



DP SERIES INSERTION IMPELLER METERS

DP Insertion Impeller Meters are cost effective stainless steel flowmeters for measuring the flow of water, fuel and other low viscosity liquids in pipe sizes 1 ½" to 100" (40 mm to 2500mm). Insertion flow meters are installed with the metering head 1/8th into the pipe resulting in very little pressure drop. DP's do not require external power when used with Flomec rate totalizers, however some options such as high temperature and non-magnetic models require external power.

Applications include:

- HVAC
- Hot & Chilled Water
- Fire Systems
- Water Distribution
- Boiler and Chiller Feed Water
- Industrial Chemicals

SIZE

- DP490** = 1-1/2 in. to 36 in. pipes (40-900 mm)
DP525 = 2 to 100 in. pipes (50-2500 mm) suitable for "hot-tap" installations (valve not included)

BODY MATERIALS

- S** = 316 Stainless Steel

ROTOR & BEARING MATERIALS

- 1** = PEEK high temperature rotor with stainless steel rotor shaft - 300° F (150° C)
2 = PVDF rotor with 316 stainless steel rotor shaft (standard)

O-RING MATERIALS

- 1** = FKM (Viton™) **standard**, 5 to 400° F (-15 to +204° C)
2 = EPDM (Ethylene Propylene Rubber) - for ketones only
3 = PTFE encapsulated FKM (Viton™) 450° F (- 230° C) or application specific
4 = Buna-N (Nitrile), -40 to +250° F (-40 to +125° C)

TEMPERATURE LIMITS

- 2** = 260° F (125° C) - available with electrical connections 5, 6 & PEEK rotor only
3 = 300° F (150° C) - NPN output only (available with electrical connection 5 & PEEK rotor only)
5 = 212° F (100° C) standard, (185° F [85° C] maximum for non magnetic output type 4)

PROCESS CONNECTIONS

- 1** = BSPT male thread - 1½" (DP490) or 2" (DP525)
2 = NPT male thread - 1½" (DP490) or 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 liquids with ferrous impurities, needs power)
8 = NPN open collector & Reed switch

ELECTRICAL CONNECTIONS

- 1** = 10 ft. cable [3 metres] (**standard**)
2 = 33 ft. cable [10 metres]
3 = 66 ft. cable [20 metres]
4 = 164 ft. cable [50 metres] (for longer lengths refer to factory)
5 = Terminal box on stem kit (add this for integral output option FI, 4-20mA output)
6 = Stem kit - 3/8" NPT (price included with integral options B2, B3, R2, R3 & E0)
7 = Stem kit - 1" NPT (for G5, G6 & G7)

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INTEGRAL OPTIONS

- = Combination Reed Switch and Hall Effect Sensor
- G5 = Rate / Total Display w / pulse out and optional Ex. Power
- G6 = Rate / Total Display w / 4-20mA out
- G7 = Loop powered 4-20mA analog output
- QP = Quadrature pulse output
- B2 = BT11 dual totaliser (with scaleable pulse output)
- B3 = I.S. intrinsically safe BT11 including output [IECEX & ATEX approved]
- R0 = RT12 rate totaliser with all outputs (Alloy housing) [scaled pulse, alarms & 4-20 mA]
- R2 = RT12 rate totaliser with all outputs [scaled pulse, alarms & 4-20 mA]
- R3 = I.S. intrinsically safe RT12 with all outputs [IECEX & ATEX approved]
- R4 = RT40 large LCD flow rate totaliser [scaled pulse + backlighting]
- E0 = EB10 DC powered two stage batch controller

DP Series Insertion Impeller Meters

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).



ACCURACY: $\pm 1.5\%$ OF READING

Body Material:

Stainless Steel

Features and Benefits:

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

SPECIFICATIONS

Model Prefix:	DP490	DP525
Suit pipe sizes:	1.5" - 35" (40 - 900mm)	2" - 100" (50 - 2500mm)
Pipe connection:	1.5" or 2" BSPT or NPT male	2" BSPT or NPT male
Flow range:	4 - 99,600 USGM (0.25 - 6300 litres/sec)	6 - 780,000 USGM (0.4 - 49000 litres/sec)
Flow velocity range:	1 - 33 feet/sec (0.3 - 10 meters/sec)	
Linearity:	typically $\pm 1.5\%$ with well established flow profile	
Temperature range:	-40°F - +300°F (-40°C - +150°C)	
Maximum pressure:	1160 psig (80 bar)	
Materials	316ss body and 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)

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