

FLOWMETERS

Quality

Our flowmeters are designed and manufactured by us in the United Kingdom and we work in close collaboration with our customers to constantly improve the quality of our products and our service. Being a manufacturer we can offer after sales service of the highest standard. The materials used in the construction of our standard meters are always of the highest standard and include AISI316 stainless steel, PVDF, PEEK and Sapphire. These materials are chosen for both their engineering properties as well as their inherently good chemical resistance.

Efficiency

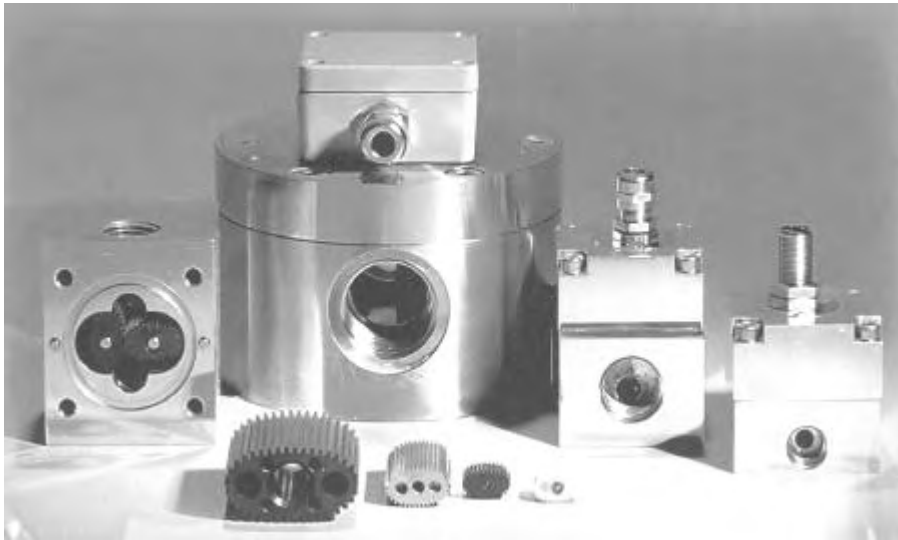
All of our flowmeters are built to the highest standard and are tested on our Ballistic calibrator, which is traceable to national Standards. The uncertainty of these machines is $\pm 0.25\%$. Each individual calibration point is not accepted unless two points at the same flow rate repeat to within $\pm 0.1\%$. Our calibration fluid is either water or when required one of various oils. The fluid viscosity and temperature are recorded on the certificate along with calibration points taken over the whole range of the flowmeter.

Durability

We produce products that are not only competitively priced but are engineered to give long-term reliable performance. The value of a meter cannot be judged by price alone, usually in industry the reliability of a product far outweighs the initial purchase price, as “down time “ is extremely expensive. At Titan we endeavour to produce devices that are inherently reliable but are manufactured using the latest and most economic production techniques. For OEM customers we will design a flowmeter to meet their particular application.

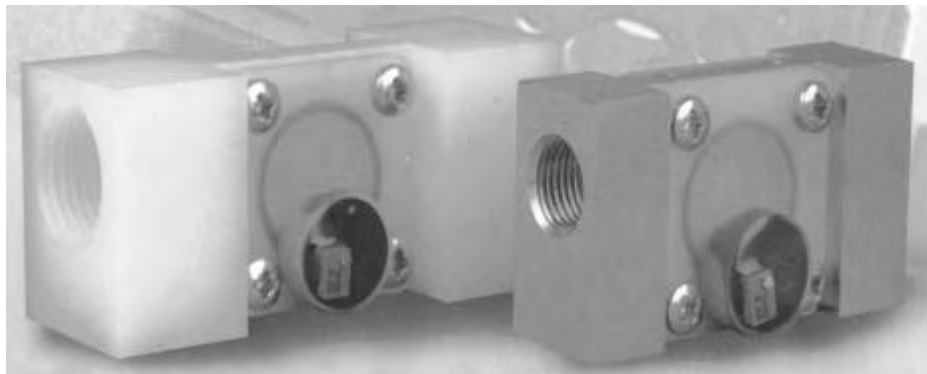
Oval gear flowmeters

- ◆ Positive displacement
- ◆ Pressures up to 670 Bar
- ◆ 0.25, 0.5 and 1% accuracy
- ◆ Low pressure loss
- ◆ Hazardous area version
- ◆ Temperatures to 200°C
- ◆ Inherently linear
- ◆ Viscosities to 10,000 cP
- ◆ Excellent chemical resistance
- ◆ 0.1% Repeatability



Turbine meters

- ◆ Economical
- ◆ Pulse output
- ◆ Wide range of flows
- ◆ Choice of fittings & styles
- ◆ Pressures to 15 Bar
- ◆ Chemically resistant materials
- ◆ Long bearing life
- ◆ Good accuracy
- ◆ Ideal for OEM applications
- ◆ Totally non-metallic options



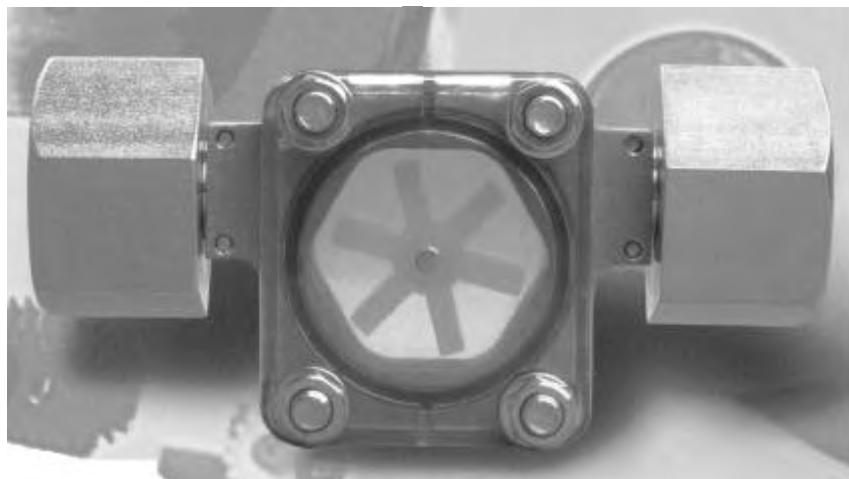
Instruments

- ◆ Rate
- ◆ Rate & Total
- ◆ Analogue outputs
- ◆ Clear displays
- ◆ Self powered models
- ◆ Total
- ◆ Batching
- ◆ Flow switches
- ◆ IP65 & IS versions
- ◆ Re-transmission options



Sight flow indicators

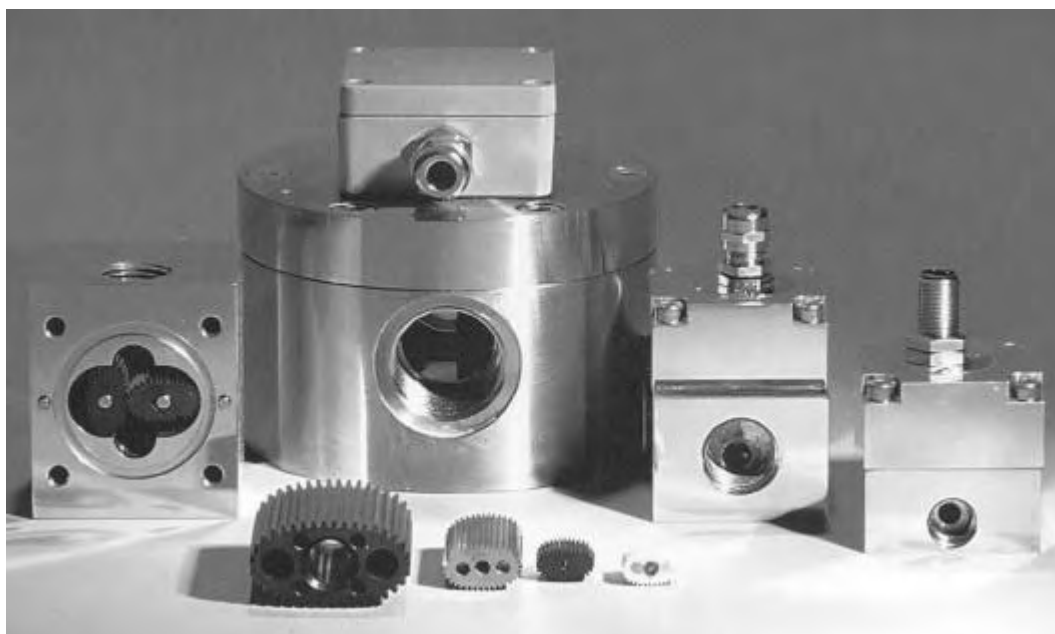
- ◆ Chemically resistant material
- ◆ Choice of 3 standard fittings
- ◆ Good spinner visibility
- ◆ 5 flow ranges
- ◆ Rotatable body
- ◆ Viton seals



Oval gear flowmeters

For high accuracy use or with high viscosity fluids

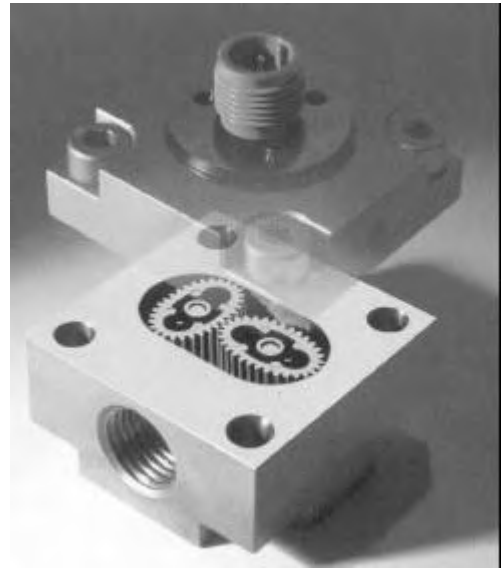
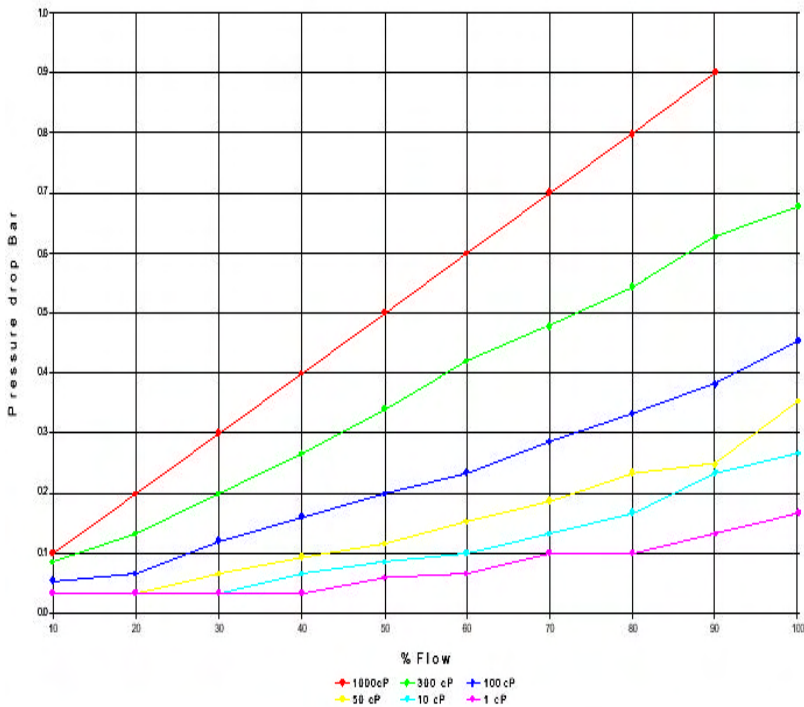
- ◆ Positive displacement
- ◆ Pressures up to 670 Bar
- ◆ Viscosities—1 to 10,000 cP
- ◆ Low pressure loss
- ◆ 0.1% Repeatability
- ◆ Choice of materials
- ◆ Hazardous area versions
- ◆ Inherently linear
- ◆ 0.25, 0.5 and 1% accuracies
- ◆ Flows from 1mL/Min (150cP)
- ◆ Compact design
- ◆ Bi-directional
- ◆ Temp to 200°C (70°C std.)
- ◆ Reed switch or Hall effect
- ◆ Wide rangability
- ◆ Excellent chemical resistance
- ◆ In house designed & manufactured
- ◆ Up to 500 L/Min



Model	L/Min max	Std. Fitting	Pulses/L	Accuracy Std.	Dimensions
PD1050	1	¼" BSPF	2000	1%	40Lx40Wx40H
PD1100	4	¼" BSPF	1000	1%	40Lx40Wx40H
PD1200	10	½" BSPF	400	0-50%	70Lx50Wx60H
PD1350	50	¾" BSPF	100	0-50%	5Lx75Wx75H
PD1500	100	1" BSPF	72	0-50%	95 Dia x86 H
PD1600	250	1½" BSPF	30	0-50%	145 Dia x 135 H
PD1700	500	2" BSPF	15	0-50%	200Lx145Wx195H

Maximum/Minimum flow rates are dependant on viscosity - for more information contact our sales office. The chart above is for standard configurations alternative end fittings and body sizes are available, we can even match your installation requirements I.e. manifold fittings or sized to replace a redundant flowmeter

Ovalgear Meters
% Flow vs Pressure d



Higher viscosities may be accommodated but the flow range must be reduced e.g. for a viscosity of 2000 cP the maximum

Oval gear meters order codes and example, 126-S-2HM-V-50

Meter Range	Body Material	Temp	Pressure	Detector	Connector	Seal	Process Connections
10=PD1050	0=Special	S=70°C	2=20 Bar	H=Hall	M=MIL	V=Viton	25=1/4" BSPF
11=PD1100	6=316 St/St	T=100°C	5=50 Bar	R=Reed	P=4Pin M12	N=Nitrile	50=1/2" BSP
12=PD1200	7=Aluminium	U=150°C	1=100Bar	O=Special	B=IP65 box	E=EPDM	75=1/4" BSP
13=PD1350	8=Brass	V=200°C	4=400Bar		C=Contrec	K=Kalrez	10=1" BSPF
15=PD1500	9=PEEK		7=670Bar		Adaptor	O=Special	12=1/4" BSPF
16=PD1600	PEEK gears				O=Special		15=1/2" BSPF
17=PD1700	as standard						20=2" BSPF
						F=Flange	Please specify

The above order code breakdown emphasizes the flexibility of our products. The previous chart shows our standard fittings for the various size meters but any meter can have any size or type of process connection. For example a PD1050 running at 0.1 Litres per minute could have 2" 600Lb flanges. Our standard gear material is carbon filled PEEK, which is a high-grade engineering plastic with exceptional tribology characteristics, very good chemical resistance and excellent high temperature properties. Where the standard PEEK gear and magnet configuration is not acceptable we offer alternative gear materials with encapsulated magnets.

Mini - turbines

High accuracy series of pelton wheel turbines

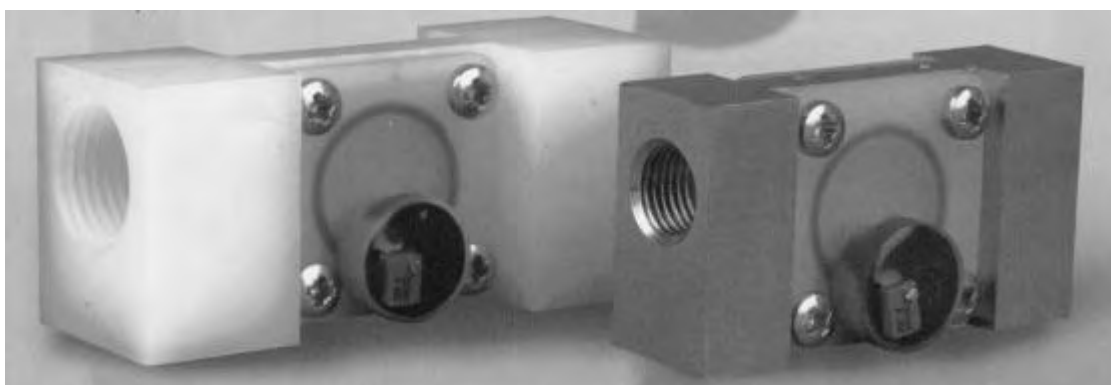
- ◆ Pulse output
- ◆ Precision sapphire bearings
- ◆ ±0.1% repeatability
- ◆ Choice of body materials
- ◆ 4.5 to 15 V dc operation
- ◆ 100°C operation
- ◆ Traceable calibration
- ◆ 10 Bar pressure rating (15 Bar option)
- ◆ Totally non-metallic option
- ◆ 5 flow ranges

Model	Flow Range L/Min	Linearity %FSD	Approx. 'K' Factor	Typical Full scale Freq. Hz.	Port size	Dimensions WxHxD	Viscosity Range cP
203	0.03-0.35	±0.75	35000	200	¼" BSPF	65x36x40	1-5
215	0.12-1.50	±0.75	15000	375	¼" BSPF	65x36x40	1-10
245	0.36-4.50	±0.75	7500	560	¼" BSPF	65x36x40	1-15
265	0.5-6.50	±0.75	4600	500	¼" BSPF	65x36x40	1-15
500	1.0-12	±0.5	2500	500	½" BSPF	85x36x45	1-25

High accuracy turbine order codes, example 203-183-V

Model	Spindle material	Pressure rating	Body material	O Ring material
203	1 = Sapphire	8 = 10 Bar	3 = PVDF	V = Viton
215	2 = 316 St St	9 = 15 Bar	6 = 316 St St	S = Silicon
245			8 = Brass	O = Special
265				
500			O = Special	

Note: PVDF is always in contact with the fluid



	A	B	C	D	E	F
200 Series	65	40	36	23	13	¼" BSPF
500 Series	85	40	36	24	15	¼" BSPF

FT2 adaptable flowmeter

change the process fittings on the meter not the pipe

- ◆ 80/125°C Operation
- ◆ Precision sapphire bearings
- ◆ Traceable calibration
- ◆ Choice of pipe fittings
- ◆ 5 or 7—24 Vdc
- ◆ 10 flow ranges
- ◆ Ideal for OEM use
- ◆ 700mB max press drop
- ◆ Pulse output
- ◆ 15 Bar pressure rating
- ◆ Flow switch option
- ◆ ±0.1% repeatability
- ◆ Excellent chemical resistance
- ◆ Hall effect or optical detection
- ◆ Several termination options



Optical detection Model	Flow range L/Min	Accuracy % FSD	Approx 'K' Factor	Viscosity Range cP	Hall effect detection Model	Flow Range L/Min	Accuracy % FSD	Approx 'K' Factor
200-001	0.01-0.10	±2.0	60000	1-4				
200-004	0.02-0.50	±1.5	32000	1-5	220-004	0.05-0.50	±2.0	16000
200-016	0.07-1.60	±1.0	15500	1-10	220-016	0.12-1.60	±1.5	7700
200-045	0.10-4.50	±1.0	8500	1-10	220-045	0.13-4.50	±1.5	4250
200-065	0.15-6.50	±1.0	4800	1-15	220-065	0.25-6.50	±1.0	2400
200-010	0.40-10.0	±1.0	2500	1-15	220-030	0.60-10.0	±1.0	1250
200-030	1.50-30.0	±1.0	1100	1-15	220-030	2.50-30.0	±1.5	550
200-060	3.00-60.0	±1.0	550	1-15	220-060	5.00-60.0	±1.5	275
200-100	4.00-100	±1.0	330	1-10	220-100	6.00-100	±2.0	165
200-160	6.00-160	±1.0	240	1-10	220-160	10.0-160	±1.5	120

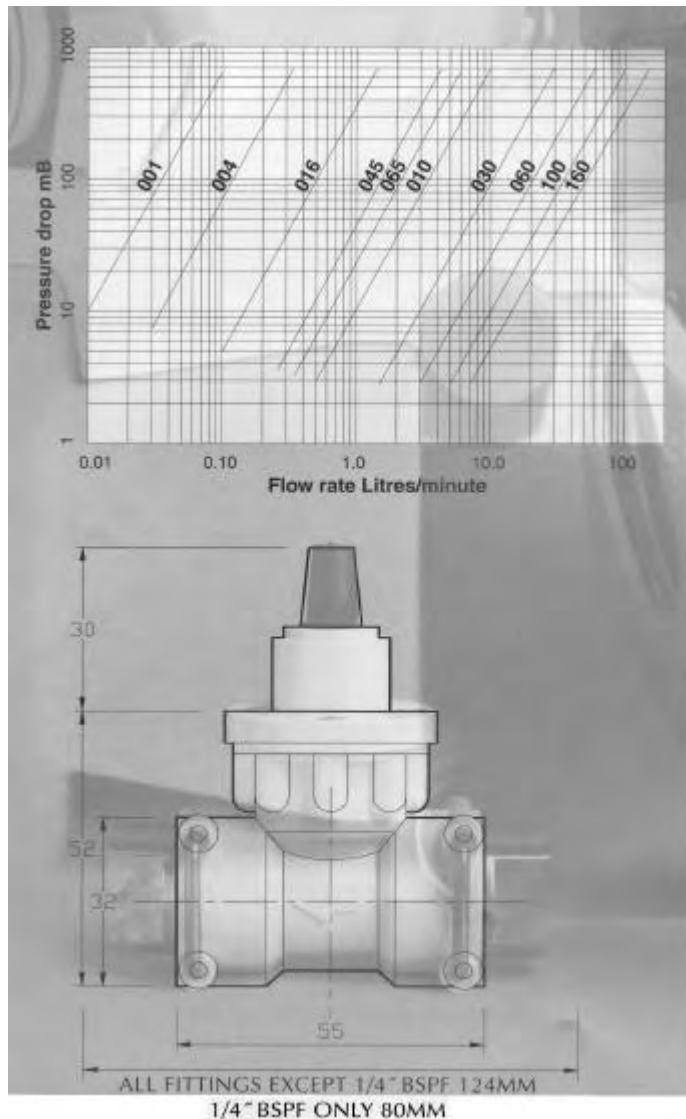
FT2 order codes, example 220-100-V-10-B-S

Detector Type	Electrical connection	Flow range	'O' ring material	Fitting size	Fitting material	Special code
20-Optical 7-24 Vdc	0-Rubber grommet	See Chart	V-Viton	25-¼" BSPF	B-Brass	S-For
21-Optical 5V dc	P-4Pin socket		N-Nitrile	50-½" BSPM	S-316StSt	OEM
22-Hall effect 5-24 Vdc	N-IP67 gland	100 etc	E-EPDM	75-¾" BSPM	C-PVC	customers
23-Hall effect flow Switch 12v only			O=Special	10-1" BSPM 8H-8mm Hose 0H-13mm Hose	P-PVDF	

FT2 adaptable flowmeter

Fitting	Recommended max. Flow L/min	PVC	PVDF	Brass	316 St St
8mm Hose	4.5	*			
13mm Hose	10	*			
1/4" BSPF	4.5			*	*
1/2" BSPM	30		*	*	*
3/4" BSPM	100	*	*	*	*
1" BSPM	160	*		*	*

The above chart shows our stock fittings. All meters are supplied calibrated with their fittings. For OEM use any suitable fitting can be configured. The body is PPS and the turbine PVDF, ceramic is used for the magnets in the Hall effect option.



800, 900 & 1000 series flowmeters

High quality mini-turbines & active flow switches at very competitive prices

- ◆ 125°C operation
- ◆ Rugged sapphire bearings
- ◆ ±0.1% repeatability
- ◆ PVDF or 316 St St body
- ◆ Low power consumption 8mA
- ◆ Choice of end fittings
- ◆ Hall effect detector
- ◆ Traceable calibration
- ◆ 10 Bar operation
- ◆ 4.5 to 25 V dc
- ◆ 7 flow ranges
- ◆ Built-in flow switch option

Model			Flow range L/Min	Linearity %	Typical Freq.	Approx 'K'
8 & 12mm	¼" BSP	½" BSP		FSD	Hz.	Factor
803	903	1003	0.05-0.5	2.0	142	17000
815	915	1015	0.12-1.5	2.0	175	7000
845	945	1045	0.2-4.5	1.5	260	3500
865	965	1065	0.25-6.5	1.5	230	2100
810	910	1010	0.3-10	1.0	235	1420
824	924	1024	0.5-15	1.0	245	980
	1000		2-30	1.0	250	500



800, 900 & 1000 series order codes and example, 865-VOP-0

Pipe connection	Flow range L/min	'O' ring material	Flow switch option	Body material	Special OEM code
8=Hose	03=0.05-0.5	V=Viton	O=Standard	S=316 St St	O=Standard
9=¼" BSPF	15=0.12-1.5	N=Nitrile	F=Flow switch	P=PVDF	
10=½" BSPF	45=0.2-4.5	E=EPDM	Option 12V	Always use P	
	65=0.25-6.5	S=Silicon		For 800 series	
	24=0.5-1.5	O=Special			
	00=2.0-30				

Sight flow indicators

Rotatable liquid flow indicators

- ◆ High visibility rotor
- ◆ Chemically resistant
- ◆ Adjustable for best viewing angle
- ◆ Economic
- ◆ Viton seals
- ◆ Polysulfone windows
- ◆ 100°C rating
- ◆ Choice of fittings
- ◆ 10 Bar pressure rating
- ◆ 316 St St body
- ◆ PVDF rotor
- ◆ Selectable flow range

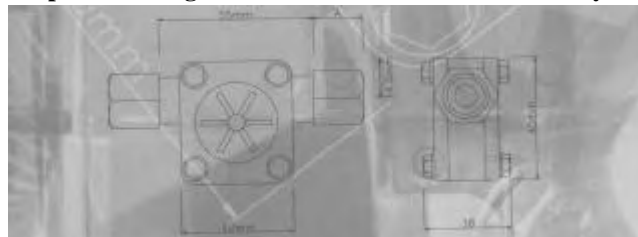


Approx Flow range L/Min	Orifice diameter mm
3-30	No disc
1-10	6
0.6-6	4
0.4-4	2.5
0+1-1	1.5

These flow ranges are attained by inserting a ranging disc under the inlet fitting

Description	Order Code
Sight flow body & jets with 1/4" BSPF st st fitting set	199-025
1/2" BSPF st st fitting set	199-050
3/4" BSPF st st fitting set	199-075

A separate fitting set must be ordered with each body



	1/4" Fitting	1/2" Fitting	3/4" Fitting
Dimension 'A'	16.5mm	18mm	20mm

Note: Turbine is PVDF and the windows are PPS

Instruments

Instrument	Rate	Total	A'log O/P	Flow switch	Linearisation	Comms card	Pre-scaler O/P	220/110 V PSU	Sensor PSU
R5	*								#
T8		*							
RT6	*	*	#	#	#	#	*	*	*
414D	*	*				#		*	*
212i	*	*	#						
Flow switch				#					*
IP65 enc			*						*
DIN rail			*	#			*		*

= Options

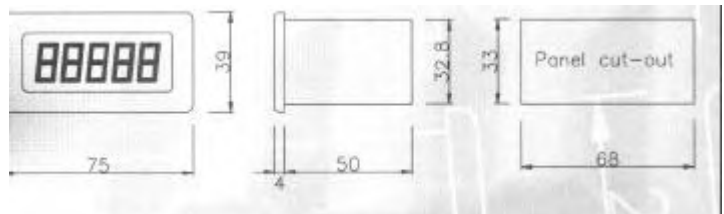
R5 Flow rate indicator

- ◆ Adjustable scaling factor
- ◆ 5 digits
- ◆ 15mm LCD high display

- ◆ Operates directly with reed switch
- ◆ Selectable decimal point
- ◆ IP65 when mounted
- ◆ Replaceable lithium battery



Part no. 370-050



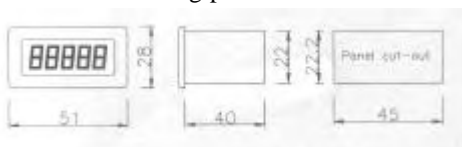
T8 Totaliser

- ◆ 8 Digit display
- ◆ 9mm LCD display
- ◆ IP65 when mounted
- ◆ 2 operation modes 50 & 5K Hz
- ◆ Operates directly with reed switch

- ◆ 0.5 - 1000 scaling factor
- ◆ Replacable lithium battery
- ◆ Selectable decimal point
- ◆ Independently disabled buttons
- ◆ Remote or local reset

Part no. 370-080

Minimum mounting pitch - 54 vertical 140 horizontal



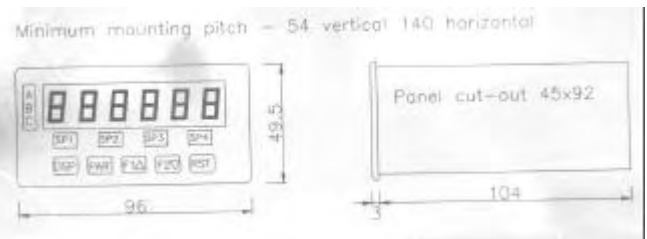
RT6 Flow rate & totaliser with output options

- ◆ Fully programmable
- ◆ 12 count modes A-B etc
- ◆ Total indicator (alternating 8 digit)
- ◆ 5 programmable function keys
- ◆ Rate indicator
- ◆ 11 points linearisation
- ◆ 2 or 3 rate indicators
- ◆ PC programmable (with software & comms)
- ◆ 6 Digit LED display
- ◆ 8 display options
- ◆ Up to 2 sensor inputs
- ◆ 3 programmable inputs
- ◆ IP65 when installed in panel
- ◆ Programmable filters
- ◆ 14 pre-set user functions
- ◆ Scale factors 0.1 to 10000 (all 3 counters)
- ◆ 3 option cards analogue, relay & comms



Part no. 370-060

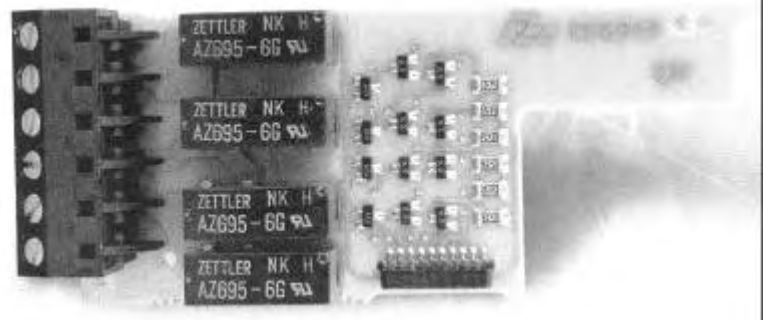
Minimum mounting pitch - 54 vertical 140 horizontal



Relay output card

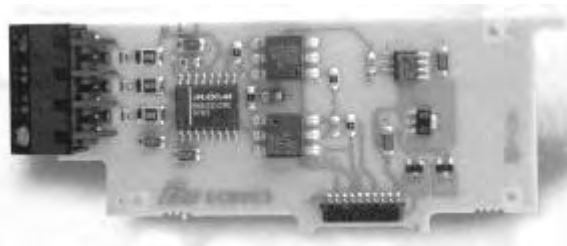
- ◆ Configurable for rate or total
- ◆ On/Off delays
- ◆ 4 Annunciator Options
- ◆ N/O N/C Latching Boundary or timeout
- ◆ Adjustable hysteresis and timeout
- ◆ 2 PCB options 2 or 4 relays

**Part no: 370-061 dual changeover relay
370-062 quad common "return"**



Analogue output Option card

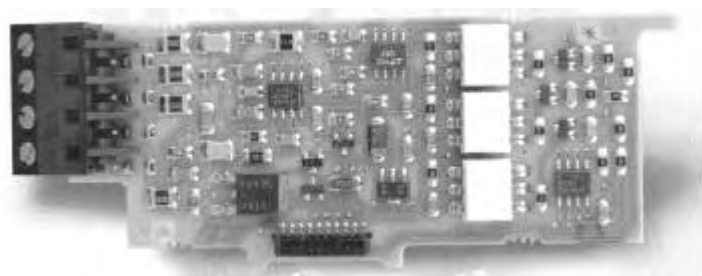
- ◆ 3 ranges 0-10V o/4-20mA
- ◆ Assignable to rate or total
- ◆ Reverse output slope option



Comms card option

- ◆ RS 232/485
- ◆ Fully addressable
- ◆ Pre-programmed print option
- ◆ PC programming option

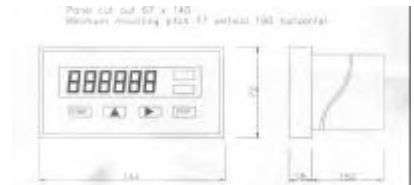
**Part no: 370-066 Comms card
370-067 PC interface package**



414D Batching instrument

- ◆ Dedicated batching instrument
- ◆ Remote start/start facility
- ◆ Multiple display options
- ◆ "No signal" alarm
- ◆ Up or down count option
- ◆ Ticket printing option
- ◆ IP65 when panel mounted
- ◆ Automatic overrun compensation
- ◆ 2 stage relay output
- ◆ Manual, Auto or time delay start
- ◆ Programmable maximum batch size
- ◆ End of batch signal
- ◆ Comms interface option

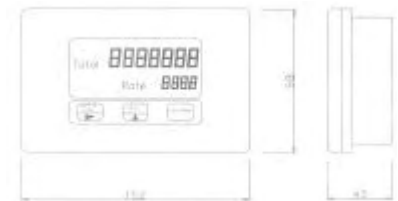
Part No: 370-002



202i Intrinsically safe field indicator

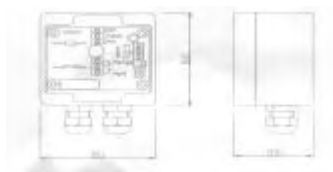
- ◆ Intrinsically safe
- ◆ IP67 enclosure
- ◆ Reed switch or pulse output
- ◆ Accumulated total
- ◆ Adjustable software filter
- ◆ 4 - 20mA re-transmit option
- ◆ 3 year battery life
- ◆ 7 Digit totaliser
- ◆ 4 digit rate indicator
- ◆ Wall or "stalk" mounting

Standard indicator Part no. 360-004
With 4-20mA option Part no. 360-005



Flow switch module

- ◆ Adjustable set point
- ◆ 5A Changeover relay
- ◆ IP65 Enclosure
- ◆ 2 Hysterisis settings
- ◆ 24 V dc operation
- ◆ May be "stalk" mounting



Analogue transmitters

- ◆ 0/4 - 20 mA
- ◆ Span and zero adjustment
- ◆ Optional pre-scaler (DIN rail only)
- ◆ IP65 enclosure
- ◆ 0 - 10 V option
- ◆ Separate sensor supply
- ◆ IP65 option

Part no. 370-005 (4-20mA)
370-006 (0-10V)

