

# MESLCD5

- DIGITAL LCD RESETABLE COUNTER

Positive Displacement

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

## FEATURES

- \* LCD display head with a resetable total in Litres (optionally to 1 or 2 decimal places for 20mm models, & optionally to 1 decimal place for 25mm models).
- \* Nutating wobble disc measurement chamber.
- \* Small impurities can pass chamber without jamming.
- \* Low hydraulic thrust minimises wear.
- \* Sealed IP65 digital display capsule.
- \* Wide impact resistant glass lens for easy cleaning and quick reading.
- \* Internal 5-10 year long-life Lithium battery.
- \*  $\pm 1.5\%$  accuracy curve, with 0.2% repeatability.
- \* Conforms to AS3565-1988, designed to meet AS3901.
- \* Calibration certificate supplied.
- \* Simple upgrade to high resolution pulse counter for future automatic batching applications.



The MESLCD5 series magnetically-coupled positive-displacement flowmeters incorporate an LCD resetable display counter, powered by an internal long life (5-10 year) Lithium battery. With low to high flowrange performance, 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 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 LCD 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.

To operate, lift the hinged lid. The LCD display digits turn on and are automatically zeroed and ready for measurement. The display counts in single Litres up to 99999 (for sizes >20mm) or up to 9999 (for 20mm). The decimal point versions count either to 9999.9 Litres (1 decimal place version) or 999.99 Litres (2 decimal place version). Closing the lid resets digits and turns off battery power.

When the lid is open, if there is no flow for 6 minutes, then the display goes to sleep (goes blank) to conserve battery power. From sleep mode, the display is reawakened by either:

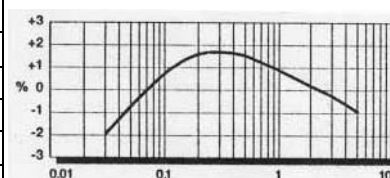
- the occurrence of flow (the count before going to sleep is continued); or
- by closing and re-opening the lid (the count is reset).

FLOWRANGE DATA	Size mm	20	25	32	40	50
Start flow @ $\pm 5\%$	Litres/min	0.6	1.1	1.5	3.0	4.0
Minimum flow $\pm 1.5\%$	Litres/min	1.5	2.7	3.8	7.5	9.5
Nominal flow $\pm 1.5\%$	Litres/min	45	65	125	200	360
Maximum flow $\pm 1.5\%$	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**

Size mm	20 (non-dp)	20 (dp)	25	32	40	50
Number of digits in LCD display	4	5	5	5	5	5
Digit height	14mm	12mm	12mm	12mm	12mm	12mm
Max reading (non-decimal place version)	9999 L	n/a	99999 L	99999 L	99999 L	99999 L
Max reading (decimal place version)	n/a	9999.9 L or 999.99 L	9999.9 L	n/a	n/a	n/a
Weight (# including connectors)	1.8 kg	1.8 kg	2.6 kg	6 kg	17 kg #	21 kg #
Connection type	3/4" BSP(m)	3/4" BSP(m)	1" BSP(m)	1 1/4" BSP(m)	1 1/2" flanges	2" flanges

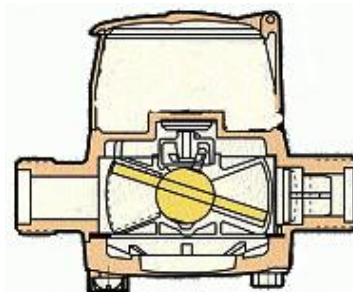
Accuracy range (min-max)	± 1.5% (± 2% if display is Flowrate)
Repeatability	± 0.2%
Headloss at nominal flow	25 kPa (3 m)
Max. cont. working pressure	<= 32mm: 1160 kPa; 40 & 50mm: 1034 kPa
Max. operating temperature	50 °C
Power source	3.7v Lithium cell (5-10 year life)
Readout	LCD display in Litres (if flowrate: in Litres/min, 10mm high digits)
Display head rating	Waterproof to IP65



20mm Accuracy Flow Curve (KL/hr)

**MATERIAL SPECIFICATIONS**

1.	Digital display head	Polyacetal c/w copper capsule & toughened glass
2A.	Meter body	Cast gun-metal
3.	Strainer	Polyacetal
5.	Measuring chamber	Synthetic Polymer (Nepton)
6.	Chamber O ring	NBR rubber
7.	Base sealer ring	NBR rubber
8.	Base plate	20 mm: ABS Plastic.
8M.	Base plate	25mm: Cast Iron, powder coated. 32 - 50mm: Gun-metal.
9.	Base body screws	Stainless Steel
10. & 12.	(not used)	



Measurement Chamber internal view

**INSTALLATION**

- LCD display head is rated IP65. Avoid prolonged direct sunlight on the LCD display.
- 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.**
- Flush out pipelines thoroughly before connecting flowmeter.
- Although the flowmeter can pass small impurities, a filter box or strainer (800 micron filter recommended) should be fitted prior to the meter if the fluid to be measured contains excessive impurities and particles.
- 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.
- Once installed, the flowmeter must measure liquid with **full pipe at all times.**
- To avoid damage to measuring chamber, never exceed the rated maximum flowrate.
- To change viewing display angle, push in the display head locking pin and turn display head anti-clockwise. Lift off capsule and re-position to desired viewing position. Re-insert locking pin.  
**CAUTION: Do not press on, or impact, the copper base of the display head.**
- 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:

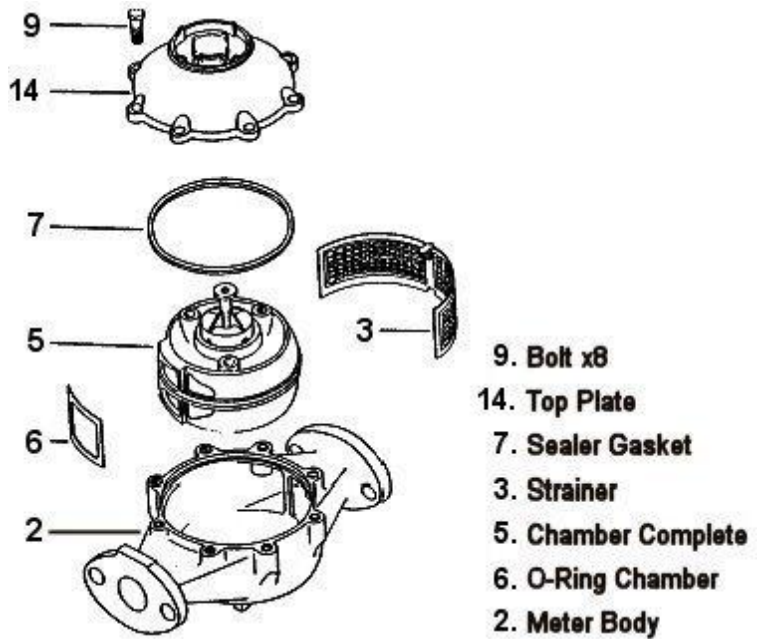
- Close service gate valve. Push in the locking pin on the digital display head. Turn the display head anticlockwise, pull up display head and remove. **CAUTION: Do not press on, or impact, the copper base of the display head.**
- To access measuring chamber: undo flanges if applicable, rotate meter body (40mm flowmeter has access from top). Unscrew the 4x base screws, remove base plate and base seal ring. Using long nose pliers, pry and pull out the white strainer screen which then unlocks the measuring chamber assembly. Remove chamber and inspect.
- 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 the measuring chamber and lock in position with strainer plate. Refit other components and seal the flowmeter.
- IMPORTANT: AFTER ANY SERVICE, A CALIBRATION CHECK OF THE FLOWMETER MUST BE PERFORMED.**

**NOTE: If the 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.**

arrow on meter body indicates direction of flow.



20, 25 & 32mm meter components

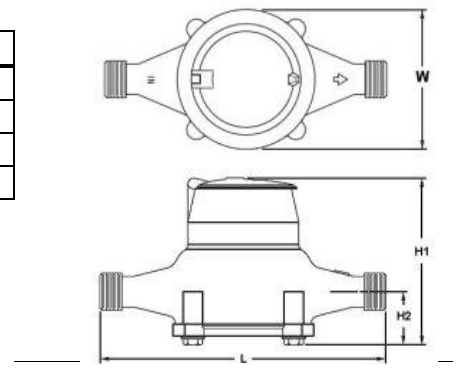


40mm & 50mm meter components

**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 20, 25 & 32mm**



**ORDER CODES**

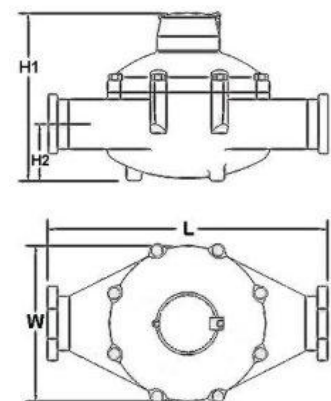
MES20LCD4	20mm Litres	to 9999
MES20LCD5DP	20mm Dec.pt Litres	to 9999.9
MES20LCD5DP2	20mm Dec.pt Litres	to 999.99
MES25LCD5	25mm Litres	to 99999
MES25LCD5DP	25mm Dec.pt Litres	to 9999.9
MES32LCD5	32mm Litres	to 99999
MES40LCD5	40mm Litres	to 99999
MES50LCD5	50mm Litres	to 99999

**OPTIONS for any DP-type flowmeter**

-F	Display is $\pm 2\%$ Flowrate in Litres/min to 9999.9
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**OPTIONS for 20mm flowmeter only (add suffix to Order Code)**

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



**DIMENSIONS 40mm & 50mm**

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