MESLCD5-F - LCD FLOWRATE INDICATION FLOWMETERS

Positive Displacement

Sizes- 20, 25, 32, 40 and 50mm

FEATURES

- **5 digit LCD display shows Flowrate in Litres/min, with 1 decimal place, to 9999.9**
- **Nutating wobble disc measurement chamber.**
- **Small impurities pass chamber without jamming.**
- **Low hydraulic thrust minimises wear.**
- **Can be installed in virtually any position.**
- **Sealed IP65 digital display head.**
- **Wide impact resistant glass lens for easy cleaning and quick reading. Lid protects LCD from sunlight.**
- **Internal Lithium battery (5 - 10 year life).**
- **± 2% accuracy curve, with 0.2% repeatability. Much more accurate than visual rotameter sight glass methods.**
- **Calibration certificate supplied.**
- **Conforms to AS3565-1988, designed to meet AS3901.**
- **Easily upgradable to a high resolution pulse counter or resetable Totaliser for future automatic PLC applications or for higher process functionality requirements (see ManuFlo FRT303 data sheet).**

The MESLCD5-F series magnetically coupled positive displacement flowmeters incorporate a LCD instantaneous flowrate display powered by a 5-10 year internal long-life Lithium battery. The flowrate display shows Litres/minute to 1 decimal place. Covering a wide flowrange of low to high flowrates, the meters are suitable for a wide range of batching and measurement applications for water and water-based chemicals. They are ideal in situations where there is no external power supply available, making them totally portable indicator flowmeters.

The nutating disc measurement chamber used provides high reliability and accuracy for measurement of liquids with varying specific gravities and can pass small impurities without blockage to the measuring chamber. The digital display head is fully self-contained, with a wide impact resistant flat glass lens for easy cleaning and quick reading. The display head couples to the main meter body by a bayonet turn and lock fitting action. The display can be refitted to four viewing positions.

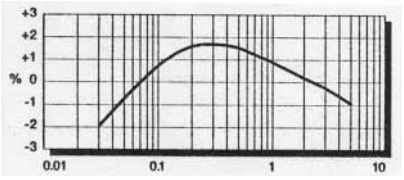
Closing the hinged lid protects the display from sunlight. To operate, lift the lid. The LCD display digits turn on, and show the flowrate in Litres/minute to 1 decimal place, up to 9999.9 Litres/minute. If there is no flow for 6 minutes, the display goes into sleep mode (digits turn off) to conserve battery power. From sleep mode, the display is re-awakened by either the occurrence of flow, or by closing and re-opening the lid.

FLOWRANGE DATA	**Size mm**	**20**	**25**	**32**	**40**	**50**
Start flow @ ±5%	Litres/min	0.6	1.1	1.5	3.0	4.0
Minimum flow ±2%	Litres/min	1.5	2.7	3.8	7.5	9.5
Nominal flow ±2%	Litres/min	45	65	125	200	360
Maximum flow ±2%	Litres/min					
• Admixture (Specific Gravity 1.4)		54	80	132	268	428
• Admixture (Specific Gravity 1.1)		68	102	168	340	545
• Water (Specific Gravity 1.0)		75	112	185	375	600

SPECIFICATIONS

Sizes mm	20	25	32	40	50
Weight (# including connectors)	1.8 kg	2.6 kg	6 kg	17 kg #	21 kg #
Connection type	¾" BSP(male)	1" BSP(male)	1¼" BSP(male)	1½" flanges	2" flanges

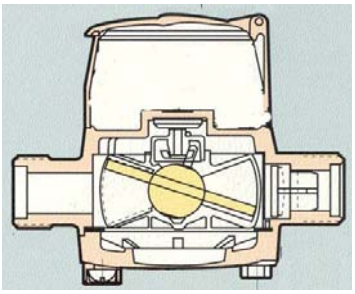
Accuracy range (min-max)	± 2 %
Repeatability	± 0.2 %
Headloss at nominal flow	25 kPa (3 m)
Max. cont. working pressure	<= 32mm: 1160 kPa; 40 & 50mm: 1034 kPa
Max. operating temperature	50°C
Power source	3.7v Lithium battery (5-10 year life)
Display	5 digit LCD display, 10mm high digits
Readout	Litres/minute, 1 decimal place, to 9999.9
Display capsule rating	Waterproof to IP65



20mm Accuracy Flow Curve, KL/hr

MATERIAL SPECIFICATIONS

1. Digital display head	Polyacetal with copper capsule and toughened glass
2. Meter body	Cast gun-metal, optional Teflon coating
3. Strainer	Polyacetal
4. Measuring chamber	Synthetic Polymer (Nepton), optional Ryton-MTL
5. Chamber O-ring	NBR rubber
6. Base sealer ring	NBR rubber
7. Base plate	20 & 25 mm: Cast Iron, powder coated; 32 - 50 mm: Gunmetal.
8. Base body screws	Stainless Steel 316
9. (not used)	
10. (not used)	



Measurement chamber internal view

INSTALLATION

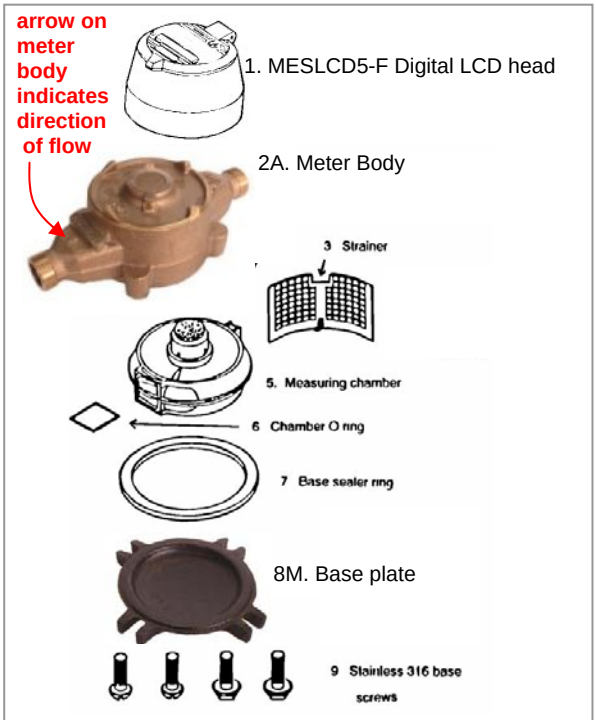
1. LCD readout head rated to IP65. Avoid prolonged direct sunlight on LCD display.
2. Flowmeters may generally be installed in any plane without affecting accuracy (but not upside down if particles are present, as mag-drive assembly may be obstructed). **Ensure arrow on meter body coincides with forward direction of flow.**
3. Flush out pipelines thoroughly before connecting flowmeter.
4. Although the flowmeter can pass small impurities, a filter box or strainer (800 micron filter recommended) should be fitted prior to meter if fluid to be measured contains excessive impurities and particles
5 Any flow restriction or regulation valve should be fitted preferably before the flowmeter. Quick-closing valves should be fitted before the meter if used for higher-end flowrates (thus avoiding sudden pressures on the flowmeter chamber) provided that the plumbing configuration allows the pipe to remain full where the flowmeter is located.
6. Once installed, flowmeter must measure liquid **with full pipe at all times.**
7. To avoid damage to measuring chamber, never exceed the rated maximum flow range.
8. To change viewing display angle, push in the display head locking pin, turn the display head anti-clockwise, and the head lift off.
   CAUTION: Do not press on, or impact, the copper base of the display head.
   Re-position the head to the desired viewing position, and re-insert the locking pin.
9. **IMPORTANT: AS LAST STEP OF INSTALLATION, A CALIBRATION CHECK OF FLOWMETER MUST BE PERFORMED.**

MAINTENANCE

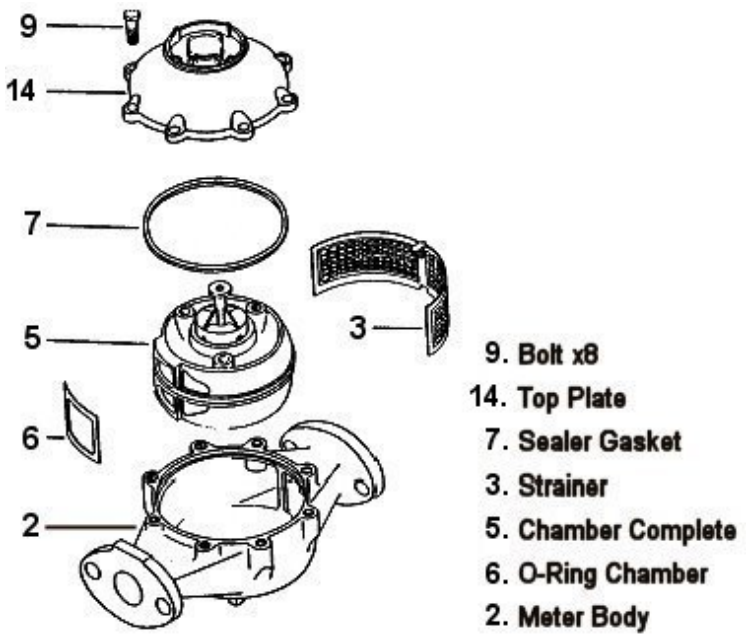
If flow becomes excessively restricted, digits fail to count, or meter is out of calibration, then:

1. Close service gate valve. Holding the digital head, turn the head anti-clockwise, pull up and remove.
   CAUTION: Do not press on, or impact, the copper base of the display head.
2. To access measuring chamber, undo flanges (if applicable), rotate meter body (40mm has access from the top). Unscrew 4x base screws, remove base plate and base seal ring. Using long nose pliers, pry and pull out white strainer screen unlocking measuring chamber assembly, remove chamber and inspect.
3. If required, clean chamber parts in warm water or dilute acid (4:1 Water:Hydrochloric-acid). Make sure internal chamber wobble disc roller pin is in place and shutter plate is refitted. Then, reassemble meter by repositioning measuring chamber and position locking with strainer plate. Refit other components and seal meter.
   IMPORTANT: AFTER ANY SERVICE, A CALIBRATION CHECK OF FLOWMETER MUST BE PERFORMED.
4. If battery replacement is necessary, then return the display head (not necessarily the whole flowmeter, unless full calibration is required) to ManuFlo.

NOTE: If flowmeter is used with sticky admixtures and runs dry, then flush with water. Otherwise, admixture may crystallise and seize chamber parts, necessitating service and cleaning.

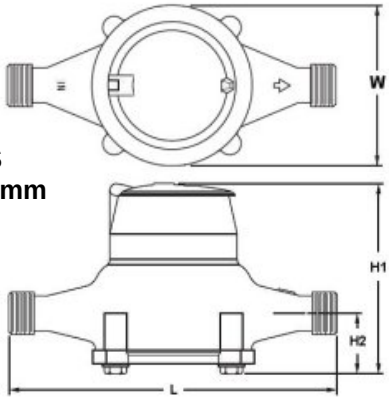


20, 25 and 32mm meter components.



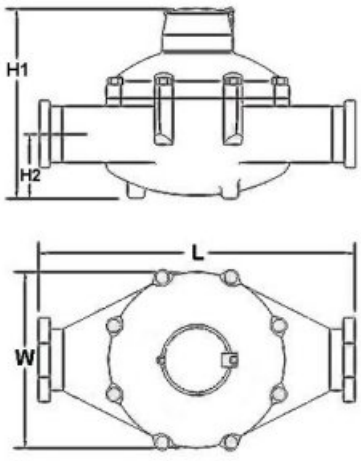
40mm and 50mm meter components

DIMENSIONS
20, 25 and 32mm



DIMENSIONS

Meter size mm		20	25	32	40	50
Length body end to end	L	191	229	273	330	432
Overall Height	H1	158	158	200	252	283
Overall Width	W	92	92	165	205	240
Height underface to centre	H2	41	41	54	65	79



DIMENSIONS 40mm and 50mm

ORDER CODES

MES20LCD5-F	20 mm, Litres/min, to 9999.9
MES25LCD5-F	25 mm, Litres/min, to 9999.9
MES32LCD5-F	32 mm, Litres/min, to 9999.9
MES40LCD5-F	40 mm, Litres/min, to 9999.9
MES50LCD5-F	50 mm, Litres/min, to 9999.9

Options for 20mm flowmeters only (add suffix to Order Code)

-S	Measuring chamber is Ryton-MTL for aggressive chemical admixtures and petroleum-based liquids.
-S-T	Measuring chamber is Ryton-MTL, and body and couplings are Teflon coated, for corrosive liquids.

Due to continuous product improvement, specifications are subject to change without notice.

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