MesaLabs

Mesa Labs Technician Meters

Accurate[1] · Reliable[1] · Traceable[2]

Renal Care

Mesa Labs technician meters play a crucial role of calibrating dialysis machines around the world, to ensure accurate delivery of correct dialysate prescription. Whether they are used in manufacturing line or in clinics to troubleshoot, Mesa Labs technician meters remain reliable, must-have tool.

These meters are multifunctional and portable, and are used to measure conductivity, flow, pH, temperature and pressure of the dialysate fluids from dialysis machines, dialysate concentrates, as well as water from purification systems.[3]

Currently, Mesa Labs offers **90XL Technician Meter**, **SmartHDM Meter**, and **HDM97Pocket Meter** to suit each customers' needs.

90XL Technician Meter

Specifications

Dimensions
3.3” x 6” x 1.5”
Weight
9.9 oz
Power
Battery or Plugged In
Battery Type
3.6V Lithium-Ion (Rechargeable)

Conductivity Temperature Module

(Temperature Compensation: 10˚C to 90˚C – *optimized for 20˚C to 40˚C*)

Range: 0 to 200.0 mS
Resolution: 0.1 µS from 0 - 80 µS
0.001 from 0 to 22.00 mS
0.01 from 22.00 to 80.00 mS
0.1 above 80.00 mS
Accuracy: ± 0.35% of reading + 0.002mS from 0 to 1.99 mS
± 0.20% of reading + 0.002 from 2 to 29.99 mS
± 0.50% of reading above 30 mS

Range: 10˚C to 90˚C
Resolution: 0.01˚C
Accuracy: ± 0.1˚C

pH Module

(Temperature Compensation: 10˚C to 90˚C – *optimized for 20˚C to 40˚C*)

Range: 0 to 14 pH units
Resolution: 0.01 pH units
Accuracy: ± 0.1 pH units

Pressure Module

(Temperature Compensation: 10˚C to 90˚C – *optimized for 20˚C to 40˚C*)

Range: -600 to +1600 mmHg
Resolution: 0.1 mmHg
Accuracy: ± 1.0 mmHg from 0 to 199 mmHg gauge
± 1.5 mmHg from 200 to 300 mmHg gauge
± 0.5% of reading +1 mmHg above 300 mmHg and below 0 mmHg

Note: Using a SmartHDM USB-A to 90XL Module Cable along with SmartHDM software, it'll allow for communcation between 90XL modules and SmartHDM display.

Dialysis Calibration Meter Expertise

All Mesa labs technician meters have been developed and manufactured with decades of experience in designing meters biomed technicians have come to trust and rely on.

SmartHDM System

HDU-CDTP

HDU-FL100.2000

HDU-PRS

HDU-pH-I

Specifications

Dimensions
9.25" x 5.75" x 1.26"
Weight
1.65 lbs
Power
Battery
Battery Type
8000 mAh Li-polymer battery (Rechargeable)

Conductivity – HDU-CDTP

CONDUCTIVITY:

Range: 0 to 200.00 mS/cm

Accuracy: 0 to199 uS/cm ± 0.6 uS cm
200 to 1 999 uS/cm ± 6 uS/cm
2 to 11.99 mS/cm ± 0.06 mS/cm
12 to 19.99 mS/cm ± 0.03 mS/cm
20 to 200 mS/cm ± 0.6% of reading

Temperature Compensation: Referenced to 25˚C
Adjustable via multiple modes: linear
one value, dynamic two values, nLF-Iso - nonlinear according to ISO7888

TEMPERATURE:

Range: 0 to 100°C

Resolution: 0.01°C

Accuracy: ± 0.1°C

Flow – HDU-FL100.2000

Measuring principal: Turbine

Range: 100 to 2000 ml/min H2O at 22°C / 71.6°F

Resolution: 1 ml/min

Accuracy: ± 2.0 % of reading

Fluid temperature: -20°C to +80°C

Pressure: 0 to 5 bar at 22°C

pH – HDU-pH-I

Range: 0 to 14 pH

Resolution: 0.01 pH

Accuracy: ± 0.02 pH

Pressure

HDU-PRS30 Pressure Sensor

Range: -13.5 to 36.7 Psi/ -0.90 to 2.5 bar/ -700 to 1,900 mmHg

Resolution: 0.01 mmHg

Accuracy: 0 to 300 mmHg ± 1 mmHg
Otherwise ± 2 mmHg

Overpressure: 2 x Full Scale

Media Compatibility: Gasses and Fluids

HDU-PRS100 Pressure Sensor

Range: -13.5 to 100 psi/ -0.90 to 6.9 bar/ -700 to 5,150 mmHg

Resolution: 0.1 mmHg

Accuracy: 0.1% Full Scale

Overpressure: 2 x Full Scale

Media Compatibility: Gasses and Fluids

ISO 13485 Certification

To ensure these meet the highest level of compliance as a medical device, all Mesa Labs technician meters are developed and manufactured in facilities certified under ISO 13485 quality management system.

HDM97Pocket Meter

Specifications

Dimensions
6.5" x 3.2" x 1.3"
Weight
0.88 lbs
Power
Battery or Plugged In
Battery Type
Lithium-Ion Polymer (Rechargeable)

HDM97BQ and HDM97BO Sensor Specs

CONDUCTIVITY

Reference temperature 25° C. Temperature compensation is 2.07%/K. Adjustable from 0.00 to 4.00%/K or selectable from dialysis machine manufacturer preset values

Range: 0.0 µS/cm - 30 mS/cm

Resolution: 0.0 - 200 µS/cm: 0.1 µS/cm
201 - 1999 µS/cm: 1 µS/cm
2 - 30 mS/cm: 0.01 mS/cm

Accuracy: 0.0 - 200 µS/cm: ± 0.6 µS/cm
201 - 1999 µS/cm ± 6 µS/cm
2 - 11.99 mS/cm ± 0.06 mS/cm
12 - 15.99 mS/cm: -± 0.3 mS/cm
16 - 30 mS/cm: ± 0.6 mS/cm

TEMPERATURE

Range: 0 to 100° C

Resolution: 0.01° C

Accuracy: ±0.1° C

PRESSURE (Standard)

Range: -13.5 to 36.7 Psi, -700 - 1900 mmHg, 2.5 Bar

Resolution: 0.01 mmHg

Accuracy: 0 - 300 mmHg: ± 1 mmHg
Otherwise ± 2 mmHg

PRESSURE (High Accuracy - Option H)

Range: -13.5 to 36.7 Psi, -700 - 1900 mmHg, 2.5 Bar

Resolution: 0.01 mmHg

Accuracy: 1 - 300 mmHg: ± 0.5 mmHg
1000 - 1900 mmHg: ± 2 mmHg
Otherwise ± 1 mmHg

** Sensor not fluid resistant*

FLOW

Range: 100 - 2000 ml/min

Resolution: 1 ml/min

Temperature Range: 0 - 85°C

Accuracy: ±2.0% of measured value

Repeatability: Better ±0.5%

Pressure: 0 to 5 bar at 22° C

Ordering Guide

90XL Technician Meter

ITEM NUMBER	DESCRIPTION
350150603	**90XL Display**
350150600	**90XL Conductivity/Temperature Module**
350150602	**90XL pH Module**
350150601	**90XL Standard Pressure Module**
350150605	**90XL Pressure Module** (Accuracy +/- 0.8mmHg from 0 to 300mmHg)

ITEM NUMBER	DESCRIPTION
5521106000	**90XL Complete System** Display, Conductivity/Temperature Module, Standard Pressure Module, pH Module, Select Accessories and Solutions
5021106001	**90XL System Plus (Standard Pressure)** Display, Conductivity/Temperature Module, Standard Pressure Module, and Select Accessories
5021106002	**90XL System Plus (Negative Pressure)** Display, Conductivity/Temperature Module, Standard Pressure Module, and Select Accessories (Adapter for Negative Pressure)
5521106006	**90XL System Plus (+/- 0.8 mmHg)** Display, Conductivity/Temperature Module, +/- 0.8 mmHg Pressure Module, and Select Accessories
5021106007	**90XL System Plus** (Extra Conductivity/Temperature Module) Display, Conductivity/Temperature Modules x 2, and Select Accessories

SmartHDM System

ITEM NUMBER	DESCRIPTION
31.0320.01	**SmartHDM HDC84 Display**
31.0400.00	**HDU-CDTP Condo/Temp Sensor**
31.0431.30	**HDU PRS30 Pressure Sensor**
31.0431.70	**HDU PRS100 Pressure Sensor**
31.0460.00	**HDU-Pt100-I Interface**
31.0465.00	**HDU-pH-I Interface**
31.0466.00	**HDU pHPt-I Interface**
31.0465.10	**HDU-pH-I Accessory Bundle** pH Probe and Select Solutions

ITEM NUMBER	DESCRIPTION
31.0600.00	**HDU-Pt100 Immersion/ Penetration Probe Interface**
31.0601.00	**HDU-Pt100 Surface Probe**
31.0603.00	**HDU-Pt100 Stainless Steel Probe**
31.0604.00	**HDU-Pt100 Laboratory Probe**
31.0450.00	**HDU-FL100.2000 Flow Sensor**
31.0320.02	**HDC84 Hemodialysis Basic HDU-Bundle** Display, HDU-CDTP Conductivity/Temperature Sensor, HDU-PRS30 Pressure Sensor, and Select Accessories
31.0320.03	**HDC84 Hemodialysis Complete HDU-Bundle** Display, HDU-CDTP Conductivity/Temperature Sensor, HDU-PRS30 Pressure Sensor, HDU-FL100.2000 Flow Sensor, and Select Accessories
31.0486.20	**SmartHDM USB-A to 90XL Module Cable 2.67 ft**

HDM97Pocket Meter

ITEM NUMBER	DESCRIPTION
31.0103.01	**HDM97BO Meter** Display, Built-In/Connected Conductivity/Temperature and Pressure Sensors, and Select Accessories
31.0103.02	**HDM97BO Complete System** Display, Built-In/Connected Conductivity/Temperature and Pressure Sensors and Additional Accessories
31.0105.01	**HDM97BQ Meter** Display, Built-in/ Connected Conductivity/Temperature, Pressure Sensor, Flow Sensor Input, and Select Accessories

ITEM NUMBER	DESCRIPTION
31.0105.03	**HDM97BQ Complete System** Display, Built-in/Connected Conductivity/Temperature and Pressure Sensor, Flow Sensor, and Additional Accessories
31.0123.00	**Option H** (added to meter order) - Higher Accuracy Pressure Sensor
31.0124.00	**Option C** (added to meter order) - Disconnectable Conductivity Sensor

If you would like to place an order for Mesa Labs technician meters, please contact us at *customerservice@mesalabs.com* or your sales representative.

Protecting the Vulnerable™

At Mesa Labs, our commitment to being a purpose-driven business guides our journey towards an impactful future. We play a vital role in providing accurate[1], reliable[1], and traceable[2] calibration solutions for renal care, highlighting our collective purpose of Protecting the Vulnerable™.

To learn more, visit us online by scanning:

FDA Class II Medical Device

Indications for Use[3]: The 90XL Technician Meter is intended for use by hemodialysis professionals to measure the conductivity, temperature, pH, and pressure of the dialysate solution with hemodialysis delivery systems. Water purification specialists may also use the 90XL instrumentation system to verify proper characteristics of the water used in hemodialysis. These parameters are key to indicators of system performance and require periodic monitoring and adjusting to maintain safe and effective hemodialysis systems.

Indications for Use[3]: The SmartHDM-510 System may be used by hemodialysis personnel to test the conductivity, temperature, pressure, pH and flow of the dialysate solution used with hemodialysis delivering systems. The SmartHDM-510 system may also be used to test the conductivity/temperature and pH of acid and sodium bicarbonate dialysate concentrates and water used in hemodialysis applications. The intended use is limited to periodic use for installation and maintenance of hemodialysis delivering systems and does not include the daily monitoring of hemodialysis delivering systems prior to treatment.

Indications for Use[3]: The HDM97 may be used by hemodialysis personnel to test the conductivity, temperature and pressure of the dialysate solution used with hemodialysis delivering systems. The HDM97 may also be used to test the conductivity/temperature of acid and sodium bicarbonate dialysate concentrates and water used in hemodialysis applications.

References

[1] Mesa Laboratories, Inc is ISO 17025 and ISO 13485 certified and adheres to the ISO guidelines: ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories ISO 13485:2016 Medical devices — Quality management systems — Requirements for regulatory purposes.

[2] FDA 21 CFR Part 821 Medical Device Tracking

[3] FDA 510(k) K050812, FDA 510(k) K201765, FDA 510(k) K020908