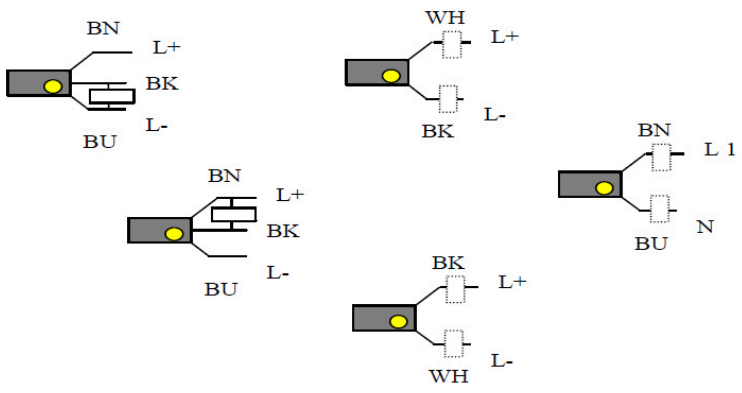
Wires:

BN = brown

BU = blue

BK = black

WH = white



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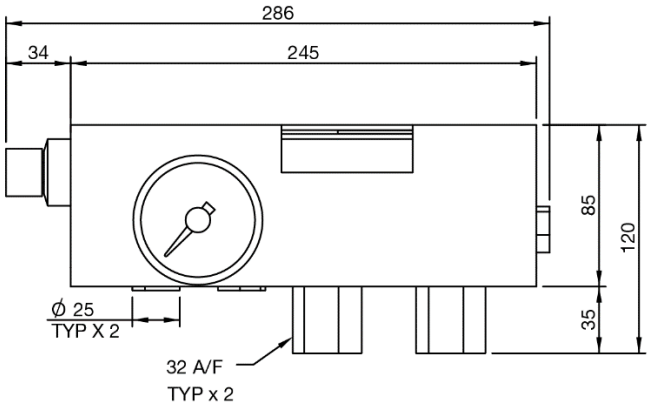
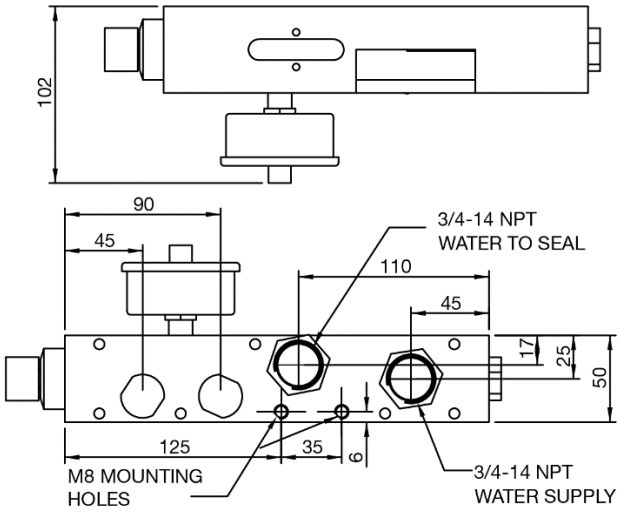
Cleaning Operation

1) Unscrew cleaning button (A) by rotating it anti-clockwise.
2) Pull the cleaning button out of the main body. Push the button back and forth until the cleaning ring (E) clears the flow tube.
3) Push the cleaning button (A) back into the main body and tighten by rotating it clockwise until hand tight.

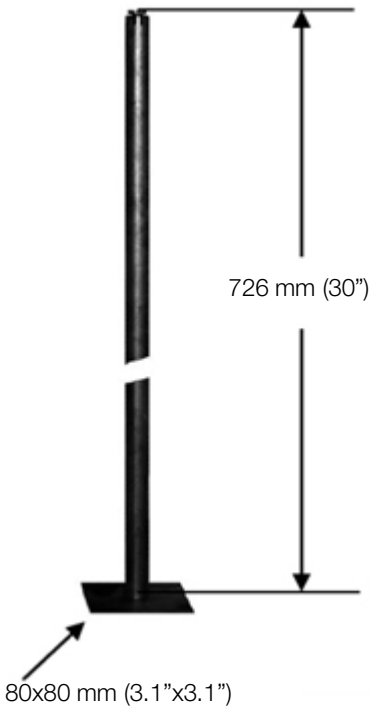
Note: During the cleaning process the flow and pressure will not change, In addition the alarm will not activate

Installation Dimensions

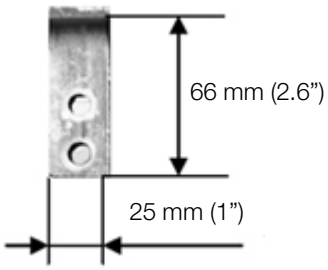




Stand



Bracket



Overall outside dimensions (W x D x H)

With mounting bracket:

292x101x142mm(11.5x4"x5.6") without alarm

292x101x243mm(11.5"x4"x9.6") with alarm

For models using a floor stand:

292x101x838mm(11.5"x4'x33") without alarm

292x101x939mm(11.5"x4"x37") with alarm

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Troubleshooting

Sr. No	Problem	Corrective action
1.	Welding deposits or other impurities in the meter after start up.	Flush the sealing water lines well before start up.
2.	Dirty flow tube.	Use flow tube cleaning button monthly.
3.	False alarms due to pressure changes in the sealing water line.	Set the alarms to lower acceptable flow rate. Correct the seal water pressure.
4.	Alarm does not trigger.	Check that you have connected the load as indicated in the wiring diagram. Alarm sensor should rest directly on the flow tube.
5.	No flow through the meter although the flow adjusting valve is open.	Check that the pressure adjusting valve is open.
6.	The meter will not deliver the required flow rate.	Check that pressure in the sealing water line is adequate. In case of new tight packing the flow may also remain small.
7.	Low Flow and High Pressure	The mechanical seal is plugged/blocked or the packing is potentially too tight
8.	High Flow and Low Pressure	The packing is worn or the mechanical seal is leaking
9.	Low Flow and Low Pressure	Problems with the gland water supply

Operating Limits:

Polyacetal (standard body material, white in colour)

- Maximum Pressure = 25 bar / 360 psi
- Maximum Temperature = 80°C / 176°F

Polyethylene (chemical environments body material, yellow in colour)

- Maximum Pressure = 10 bar / 145 psi
- Maximum Temperature = 60°C / 140°F

- *For 316 SS Systems, when used with a water based barrier/buffer the Chloride content should not exceed 250ppm*

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