



LPM PADDLEWHEEL SERIES

Inline Flow Meters for Liquid Measurement

The Metri LPM range of industrial inline paddlewheel flow meters provides a cost-effective and accurate means of monitoring liquid flow rates.

- Cost effective meters for a broad range of liquids
- Accurate with low pressure drop
- Robust stainless steel construction
- Versatile, adaptable design with custom options
- High pressure rating up to 100 bar
- High temperature option up to 350°C
- Selection of flow instruments and displays for compact or remote installation
- Choice of outputs including pulse, 4-20 mA
- ATEX rated option



Summary

- Brand: METRI
- Category: Paddlewheel Flow Meters
- Fluid type: Liquids
- Part ref: IC-LPM
- IWN: FLO-259688

Rugged

Compact or Remote

Adaptable

Versatile

Repeatable

Accurate

Suitable for the following market sectors:

- Industrial & Energy
- Medical & Science
- Oil & Gas
- Power Generation
- Water & Wastewater

Suitable for use with the following liquids:


- Chemical
- Clean Water
- Dirty Water
- Fuel & Oil

SPECIFICATION DETAILS

Nominal size	DN15, DN20, DN25, DN40, DN50 (other sizes are available)	
Process connection	BSPP (parallel) & BSPT (taper) female threaded, DIN & ANSI flanged; other on request eg PNXX, tri-clamp, NPT, RJT	
Flange rating	PN 16, 40, 100 (BS EN 1092-1); ANSI 150, 300, 600 RF (ANSI B16.5)	
Compatibility	Solids free and partially contaminated liquids including water, chemicals, hydrocarbons, mineral oils, alcohols	
Flow range	05.5 to 1200 l/min, various range	
Operating temperature	Standard: -40 to 120°C Medium: -40 to 230°C High: -40 to 350°C	
Max operating pressure	All threaded bodies: Flanged bodies:	Up to 100 bar (higher on request) depends on flange rating and operating temperature range
Frequency range	25-750 Hz	
Pressure drop	Typically less than 125 mbar at maximum flow rate (standard ranges without flow restrictor)	
Linearity	±0.5% FSD	
Repeatability	±0.1% of reading	
Materials	Body: Rotor: Rotor shaft: Bearings: O-ring:	304 stainless steel (standard); 316 (optional); other materials available on request 431 stainless steel - duplex optional Tungsten carbide; other materials on request Tungsten carbide and jewel bearings (standard & medium temperature); stainless steel ball race (high temperature) and ceramic bearings Buna N (standard); Viton (optional)
Output/display	Coil only (mV); pulse / analogue output modules; flow transmitter	
Installation	Horizontal or vertical flow rising, full pipe only	
Approvals (Sensor)	CE, ATEX EEx ia IIC or IIB T6 to T3 (excluding high temperature option)	

INSTRUMENT OPTIONS AVAILABLE

Type	Coil only	IC-MV-PO pulse output module	IC-MV-AN analogue output module	LPMDTS	E & F Series ATEX
Input	-	20-2000mV peak to peak	20-200 mV peak to peak	mV/4-20mA	mV/Pulse/4-20 mA
Frequency range	50-2500 Hz	30-1500 Hz	25-2500 Hz	0-2500 Hz	0-60 Hz (E Series) 0-500 Hz (F Series)
Supply voltage	-	5-30 Vdc	24 Vdc	24 Vdc	24 Vdc 110/240VAC
Outputs	mV	Open collector PNP/NPN selectable	4-20 mA, 2 wire current loop	4-20 mA, relay	Open collector pulse, 4-20 mA relay, Hart & Modbus
Operating temp	-	-10 to 55°C	-10 to 55°C	-10 to 65°C	-40 to 70°C
Rating	IP65, ATEX* (optional)	IP65	IP65	IP65	IP67

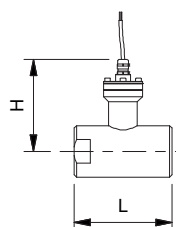
* ATEX rating optional   

Calibration certificates are available for entire LPM product range.

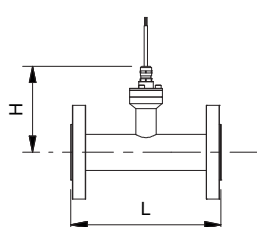
Accessories: A range of flow straighteners and air eliminators are available on request. Please ask Metri's Technical team for more details.

DIMENSIONS

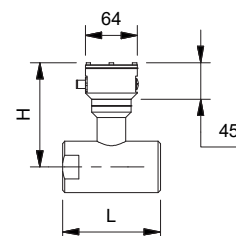
Nom size:	Length (mm)		Height (mm)			Weight (kg) coil only		Weight (kg)	
	Screwed	Flanged	Coil only	MV-PO/AN Compact	DTS Compact	Screwed	Flanged	MV-PO/AN Compact	DTS Compact
15mm (1/2")	90	152	100	121	117	1.2	2.8	1.6	2
20mm (3/4")	90	152	100	121	117	1.2	3.7	1.6	2
25mm (1")	100	181	106	124	143	1.5	4.8	1.9	2.4
40mm (1.5")	120	185	110	128	146	2.3	8.9	2.7	3.2
50mm (2")	120	203	115	134	151	2.8	10.1	3	3.5



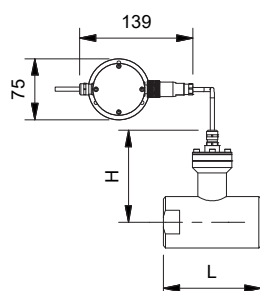
Coil only (screwed)



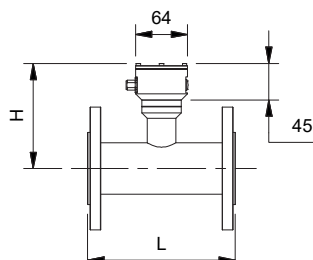
Coil only (flanged)



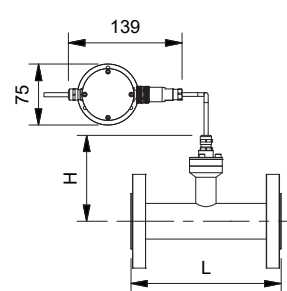
IC-MV-AN/PO Output board compact (screwed)



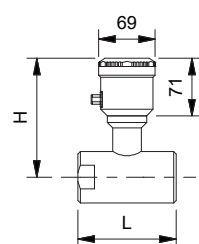
IC-MV-AN/PO Output board remote (screwed)



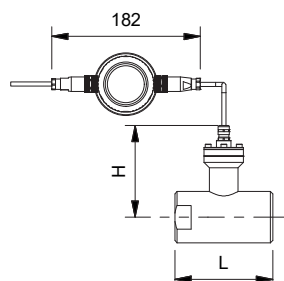
IC-MV-AN/PO Output board compact (flanged)



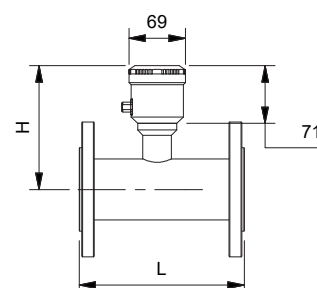
IC-MV-AN/PO Output board remote (flanged)



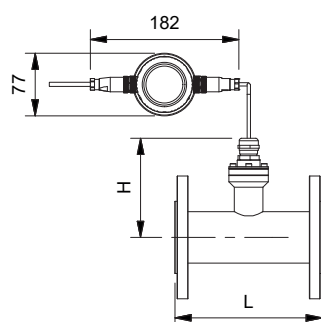
IC-LPMDTS Compact (screwed)



IC-LPMDTS Remote (screwed)



IC-LPMDTS Compact (flanged)



IC-LPMDTS Compact (screwed)

VERSATILE CONFIGURATIONS

Ordering information for the Paddlewheel Flow Meter

IC-LPM Nominal size, flow range (based on H ₂ O at 20°C)		
Size	Bore	L/min
015A	DN15 15 mm (1/2")	0.5 - 5 l/min
015B	DN15 15 mm (1/2")	1-10 l/min
015C	DN15 15 mm (1/2")	2-20 l/min
015D	DN15 15 mm (1/2")	4-40 l/min
020A	DN20 20 mm (3/4")	6-60 l/min
020B	DN20 20 mm (3/4")	12-120 l/min
025A	DN25 25 mm (1")	15-150 l/min
025B	DN25 25 mm (1")	30-300 l/min
040A	DN40 40 mm (1.5")	30-300 l/min
040B	DN40 40 mm (1.5")	60-600 l/min
050A	DN50 50 mm (2")	60-600 l/min
050B	DN50 50 mm (2")	120-1200 l/min
020Z	Other sizes and flow rates on request	
Process connection		
A	BSPP (parallel) female	
B	BSPT (taper) male	
C	PN16	
D	PN40	
E	PN100	
F	ANSI 150 RF	
G	ANSI 300 RF	
H	ANSI 600 RF	
Z	Other on request (eg. PNXX, tri-clamp, NPT, RJT etc)	
Max operating temperature		
S	Standard: 120°C	
M	Medium: 230°C	
H	High: 350°C	
Approvals		
0	General purpose	
1	ATEX EEx ia IIC	
2	ATEX IIB T6 to T3	
Output/display		
0	Coil only	
P	IC-MV-PO (PNP/NpN) pulsed output	
A	IC-MV-AN (4-20 mA) analogue output	
D	Flow transmitter / display (specify separately other than DTS)	
Mounting of instrument		
0	No instrument	
C	Compact (locally mounted on flow sensor, excl. high temp version)	
R	Wall mounted, incl. bracket (up to 3m from sensor, please specify)	
Options		
0	None	
1	Specify options	

ORDER CODE EXAMPLE

IC-LPM	015B	D	S	0	A	C	0
IC-LPMDTS	015B	D	S	0	D	C	0



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