



DP SERIES INSERTION IMPELLER METERS

FLOMEC[®] Insertion Meters are cost effective stainless steel meters for measuring the flow of water, fuels and other low viscosity liquids in pipe sizes 1.5" – 100" (10 – 2500mm). Insertion Meters are a flexible, economic method to measure large flow rates with small pressure drops and low installation costs, with most applications battery powered with a FLOMEC[®] totalizer. Applications include HVAC, hot and cold water, fire systems, water distribution (management and treatment), boiler feed water, waste water and hydrant flow testing.

FEATURES / BENEFITS

- IP68 (NEMA6) submersible 316SS construction (cable connection only).
- Intrinsically safe option available.
- DP525 version suitable for "hot tap" installations.
- Quadrature pulse option available for bi-directional flow measurement.

PRODUCT CONFIGURATION

PRODUCT IDENTIFIER **1**

DP = Insertion Meter

METER SIZE **2**

490 = 1.5 - 3.5 inch (40-900mm)

525 = 2 to 100 inch (50-2500mm) suitable for "hot-tap" installations (valve not included)

BODY MATERIAL **3**

S = 316 Stainless Steel

ROTOR MATERIAL **4**

1 = PEEK

2 = PVDF

BEARING TYPE **5**

1 = 316 stainless steel 300° F max. (150° C)

2 = 316 stainless steel 260° F max. (125° C)

O-RING MATERIAL **6**

1 = Viton™ 5°F to + 300°F (-15°C - + 150°C)

4 = Buna-N (Nitrile), -40°F to + 260°F (-40°C to + 125°C)

MAXIMUM TEMPERATURE LIMIT **7**

2 = 260° F (125° C) max. (available with electrical connections 5 & 6)

3 = 300° F (150° C) max. (only available with pick-up type 2, electrical connection 5, PEEK rotor, & Viton O-Ring)

5 = 212° F (100° C) max. (Standard temperature rating)

8 = 176° F (80° C) max. (for non-magnetic pick-up type 4)

PROCESS CONNECTIONS **8**

1 = 1-1/2 in. BSPT male thread (Not available on DP525)

2 = 1-1/2 in. NPT male thread (Not available on DP525)

3 = 2 in. BSPT male thread

4 = 2 in. NPT male thread

PICK-UP TYPE **9**

1 = NPN open collector & voltage pulse (standard)

2 = NPN open collector only

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 liquids with ferrous impurities, needs power)

9 = Quadrature pulse output (requires F15 option for bi-directional flow capability)

ELECTRICAL CONNECTIONS **10**

C = Flying cable (1.5m [5ft] on DP490, 1m [3ft] on DP525)

2 = Flying cable – 10m (33ft)

5 = Terminal box on stem kit – IP67

6 = Stem kit 3/8 in. NPT x M16 thread (required for integral instruments)

INTEGRAL OPTIONS **11**

___ =

B2 = BT11 totalizer with pulse output [with scalable pulse output]

B3 = BT11 Intrinsically Safe totalizer with pulse output [IECEx & ATEX approved]

R2 = RT12 rate totalizer with all outputs (GRN housing)

R3 = Intrinsically Safe RT12 with all outputs (GRN housing) [IECEx & ATEX approved]

R4 = RT40 backlit rate totalizer (Alloy housing with facia protector) [scalable pulse output, backlight]

R5 = RT14 backlit rate totalizer with all outputs (GRN housing) [scaled pulse, alarms, 4-20mA, backlight]

F15 = F115 backlit bi-direction flow, rate/tot, pulse out, 4-20mA

F18 = F018 backlit rate/tot, pulse out, 4-20mA, 10 pt lin, HART

F19 = F018 Intrinsically Safe backlit rate/tot, pulse out, 4-20mA, 10 pt lin, HART

1 2 3 4 5 6 7 8 9 10 11

--->>>> DP + 490 + S + 2 + 1 + 1 + 3 + 1 + 3 + C + RS = SAMPLE

APPLICATIONS

- HVAC
- Hot and Cold Water
- Fire Systems
- Water Distribution (Management and Treatment)

- Boiler Feed Water
- Waste Water
- Hydrant Flow Testing

SPECIFICATIONS

	DP490	DP525
Suits pipe sizes	1/5 in. - 35 in. [40-900mm]	2 in. - 35 in. [40-900mm]
Pipe Connection	1.5 in. or 2 in. BSPT or NPT male thread	2 in. BSPT or NPT male thread
Flow Velocity Range	1 -33 feet/sec (0.3-10 meters/sec)	
Linearity	Typically ± 1.5% 10 - 1m/sec Over Range Typically ± 1.5% 10 - 0.3m/sec Full Scale	
Temperature Range:	-40°C - +150°C [-40°F - +300°F]	
Max. Pressure:	80 Bar [1160PSI]	
Materials	316ss body and rotor shaft	
Protection Class:	IP68 (NEMA6), optional I.S (Intrinsically Safe) Integral options	
Pulse Outputs		
Hall Effect	3 wire open collector, 5~24vDC, 20mA max. Nom 0 -240Hz	
Reed*	30vDC, 200mA max. Nom 0 - 80Hz	
Voltage Pulse	Self Generated voltage, Nom 0 0 240Hz	
Non-magnetic sensor	3 wire open collector, 5 ~ 24vDC, 20mA max. Nom 0 - 240Hz	
Optional Outputs**	4-20mA, Scaled pulse, quadrature pulse	

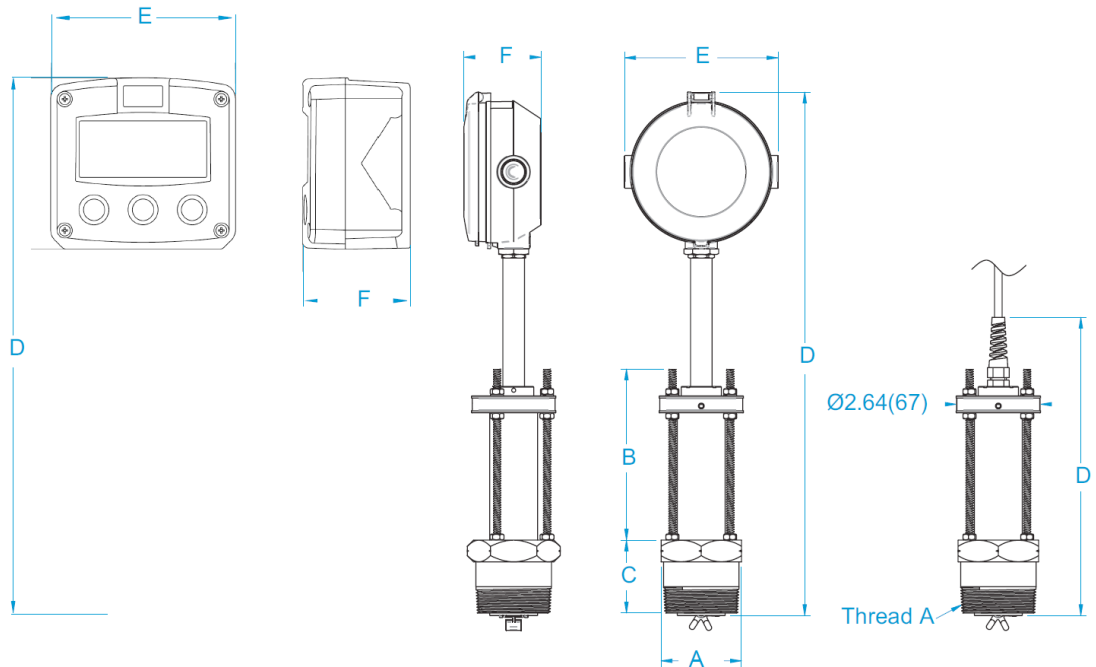
*Reed Switch resolution is 1/3 of the NPN Hall Effect or Voltage Pulse outputs

**Optional Integral option is required

Flying Cable Option	DP490	DP525
A- Thread	1.5 in. or 2 in. BSP or NPT	2 in. BSP or NPT
A - Dimension	2.36 in. (60mm)	2.52 in. (64mm)
B	7.8 in. (198mm)	17.48 in. (444mm)
C	1.5 in. (38mm)	2.28 in. (58mm)
D	9.33 in. (237mm)	16.69 in. (424mm)

Integral Option	DP490	DP525
A- Thread	1.5 in. or 2 in. BSP or NPT	2 in. BSP or NPT
A - Dimension	2.36 in. (60mm)	2.52 in. (64mm)
B	7.8 in. (198mm)	17.48 in. (444mm)
C	1.5 in. (38mm)	2.28 in. (58mm)
D - RT12/RT14	16.34 in. (415mm)	35.43 in. (900mm)
D - RT40	14.96 in. (380mm)	34.06 in. (865mm)
D - F018/F115	16.26 in. (413mm)	35.35 in. (898mm)
E - RT12/RT14	0.47 in. (122mm)	
E - RT40	4.45 in. (113mm)	
E - F018/F115	5.12 in. (130mm)	
F - RT12/RT14	2.40 in. (61mm)	
F - RT40	2.48 in. (63mm)	
F - F018/F115	2.95 in. (75mm)	

DIMENSIONS



Service & Warranty: For technical assistance, warranty replacement or repair contact your **FLOMEC®** or **GPI®** distributor: In North or South America: **888-996-3837 / Flomec.net**
Outside North or South America: **+61 2 9540 4433 / Flomec.net**

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