

# EL 2400

## Sanitary Electromagnetic Flow Meter

### Description

The EL 2400 series of electromagnetic sensors represent the state of the art for accurate sanitary flow measurement. This new generation of sensors covers the temperature range -40 to 284°F and is available in line-sizes from 1" through 4".

An electromagnetic flow meter bases its operation on the Faraday Principal, by which a conductor crossing a magnetic field generates a potential. The resultant potential is directly proportional to the flow velocity. The EL 2400 series flow meters are manufactured from 304 stainless steel and are internally lined with PTFE. The meter can be supplied with either Tri-Clamp or DIN 11851 end connections. The electrodes in the standard unit are AISI 316L, but the meter can be supplied with electrodes manufactured in other materials such as Hastelloy or titanium according to the chemical compatibility of the liquid.

Electronics available for the EL 2400 series consists of a base transmitter with optional panel mounted display, as well as a multiple output converter with integral display. Electronics can be mounted directly on the flow meter or remotely mounted. When the electronics are remotely mounted the entire flow meter meets IP 68 suitable for permanent immersion in water up to a depth of 1.5 meters.

### Features

- High accuracy
- No moving parts
- Compact design
- EHEDG approved
- Diagnostics - Empty pipe detection
- Sealed electrode and coil assembly provides immunity to humidity variation and IP68 protection
- Wide rangeability with a single unit
- No pressure drop
- Batching capability with MC 308C electronics
- Bidirectional capability
- High temperature standard
- -4 to 320°F

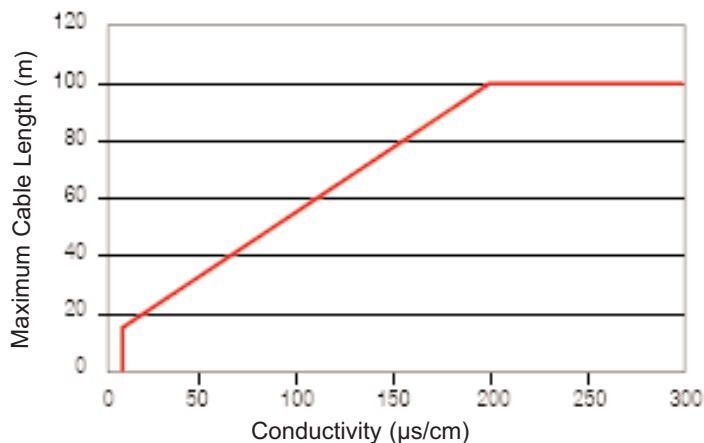


**Model EL 2400  
Electromagnetic Flow Meter**

### Specifications

Accuracy	±0.2% of reading with velocity greater than 0.2 m/s
Repeatability	±0.1%
Max Fluid Velocity	10 m/s (to maximize performance, size meter to operate has high up in its flow range as possible)
Nominal Line Sizes	1", 1 1/4", 1 1/2", 2", 2 1/2", 3", 4"
Tube & Fitting Material	304 stainless steel
Electrode Material	AISI 316L (standard) Hastelloy C22 Titanium
Liner Material	PTFE
Temperature Range	-40 to 284°F (remote electronics) -4 to 140°F (integral electronics)
Max Pressure	16 bar (232psi)
Max Cable Length	100 meters
Min Conductivity	5 µS/cm, 20 µS/cm for DI water
Rating	IP 68 to a depth of 1.5 meters
Straight Run	5D upstream and 3D downstream minimum
End connections	Triclamp & DIN 11851
EMC/CE approvals	EN 61326:1997 to EN 61326/A3:2003

## Maximum Cable Length VS Conductivity



## EL 2400 Flow Range

Nominal Diameter	Minimum Flow*	Maximum Flow
1"	1.60gpm	80gpm
1 1/4"	2.64gpm	132gpm
1 1/2"	4.00gpm	200gpm
2"	6.60gpm	330gpm
2 1/2"	10.56gpm	528gpm
3"	16.00gpm	800gpm
4"	26.40gpm	1320gpm

\* Minimum flow rate is defined as the flow rate at 0.2 m/s and maximum flow is defined at 10 m/s. The meter will function at a turndown of 1000:1 at reduced accuracy

## Compatible Electronics



### MC 308C Series Features

- High end controller
- Batching capabilities
- Bi directional functionality
- AC and DC versions
- 2 line 16 character display
- Digital outputs (2)
  - Scaled or linear pulse
  - Alarm or direction functions
- 4 (0) - 20mA analog output
- High / low auto range function
- Diagnostics
  - Empty pipe
  - Coil and electrode fault

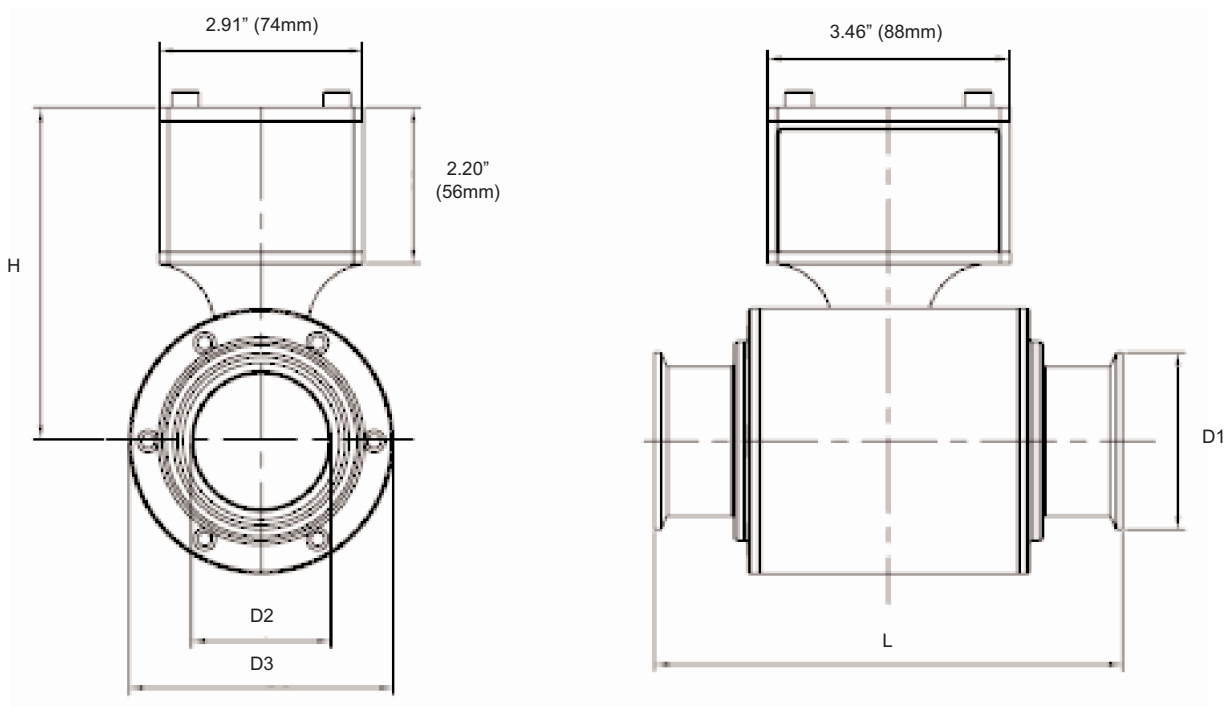


### MC 106 Series Features

- Base level transmitter
- ABS or panel mount enclosure
- Frequency output (1)
  - Scaled or linear pulse
  - Alarm or direction function
- 4 (0) - 20mA analog output
- AC and DC versions
- 2 line 16 character display
- High / low auto range function
- Diagnostics
  - Empty pipe
  - Coil and electrode fault

## Dimensions

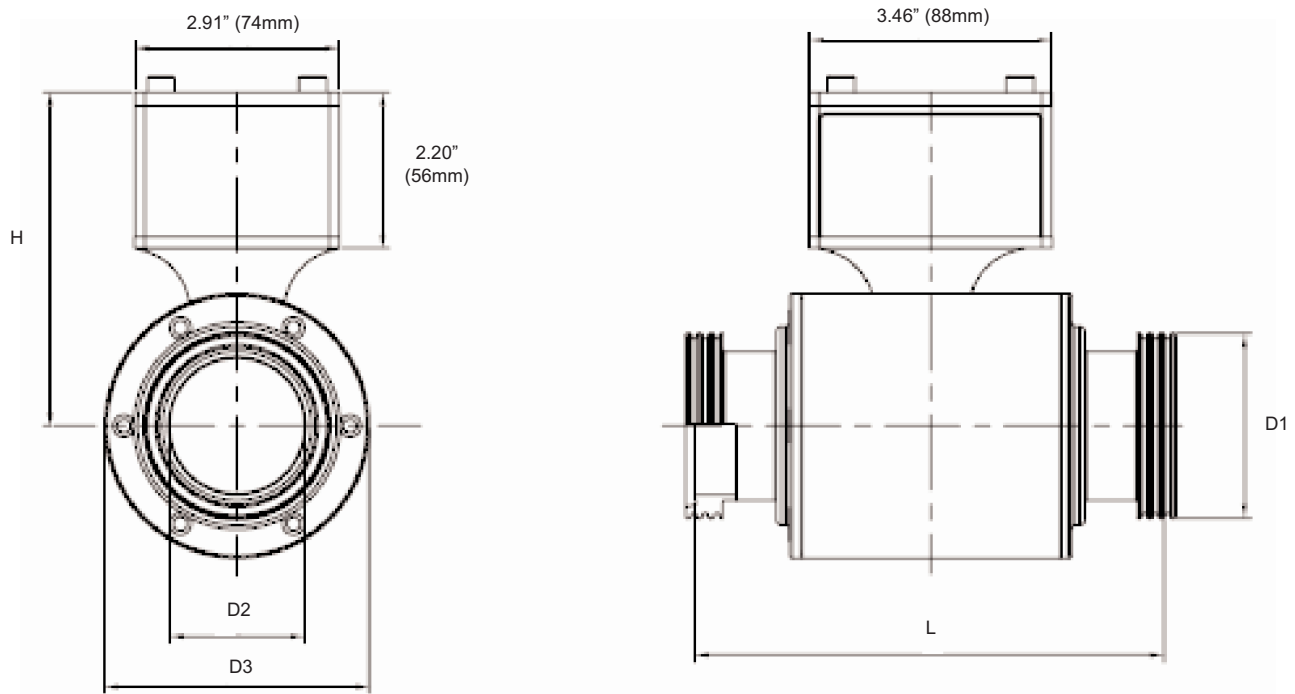
### Overall Dimensions Triclamp Fittings



Nominal Diameter	DN	D1	D2	D3	H	L
1"	25	1.99" 50.5mm	0.87" 22mm	2.63" 67mm	4.65" 118mm	6.77" 172mm
1 1/4"	32	1.99" 50.5mm	1.10" 28mm	3.15" 80mm	4.92" 125mm	6.77" 172mm
1 1/2"	40	1.99" 50.5mm	1.30" 33mm	3.39" 86mm	5.04" 128mm	6.77" 172mm
2"	50	2.52" 64mm	1.89" 48mm	3.78" 96mm	5.28" 134mm	6.77" 172mm
2 1/2"	65	3.05" 77.5mm	2.40" 61mm	4.72" 120mm	5.75" 146mm	7.56" 192mm
3"	80	3.58" 91mm	2.95" 75mm	5.12" 130mm	5.91" 150mm	7.56" 192mm
4"	100	4.69" 119mm	3.62" 92mm	6.14" 156mm	6.46" 164mm	7.56" 192mm

## Dimensions

### Overall Dimensions DIN 11851 Fittings



Nominal Diameter	DN	D1	D2	D3	H	L
1"	25	2.05" 52mm	0.87" 22mm	2.63" 67mm	4.65" 118mm	6.77" 172mm
1 1/4"	32	2.28" 58mm	1.10" 28mm	3.15" 80mm	4.92" 125mm	6.77" 172mm
1 1/2"	40	2.56" 65mm	1.30" 33mm	3.39" 86mm	5.04" 128mm	6.77" 172mm
2"	50	3.07" 78mm	1.89" 48mm	3.78" 96mm	5.28" 134mm	6.77" 172mm
2 1/2"	65	3.74" 95mm	2.40" 61mm	4.72" 120mm	5.75" 146mm	7.56" 192mm
3"	80	4.33" 110mm	2.95" 75mm	5.12" 130mm	5.91" 150mm	7.56" 192mm
4"	100	5.12" 130mm	3.62" 92mm	6.14" 156mm	6.46" 164mm	7.56" 192mm

## EL 2400 Ordering Information

EL2400			X	P			
--------	--	--	---	---	--	--	--

Meter Size	Order Number
1"	-025
1 1/4"	-032
1 1/2"	-040
2"	-050
2 1/2"	-065
3"	-080
4"	-100

End Connection	Order Number
DIN 11851	DIN
Triclamp	ATC

Electrode Material	Order Number
2 electrodes AISI 316L	L
2 electrodes Hastelloy C	C
2 electrodes Titanium	T
4 electrodes (empty pipe detection) AISI 316L	D
4 electrodes (empty pipe detection) Hastelloy C	F

Version	Order Number
Compact	C
Remote (Cable not included)	S

Approvals	Order Number
Standard	A
EHEDG Approved	E



8930 S. Beck Avenue, Suite 107, Tempe, Arizona 85284 USA  
 Tel: (480) 240-3400 • Fax: (480) 240-3401 • Toll Free: 1-800-528-4225  
 E-mail: [ftimarket@ftimeters.com](mailto:ftimarket@ftimeters.com) • Web: [www.ftimeters.com](http://www.ftimeters.com)  
 DB 68404 Rev A © 2007 FTI Flow Technology, Inc. Printed in USA

