

Emflux 2020 Electromagnetic Flow Detector

The 2020 flow detector used with either our M300 or I300 flow transmitters are ideally suited to accurately measure the flowrate of a wide variety of conductive process liquids, water, wastewater and similar applications.

Features

- The Emflux flow detector uses the well proven electromagnetic method of measurement, which applies Faraday's Law as the principle of operation.
- ABS tube and housing.
- High accuracy.
- No moving parts.
- Wide operating range.
- No obstruction to the flow.
- Little to no pressure loss.
- A choice of electrodes to suit the process.
- Variety of flange types available.
- Robust construction.
- Submersible to 1.5 metres (5 feet) of water.
- Suitable for buried service.
- Minimal straight pipe requirements.
- Remotely mounted electronics.
- On powered sites used with the M300 transmitter which features multiple outputs and flexible programming.
- On non-powered sites used with the I300 battery powered transmitter with solar recharge.

General Applications

- Irrigation flow measurement.
- Water production and distribution.
- Effluent discharge.
- Selected chemical applications.

Technical Data and Specifications

Accuracy	M300	I300
Display and Outputs	0.2% of rate or 1 mm/sec (0.04in/sec) whichever is greater	1% of rate or 2mm/sec (0.08in/sec) whichever is greater
Velocity Range:	0.010 to 10.0 m/sec (0.03 to 33 feet/sec)	<0.03 to >5.00 m/sec (< 0.1 to > 16.4 feet/sec)
Turndown from Full Scale:	>1000:1	>166:1
Pressure Effects:	Negligible effect	Negligible Effect
Repeatability:	< 0.05%	< 0.1%
Power Supply Variations:	Negligible	Negligible

Note: Under reference conditions

Specifications

Sizes	50mm - 200mm
Metering Tube	ABS Plastic
Electrodes	316 S/S as standard Hastelloy 'C' Specials available on request
Earthing	Ground Electrodes 316 S/S fitted as standard Other ground electrode materials
Process Flange Connections	Slip-ring galvanised fittings, optional stainless steel AS 2129 ANSI 150 Spigot and gibbault connections Others available on request
Pressure Limitations	50mm (2 in) = 1500 kPa 80mm (3.2 in) = 900 kPa 100-200mm (4 in-8 in) = 900 kPa
Temperature Limitations	80°C (176°F) maximum
Environmental Protection	IP68 to 1.5 metres (5 feet)
Housing	Composite Material, ABS



M300 Transmitter (for powered sites)



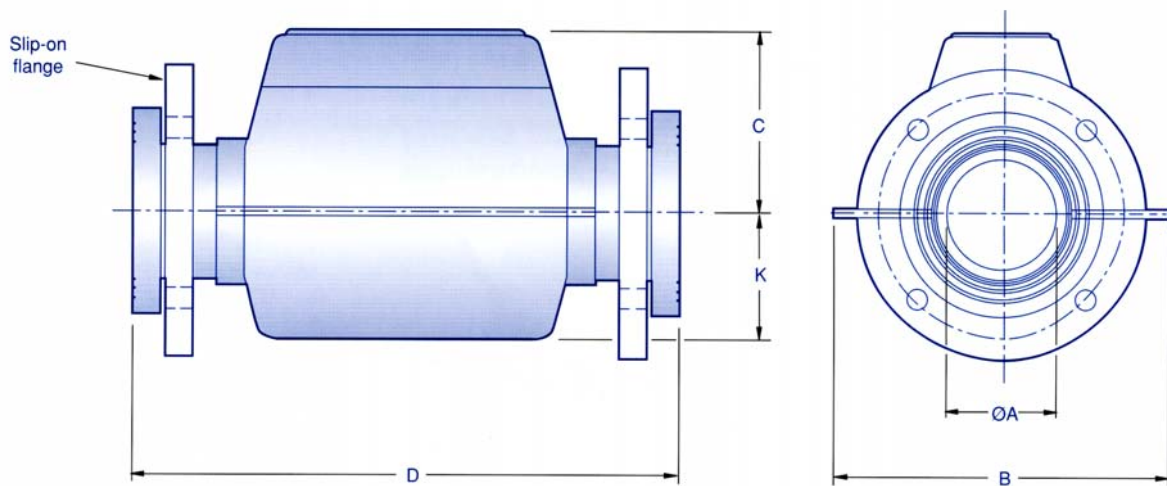
I300 Transmitter (solar powered)

Dimensions

in mm and (inches)

Nominal Bore ØA	B	K	D	C	Min Flow Range M300 & I300 l/sec (gal/sec)	Max Full Scale M300 l/sec (gal/sec)	Max Full Scale I300 l/sec (gal/sec)
50 (1.97)	240 (9.45)	100 (3.94)	360 (14.17)	130 (5.12)	0-1.0 (0-0.25)	20 (5.29)	10 (2.6)
80 (3.15)	240 (9.45)	100 (3.94)	400 (15.75)	130 (5.12)	0-2.5 (0- 0.65)	50 (13.2)	25 (6.6)
100 (3.94)	260 (10.24)	105 (4.13)	420 (16.54)	145 (5.71)	0-4.0 (0-1.05)	78 (20.6)	40 (10.5)
150 (5.91)	325 (12.80)	135 (5.31)	520 (20.47)	175 (6.89)	0- 8.9 (0-2.35)	176 (46.5)	88 (23.2)
200 (7.87)	364 (14.33)	152 (5.98)	610 (24.02)	201 (7.91)	0-15.7 (0-4.15)	314 (83.0)	157 (41.5)

Note: Dimensions are nominal to ± 1mm. (or ± 0.04 in)



Note: Above dimensions are based on flanged style meters. For meters with spigot ends, the length is reduced. See the table below.

ØA	Per spigot	For spigot on each end
50	3mm (0.12in)	6mm (0.24in)
80	5mm (0.19in)	10mm (0.38in)
100	5mm (0.19in)	10mm (0.38in)
150	8mm (0.31in)	16mm (0.62in)
200	6mm (0.24in)	12mm (0.48in)

Installation Requirements

Detector

Mounts directly into the process pipeline and can be installed in horizontal, vertical or sloped pipelines. The preferred axis of the detector measuring electrodes is horizontal.

Note: For accurate flow measurement the flow detector must always be full.

Associated Flow Transmitter

Can be located remotely from the detector. Model M300 up to 100 metres. Model I300 up to 30 metres.

Typical specifying sequence

Example EM2020 - 080 AD AD S X

Used with Transmitter

IR2020 = for use with I300

EM2020 = for use with M300

Size

050 (50mm)
080 (80mm)
100 (100mm)
150 (150mm)
200 (200mm)

Process Connection - Upstream

AD = AS2129 flange (Table 'D') (Std)

AE = AS2 129 flange (Table 'E')

C1 = ANS1 150 flange

SE = Spigot End

ZZ = Special (detail in text)

Process Connection - Downstream

As above

Electrode Material

S = Stainless 316 (Std)

H = Hastelloy 'C'

Z = Special (detail in text)

Pipe not full Electrode

X = None

S = Stainless 316 (Std)

H = Hastelloy 'C'

K = Special (detail in text)



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