

DFM VARIABLE AREA FLOWMETER

The DFM is a low cost all plastic flowmeter that gives a visual indication of the flowrate using a tube and float arrangement.

- Low cost ✓
- Clear indication of the flowrate ✓
- Easy installation ✓
- Good chemical resistance ✓
- Short lead times ✓
- Optional high and low alarm relays ✓



Application

The DFM is a well proven variable area flowmeter for the measurement of clear liquids and gases. It is simple in operation, easy to install and requires no maintenance. It gives you a clear visual display of flow rate and has the option of relay outputs for high and low flow alarm conditions.

Operating Principle

When a fluid flows through the vertical tapered metering tube, the float will rise until a point of equilibrium is reached, where the downward weight of the float is balanced by the upward thrust of the fluid. This point will represent a specific flow rate. If the flowrate increases, the float will rise to a new point where the new upward thrust of the fluid is balanced by the weight of the float.

For a given set of fluid conditions, the float will be stable at positions that can be marked on a graduated scale on the tapered tube. These divisions can be calibrated in units of volumetric flow.

The graduated scale depends on three factors:

- the shape and weight of the float
- the size and taper of the measuring tube
- the density and viscosity of the fluid.

Installation

The flowmeter should be installed with the flow vertically upwards through the flowmeter. For accurate results, ensure that the pipework is vertical to within 3°. The standard socket connections are for use with rigid PVC imperial pipe. There are optional BSPF inserts available in stainless steel.

When used with liquids, valves may be placed upstream or downstream of the flowmeter. When used with gases, a valve should always be downstream of the flowmeter.

Optional Alarms

Up to three reed switch volt free contacts can be added to the flow tube. A magnetic float is used to close the contacts on passing them with increasing flow. The contact will remain latched until the flow causes the float to drop below the contact and open the switch. The contacts are rated at 240V 5A max.

DFM Flowmeter

Specifications

Accuracy:	+/- 2% for DFM350 +/- 4% for DFM165, 175 & 185
Max. pressure:	10 bar operating at 20°C
Temperature:	PVC 60°C Polyamide 75°C Polysulphon 100°C
Scaling:	Litre/hour H ₂ O as standard plus 0-100% of maximum flow Special scaling is available

Flow Ranges

Nominal size BSP	Socket bore dia. mm	Air range Nm ³ /hour 1 bar abs. 20°C	Water range litre/hour 20°C
DFM 165 Series			
3/8"	17.1	0.2-1.0	3-24
3/8"	17.1	0.2-2.5	5-60
3/8"	17.1	0.6-3.6	10-100
3/8"	17.1	0.5-9.0	25-250

DFM 170 Series			
1/2"	21.4	0.4-2.8	5-50
1/2"	21.4	0.8-6.2	15-150
1/2"	21.4	0.9-9.5	25-250
1/2"	21.4	2.0-15.0	50-500

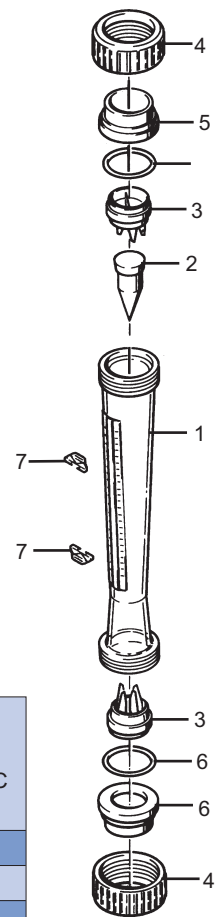
DFM 185 Series			
3/4"	26.7	0.5-5.0	15-150
3/4"	26.7	2.0-14.0	50-400
3/4"	26.7	2.5-22	60-600
3/4"	26.7	4.0-34	100-1000

Parts Description

Item	Description	Standard Material	Optional
1	Tube	PVC	Polyamide Polysulphon
2	Float	PVC	PVDF
3	Trap	PVDF	
4	Union nut	PVC	Stainless steel
5	Insert	PVC	Stainless steel
6	O ring	EPDM	
7	Indicator	PVC	

Flow Ranges

Nominal size DN ins BSP	Socket bore dia. mm	Air Range Nm ³ /hour 1 bar abs 20°C	Water Range litre/hour 20°C
DFM 350 Series			
1"	33.6	0.7-7.5	15-150
1"	33.6	1.0-10	30-300
1"	33.6	2.5-20	60-600
1"	33.6	4-34	100-1000
1 1/4"	42.2	5-50	150-1500
1 1/4"	42.2	8.5-76	250-2500
1 1/2"	48.3	8-70	200-2000
1 1/2"	48.3	10-90	300-3000
2"	60.3	14-125	400-4000
2"	60.3	22-190	600-6000
2"	60.3	35-300	1000-10000
2 1/2"	75.2	50-500	1500-15000
2 1/2"	75.2	80-720	2500-25000
2 1/2"	75.2	400-1500	10000-50000



Contact our flow measurement specialists for advice on your application

Tel: 01922 645647

Fax: 01922 640326

e:mail sales@apolloflow.co.uk

website www.apolloflow.co.uk

No set-up
Easy to use

Apollo Flowmeters, Charles Street, Walsall WS2 9LZ

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