FT2 Optical Detection
Technical Product data sheet

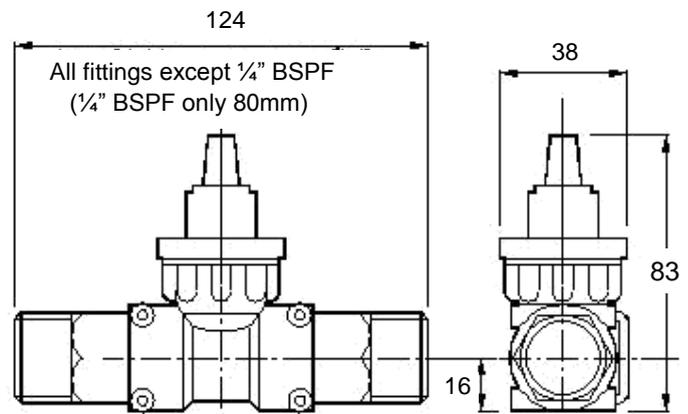**titan**

FT2 Optical Detection

This multi-range radial flow turbine meter uses a low inertia turbine supported on robust sapphire bearings in a chemically resistant housing. 9 flow ranges (0.02 to 160 litres per minute), a choice of "plug in" fittings and individual traceable calibration make this meter one of the most flexible available. For OEM applications the fittings can be tailored to suit the installation and speed production. Custom leads or connectors are also available for quantity orders.

Features

- Economical
- PPS body
- ± 0.75% reading *
- 1-1.5% FSD
- Sapphire bearings
- Optical sensing
- 9 Flow ranges
- Pulse output
- 15 Bar rating
- Viton^{TM} seal as standard
- Choice of fittings
- 0.1% Repeatability
- 5 or 7.5 to 24 V dc
- 80°C Max

* When used with our Metra-smart instrument

Ideal for

- Drinks dispensing
- Laboratory tests
- Cooling equipment
- Semiconductor plant
- Water treatment
- Low viscosity fluids

124

All fittings except ¼" BSPF
(¼" BSPF only 80mm)

38

83

16

	Weight in kg			
Fitting	PVC	PVDF	Brass	316 St St
8mm hose	0.082			
13mm hose	0.156			
¼" BSP female			0.195	0.187
½" BSP male		0.124	0.279	0.319
¾" BSP male	0.107	0.108	0.344	0.250
1" BSP male	0.120	0.124	0.377	0.404

titan

FT2 Optical Detection

Order Codes

Detector Type = 20 Optical 7 - 24v dc
   21 Optical 5v dc

Electrical **0** – Rubber grommet
connections P – 4 pin socket
   N – IP67 Gland

Flow range 004
L/min 016
   045
   065
   010
   030
   060
   100
   160

O'ring mtl **V** - Viton™
   N - Nitrile
   E - EPDM
   O - Special

Fitting size 25 - ¼" BSP
   50 - ½" BSP
   75 - ¾" BSP
   10 - 1" BSP
   8H - 8mm hose
   0H - 13mm hose

Fitting mat'l **B** - Brass
   S - 316 St St
   C - PVC*
   P - PVDF
   * 60°C max

Special code S = OEM customer

Order code example: - **220-100-V-10-B** is a flowmeter with a flow range of 4.0 to 100 L/Min, Viton™ seal and 1" BSP brass fittings with a standard 6 point traceable water calibration.

Model	Flow range L/Min	Linearity % FSD	Typical Freq. Hz.	Approx. 'K' Factor
004	0.02 - 0.5	1.5	266	32000
016	0.07 - 1.6	1.0	413	15500
045	0.10 - 4.5	1.0	637	8500
065	0.15 - 6.5	1.0	520	4800
010	0.40 - 10	1.0	417	2500
030	1.50 - 30	1.0	550	1100
060	3.00 - 60	1.0	550	550
100	4.00 - 100	1.0	550	330
160	6.00 - 160	1.0	640	240

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At the heart of the meter is a precision turbine that rotates freely on robust sapphire bearings. This rotation is detected when a turbine blade crosses a powerful infra-red light beam. The resulting output is a NPN pulse that is readily interfaced with most electronic display or recording devices. This combination of materials and technology ensures a long life product with reliable operation throughout. Because the flowmeter is so versatile with respect to flow range and fittings every combination of range and fitting is not available. The chart below shows the maximum standard flow rate/fitting we would recommend to attain our performance figures. Alternatives are possible but there would be degradation in the meters performance.

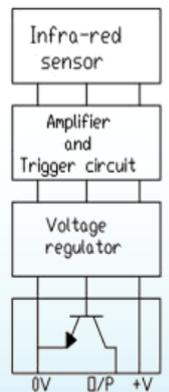| Fitting	Recommended Max flow L/Min	PVC	PVDF	Brass	316 St St
8mm hose	4.5	*			
13mm hose	10	*			
¼" BSP female	4.5			*	*
½" BSP male	30		*	*	*
¾" BSP male	100	*	*	*	*
1" BSP male	160	*		*	*

Standard Materials of Construction

Body and cap - PPS
'O' Ring seal   - Viton™
Bearings   - Sapphire
End fittings   - PVDF, PVC, St St or Brass

Sensor block diagram