



## DP SERIES INSERTION IMPELLER METERS

**FLOMEC<sup>®</sup> 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 – 2500 mm). 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 to 36" (40-900 mm)

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

### BODY MATERIAL **3**

**S** = 316 Stainless Steel

### ROTOR/SHAFT MATERIALS **4**

**2** = PVDF/316 stainless steel (260°F [120°C])

**3** = PEEK/tungsten carbide (300°F [150°C])

### O-RING MATERIAL **5**

**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 **6**

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

**3** = 300° F (150° C) max. (only available with rotor/shaft type 3, electrical connection type 5, & 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 **7**

**1** = 1-1/2" BSPT male thread (Not available on DP525)

**2** = 1-1/2" NPT male thread (Not available on DP525)

**3** = 2" BSPT male thread

**4** = 2" NPT male thread

### PICK-UP TYPE **8**

**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)

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

### ELECTRICAL CONNECTIONS **9**

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

**2** = Flying cable – 33 ft (10 m)

**5** = Terminal box on stem kit – IP67

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

### INTEGRAL OPTIONS **10**

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

**R3G** = RT12 Intrinsically Safe rate totalizer with all outputs (GRN Housing) [IECEx & ATEX approved] (with gallons calibration)\*#

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

**R4G** = RT40 rate totalizer with backlit large digit LCD (Alloy housings with fascia) (with gallons calibration)\*#

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

**R5G** = RT14 backlit rate totalizer with all outputs (GRN Housing) (with gallons calibration)\*#

**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^

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 ---->>>> DP 490 S 2 1 2 -2 1 6 R5G

\* Temp code 5 required when operating temperature is between 176° F (80° C) & 250° F (120° C)

# Temp code 8 required for all integral instruments

^Must use pick-up type 3

## SPECIFICATIONS

	DP490	DP525
Suits Pipe Sizes	1.5 - 35" (40-900 mm)	2 - 100" (50-2500 mm)
Pipe Connection	1.5" or 2" BSPT or NPT male thread	2" BSPT or NPT male thread
Flow Velocity Range	3 - 33 ft/sec (1 - 10 m/s)	
Linearity % of Reading	Typically $\pm 1.5\%$	
Temperature Range:	-40°F to 300°F (-40°C to 150°C)	
Max. Pressure:	1160 psi (80 bar)	
Materials	316SS body and rotor shaft	
Protection Class:	IP68 (NEMA 6), optional I.S. (Intrinsically Safe) Integral options	
<b>Pulse Outputs</b>		
Hall Effect	3 wire open collector, 5-24v (dc), 20mA max. Nom 0 -240Hz	
Reed*	30v (dc), 200mA max. Nom 0 - 80Hz	
Voltage Pulse	Self Generated voltage, Nom 0 - 240Hz	
Non-Magnetic Sensor	3 wire open collector, 5 - 24V (dc), 20mA max. Nom 0 - 240Hz	
Optional Outputs**	4-20mA, scaled pulse, quadrature pulse	

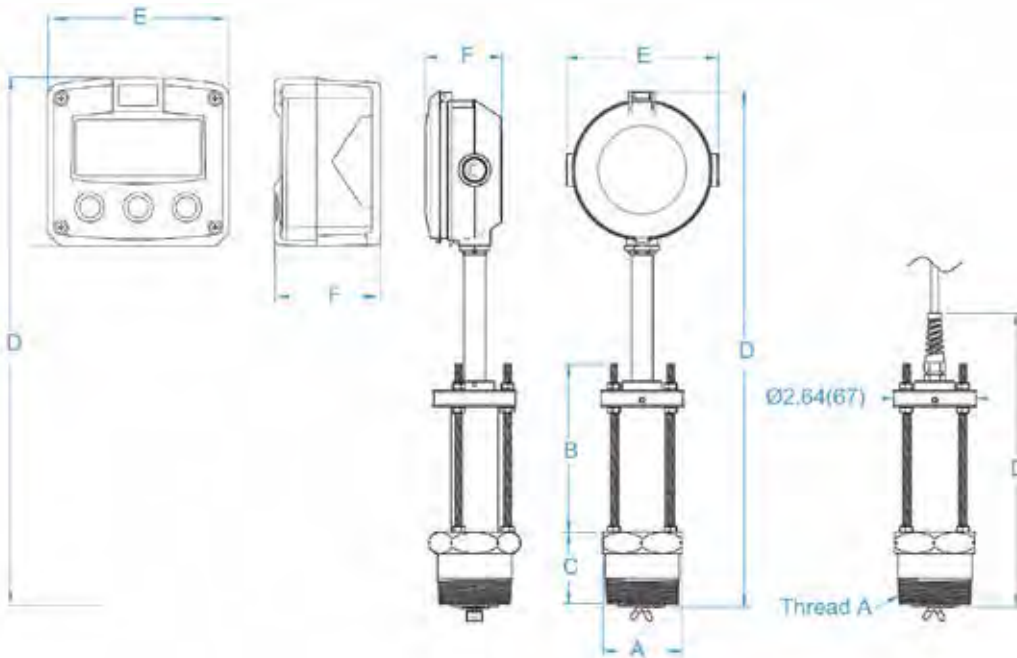
\*Reed Switch resolution is 1/3 of the NPN Hall Effect or Voltage Pulse outputs

\*\*Optional Integral option is required

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

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

## DIMENSIONS



## APPLICATIONS

- HVAC
- Hot and Cold Water
- Fire Systems
- Water Distribution (Management and Treatment)
- Boiler Feed Water
- Waste Water
- Hydrant Flow Testing