Itron

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Meter, Valve & Control

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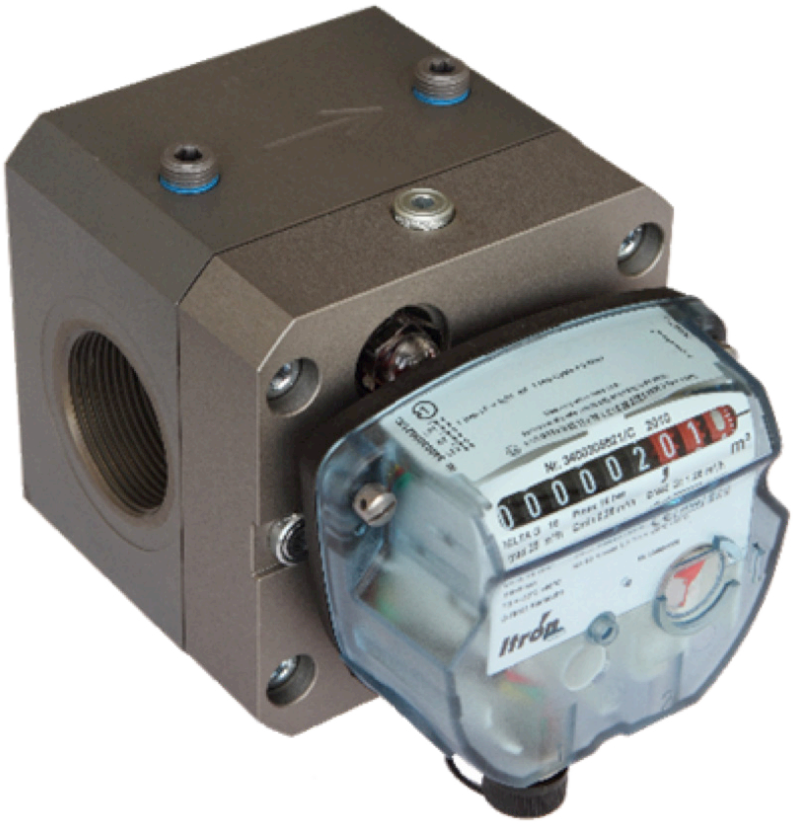


Delta Compact - 2M®

Commercial & Industrial Rotary Gas Meter

The Delta Compact - 2M Rotary gas meter combines accuracy, durability, metrological stability and mounting versatility in one field-proven measurement instrument.

The Delta Compact rotary meter is designed to measure natural gas with very high accuracy under low or irregular flow conditions. The Delta Compact's volumetric measurement principle allows it to be used in compact station designs without the need for straightening vanes or a long inlet piping run. Delta's metrological stability has been proven through decades of gas measurement.

DESCRIPTION

The Delta meter consists of 5 main parts:

- Body
- Two gear-synchronized, counter-rotating rotors
- Lubricant cover
- Magnetic coupler to connect rotors and index mechanism
- Index mechanism

Itron's Delta Compact Rotary meter is a positive displacement style gas meter which employs counter-rotating rotors that drive a magnetically-coupled mechanical index. Its compact size and robust structure make it an ideal fit for many gas measurement applications.

FEATURES

- Weather and tamper proof index housing
- Tool-free index orientation
- Magnetic index coupling
- Double low frequency pulse output
- Optional high frequency pulse output
- Anodized aluminum for corrosion resistance
- Multi-position flow orientation capable
- Threaded (1½" NPT) or flanged (2" ANSI) versions

INDEX:

- 9 digit odometer style
- 45° orientation
- Free rotating
- Reflecting disc on first drum
- Integrated optical disc for proving
- Double low frequency pulser output
- IP67 rating
- UV resistant
- Unit of measure: ft^3 or m^3

PULSE OUTPUT:

The Delta Compact meter is equipped with two Low Frequency (LF) pulse outputs, standard. Optionally, a High Frequency pulse output is also available.

The LF transmitter consists of 2 dry reed switches, normally open, and actuated by a magnet located in the first odometer drum on the index register.

- Volume per pulse contact
  - ft^3 index; 1 ft^3/pulse
  - m^3 index; 0.01 m^3/pulse
- Hermitically sealed contacts
- Minimum pulse contact time
  - ft^3 index; 0.22 seconds
  - m^3 index; 0.40 seconds
- No polarity
- Maximum voltage; 30 volts

The HF transmitter is an inductive sensor actuated by a toothed disc. The frequency is proportional to the instantaneous flow.

- Pulses per unit volume
  - ft^3; 45.833 pulses/ft^3
  - m^3; 4678.16 pulses/m^3
- Frequency at maximum flow rate
  - ft^3; 25.46 Hz
  - m^3; 73.60 Hz
- Has polarity, indicated on register label

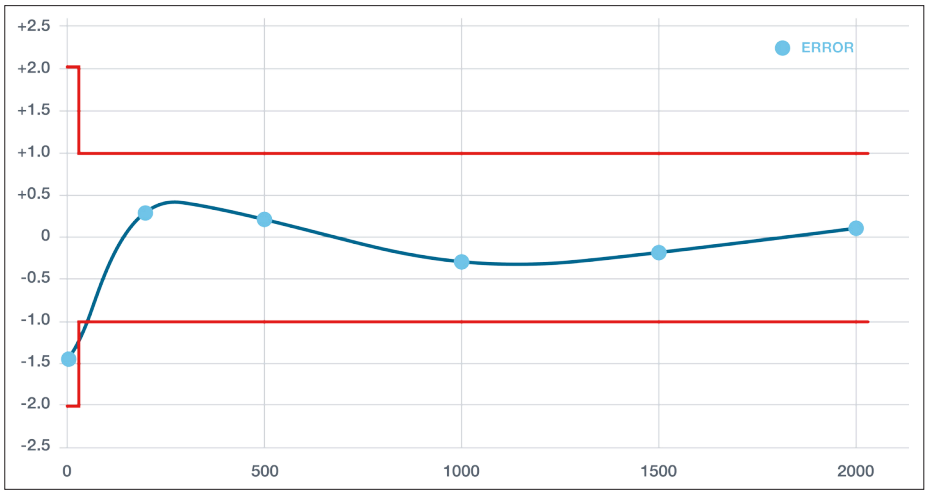
SPECIFICATIONS

	1 ½" NPT	2" FL
MAOP	230 PSIG (16 Bar)	280 PSIG (19.3 Bar)
Operating Temperature Range	-22° to +140° F (-30° to +60° C)	
Weight	8.8 lbs. (4 kg)	13.2 lbs. (6 kg)
Shipping Weight	10 lbs. (4.5 kg)	14.4 lbs (6.5 kg)
Start Flow	0.9 CFH (.025 m^3/h)	
Capacity	2000 CFH (56.6 m^3/h)	2000 CFH (56.6 m^3/h)
Rangeability (+/- 1%)	80:1	
Rangeability (+/- 2%)	130:1	

ACCURACY

The Delta Compact has a starting flow of ~0.9 CFH (.025 m3/hr). It reaches ~ -10% accuracy at about 2.1 CFH (0.060 m3/hr).

TYPICAL ACCURACY CURVE



METER SIZING

The Delta Compact has a base rating of 2000 ACFH (56.6 m³/hr). The metering capacity (in standard cubic feet per hour) will depend on the gas metering pressure.

Metering Capacity			
Meter Pressure		Meter Capacity	
psig	barg	MSCFH	m³/h
1	0.07	2136	60.5
2	0.14	2272	64.3
5	0.34	2679	75.9
10	0.69	3358	95.1
15	1.03	4037	114.3
20	1.38	4716	133.5
25	1.72	5394	152.8
30	2.07	6073	172.0
45	3.10	8110	229.7
60	4.14	10147	287.3
90	6.21	14220	402.7
125	8.62	18972	537.2
150	10.34	22367	633.4
175	12.07	25761	729.5
200	13.79	29155	825.6
230*	15.86	33229	941.0
280*	19.31	40018	1133.2

* Do not exceed meter's maximum allowable operating pressure.

PRESSURE DROP

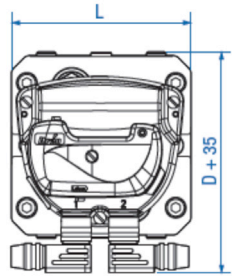
CFH	M³/h	1 ½" NPT		2" FL	
		" w.c	mbar	" w.c	mbar
200	5.7	0.01	0.02	0.01	0.02
400	11.3	0.05	0.12	0.04	0.10
800	22.7	0.20	0.50	0.18	0.45
1000	28.3	0.28	0.70	0.31	0.77
1500	42.5	0.71	1.77	0.63	1.57
2000	56.6	1.27	3.16	1.11	2.76

DIMENSIONS TABLE AND DRAWINGS

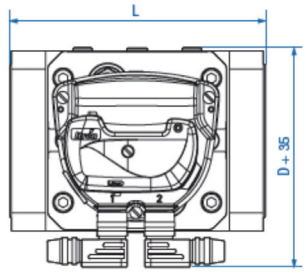
Dimensions				
	2" Flange		1 ½" NPT	
Dimension	inches	mm	inches	mm
A	4.96	126	4.96	126
B	2.36	60	1.81	46
C	7.32	186	6.77	172
D	4.96	126	4.96	126
L	6.75	171	4.75	121

DELTA COMPACT

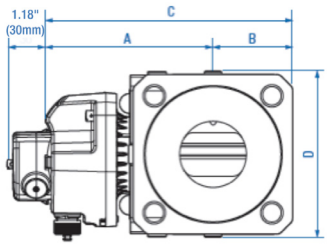
Front View NPT



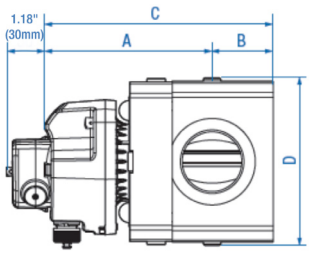
Front View 2" Flange



Side View 2" Flange



Side View NPT



ORDERING INFORMATION

Part Number	Description	Configuration Options		
		Connection	Readout	HF option?
DC2M-NPT-CF	Delta Compact - 2M, 1.5” NPT, Cubic Feet	1.5” NPT	Cubic Feet	N
DC2M-NPT-CF-HF	Delta Compact - 2M, 1.5” NPT, Cubic Feet, HF	1.5” NPT	Cubic Feet	Y
DC2M-FL-CF	Delta Compact - 2M, 2” Flange, Cubic Feet	2” Flange	Cubic Feet	N
DC2M-FL-CF-HF	Delta Compact - 2M, 2” Flange, Cubic Feet, HF	2” Flange	Cubic Feet	Y
DC2M-NPT-M3	Delta Compact - 2M, 1.5” NPT, Cubic Meter	1.5” NPT	Cubic Meters	N
DC2M-NPT-M3-HF	Delta Compact - 2M, 1.5” NPT, Cubic Meter, HF	1.5” NPT	Cubic Meters	Y
DC2M-FL-M3	Delta Compact - 2M, 2” Flange, Cubic Meter	2” Flange	Cubic Meters	N
DC2M-FL-M3-HF	Delta Compact - 2M, 2” Flange, Cubic Meter, HF	2” Flange	Cubic Meters	Y

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