



Operators Manual

OIL FLOW METERS

Individually calibrated & adjustable

35283 r#1



Contents:

Technical Specifications	3
Main Parts	3
How to Read the Oil Flow	4
How to Adjust the Flow	5
How to Clean the Meter	6
Inductive Alarm	7
How to Connect the Sensor	7
How to Adjust the Low Flow Alarm	8
Straight Indication and Cleaning System	9
Mounting Stand	10
Flow Meter Repair Parts	11
Technical Data for Alarm Sensor	12
The Flow Pressure Drop Diagram	13
How to Update a Blank in a Flow Meter	14
Notes	15

DESIGN FEATURES

-The Flow Techno oil flow meter's sensitivity to oil viscosity is small. The flow set point scales on the flow tubes are accurate in the normal operating range.

-The flows stay almost constant regardless of oil temperature and viscosity changes. Within certain limits the situation is the same when changing the oil grade/type used in the machinery.

-Flow correction charts are not needed.

-Flow targets (set points) can be preadjusted.

-No false alarms during the machine start up.

-Flow tube cleaning button cleans interior of the flow tube without disrupting meter flow. Cleaning will not activate the alarm.

TECHNICAL SPECIFICATION

Materials

- Body is aluminum
- Flow tube is Trogamid
- Internal parts and valves are 316SS
- O-rings are viton

SPECIFICATIONS	
FLOW RANGE	FMTF-1 = .1 TO 2 PPM (.05 TO 1 LPM)
	FMTF-10 = .25 TO 5 PPM (.1 TO 2.6 LPM)
	FMTF-15 = .5 TO 8 PPM (.25 TO 4 LPM)
	FMTF-20 = 4 TO 16 PPM (1 TO 8 LPM)
	FMTF-30 = 12 TO 32 PPM (5 TO 15 LPM)
MAX PRESSURE	250 PSI (17 BAR)
OIL VISC RANGE	100SSU-5000SSU
MAX. TEMP.	200°F (93C)

MODEL NO.	NO. OF TUBES	'A' DIMENSION (MM)
FMTF-XX	1	2.38" (61)
FMTF-XX	6	11.00" (279)
FMTF-XX	8	14.50" (368)
FMTF-XX	10	18.00" (457)

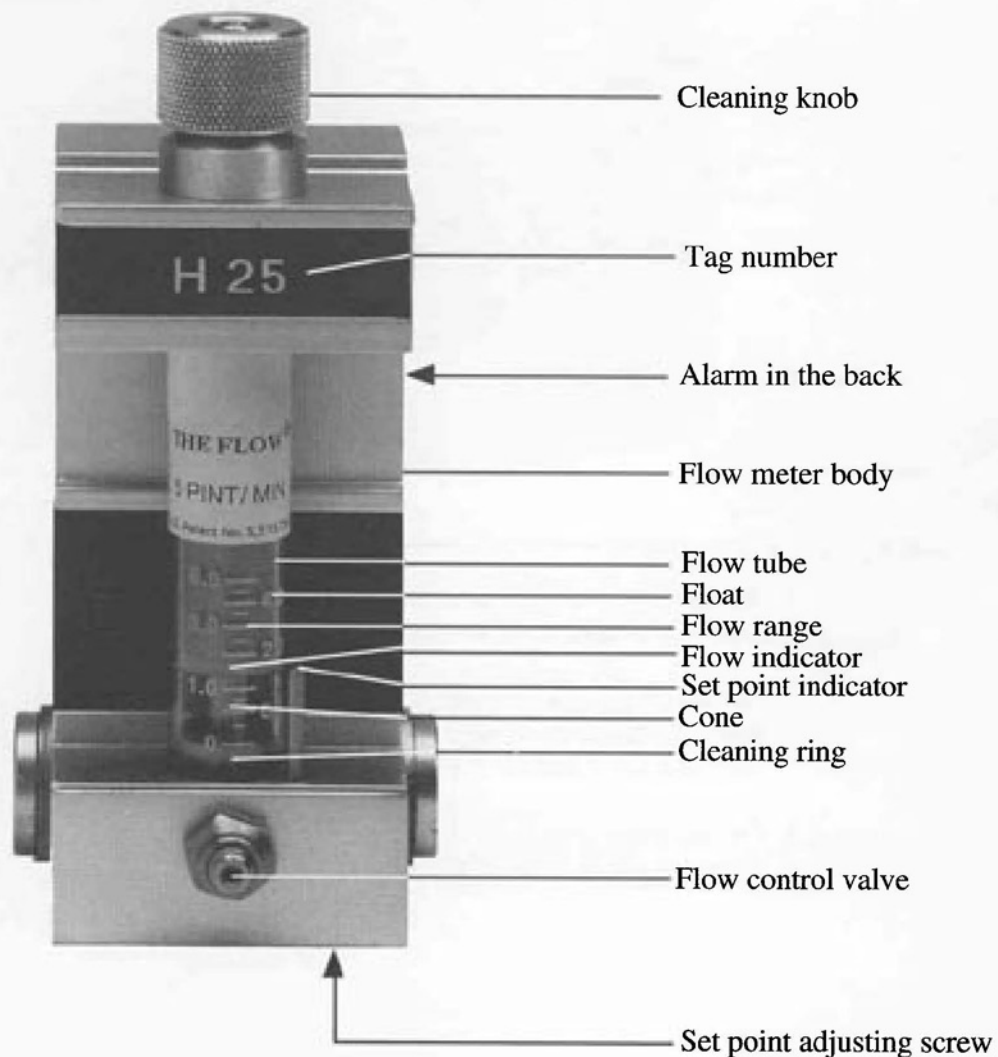
ORDERING EXAMPLE:

FMTF1-6 = 6 BANK FLOW METER (.1-2 PPM)

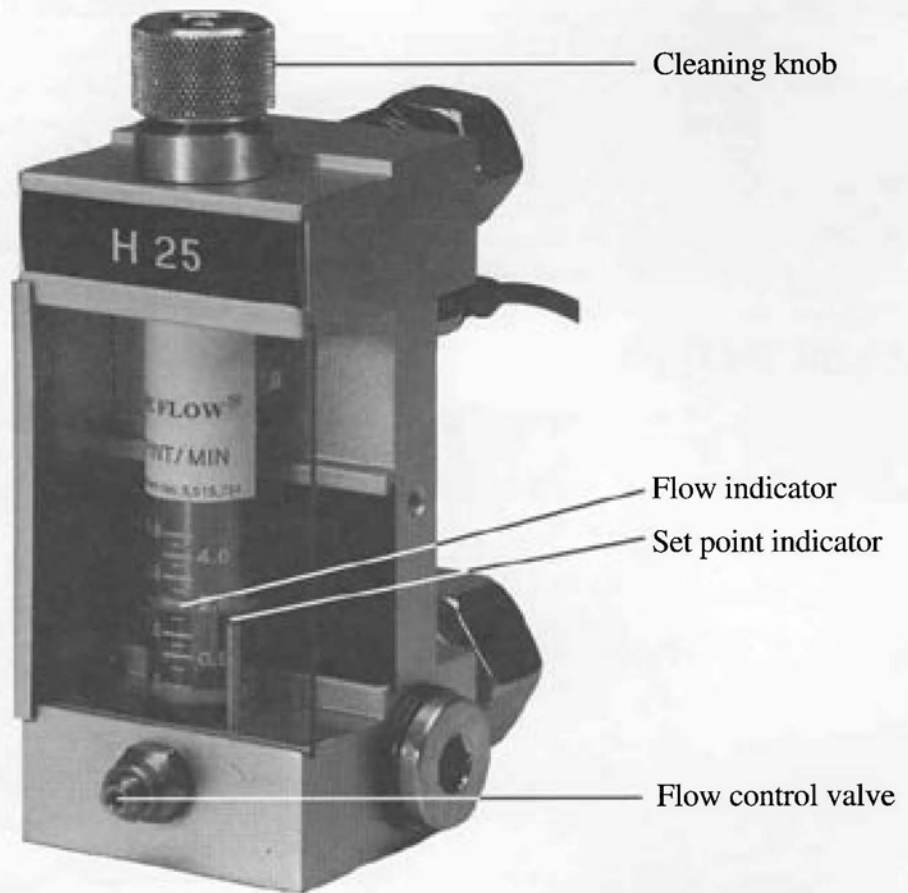
FMTF20-8 = 8 BANK FLOW METER (4-16 PPM)

Will need oil viscosity and oil temperature

MAIN PARTS

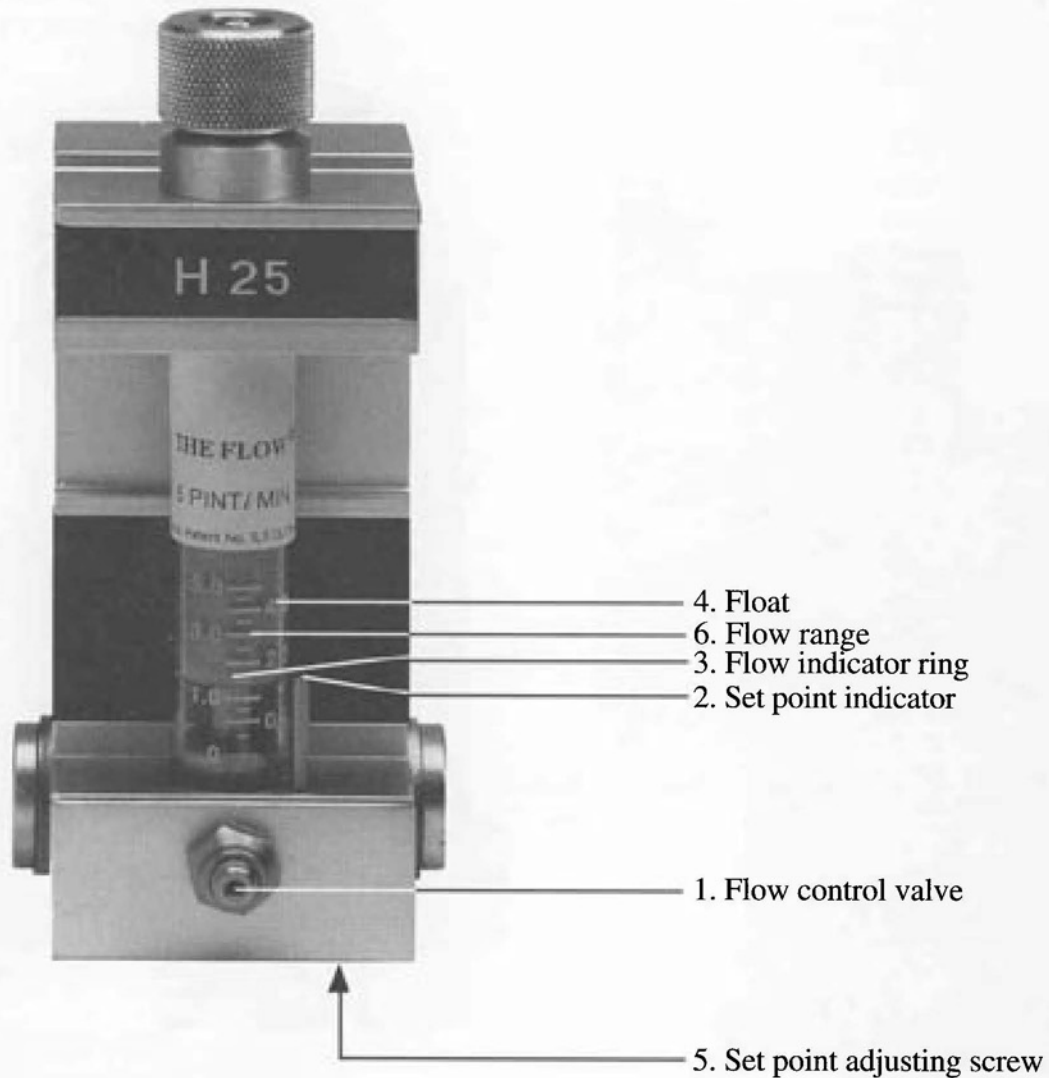


HOW TO READ THE OIL FLOW



1. The flow indicator shows the actual flow rate.
The flow is adjustable by means of the flow control valve.
2. The set point indicator shows the target flow. The deviations from the target are easily detected by checking how much the flow indicator differs from the set point value.
3. The set point position is mechanically fixed by means of its adjusting screw in the bottom of the meter.

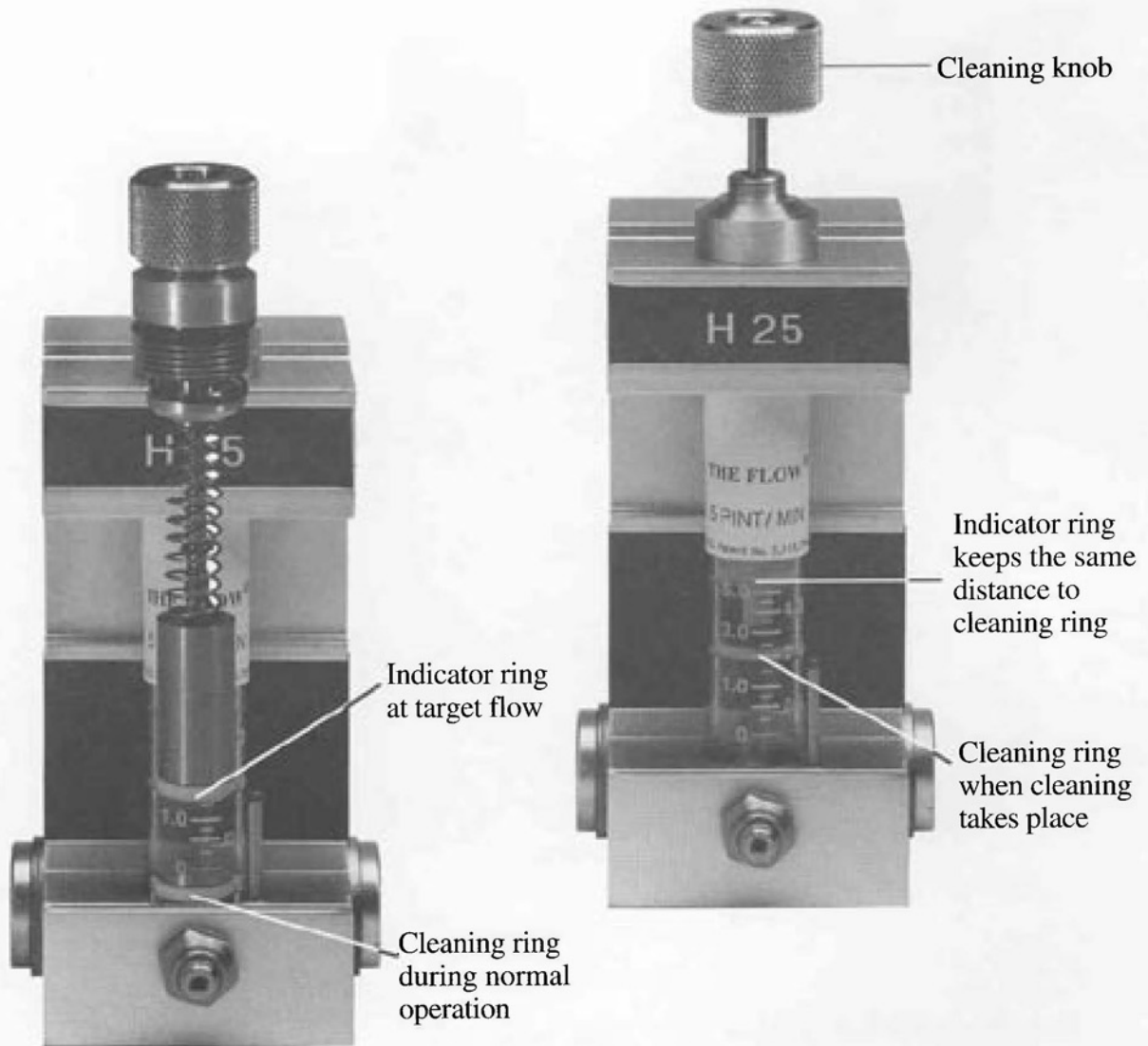
HOW TO ADJUST THE FLOW



Use 2.5 mm hex key to adjust the set point indicator (2) to the desired flow target. The flow rate is indicated on the flow tube (6). The set point adjustment screw (5) is located under the body of the meter.

Open the flow control valve (1) and let the float (4) go up so that the lower edge of flow indicator ring (3) is on the same level with the top level of the red set point indicator (2). Now the flow adjustment is completed.

HOW TO CLEAN THE METER



Turn the cleaning knob counter-clockwise until it is free from the plug.
Push the cleaning knob up and down until the flow tube is clean.
Fasten the cleaning knob by pushing it down and turning clockwise.

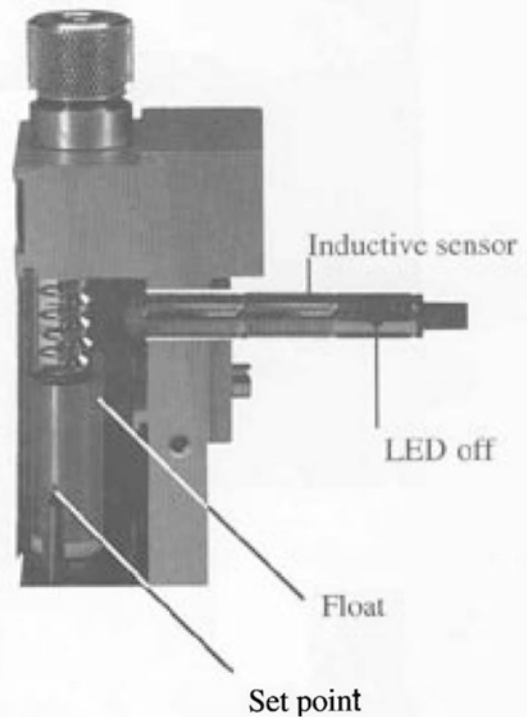
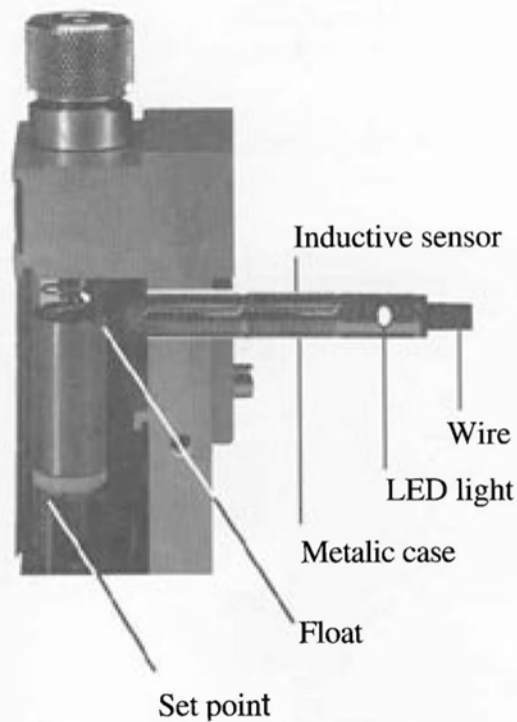
INDUCTIVE ALARM

(ORDER SEPARATE)

ALARM FUNCTION:

1. Correct flow, LED is on and steel float is under the inductive sensor.

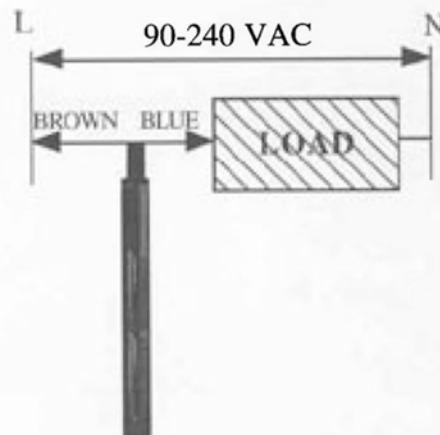
2. Flow has dropped, LED is off and steel float has moved from the field of the sensor. Contact inside the sensor will trigger.



HOW TO CONNECT THE SENSOR

Technical data:

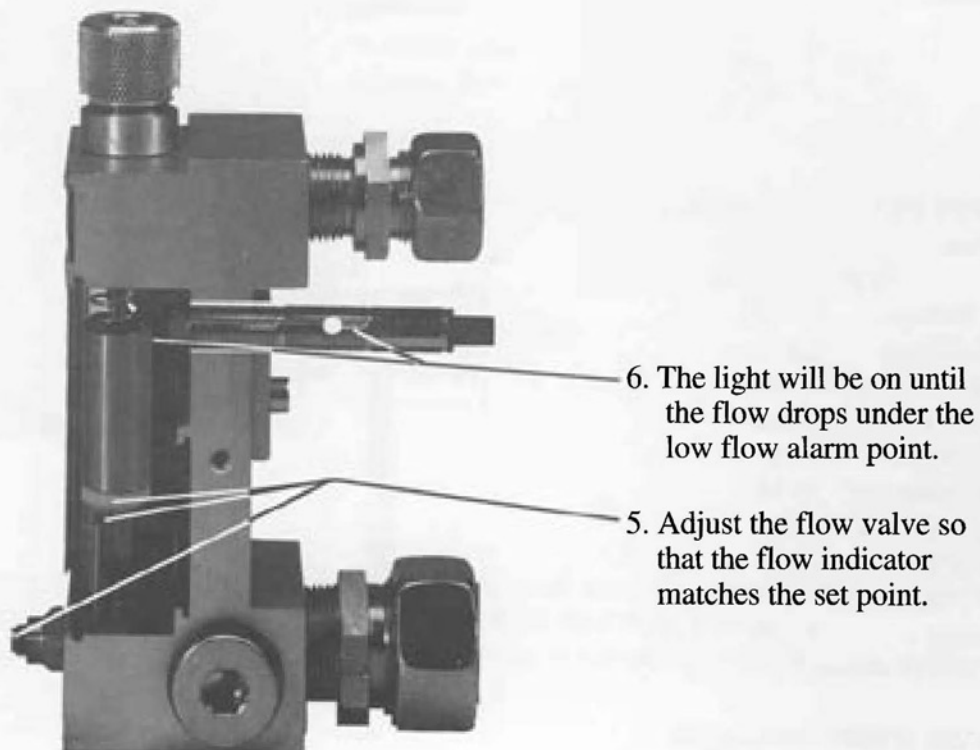
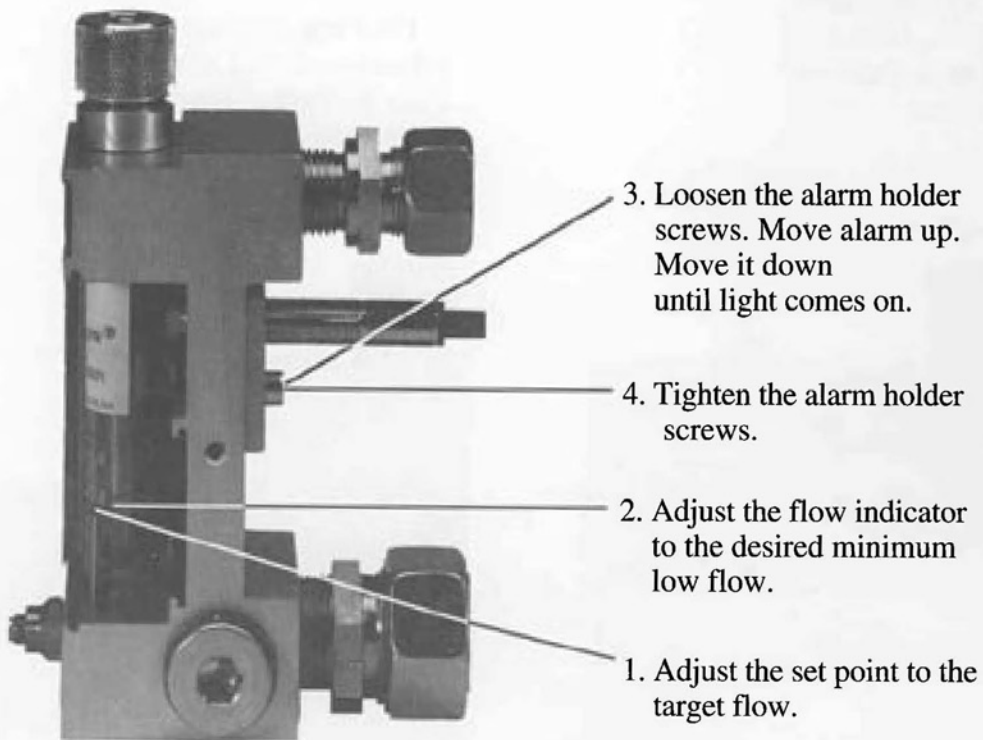
- Operating voltage 90-250 V
- Max. current load 250 mA
- Voltage drop at max. <8.5 V
- Leakage current <3 mA
- Min. load current 8 mA
- Switching frequency 25 Hz
- Switching status ind. Led
- Protection grade IP 67
- Ambient Temp. -25 to+80°C
- Sensing range 4 mm
- Housing: nickel plated brass



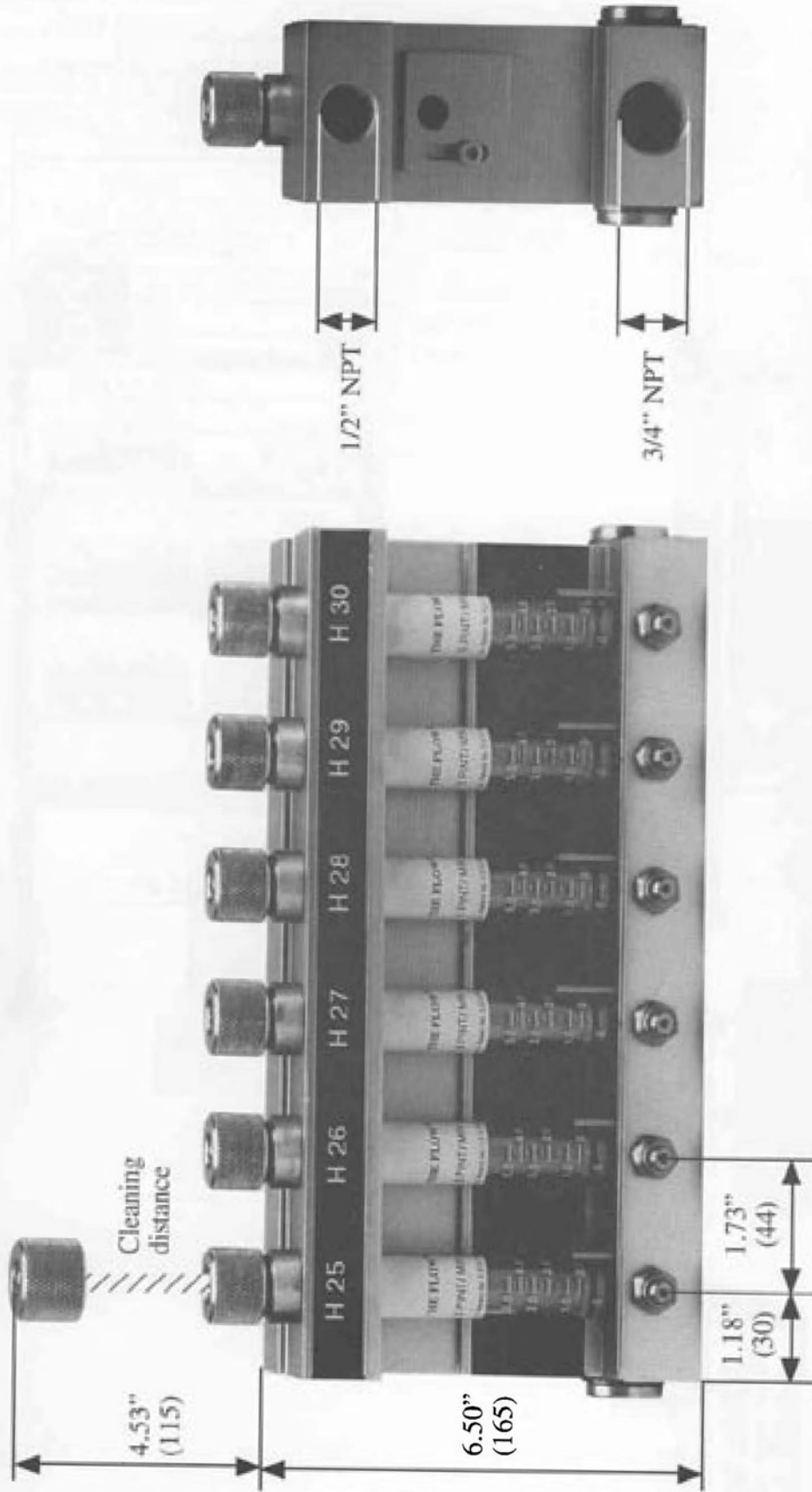
DC sensors are available on request

SEE TECHNICAL SPECIFICATION FOR THE ALARM SENSORS

HOW TO ADJUST THE LOW FLOW ALARM

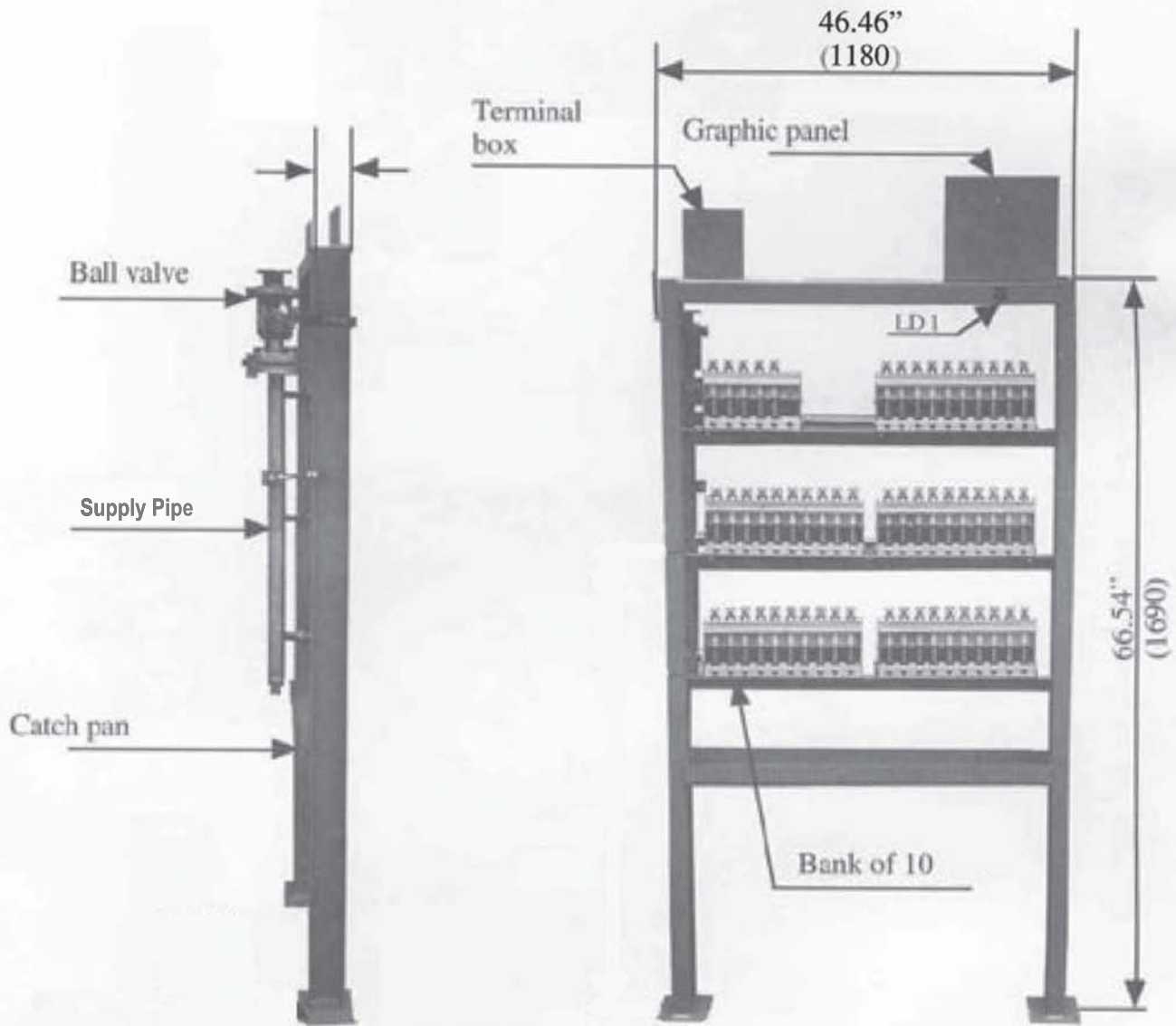


STRAIGHT INDICATION AND CLEANING SYSTEM



All Dim's inches (mm)

MOUNTING STAND (REFERENCE ONLY - SUPPLIED BY OTHERS)

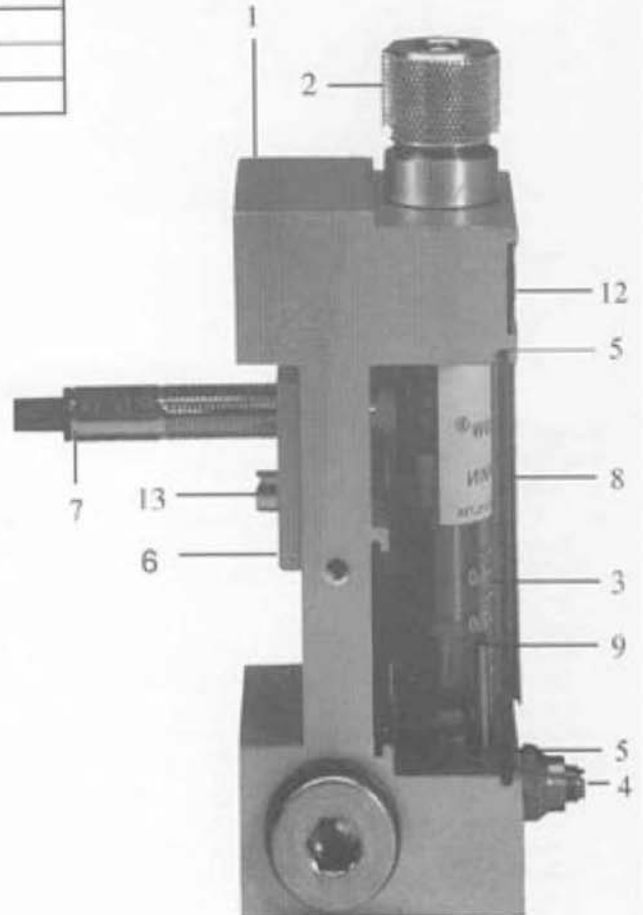
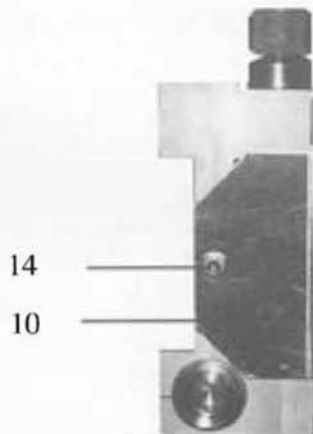


All dimensions inches (mm)

Flow Meter Repair Parts

Item	Part Number	Description
1	N/A	Flow Meter Body
2	*F98015-2, 5, 8, 16, 32 pint	Flow Cartridge
3	F98006-2, 5, 8, 16, 32 pint	Flow Tube
4	F98029	Flow Valve
5	F98035	Viton O-Ring
6	Sold only in kits FMTFSAC/FMTFSDC	Sensor Holder
7		Sensor
8	F98019-1, 6, 8, 10 Bank	Plastic Window
9	F98028	Set Point Pin
10	F98007	Side Panel
12	Supplied by others	Tag
13	F98033	Screw
14	F98034	Screw

* Specify oil viscosity and temperature

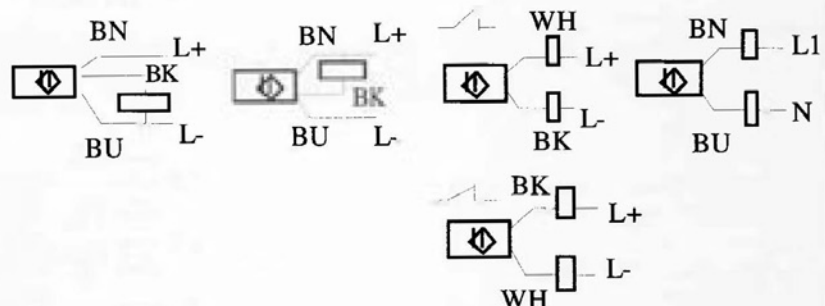


TECHNICAL DATA FOR ALARM SENSOR - FMTFSAC/FMTFSDC

Hermetically sealed, inductive switch
 Metal or plastic thread 12x1
 Sensing range 4 mm
 5-year warranty

Electrical design Connection	DC PNP	DC NPN	DC quadranorm	AC
Nominal sensing range	4mm	4mm	4mm	4mm
Output	closed	closed	opened/ closed	closed
Operating voltage	10-36 VDC	10-36 VDC	10-55 VDC	90-250 VAC
Current rating continuous	250 mA	250 mA	400 mA	250 mA
Current rating peak	250 mA	250 mA	400 mA	0.9 A (20ms/0.5Hz)
Minimum load current	-	-	4 mA	8 mA
Voltage drop	< 2.5 v	< 2.5 V	< 4.6 V	< 8.5 V
Leakage current	-	-	≤ 0.5 mA	<3mA/250 VAC <1.5mA/120 VAC
Switching frequency	400 Hz	400 Hz	1500 Hz	25 Hz
Output status indication	yellow	yellow	yellow	yellow
Operating temperature	-25..+80C	-25..+80C	-25..+80C	-25..+80C
Protection	IP 67	IP 67	IP 67	IP 67
EMC	group 1	group 1	group 1	group 2
Housing material	Plastic, nickel-plated brass			
Connection	PVC cable 2m/3x0.34mm	PVC cable 2m/3x0.34mm	PUR cable 2m/2x0.34mm	PVC cable 2m/2x0.5mm

Wires: BN=brown
 BU=blue
 BK=black
 WH=white

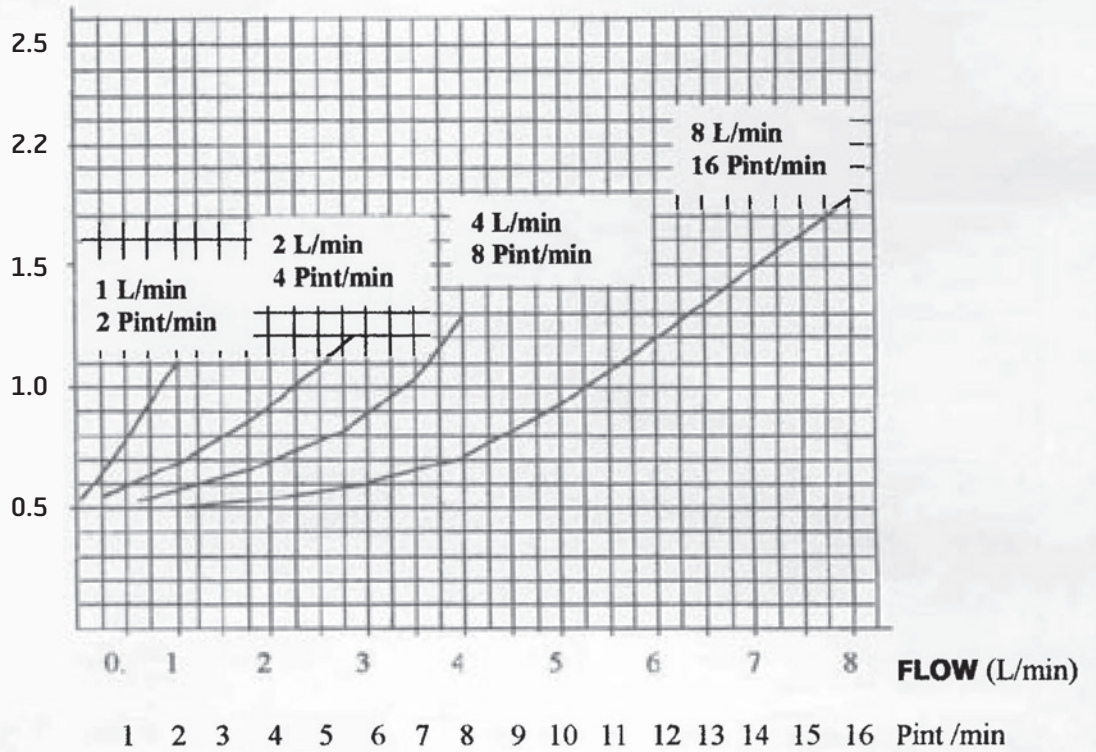


THE FLOW PRESSURE DROP DIAGRAM

1 L/min, 2 L/min, 4 L/min and 8 L/min Type

2 Pint/min, 4 Pint/min, 8 Pint/min and 16 Pint/min type

**PRESSURE
DROP, BAR**

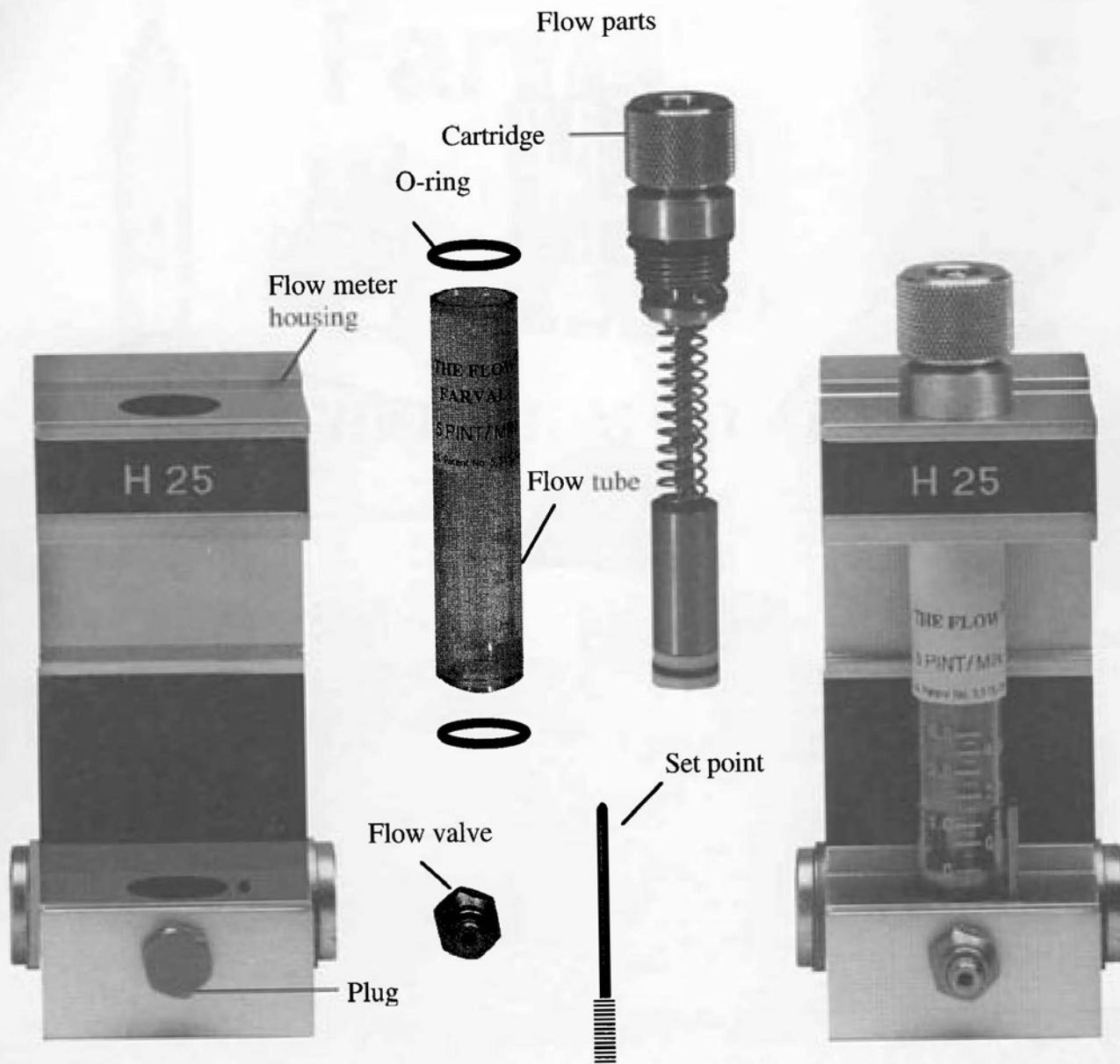


FLOW SCALES

The flow scale indicates directly the actual flow in Pint/min.
No correction charts are needed.



HOW TO UPDATE A BLANK IN A FLOW METER



Inspect that the parts are clean before you install them.

Proceed as follows:

1. Replace the plug with the flow valve
2. Install the flow tube with O-rings into the flow meter housing
3. Install the flow cartridge into the housing
4. Install the set point into the housing

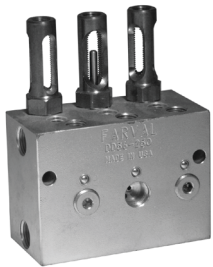
Whatever your automatic
lube requirement...
We have the solution!



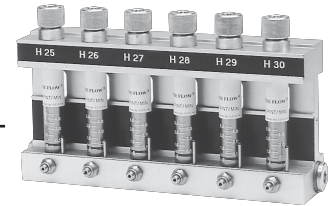
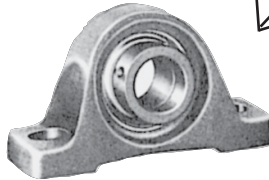
Series Progressive



Injectors



Dualine



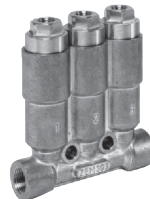
Flowmeters



Oil Recovery Unit



SureFire-PDI



Refillable
Single Point

Let 80+ Years Of Experience Design Your Next Lube System

BDI has been a manufacturer of automatic lubricating systems for over 80 years. We offer a complete line of pumps, valves, controllers, and accessories. Our pump line includes manual, air, electric, and hydraulic actuated models. Our valve offering is the most comprehensive in the industry. We manufacture oil and grease Dualine valves, series progressive modular valves, and injectors. We also offer air/oil mixing modules, oil flow meters, and single point lubricators.

Your local distributor:

BIJUR DELIMON INTERNATIONAL

2685 Airport Road • Kinston, NC 28504
Tel. 800-227-1063 • Fax: 252-527-9232
website: www.bijurdelimon.com