Flow Meter / Switch

TM-FM-WF

Function;

A scaled dial and mechanical indicator continuously monitor the flow rate at any given time whilst electrical switches can be specified to signal when a particular level has been reached during increasing or decreasing flow rates.

Through its unique modular design it allows for easy field installation and service. It does not require any straight pipe runs before or after the monitor thus minimizing the installation footprint. The versatile design of the vane monitor allows for orientation to be mounted in any position. Vane style monitor operates when flow is introduced through the inlet connection making direct contact with the vane that is mechanically linked to the indicator shaft, the fluid forces the vane to open. The vane style monitor is spring loaded and allows the vane to return on decreasing flows.

Switches are field adjustable, suitable for batching, trending, totalising or recording where required. All Flow-Mon units can be supplied with a 0-10v or 4-20mA output.

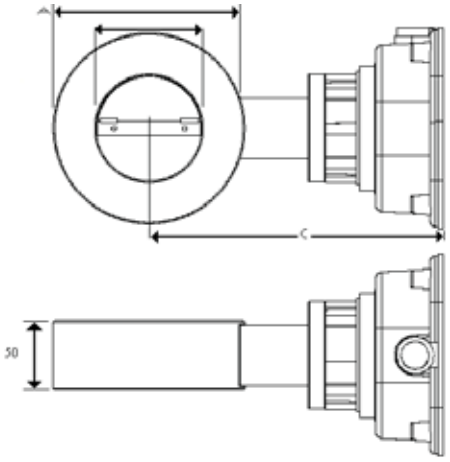
All sizes are manufactured to the same simple design concept, the main characteristic of which ensures that the pressure drops are confined to an absolute minimum across the vane orifice at full flow, with viscosities as high as 600cS. Sizes are defined by pipe size and/or maximum flow capacity, and every flow switch is individually calibrated so that full scale deflection is used in each application i.e. the maximum scale reading coincides with the maximum requirements of system as specified by the customer. Calibration may be in any units with Single or Dual scale to specification.

Applications

- Water
- De-Ionised Water
- Soluble Oils (Glycols)
- Petroleum Based Fluids
- Synthetic Based Fluids
- Coolants
- Corrosive Fluids
- Paints
- Solvents
- Air & Gases

Dimensions

DN	A	C	Ansi	A	C
80	138	216	3	127	210
100	158	226	4	157	217
150	218	264	6	216	263
200	278	291	8	270	287
250	335	318	10	324	313
300	395	348	12	381	338



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TM-FM-FML30	B	LP	3EE	1cS	24W10	S3	D1

SERIES AND FLOW RATE

FMS*	= Litres/Sec
FML*	= Litres / Min
FMB*	= Imp. Gallons / Min
FMG*	= U.S. Gallons / Min
FMM*	= M3/ Hour

*Add Full Flow Rate in Units

MATERIAL OF MANUFACTURE

AL	= Aluminum
B	= Bronze
CI	= Cast Iron
CIK	= Cast Iron Nickel Plated
S	= Carbon Steel
SS	= Stainless Steel
PTFE	= PTFE
PVC	= PVC

Note: For materials and pressures not specified, please consult factory.

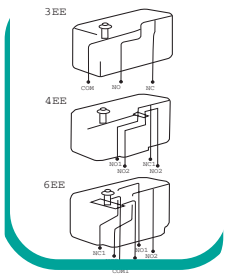
PRESSURE RATING

LP	= 300 psi / 20 bar maximum
MP	= 750 psi / 50 bar maximum
HP	= 3000 psi / 200 bar maximum

INDICATOR READ OUT

ME	= Mechanical Pointer only
3EE	= SPDT 3 Wire Switch
4EE	= SPDT Double-break 4 wire switch
6EE	= DPDT 6 Wire switch
3EEG	= SPDT 3 Wire Switch with Gold Contacts
3EE(ATEX3)	= SPDT Explosion Proof Micro Switch to ATEX zone 3
3EE(ATEX2)	= SPDT Explosion Proof Switch to ATEX zone 2
6EE(ATEX2)	= DPDT Explosion Proof Switch to ATEX zone 2
AIR	= Pneumatic Switch
POT	= Potentiometer (Specify Rating)
OUT	= 4-20 mAmp Output
TOT	= Digital Rate Totaliser
TOTX	= Digital Rate Totaliser (ATEX)

Note 1: All electrical boxes (apart from TOT & TOTX) also carry a Mechanical Pointer
Note 2: For 4 & 6 Wire Switches replace 3EE by 4EE or 6EE
Note 3: Manufactured to IP65 (NEMA 4) as standard (up to 21/2)



ELECTRICAL OPTIONS

CODE: 3EE
Basic single pole, double throw, 3 wire switch.
15 Amp - 125, 250 or 480V.AC
0.5 Amp - 125V.DC / 0.25 Amp - 250V.DC

CODE: 4EE
Contact arrangements is single-pole, double throw,
10 Amp - 125 or 250V.AC
0.3 Amp - 125V.DC / 0.15 Amp - 250V.DC

CODE: 6EE
Double-pole, double throw switches simultaneously make and break two independent circuits.
10 Amp - 125 or 250V.AC
0.3 Amp - 125V.DC / 0.15 Amp - 250V.DC

CODE: AIR
This system offers an alternative safety arrangement for operation in explosive atmospheres. Compressed air can be used to transmit an on / off signal from the danger area, or to operate a klaxon inside the danger area.

CODE: POT
Remote read-out option (0-10V). Rating to customer s specification, e.g. 1K, 2K etc.

CODE: OUT
A transducer can be connected to the potentiometer to give the required 4-20 mAmp readout. Data Loggers or Recorders can be added to the system.

The 3 and 6 wire switches described above are available in ATEX approved explosion proof versions, with the appropriate enclosure box. When two or more switches are assembled in one unit, they remain independently adjustable. Re-adjustments may be carried out in the field.

FLOW DIRECTIONS

D1 = → D2 = ←
D3 = ↑ D4 = ↓

O RING SEAL MATERIAL

S1 =	Buna	(-40 C	+110 C)
S2 =	EPDM	(-40 C	+150 C)
S3 =	Viton	(-20 C	+200 C)
S4 =	PTFE	(-100 C	+250 C)
S5 =	Perlast	(-15 C	+330 C)

WAFER CONNECTIONS

24 = 3"
32 = 4"
48 = 6"
64 = 8"

Sizes 3" - 8". Standard units have Wafer Bodies - add relevant code letters (shown below).

For Flanged Connections add one of the following codes:

W10
W16
W25
W40
Alternative Pressure Ratings in BS4504 / DIN2632-5

W150
W300
W600
Alternative Pressure Ratings in BS1560 / ANSI B16.5

WAD
WE
WF
Alternative Pressure Ratings in BS10

For special wafer connections, please enquire at factory.

VISCOSITY AT OPERATING TEMPEATURE

State units and scale
eg. Water is 1 Centistoke (cS)
Maximum rating should not exceed 600cS

Air & Gas Applications

Flow-Mon flow switches can be used to measure gas flows in exactly the same way as liquid flows. When enquiring for such an application the following information will be required:

Specific gravity of the gas
Maximum flow volume
Operating temperature
Operating pressure

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