

**Flomec Turbopulse turbine flowmeters** measure flows of low viscosity liquids from 3 to 7000 litres/hr in a range of sizes from ½" to 20" (12-500mm). TP series flowmeters have an axial rotor and flow guides & need to be installed in straight sections of pipe either horizontal or vertical so that the flow is conditioned. TP series flowmeters can be purchased with Exd & Intrinsically Safe (I.S) approvals for use in hazardous areas.

Applications include the distribution of fuels, alcohols, solvents, metering of chemicals, insecticides, water & light hydraulic oils.

## Features / Benefits

- High accuracy & repeatability, direct reading flowmeter
- Low cost of ownership, wide flow range
- Rugged & compact design
- Certified Exd & I.S hazardous area versions
- Integral 4-20mA output option
- ± 0.15% linearity option (TP100 and above)



## Integral instruments

**Flomec** TP series meter options include integral LCD totalisers, flow rate totalisers & batch controllers. These instruments provide monitoring & control outputs including 4-20mA, scaled pulse, alarms & batch control:

- BT LCD 5 digit reset, 8 digit cumulative totaliser.
- RT12 LCD 6 digit reset, cumulative totaliser & flow rate. Analogue and pulse outputs
- RT40 LCD 6 digit reset, cumulative totaliser & flow rate. Backlit Display.
- EB LCD 6 digit 2 stage batcher & cumulative totaliser.

(Instruments also available for remote mounting and with I.S. approvals)

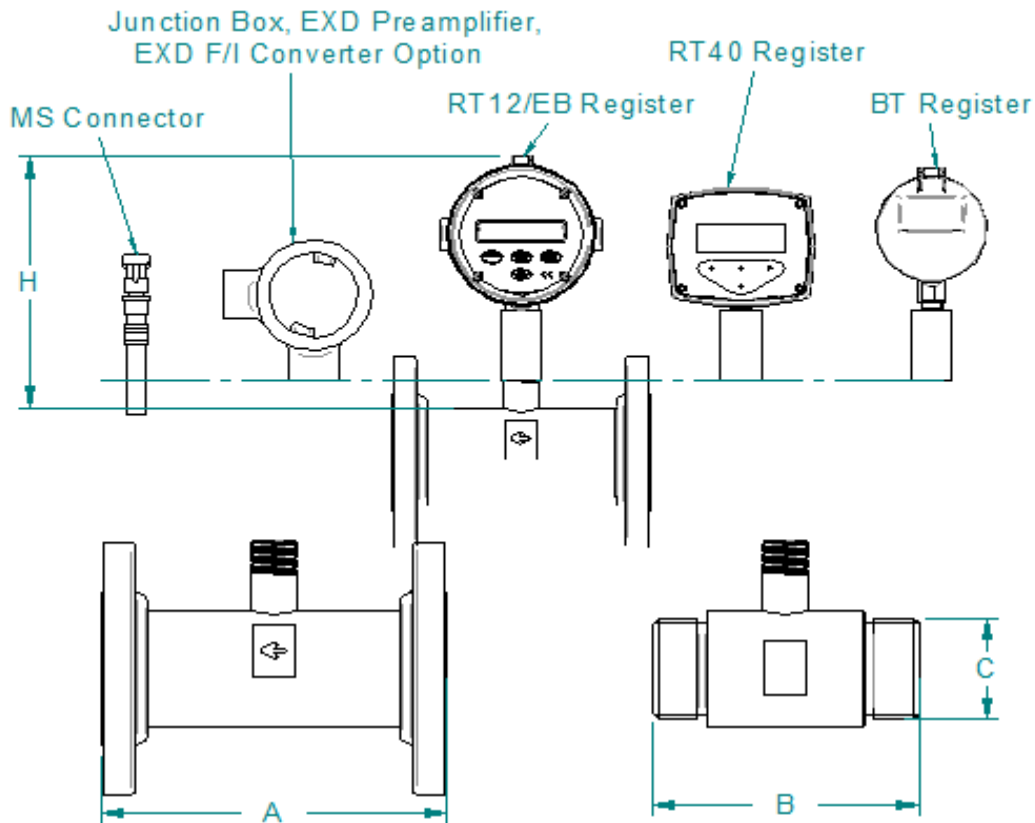
## Specifications

Model prefix :	TP-Turbopulse
Nominal size ( inches )	12 ~ 500mm (1/2" ~ 20")
**Accuracy @ 3cp	± 0.5% of reading ( accuracy is ± 0.2% of reading with optional RT12 with non-linearity correction )
Temperature range	-40°C ~ +200°C ( -40°F ~ +400°F ), refer factory for lower temperature
Maximum Viscosity	10 Cst
Maximum pressure	(Threaded meters)bar (PSI)
316 Stainless steel	250 (3625)
Electrical - ( see also optional output - Turbopulse pick-off types)	Pick-off Coil
Standard output	4-20mA, scaled pulse, quadrature pulse, flow alarms or two stage batch control
Optional outputs	
Physical	
Protection class	IP66/67 (NEMA4X), optional Exd IIB T4/T6, integral ancillaries can be supplied I.S. ( intrinsically safe )
Overall dimensions	Refer over page

## FLOW RANGES - TP Turbopulse

size	model	litres/hr (GPH)
½"	TP010	100~1100 (0.44~4.4)
¾"	TP012	220~2200 (0.97~9.7)
¾"	TP015	400~4000 (1.77~17.7)
¾"	TP020	800~8000 (3.5~35.2)
m3/hr (GPM)		
1"	TP025	1.6~16 (7~70)
1½"	TP040	3.4~34 (15~150)
2"	TP050	6.8~68 (30~300)
3"	TP080	13~135 (60~600)
4"	TP100	27~270 (120~1200)
6"	TP150	55~550 (240~2400)
8"	TP200	110~1100 (480~4800)
10"	TP250	190~1900 (840~8400)
12"	TP300	270~2700 (1200~12000)
16"	TP400	400~4000 (1800~18000)
20"	TP500	700~7000 (3000~30000)

**Over all Dimensions:**



FLANGED METERS AVAILABLE WITH A.N.S.I OR DIN FLANGES. SEE APPLICABLE STANDARD FOR FLANGE DIMENSIONS

**FLANGED METERS**

Model No.	A (mm)
TP-010	127
TP-012	127
TP-015	127
TP-020	140
TP-025	152
TP-040	178
TP-050	197
TP-080	254
TP-100	356
TP-150	368
TP-200	457
TP-250	457
TP-300	457
TP-400	610
TP-500	610

Option Fitted	H (mm)
RT12/EB Register	210
RT40 Register	185
BT Register	190
EX Junction Box	150
MS Connector	118
MS Connector with Pre-Amp	138

**THREADED METERS**

Model No.	B (mm)	C
TP-010	64	1/2" BSP or NPT
TP-012	64	3/4" BSP or NPT
TP-015	64	3/4" BSP or NPT
TP-020	83	3/4" BSP or NPT
TP-025	89	1" BSP or NPT
TP-040	115	1 1/2" BSP or NPT
TP-050	133	2" BSP or NPT

## Model Coding - Flomec TP series Meters



Pulse output relative to flow (nominal values)

			m <sup>3</sup> /hr	Usgal/min	millivolts	P/litre	P/USG	frequency (Hz)
TP010	1/2" (DN15)		0.11 - 1.1	0.5 - 5	100-1000	4000	15140	120-1200
TP012	3/4" (DN20)		0.22 - 2.2	0.9 - 9	110-1100	1700	6435	104-1040
TP015	3/4" (DN20)		0.4 - 4	1.8 - 18	130-1300	1100	4160	120-1200
TP020	3/4" (DN20)		0.8 - 8	3.6 - 36	100-1000	400	1500	90-900
TP025	1" (DN25)		1.6 - 16	7 - 70	90-900	180	680	80-800
TP040	1 1/2" (DN40)		3.4 - 34	15 - 150	65-650	60	230	57-570
TP050	2" (DN50)		6.8 - 68	30 - 300	50-500	24	90	45-450
TP080	3" (DN80)		13.5 - 135	60 - 600	65-650	15	57	56-560
TP100	4" (DN100)		27 - 270	120 - 1200	60-600	6.6	25	50-500
TP150	6" (DN150)		55 - 550	240 - 2400	40-400	2.3	8.7	35-350
TP200+	8-20" (DN200 to DN500)		- consult factory for pricing					

### Body Material

<b>S</b>	316 stainless steel - 250 bar (3500 psi) max.
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### Process Connections

<b>1</b>	BSP male threaded (TP050 & Smaller)
<b>2</b>	NPT male threaded (TP050 & Smaller)
<b>3</b>	* Tri-clamp ferrules (316SS) (Not available for TP010)
<b>4</b>	ANSI-150 RF flanges
<b>5</b>	ANSI-300 RF flanges
<b>6</b>	PN10 DIN flanges
<b>7</b>	PN16 DIN flanges
<b>8</b>	PN25 DIN flanges
<b>9</b>	Customer nominated connections ( covered under SB option below )

\* tri-clamp ferrules are 1/2" larger than the meter size

### Process Connection Material

<b>T</b>	threaded stainless steel as per body material
<b>C</b>	carbon steel flanges ( available with TP080 and above only )
<b>S</b>	316 stainless steel Flanges

### No. of Pick-offs

<b>1</b>	one
<b>2</b>	two x 90 degree electrically offset ( with TP100 & above only )

### Pick-off Style

<b>1</b>	MS (military style) connector
<b>2</b>	FL (flying leads) ( required for Integral options )

### Pick-off Type

<b>1</b>	standard ( 120°C [250°F] max. )
<b>2</b>	hermetically sealed or high temp ( 200°C [400°F] max. )
<b>3</b>	ATEX approved intrinsically safe ( 120°C [250°F] max. ) (Ex-ia)
<b>4</b>	preamplified ( 65°C [150°F] max. ) (MS Connection only)

### Linearity

<b>1</b>	+/-0.5% ( standard )
<b>2</b>	+/-0.15% ( custody transfer available for TP100 & over )

### Integral Options

<b>JB</b>	junction box
<b>Ex</b>	Exd aluminum junction box ANZEX
<b>FI</b>	FI loop powered 4-20mA analog output
<b>B2</b>	BT11 dual totaliser with output - 20°C (250°F) max.
<b>B3</b>	I.S. intrinsically safe BT11 including output [2]
<b>R0</b>	RT12 rate totaliser with all outputs [2] (Alloy housing)
<b>R2</b>	RT12 rate totaliser with all outputs [2]
<b>R3</b>	I.S. intrinsically safe RT12 with all outputs [2]
<b>R4</b>	RT40 large LCD flow rate totaliser - 20°C (250°F) max.
<b>ED</b>	EB10 Ecobatch dc batch controller - 20°C (250°F) max.
<b>SB</b>	Specific build requirement ( see price list cover sheet )

with scalable pulse output

IECEX & ATEX approved

scaled pulse, alarms & 4-20mA

scaled pulse, alarms & 4-20mA

IECEX & ATEX approved

scaled pulse + backlighting

### Model No. Example

TP025	S	1	T	1	-	2	1	1	R2
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