

DUALPULSE - insertion flowmeters

DP490 & DP525 are cost effective stainless steel flowmeters for measuring the flow of water, fuels & other low viscosity liquids in pipes sizes 1.5"-100" (40~2500mm). Insertion flowmeters are installed with the metering head 1/8th x internal pipe diameter into the pipe, resulting in very little pressure drop. They do not require external power when used with the rate totalizers, however some options such as high temperature & non-magnetic models require external power.

Applications include HVAC, hot & chilled water, fire systems, water distribution (management & treatment), boiler feed water & hydrant flow testing.

Features

- IP68 (NEMA6) submersible 316SS construction.
- Low cost of ownership, wide flow range.
- Rugged & compact design.
- Intrinsically safe hazardous area versions.
- Integral or remote pre-amplifiers & flow instruments.
- DP525 version suitable for "hot tap" installation.
- Quadrature pulse output option & Bi-Directional Flow Measurement
- Integral 4-20mA output option



General Specifications

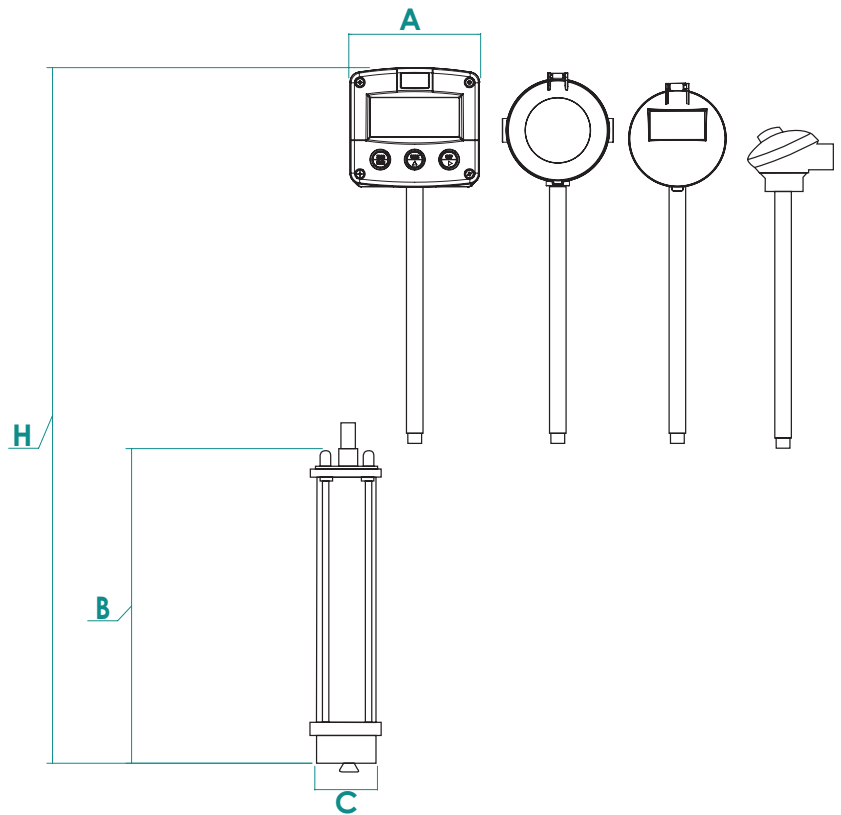
Model Prefix	DP490	DP525
Suit pipe sizes	40~900mm (1.5"- 35")	50~2500 (2"-100")
Pipe connection	1.5" or 2" BSPT or NPT male	2" BSPT or NPT male
Flow range	0.25 ~ 6300 litres/sec (4 ~ 99600 USGM)	
Flow velocity range	0.3 ~ 10 metres/sec (1 ~ 33 feeUsec)	
Linearity	typically± 1.5% with well-established flow profile	
Temperature range	-40°C~ +150°C (-40°F ~ +300°F)	
Maximum pressure	80 bar (1160 psig)	
Materials	316ss body & rotor shaft, PVDF rotor (PEEK rotor optional)	
Pulse Outputs		
Reed switch	30Vdc x 200mA (max.), Nom. 0 ~ 80hz*	
Hall effect	3 wire NPN, 5-24 VDC, 20mA (max.) Nom. 0 ~ 240hz	
Voltage Pulse	Self-Generated voltage. Nom. 0 ~ 240hz	
Non-magnetic sensor	3 wire NPN, 5-24Vdc max., 20mA max. Nom. 0 ~ 240hz	
Optional outputs	4-20mA, scaled pulse, quadrature pulse, flow alarms or two stage batch control	
Protection class	IP68 (NEMA6), integral ancillaries can be supplied I.S. (intrinsically safe)	
Overall dimensions	Refer over page	

* Reed Switch resolution is 1/3rd that of the NPN Hall Effect or voltage pulse outputs.

Overall Dimensions:

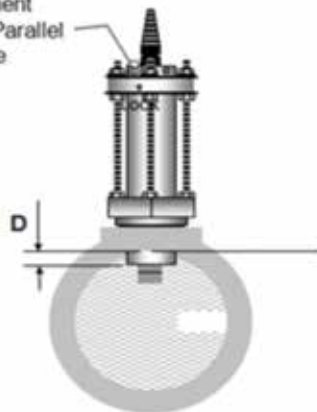
All dimensions in mm (± 2 mm)

	DP490	DP525	DP490/525
B	198	444	
C	1.5" BSP/NPT	2" BSP/NPT	
CONFIGURATION	H	H	A
Terminal Head	35	869	91
BT Register	394	880	85
F-Series	423	918	130
RT12	415	900	122



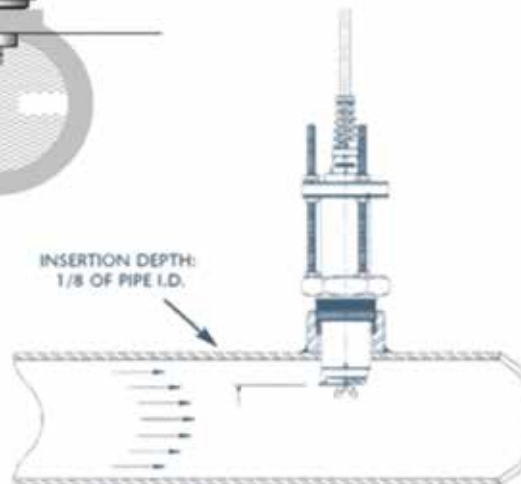
Standard Installation:

Alignment
Slot Parallel
To pipe



Examples of insertion depth D :

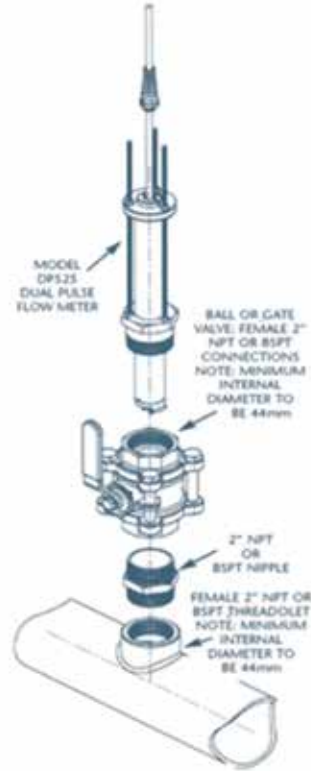
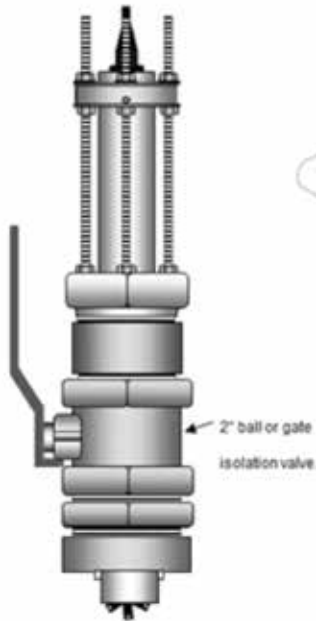
- For 40mm pipe ID (D= 5.0 mm)
- For 50mm pipe ID (D= 6.25 mm)
- For 100mm pipe ID (D= 12.5 mm)
- For 400mm pipe ID (D= 50.0 mm)



Model Coding - Dual Pulse Insertion Flowmeters:

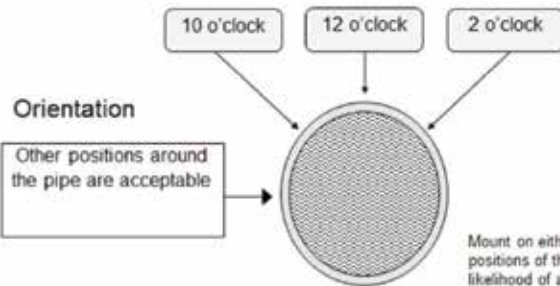
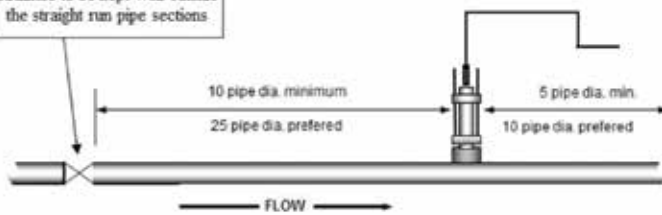
DP490	1.5 to 36" pipes (40 ~ 900mm)
DP525	2 to 100" pipes (50 ~ 2500 mm) suitable for "hot-tap" installations (valve not included)
Body Material	
S	316 Stainless Steel
Rotor & bearing materials	
1	PEEK high temperature rotor with stainless steel rotor shaft; -150°C (300°F)
2	PVDF rotor with 316 stainless steel rotor shaft (standard); 100°C (212° F)
O-ring materials	
1	Viton (standard); -15°C (5°F) minimum
2	EPR (Ethylene Propylene Rubber); -40+125°C (-40+260°F)
3	Teflon encapsulated viton - application specific; -15°C (5°F) minimum
4	Buna-N (Nitrile), -40+100°C (-40+212°F)
Temperature Limits	
5	100°C (212°F) standard, (85°C [185°F] maximum for non magnetic output type 4) and F14-20mA
2	125°C (26°F)- available with electrical connections 5 & 6 & PEEK rotor only
3	150°C (300°F)- NPN output only (available with electrical connection 5 & PEEK rotor only)
Process connections	
1	BSPT male thread - 1 1/2" (DP490) - 2" (DP525)
2	NPT Female threaded - 1 1/2" (DP490) - 2" (DP525)
3	2" BSPT male thread on the DP490
4	2" NPT male thread on the DP490
Pick-up type	
1	NPN open collector & voltage pulse (standard)
2	NPN open collector(s) only (for temp code 3 or QP option)
3	Reed switch only (may be used with an I.S barrier or instrument in hazardous areas)
4	Non magnetic rotor with NPN output (for liquid with ferrous impurities, need power)
8	NPN open collector & Reed Switch
Electrical connections	
1	3 metres cable [10ft] (standard)
2	10 metres cable [33ft]
3	20 metres cable [66ft]
4	50 metres cable [164ft] (for longer lengths refer to factory)
5	Terminal box on stem kit
6	Stem kit (price included with integral options B2, B3, R2, R3, F series & EO)
Integral options	
QP	Quadrature pulse output (requires PD2 for bi-directional flow capability)
B2	Totaliser
B3	IS Totaliser
R2	RT12 Flow Rate Totaliser with all outputs (GRN Housing)
R3	Intrinsically safe RT12 (I.s) (GRN Housing)
F1	Rate Totaliser, GRP, IP67
F2	IS Rate Totaliser, GRP, IP67
F10	Rate Totaliser, Aluminium, IP67
F11	IS Rate Totaliser, Aluminium, IP67
F12	Rate Totaliser, SS, IP67
F13	IS Rate Totaliser, SS, IP67
F18	IS Rate Totaliser, Aluminium, IP67, HART
F19	IS Rate Totaliser, SS, IP67, HART
E0	Ecobatch dc powered two stage batch controller
SB	Specific build requirement

Hot Tap Installation



Major obstructions such as pumps, valves, reducers or strainers to be kept well outside the straight run pipe sections.

Installation Straight Piping Requirements



Mount on either the 2, 10 or 12 o'clock positions of the pipe. If there is any likelihood of air entrainment in a horizontal pipe do not locate the flow transducer in the 12 o'clock position.