



PADDLE WHEEL FLOWMETER

SERIES

PWF



FLUIDEX series PWF is a cost-effective Paddle Wheel (Dual Pulse) Flowmeter for measuring the flow of low viscosity liquids. The meters are installed with the metering head inserted in 1/8<sup>th</sup> into the pipe resulting in very little pressure drop. The meters do not require external power when used with FLUIDEX battery powered rate totalizers.

## FEATURES AND BENEFITS:

- \* Suitable for pipe sizes between DN40~DN2500 (1½" ~100")
- \* 316SS construction built in rugged and compact design
- \* Bi-Directional Flow Measurement
- \* Wide flow range: 0.25~49,000 LPS (4~780,000 USGPM)
- \* Pressure up to 80 bars (1160 psi)
- \* Temperature up to 150 °C (300 °F) and down to -40°C/°F
- \* IP68 (NEMA6) submersible (sensor)
- \* Available models in explosion proof and Intrinsically Safe.
- \* Available with integrated and remote pre-amplifiers & flow instruments.
- \* Ease installation with adjustable studs
- \* PWF2500 series suitable for 'HOT TAP' installation.

## APPLICATIONS:

- \* HVAC Systems (hot & chilled water)
- \* Fire protection and hydrant flow testing
- \* Boiler feed water
- \* Heat Exchangers
- \* Reverse osmosis
- \* Cooling systems
- \* Water treatment and regeneration.
- \* Water distribution
- \* Processing and manufacturing industry
- \* Filtration systems
- \* Chemical production
- \* Swimming pools
- \* Pump protection

## STANDARD OPTIONS:

- ▶ *Integral and remote LCD totalizer and batch totalizer*
- ▶ *Flow rate totalizers*
- ▶ *Scaled pulse*
- ▶ *4~20mA & flow alarm outputs*
- ▶ *Electronic batch controllers and pulse processing modules*



## GENERAL SPECIFICATIONS

Model prefix:	PWF900	PWF2500
Suit pipe sizes	DN40~DN900 (1½" ~ 36")	DN50~DN2500 (2" ~ 100")
Pipe connection	1½" or 2" BSP or NPT	2" BSP or NPT
Flow range	0.25~6,300 Liters/Sec 4~100,000 US GPM	0.4~49,000 Liters/Sec 6~780,000 US GPM
Flow velocity range	0.3 ~ 10 meters / sec 1 ~ 33 feet/sec	
Linearity	typically, ±1.5% with well-established flow profile	
Temperature range	-40°C~+100°C and up to 150°C -40°F~+212°F and up to 300°F max.	
Maximum pressure	80 bars 1160 psi	

Standard Materials:	
Body	316 Stainless Steel
Rotor	PVDF with 316 Stainless Steel Rotor shaft
O-Ring	Viton

Enclosure	IP68 (NEMA6), Integral instruments can be supplied I.S. (Intrinsically Safe)
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Pulse outputs:	
Reed switch*	30Vdc x 200mA max. Nom. 0~80 Hz
Hall effect	3 Wire NPN, 5~24Vdc, 20mA max. Nom. 0~240 Hz
Voltage Pulse	Self generated voltage Nom. 0~240 Hz
Non-magnetic sensor	3 Wire NPN, 5~24Vdc, 20mA max. Nom. 0~240 Hz

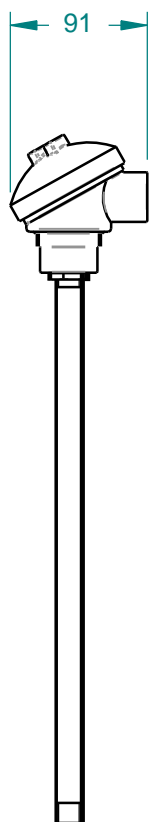
(\*) Maximum thermal shock 10°C (550°F) / min. applies to the Reed Switch

Other optional outputs:	
	Analog 4-20 mA
	Scaled Pulse
	Quadrature Pulse
	Flow Alarms
	2-Stage batch control

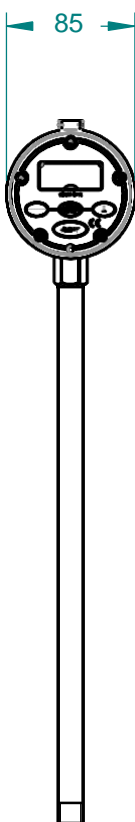


## DIMENSIONS

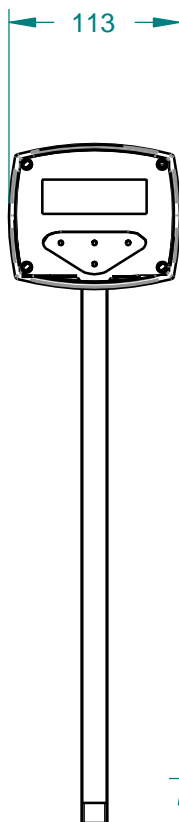
TERMINAL  
HEAD



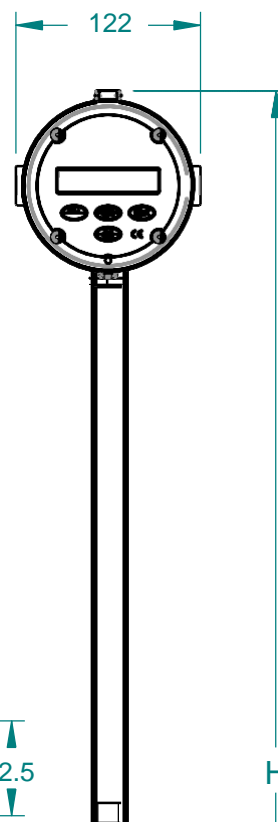
BT



RT40 /  
RT12A



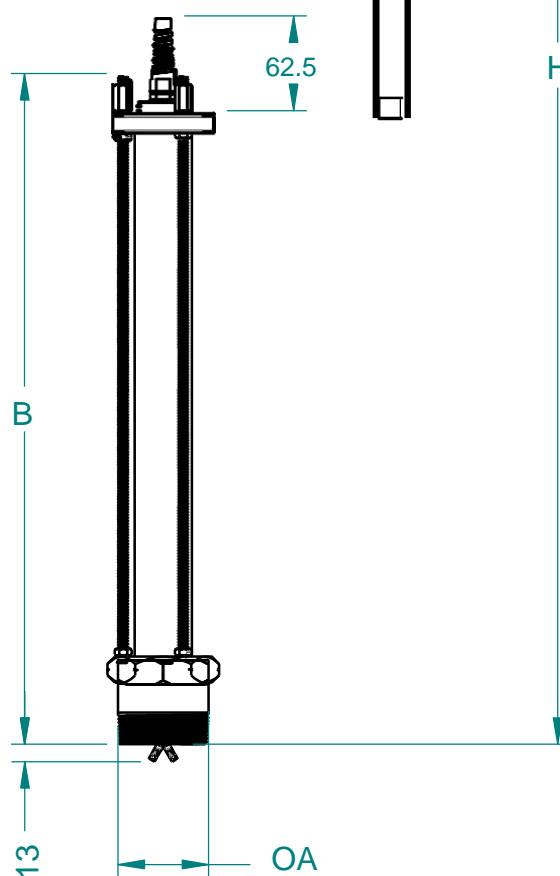
RT12G /  
EB



PWF	900	2500
A	1½"	2"
B	198	444

Register Options	H	
Terminal Head	385	869
BT	394	880
RT40	380	865
RT12/EB	415	900

All dimensions in millimetres ±2 mm



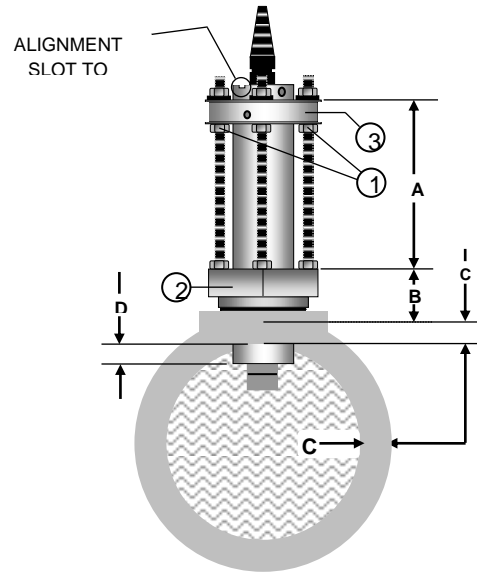
## INSTALLATION

### Height Adjustment:

①	Adjustment Nuts
②	Hex Adaptor
③	Positioning Collar

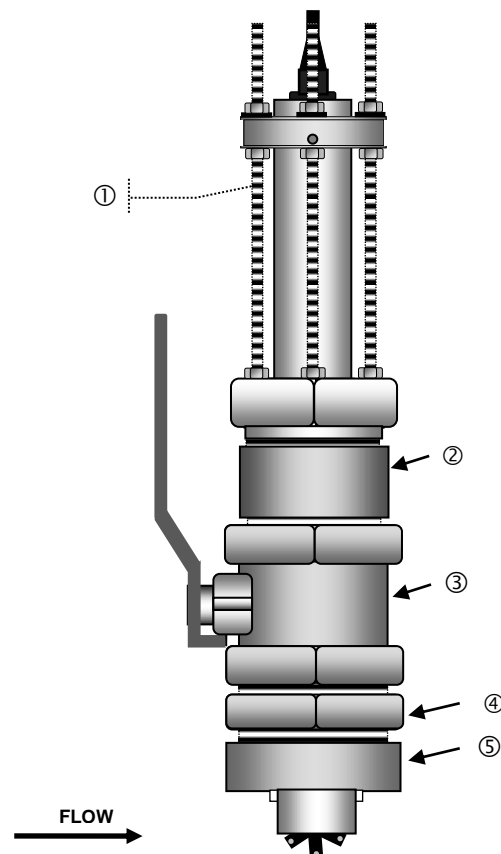
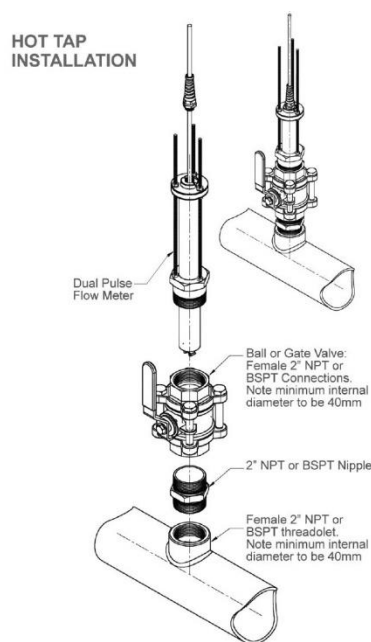
<b>B</b>	Distance between pipe top and the top of the Hex Adaptor
<b>C</b>	Pipe wall thickness (vary depending on pipe pressure class and standard)
<b>D</b>	Insertion Depth (1/8 Pipe Inner Diameter)

<b>A</b>	<b>Adjustment length</b>
PWF900	175mm (6.9") - (B+C+D)
PWF2500	420mm (16.5") - (B+C+D)



### HOT TAP installation

①	Paddle Wheel Flowmeter (Dual Pulse) series PWF2500
②	2" Nipple & Socket combination can be used to extend valve port if needed.
③	2" Isolation Valve. Ball or Gate can be used. (Allow min. 40mm I.D. to clear metering head)
④	2" Nipple
⑤	2" Weld-O-Let (Thread-O-Let)






#### Notes:

- 1) FLUIDEX scope of supply is limited to the Paddle Wheel Flowmeter ①. Other components to be provided by the buyer to suit the site pipe available.
- 2) Straight run pipe required: Upstream 10x pipe Ø min. (25x is preferred) and Downstream: 5x pipe Ø min. (10x is preferred)

## METER SELECTION MATRIX AND ORDER CODE

PWF900	For pipe size DN40~DN900 (1 ½" ~ 36")		
PWF2500	For pipe size DN50~DN2500 (2" ~ 100") Suitable for 'HOT TAP' installations		
		Body Material	
	S	316 Stainless Steel	
		Rotor & bearing materials	
	1	PEEK high temperature rotor with Stainless Steel rotor shaft – 150°C (300°F)	
	S 2	PVDF rotor with 316 Stainless Steel rotor shaft - 100°C (212°F) max	
		O-ring Materials	
	S 1	Viton (standard), -15°C (5°F) minimum	
		2	EPR (Ethylene Propylene Rubber), -40~+125°C (-40~+260°F)
		3	Teflon Encapsulated Viton, -15°C (5°F) minimum
		4	Buna-N (Nitrile), -40~+100°C (-40~+212°F)
		TL	Temperature Limits
	S 5	100°C (212°F) - Standard, [85°C (185°F) max. for PT4 and FI 4-20mA]	
		2	125°C (260°F) - Available with EC 5&6 and PEEK rotor only
		3	150°C (300°F) - NPN output (Available with EC 5 & PEEK rotor only )
			PC Process Connections
		- 1	BSPT ~ 1½" M (PWF900), 2" M (PWF2500)
		- 2	NPT ~ 1½" M (PWF900), 2" M (PWF2500)
		- 3	2" BSPT male thread on the PWF900
		- 4	2" NPT male thread on the PWF900
			PT Pick-up Type
	S 1	NPN Open collector & voltage pulse or reed switch	
		2	NPN open collector(s) only (for TL 3 or QP option)
		3	Reed switch only (I.S. applications)
		4	Non-magnetic rotor with NPN output
		8	NPN Open collector and Reed switch
			EC Electrical connections
	S 1	3 meters (10ft) cable (Standard)	
		2	10 meters (33ft) cable
		3	20 meters (66ft) cable
		4	50 meters (164ft) cable
		5	Terminal box on stem kit
		6	Stem kit



## Order Code Example

PWF900	S	2	1	5	-	1	1	6	R2		
										Integral options	
										QP	Quadrature pulse output
										B2	BT11 Dual Totalizer
										B3	BT11 Intrinsically Safe I.S.
										R0	RT12A Rate Totalizer
										R1	RT12A Intrinsically Safe I.S.
										R2	RT12G Rate Totalizer
										R3	RT12G Intrinsically Safe I.S.
										R4	RT40 Flow Rate Totalizer
										E0	EB10 Batch controller
										FI	Loop powered 4~20mA output
										SB	Specific build requirement

(S) Standard Configuration



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