

### **Trimec-FP TF-Series Large Capacity Electronic Flowmeters**

Volumetric flow measurement of clean liquids or low flows used in receipt verification, loading, unloading and distribution management at petroleum plants, mine sites, marine and aviation facilities. For pumped or gravity fed distribution of fuels, fuel oils, lubricants, alcohols and solvents.

#### **Features / Benefits**

- High accuracy and repeatability, direct volumetric reading
- No requirement for flow conditioning (straight pipe runs)
- Measures high and low viscosity liquids
- Quadrature pulse output option and bi-directional flow
- Only two moving parts

#### **General Specifications**

- Flow Rates: 35 - 1500 L/min [10 - 400 USG/min] \*
  - Sizes: 3" - 4" [80mm - 100mm]
  - Materials: Aluminium, 316 Stainless steel (080 only)
- \* See also Small and Medium Capacity data sheets for other size meters



#### **Meter Selection**

- Aluminium meters for petroleum products (oils and grease, fuels and fuel oils)
- Stainless steel meters for the chemical, cosmetic, food and pharmaceutical industries (water based liquids)
- Blind pulse meters available with reed switch and Hall Effect outputs. Optional Quadrature pulse and Integral 4-20mA outputs available

#### **Integral Instruments**

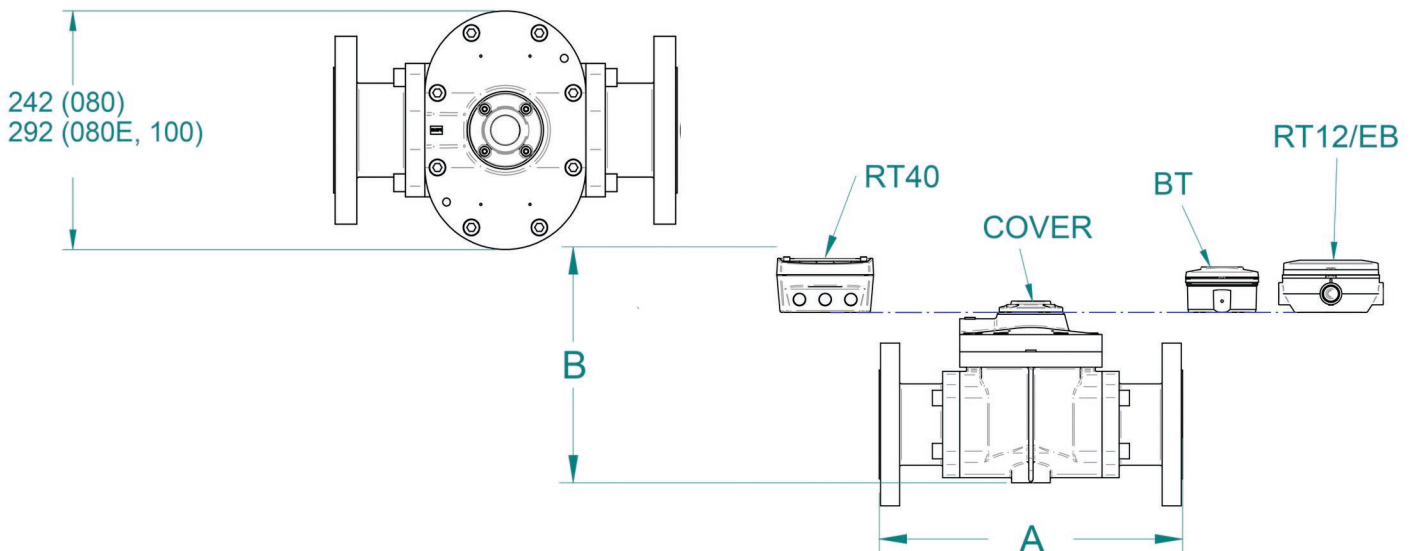
Options include integral LCD totalisers, flow rate totalisers and batch controllers (4-20mA, scaled pulse, alarms and batch control)

- BT11 LCD 5-digit reset, 8-digit cumulative totaliser
- RT14 LCD 6-digit reset, cumulative totaliser and flow rate, analogue and pulse outputs
- RT14 LCD 8-digit reset, cumulative totaliser, analogue and pulse outputs with backlit display
- EB10 LCD 6-digit 2 stage batcher and cumulative totaliser  
(Available for remote mounting and with I.S. approvals)

**Model Specifications**

Model	TF080	TF080E	TF100
Nominal Size	80mm (3")	80mm (3")	100mm (4")
* Nominal Flow range @ 3cP	35 - 750 L/min (10 - 200 USG/min)	50 - 1000 L/min (13 - 260 USG/min)	75 - 1500 L/min (20 - 400 USG/min)
Accuracy	± 0.5% of reading (± 0.2% of reading with optional RT12 /RT14)		
Repeatability	Typically ± 0.03% of reading		
Ambient Temperature Range (AL and SS meters)	-40°C to +120°C (-40°F to +250°F)		
Max. Pressure (AL meters)	12 Bar (175 psi)	12 Bar (175 psi)	10 Bar (145 psi)
Max. Pressure (SS meters)	12 Bar (175 psi)	n/a	n/a
Protection Class	IP66/67 (NEMA4XI, Integral ancillaries can be supplied intrinsically safe [I.S])		
Recommended Filtration	40 mesh (350 microns)		
Output Pulse Resolution - Pulses per Litre (Pulses per USG) - Nominal			
Reed Switch	2.65 (10.0)	1.55 (5.68)	1.10 (4.15)
Hall Effect	10.7 (40.5)	6.00 (22.7)	4.40 (8.30)
QP (Quadrature) Hall Effect	5.33 (20.0)	3.00 (11.4)	2.20 (4.15)
Reed Switch Output	30Vdc x 200mA max. (maximum thermal shock 10°C [18°F]/ minute)		
Hall Effect Output	3 wire open collector, 5 - 24 Vdc max, 20mA max		
Optional Outputs	4-20mA, Scaled pulse, Quadrature pulse, flow alarms or two stage batch control		

\* Maximum flow reduces as viscosity increases, see flow de-rating guide.  
Max recommended pressure drop 1 Bar (14.5 psi)



Dimensions (± 2mm)

Modular Fitting	A			Configuration	B			
	TF080	TF080E	TF100		TF080A	TF080S	TF080E	TF100
Flanged	354	382	388	EB10 / RT12 / RT14 GRN housing	260	257	277	322
				BT11	252	259	269	314
Threaded	266	294	294	RT40	264	260	281	326
				Cover	213	206	229	274

## Model Specifications

TF080	80mm	(3")	35 - 750 L/min (10 - 200 uSG/min)
TF080E	Extended flow		50 - 1000 L/min (13 - 260 uSG/min)
	80mm	(3")	
TF100	100mm	(4")	75 - 1500 L/min (20 - 400 USG/min)
<b>Body Material</b>			
A	Aluminium		
E	Extended flow aluminium		
S	316 Stainless steel (TF080 only)		
<b>Rotor Material / Bearing type</b>			
0	0	PPS (008 only) (not available for 150°C meters) / No bearing	
1	0	Keishi cut PPS (for high viscosity liquids)(not available for 150°C meters) / No bearings	
<b>O-ring Material</b>			
1	Viton (-15°C min[-5°F])		
3	Teflon Encapsulated Viton (includes KALREZ shaft seals) ( -15°C min [5°F])		
4	Nitrile (-40°C [-40°F])		
<b>Temperature Limits</b>			
-	2	120°C [250°C] max	
-	3	150°C [300°F] max. (Hall only) (includes SS terminal cover)	
-	5	*120°C [250°F] max. (includes cooling fin)	
-	8	# 80°C [176°F] max. (meters with integral instruments, TF008 with PPS rotors)	
<b>Process Connections</b>			
0	No fittings (TF025 - TF050)		
1	BSPP (G) female threaded		
2	NPT female threaded		
4	ANSI - 150 RF flanged		
6	PN16 DIN flanged		
<b>Cable Entries</b>			
1	M20 x 1.5mm (M16 x 1.5 for R4 option)		
2	1/2"NPT Adaptor		
<b>Integral Options</b>			
-	NIL		
SS	Stainless Steel Terminal Cover		
RS	REED Switch Only - to suit Intrinsically Safe Installations		
QP	Qudrature pulse (2 NPN phased outputs)		
With scaleable pulse output	B2	*# BT11 totaliser with pulse output	
IECEX & ATEX approved	B3	*# BT11 intrinsically safe totaliser with pulse output	
Scaled pulse, alarms, & 4-20mA	R2	*# RT12 rate totaliser with all outputs (GRN housing)	
IECEX & ATEX approved	R3	*# RT12 intrinsically safe rate totaliser with all outputs (GRN housing)	
Scaled pulse, backlighting	R4	*# RT40 backlit rate totaliser (alloy housing with facia protector)	
Scaled pulse, alarms, 4-20mA & backlighting	R5	*# RT14 backlit rate totaliser with all outputs (GRN housing)	
2 stage DC batcher & totaliser	E0	*# EB10 batch controller	

\* Temperature code 5 required when operating temperature is between 80°C (180°F) and 120°C (250°F)

# Temperature code 8 required for all integral instruments.

Model No. Example

TF080	S	0	0	1	-	8	1	1	R2
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