

# MESLCD4-F LCD FLOWRATE INDICATION FLOWMETERS (Larger digits)

Positive Displacement ( sizes: 20, 25, 32 and 40 mm )

## FEATURES:

- LCD Display with larger Digits.
- 4 digit FLOWRATE INDICATION in Litres per minute to 1 decimal place.
- External re-calibrate via Smart Phone with NFC –No need to access buttons
- IDEAL where no external power is available
- Flowrate responds to flow speeds with dampening option for pulsating pumps
- Superior accuracy for flowrate monitoring
- New improved industrial grade metal display housing

## STANDARD FEATURES:

- 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 10+ year long-life Lithium battery.
- ± 1.5 % accuracy curve, with 0.2% repeatability.
- Conforms to AS3565-1988, designed to meet AS3901.
- Calibration certificate supplied (NMI-1671).
- Simple upgrade to high resolution pulse counter for future automatic batching/monitoring applications.



MES20LCD4-F 20mm size shown

The MESLCD4-F series magnetically-coupled positive-displacement flowmeters incorporates a larger LCD flowrate indication integral display, powered by an internal long life (10+ year) Lithium battery. With low to high flowrange performance, the meters are suitable for a wide range of batching and flow speed monitoring 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 flowrate indicator flowmeters.

The nutating disc measurement chamber used provides high reliability and accuracy for measurement of liquids with varying specific gravities (without need for re-calibration), 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 90degree viewing positions.

To operate, lift the protective hinged lid to see the LCD display. The LCD display digits turn on and are automatically ready for measurement. The display indicates flowrate and responds to the liquid velocity ranges from 0.1 Litres per minute (dependant of flowmeter size minimum flowrate capacity).

If there is no flow for 5 minutes, then the display will enter sleep mode (blanks out) to conserve battery power. From sleep mode, the display is reawakened by either:

- The occurrence of flow; or
- By closing and re-opening the lid.

## FLOWRANGE DATA

MESLCD4-F

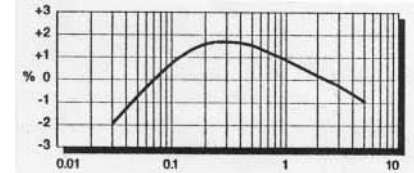
| Size ( mm )                                |                   | 20  | 25  | 32  | 40  |
|--------------------------------------------|-------------------|-----|-----|-----|-----|
| Start flow @ ±5%                           | Litres per minute | 0.6 | 1.1 | 1.5 | 3.0 |
| Minimum flow ±1.5% (full range flow curve) | Litres per minute | 1.5 | 2.7 | 3.8 | 7.5 |
| Nominal flow ±1.5% “ “ “ “                 | Litres per minute | 45  | 65  | 125 | 200 |
| Maximum flow ±1.5% “ “ “ “                 | Litres per minute |     |     |     |     |
| • Admixture (Specific Gravity 1.4)         |                   | 54  | 80  | 132 | 268 |
| • Admixture (Specific Gravity 1.1)         |                   | 68  | 102 | 168 | 340 |
| • Water (Specific Gravity 1.0)             |                   | 75  | 112 | 185 | 375 |

## SPECIFICATIONS

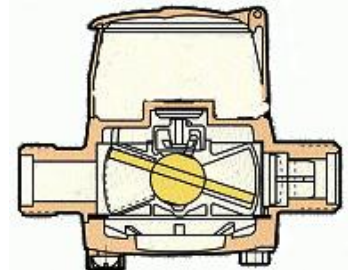
MESLCD4-F

| Size mm                         | 20                             | 25           | 32                         | 40                                          |
|---------------------------------|--------------------------------|--------------|----------------------------|---------------------------------------------|
| Number of digits in LCD display | Counter: 4 digits              |              |                            |                                             |
| Digit height                    | Counter: 20 mm                 |              |                            |                                             |
| Min. to Max LCD reading         | 000.1 to 999.9 L (Litres/min.) |              |                            |                                             |
| Weight (# including connectors) | 1.4 kg                         | 2.3 kg       | 6 kg                       | 17 kg #                                     |
| Connection type                 | $\frac{3}{4}$ "<br>BSP(m)      | 1"<br>BSP(m) | $1\frac{1}{4}$ "<br>BSP(m) | $1\frac{1}{2}$ " Oval flanged<br>kit BSP(f) |

|                             |                                   |                                                                            |
|-----------------------------|-----------------------------------|----------------------------------------------------------------------------|
| Accuracy range (min-max)    | ± 1.5%                            |                                                                            |
| Repeatability               | ± 0.2%                            |                                                                            |
| Headloss at nominal flow    | 25 kPa (3 m)                      |                                                                            |
| Max. cont. working pressure | <= 32mm: 1160 kPa; 40mm: 1034 kPa |                                                                            |
| Max. operating temperature  | 50 °C                             |                                                                            |
| Power source                | 3.6v Lithium cell (10+ year life) |                                                                            |
| Readout                     | Flowrate                          | L/M (Litres per minute to 1 dec.pl.)<br>With dampening for pulsating flows |
| Display head rating         | Waterproof to IP65                |                                                                            |



20mm Accuracy Flow Curve (KL/hr)



Measurement Chamber internal view

## MATERIAL SPECIFICATIONS

|     |                      |                                                |
|-----|----------------------|------------------------------------------------|
| 1.  | Digital display head | Gun-metal 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           | 25-32mm: Cast Iron, powder coated.             |
| 9.  | Base body screws     | Stainless Steel                                |
| 14. | Upper case           | 40mm: Gunmetal                                 |

## INSTALLATION

MESLCD4-F

- LCD display head is rated IP65. Avoid prolonged direct sunlight on the LCD display. Display can be positioned in 90° increments.
  - 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

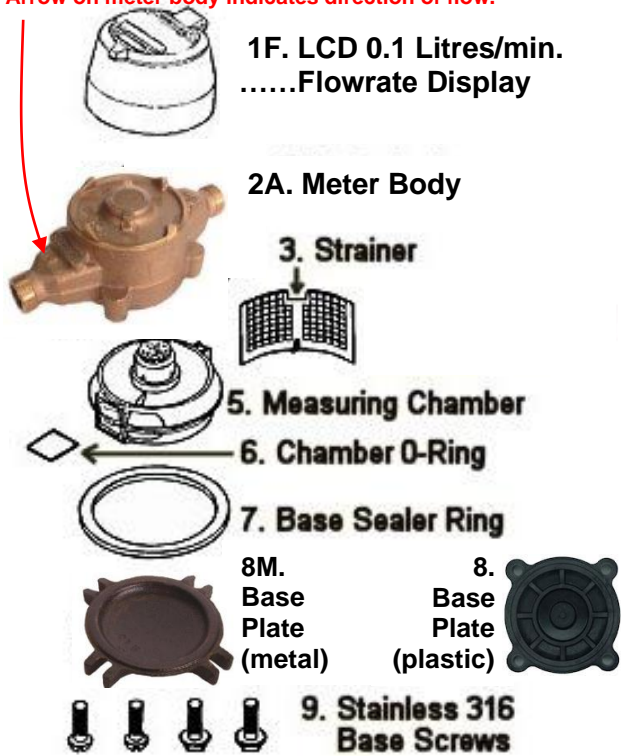
MESLCD4-F

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

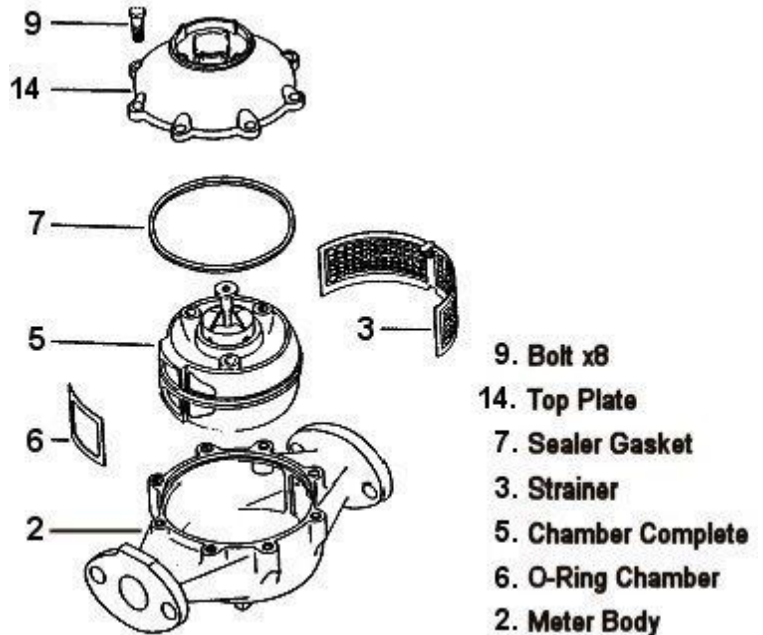
- Close service gate valve. Push in the locking pin on the digital display head. Turn the display head anticlockwise, pull up display head and remove. **CAUTION: Do not press on, or impact, the copper base of the display head.**
- To access measuring chamber: undo flanges if applicable, rotate meter 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 (5:1 Water: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

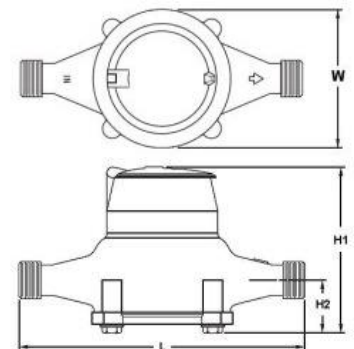


40mm & 50mm meter components

**DIMENSIONS**

| Meter Size                 | mm | 20  | 25  | 32  | 40  |
|----------------------------|----|-----|-----|-----|-----|
| Length body end to end     | L  | 191 | 229 | 273 | 330 |
| Overall Height             | H1 | 158 | 158 | 200 | 252 |
| Overall Width              | W  | 92  | 92  | 165 | 205 |
| Height undefaced to centre | H2 | 41  | 41  | 54  | 65  |

**DIMENSIONS 20, 25 & 32mm**



| ORDER CODE  | Size | Display                                                                       |
|-------------|------|-------------------------------------------------------------------------------|
| MES20LCD4-F | 20mm | Standard settings:<br>- -Display in Litres/min. (L/M)<br>- -to 1decimal place |
| MES25LCD4-F | 25mm |                                                                               |
| MES32LCD4-F | 32mm |                                                                               |
| MES40LCD4-F | 40mm |                                                                               |

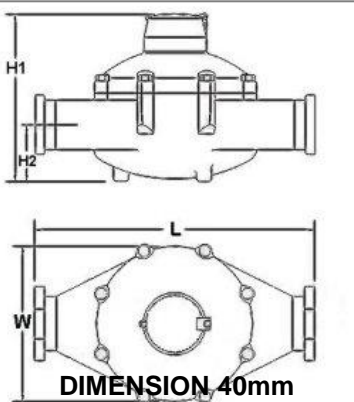
**OPTIONALS**

|              |                                                                |
|--------------|----------------------------------------------------------------|
| damp9        | Dampening for pulsating flows                                  |
| <b>Note:</b> | Increase filter setting if the flowrate reading is not stable. |

**OPTIONS for 20mm flowmeter only (add suffix to Order Code)**

|    |                                                                        |
|----|------------------------------------------------------------------------|
| -E | EDPM seal for greater resistance to chemicals (in lieu of rubber seal) |
| -T | Teflon-coated body only.                                               |

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



**DIMENSION 40mm**