VEROXLABS

High Accuracy

Temperature accuracy ± 0.03°C for both channels in the physiological range

Dual Channel

Dual channel temperature measurement

Multiple Sensors

Integrate up to 10 sensor probes per channel

Desktop Software

Real time data viewing on PC

CE IEC/EN 61010 IEC/EN 61326

METRUM 2

Dual Channel Digital Thermometer

Precision embryology needs precision tools

Discover the future of precise temperature measurement with the Metrum 2 Dual Channel Digital Thermometer.

This advanced device combines cutting-edge technology with an array of features to meet various applications' diverse temperature monitoring needs.

Whether you're in an IVF Clinic, laboratory, medical facility, research environment, manufacturing, or process control the Metrum 2 Thermometer is the ultimate solution for accurate and efficient temperature analysis.

The thermometer has a dedicated sensing channel for T-Type Thermocouple sensors and another for RTD/PT100 sensors. Each channel can hold up to 10 calibration configurations. This feature enables the use of 20 distinct temperature sensors with the thermometer.

This extensive range of choices ensures that you can easily find the optimal solution to meet your precise requirements.

INSPIRED INNOVATIVE SOLUTIONS

Metrum 2 Thermometer Features

- Dual-channel temperature measurement.
- Each sensing channel can be configured to operate 10 distinct types of T-Type thermocouples and RTD, and PT100 sensors.
- Temperature display Celsius/Fahrenheit.
- Ambient temperature measurement.
- Displays Minimum, Maximum, or Average temperature.
- Hold function.
- High and low alarms for rapid detection of temperatures outside the limits.
- Date and time display.
- Powered by a single 9V battery.
- Ability to power via USB (Adaptor included).
- Adjustable auto power-off function.
- Battery life indicator.
- USB connectivity to monitor/analyze temperature on PC.

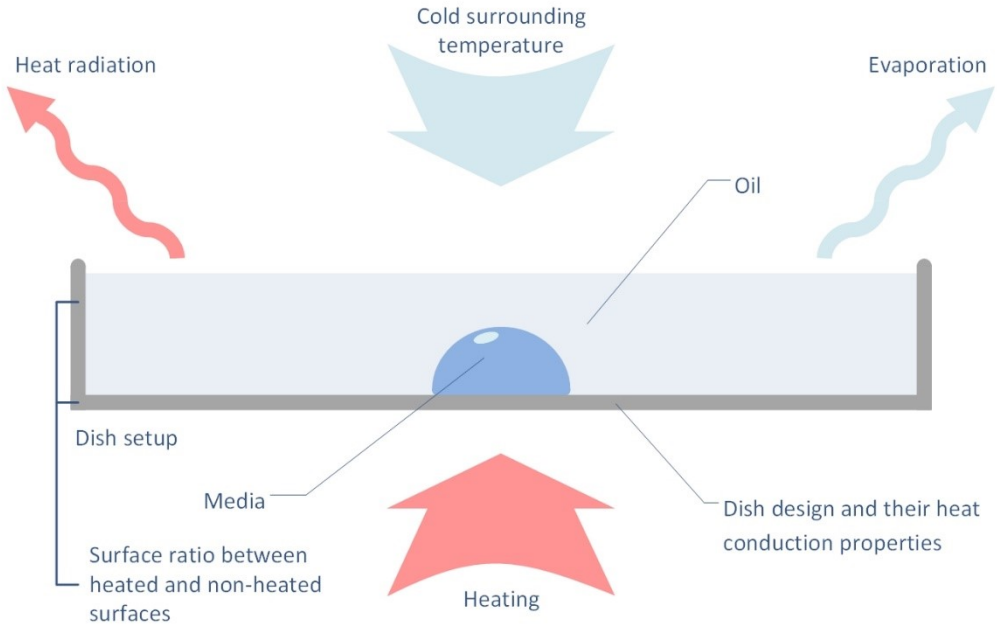
“ Designed and engineered for accuracy and reliable results every time …. ”

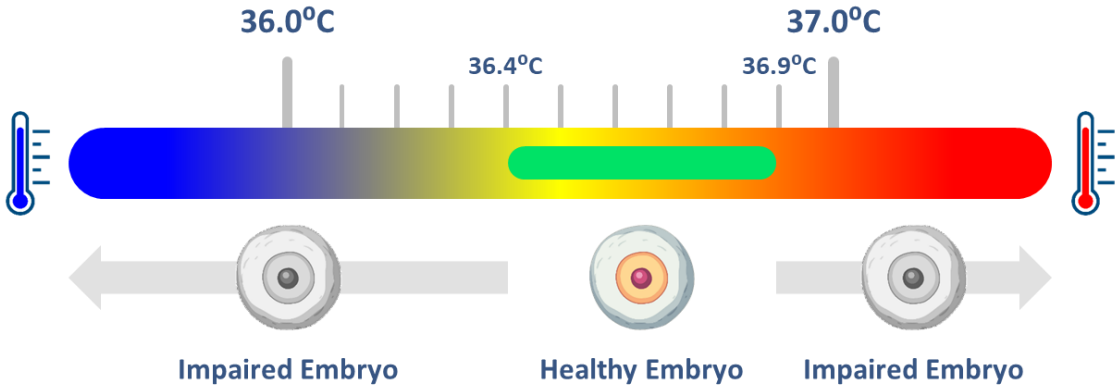
VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

Accurate temperature measurements and precise temperature control in the IVF lab are essential for achieving optimal results

Controlling the temperature of media in Petri dishes during manipulation remains challenging despite the application of heated surfaces. Simply measuring the temperature of heated surfaces is inadequate, given that media temperatures are influenced by the interplay between both heated and non-heated surfaces, along with variables such as the temperature of heated and non-heated surfaces, their ratios, evaporation, heat radiation, heat transfer, dish design, and dish setup collectively contribute to the complexities affecting media temperatures.





- Negative effect on meiotic spindle stability.
- Reduced fertilization rates, delayed embryo development.

- Expression of stress response genes.
- Conformation changes in molecules and structures.

"*Ideal*" Temperature > 36.4°C and < 36.9°C

The temperature measurement of media in Petri dishes positioned on heated surfaces is additionally complicated by the specific method of temperature assessment. The characteristics of certain temperature probes frequently employed in laboratories can impact their appropriateness for the diverse temperature measurements needed in this context.

Measuring the temperature of media and oil in a Petri dish with an integrated needle sensor probe

These dishes are specifically designed to emulate laboratory operational conditions, offering the capability to be filled with culture media and oil. This replication mirrors real scenarios for temperature measurements. By measuring the temperature at the center of the dish, adjustments to the heating system set point can be made to achieve the desired temperature at the central point under authentic operational conditions. The Petri dish probes are further categorized based on the type of measurement they can be utilized for.

By eliminating manual positioning of measuring equipment, these probes efficiently mitigate potential complications and interferences, substantially reducing errors and inconsistencies inherent in the measuring process.

- The needle tip of the sensor probe is positioned 1mm above the bottom surface of the Petri dish without making contact with the bottom of the Petri dish.
- Allows direct measurement of the culture media in a Petri dish with oil.
- The sensor probes are securely adhered to the dish using clear, medical-grade glue.
- Seamless integration of sensor probes with Petri dishes from any manufacturer.
- Ultra-fast response time for quick readings.
- Sterilization with Isopropyl alcohol (IPA).

TSP1000N1W

TSP1000N5W

TSP1000NIC

TSP1000TN1W

TSP1000TN5W

TSP1000TNIC

Measuring the temperature of media and oil in a Petri dish with an integrated needle sensor probe

TSP1000N1W, TSP1000N5W, TSP1000NIC Petri Dish Sensor Probes

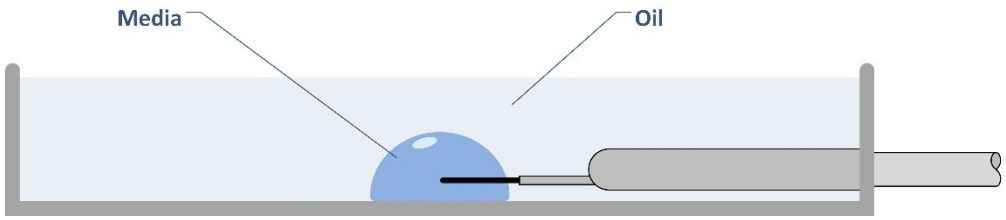
- For accurate, easy, and consistent temperature measurements of media and oil during operations outside the incubator.
- Ideal for heat mapping on heated glass stages and heated worksurfaces.

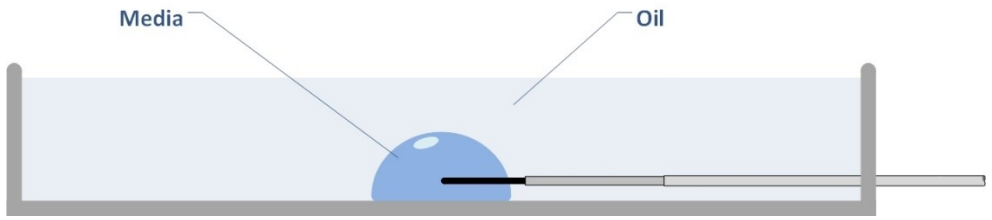
TSP1000N1W TSP1000N5W TSP1000NIC

TSP1000TN1W, TSP1000TN5W, TSP1000TNIC Petri Dish Sensor Probes

- For accurate, easy, and consistent temperature measurements of media and oil during operations inside benchtop incubators.
- The thin flexible sensor probe wire enables the dish probe to conduct measurements within benchtop incubators with the incubator compartment lid closed.

TSP1000TN1W TSP1000TN5W TSP1000TNIC



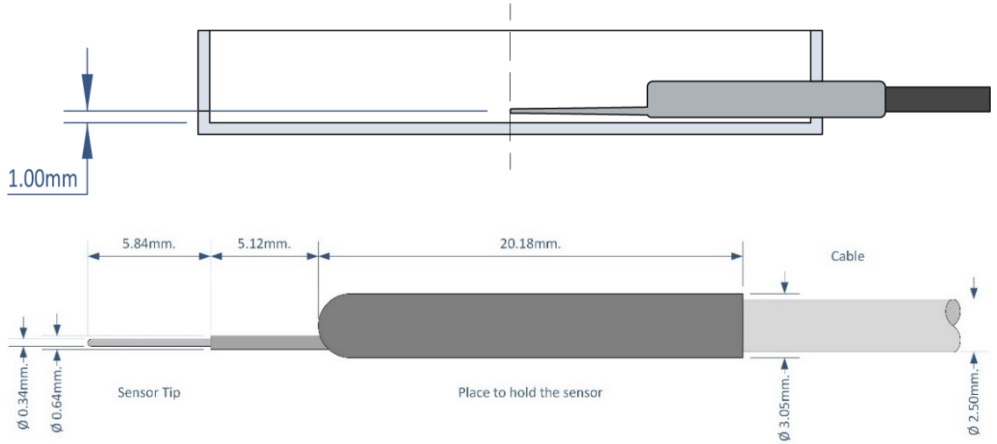


TSP1000Nxx Petri Dish Sensor Probe Specifications

TSP1000N5W	Five well dish with integrated needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.34mm; sensor tip length = 12mm; cable length = 1500mm; cable thickness = 2.5mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s

TSP1000N1W	Single well dish with integrated needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.34mm; sensor tip length = 12mm; cable length = 1500mm; cable thickness = 2.5mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s

TSP1000NIC	ICSI dish with integrated needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.34mm; sensor tip length = 12mm; cable length = 1500mm; cable thickness = 2.5mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s

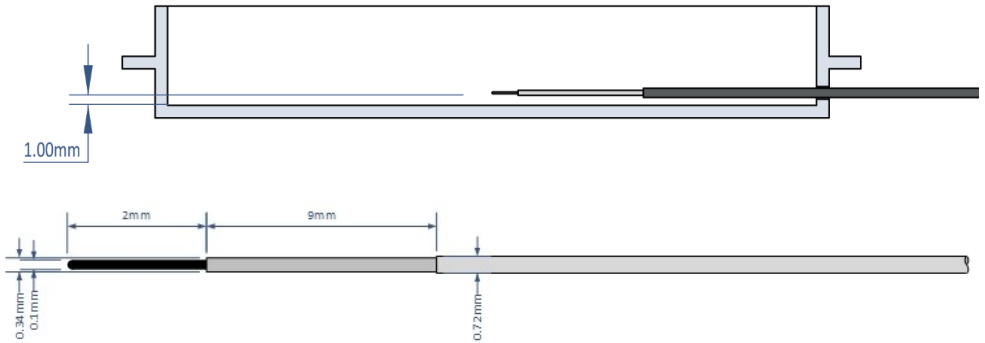


TSP1000TNxx Petri Dish Sensor Probe Specifications

TSP1000TN5W	Five well dish with integrated thin needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.1mm; sensor tip length = 2mm; cable length = 1500mm; cable thickness = 0.72mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s

TSP1000TNIC	ICSI dish with integrated thin needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.1mm; sensor tip length = 2mm; cable length = 1500mm; cable thickness = 0.72mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s

TSP1000TN1W	Single well dish with integrated thin needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.1mm; sensor tip length = 2mm; cable length = 1500mm; cable thickness = 0.72mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s



“ Integrated petri dish probes guarantee precise and stable temperature control under actual laboratory conditions..... ”

VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

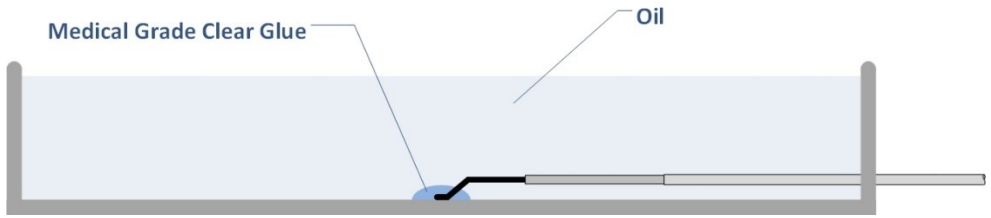
Measuring the bottom surface temperature of a Petri dish containing oil with an integrated thin flexible sensor probe

These dishes are specifically designed to emulate laboratory operational conditions, offering the capability to be filled with oil. This replication mirrors real scenarios for temperature measurements. By measuring the temperature at the center bottom surface of the dish, adjustments to the heating system set point can be made to achieve the desired temperature at the central point under authentic operational conditions.

By eliminating manual positioning of measuring equipment, these probes efficiently mitigate potential complications and interferences, substantially reducing errors and inconsistencies inherent in the measuring process.

- The sensor probe's tip securely bonded to the bottom surface using clear, medical-grade glue, enabling precise temperature measurements directly from the center of the Petri dish's bottom surface.
- The thin flexible sensor probe wire enables the dish probe to conduct measurements within benchtop incubators with the incubator compartment lid closed.
- The temperature setpoint for the incubator compartment can be adjusted to achieve the desired temperature at the center within the oil-filled dish, replicating real operational conditions.
- Ideal for heat mapping on heated glass stages and heated worksurfaces.
- Seamless integration of sensor probes with Petri dishes from any manufacturer.
- Ultra-fast response time for quick readings.
- Sterilization with Isopropyl alcohol (IPA).

TSP1000T1W TSP1000T5W TSP1000TIC

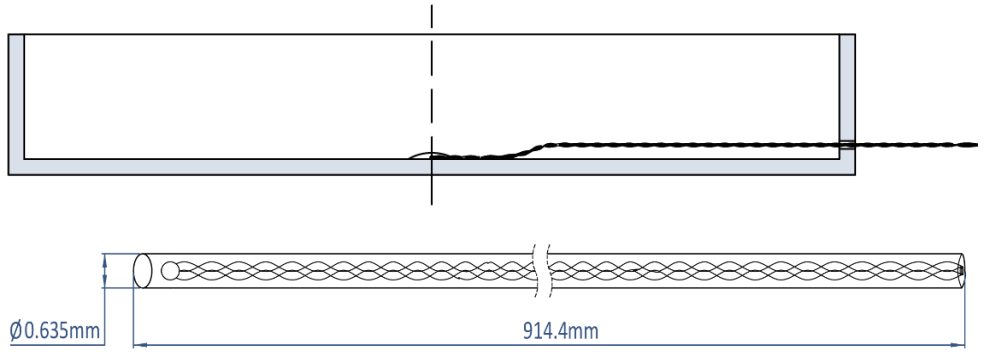


TSP1000Txx Petri Dish Sensor Probe Specifications

TSP1000T5W	Five well dish with integrated thin flexible sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.635mm; cable length = 910mm; cable thickness = 0.635mm
Measuring range	-100°C to +150°C
Accuracy	±0.03°C in the physiological range
Response time	0.5s to 1s

TSP1000TIC	ICSI dish with integrated thin flexible sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.635mm; cable length = 910mm; cable thickness = 0.635mm
Measuring range	-100°C to +150°C
Accuracy	±0.03°C in the physiological range
Response time	0.5s to 1s

TSP1000T1W	Single well dish with integrated thin flexible sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.635mm; cable length = 910mm; cable thickness = 0.635mm
Measuring range	-100°C to +150°C
Accuracy	±0.03°C in the physiological range
Response time	0.5s to 1s



TSP1000UFT

Temperature Measurement and Calibration with Flexible Sensor Probes

Measuring temperature in incubators (time-lapse and benchtop)

Accurate temperature measurement within incubators, including time-lapsed models, is essential for optimal operational conditions. The probe must exhibit flexibility and thinness to navigate small openings while allowing for the closure of benchtop incubator lids, ensuring uninterrupted incubator functionality.

- **Time-Lapsed Incubators**

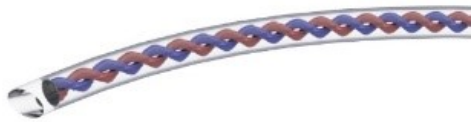
  The thin flexible sensor probe wire and Ø 0.635mm sensor tip allow temperature measurements in time-lapsed incubators such as the VitroLife Embryoscope.

- **Benchtop Incubators**

  The thin flexible sensor probe wire enables temperature measurements within benchtop incubators with the incubator compartment lid closed.

  Measure the surface temperature of both the bottom and top surfaces of the benchtop incubator chamber.

- TSP1000UFT is a high-accuracy 21-gauge sensor insulated with Teflon.
- Ultra-fast response time for quick readings.
- Sterilization with Isopropyl alcohol (IPA).



TSP1000UFT

Incubator Manufacturers

- Planer
- Esco
- VitroLife
- Cook Medical
- K-Systems
- Astec

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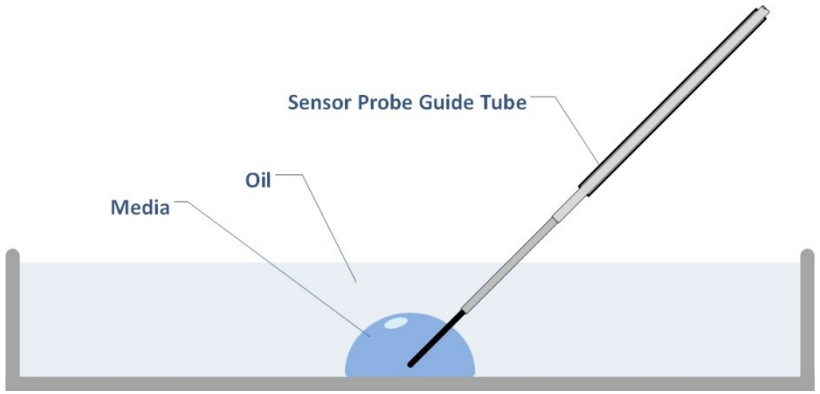
INSPIRED INNOVATIVE SOLUTIONS

Temperature Measurement and Calibration with Flexible Sensor Probe

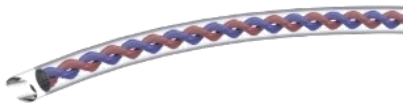
Measuring liquid temperature in Petri dishes and test tubes

Ensuring the correct temperature inside culture media immersed in oil is crucial for IVF outcomes. Consistency in sensor probe placement also plays a critical role, maintaining a uniform approach is essential. The probe holder plays a vital role by securing the probe placement, and ensuring it is immersed in the media droplet.

- The thin flexible sensor probe with the probe guide tube and probe holder, provides flexibility to direct the sensor probe towards the media droplet in oil manually in Petri dishes.
- The probe is suitable for measuring liquid temperatures in Petri dishes placed on heated glass stages, work surfaces, and directly within test tubes.
- Ideal for heat mapping on heated glass stages, heated worksurfaces, and within Petri dishes.



- Sensor probe holder with guide tube is designed to secure the probe in position.
- TSP1000UFT is a high-accuracy 21-gauge sensor insulated with Teflon.
- Ultra-fast response time for quick readings.
- Sterilization with Isopropyl alcohol (IPA).



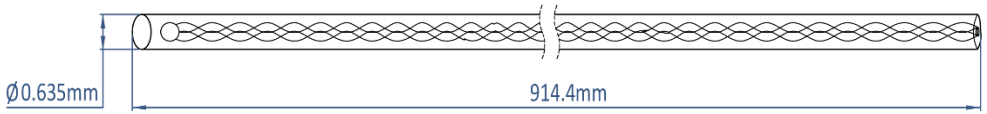
TSP1000UFT

Probe Stand TSP1000STD

Facilitating consistent probe placement is a crucial factor that affects success rates in IVF

TSP1000UFT Flexible Sensor Probe Specification

TSP1000UFT	Thin flexible sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.635mm; cable length = 910mm; cable thickness = 0.635mm
Measuring range	-100°C to +150°C
Accuracy	±0.03°C in the physiological range
Response time	0.5s to 1s



“ Even small temperature deviations from 37°C can be harmful….. ”

Temperature Measurement and Calibration with Needle Sensor Probe

Measuring liquid temperature in Petri dishes and test tubes

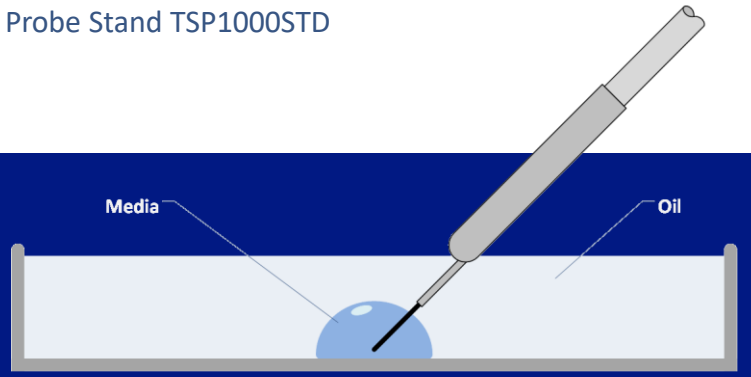
Ensuring the correct temperature inside culture media immersed in oil is crucial for IVF outcomes. Consistency in sensor probe placement also plays a critical role, maintaining a uniform approach is essential. The probe holder plays a vital role by securing the probe placement, and ensuring it is immersed in the media droplet.

- The probe with the probe holder, provides flexibility to direct the sensor probe towards the media droplet in oil manually in Petri dishes.
- The probe is suitable for measuring liquid temperatures in Petri dishes placed on heated glass stages, work surfaces, and directly in test tubes.
- Ideal for heat mapping on heated glass stages, heated worksurfaces, and within Petri dishes.
- Stainless steel shaft and 29-gauge 10 mm long needle tip.
- Sensor probe holder designed to secure the probe in position.
- Ultra-fast response time for quick readings.
- Sterilization with Isopropyl alcohol (IPA).

TSP1000NDL

Probe Stand TSP1000STD

Facilitating consistent probe placement is a crucial factor that affects success rates in IVF

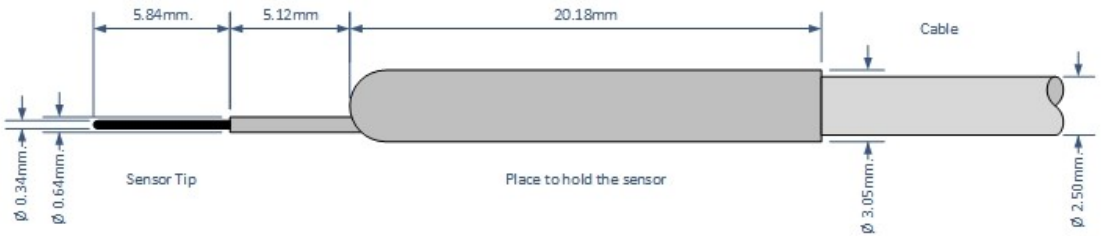


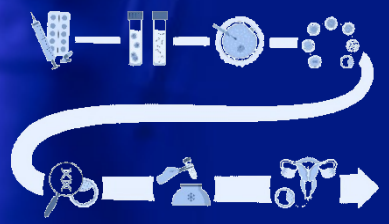
VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

TSP1000NDL Needle Sensor Probe Specification

TSP1000NDL	Needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.34mm; sensor tip length = 12mm; cable length = 1500mm; cable thickness = 2.5mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s





“ Temperature measurements and temperature control during the IVF process are crucial for outcomes ”

Dr. Lars Johansson - International ART Consultant

VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

Temperature Measurement and Calibration with Thin Needle Sensor Probe

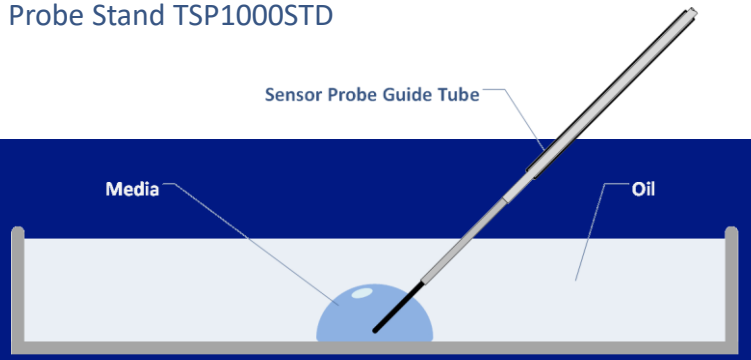
Measuring liquid temperature in Petri dishes and test tubes

Ensuring the correct temperature inside culture media immersed in oil is crucial for IVF outcomes. Consistency in sensor probe placement also plays a critical role, maintaining a uniform approach is essential. The probe holder and guide tube play a vital role by securing probe placement, and ensuring it is immersed in the media droplet.

- The thin needle sensor probe with the probe guide tube and probe holder, provides flexibility to direct the sensor probe towards the media droplet in oil manually in Petri dishes.
- The probe is suitable for measuring liquid temperatures in Petri dishes placed on heated glass stages, work surfaces, and directly within test tubes.
- Ideal for heat mapping on heated glass stages, heated worksurfaces, and within Petri dishes.
- Sensor probe holder with guide tube is designed to secure the probe in position.
- Ultra-fast response time for quick readings.
- Sterilization with Isopropyl alcohol (IPA).

TSP1000TNDL

Probe Stand TSP1000STD



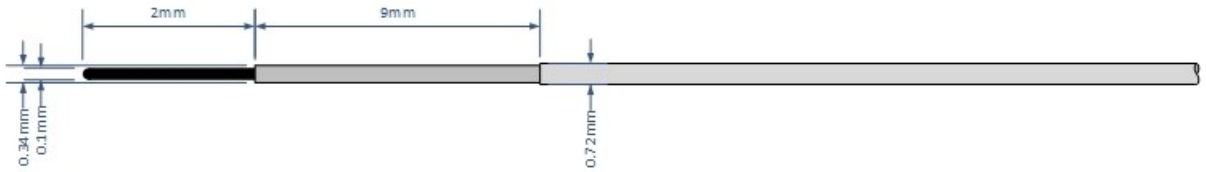
Facilitating consistent probe placement is a crucial factor that affects success rates in IVF

VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

TSP1000TNDL Thin Needle Sensor Probe Specification

TSP1000TNDL	Thin needle sensor probe
Sensor type	T-Type thermocouple
Dimensions	Sensor tip Ø = 0.1mm; sensor tip length = 2mm; cable length = 1500mm; cable thickness = 0.72mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	0.13s to 0.25s



Measuring surface temperature in heated worksurfaces and benchtop incubator compartment bottom surface

Accurate surface temperature measurement requires a probe with the right size to cover Ø35mm area and sufficient weight to prevent movement. Additionally, it should exhibit excellent thermal conductivity to ensure a quick and responsive temperature reading. The size, weight, and thermal conductivity interplay is critical for precise and efficient surface temperature measurements.

- The probe is well-suited for measuring surface temperatures in both benchtop incubators and on heated surfaces, excluding glass stages.
- Ensuring full contact and preventing unintended movement during measurements, the sensor probe is equipped with sufficient weight.
- Optimal thermal contact is facilitated by the thin copper bottom of the sensor probe.
- A flat extension cable enables the complete closure of the benchtop incubator compartment lid.
- Ideal for heat mapping on heated worksurfaces.
- Sterilization can be performed using Isopropyl alcohol (IPA).

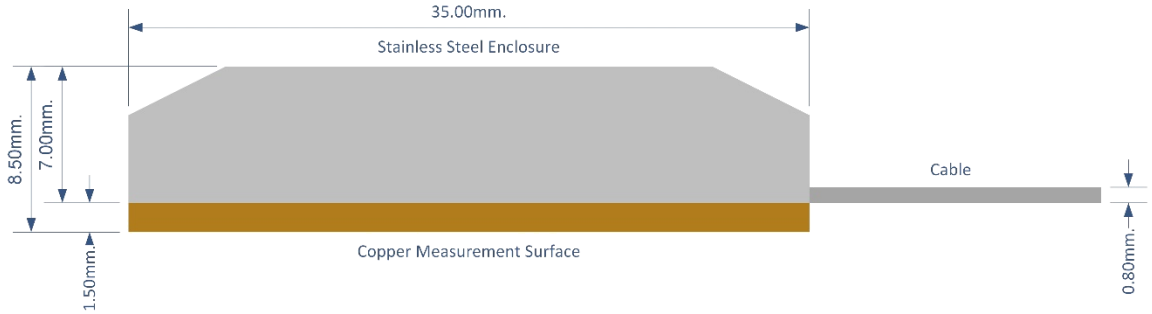
- **Metrum 2 MSA (Multi Sensor Adaptor):**

  Simultaneously monitoring of up to 10 heated surface temperatures is achievable by using the Metrum 2 thermometer in combination with the Metrum 2 MSA.

TSP1000SFC

TSP1000SFC Surface Sensor Probe Specification

TSP1000SFC	Surface sensor probe
Sensor type	3 wire RTD
Dimensions	Sensor disk Ø = 35mm; disk height = 8.5mm; cable length = 1000mm; cable thickness = 0.8mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	< 50s



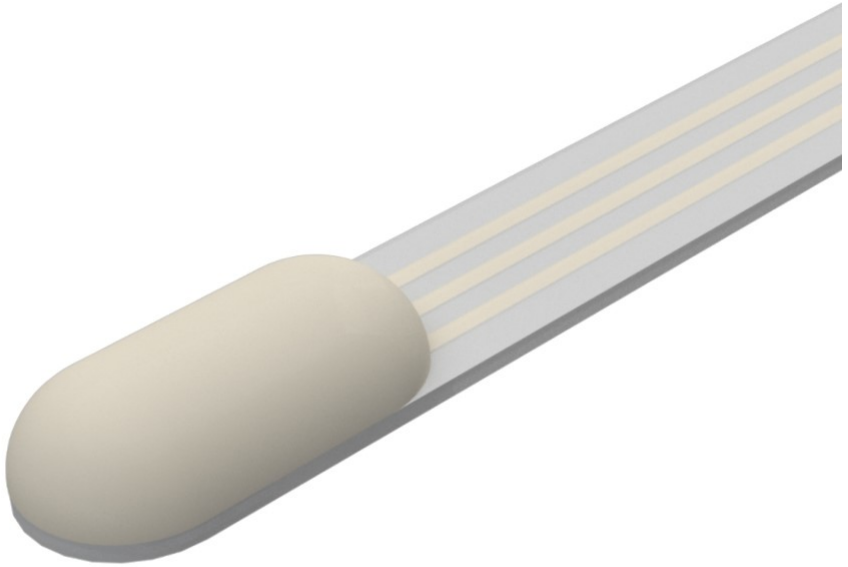
Measuring surface temperature in heated surfaces and benchtop incubator compartments (top & bottom)

For specific applications demanding versatility and agility, consider a sensor equipped with a flat tip measuring 3mm in width and 1.35mm in thickness. This flexible probe offers rapid response capabilities and low thermal mass, enabling swift readings and maneuverability to access confined or small areas. Such features ensure optimal performance for scenarios where adaptability and quick assessment are paramount

- The probe is well-suited for measuring surface temperatures in benchtop incubators, on heated surfaces, and glass stages.
- A flat cable enables the complete closure of the benchtop incubator compartment lid.
- Ideal for heat mapping on benchtop incubators, glass stages and heated worksurfaces
- Ultra-fast response time for quick readings.
- Sterilization can be performed using Isopropyl alcohol (IPA).

- **Metrum 2 MSA (Multi Sensor Adaptor):**

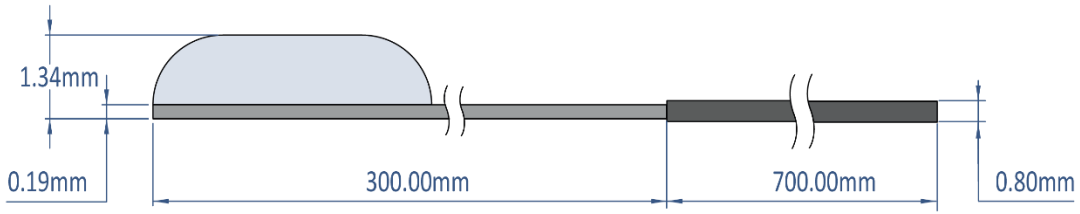
  Simultaneously monitoring of up to 10 heated surface temperatures is achievable by using the Metrum 2 thermometer in combination with the Metrum 2 MSA.



TSP1000FSFC

TSP1000FSFC Surface Sensor Probe Specification

TSP1000FSFC	Flexible surface sensor probe
Sensor type	3 wire RTD
Dimensions	Sensor width = 3mm; sensor thickness = 1.35mm; cable length = 1000mm; cable thickness = 0.8mm
Measuring range	-40°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	1s



Measuring temperature in cryo tanks, fridges, and freezers

Cryo tanks with larger structures necessitate longer thin probes, whereas fridge and freezer probes can be shorter. The probe cabling for both scenarios has been meticulously designed to withstand extreme temperatures, ensuring reliable performance in diverse environments.

- Suitable for application in diverse cryogenic storage freezers, refrigeration systems, and cold storage setups.
- Reliable and precise measurement ensured by a high-accuracy PT100/ RTD sensor.
- Designed to operate in extreme cryogenic environments.
- Sterilization can be performed using Isopropyl alcohol (IPA).

- **Metrum 2 MSA (Multi Sensor Adaptor)**

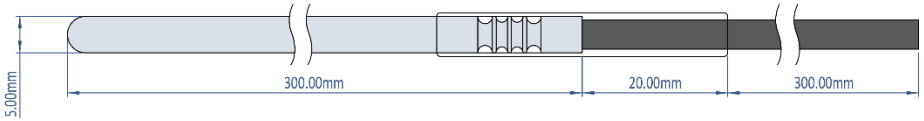
  Simultaneously monitoring up to 10 cryo tanks, fridges, and freezer temperatures is achievable by using the Metrum 2 thermometer in combination with the Metrum 2 MSA.

TSP1000FFP - Fridges/ Freezers

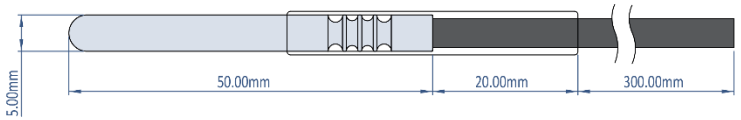
TSP1000CTP - Cryo Tanks

TSP1000CTP and TSP1000FFP Cryogenic Sensor Probe Specifications

TSP1000CTP	Cryogenic sensor probe for cryo tanks
Sensor type	3 wire RTD
Dimensions	Sensor Ø = 5mm; sensor length = 300mm; cable length = 3m; cable thickness = 3.5mm
Measuring range	-200°C to +200°C
Accuracy	±0.1°C @ 0°C
Response time	<60s



TSP1000FFP	Cryogenic sensor probe for fridges and freezers
Sensor type	3 wire RTD
Dimensions	Sensor Ø = 5mm; sensor length = 50mm; cable length = 3m; cable thickness = 3.5mm
Measuring range	-200°C to +200°C
Accuracy	±0.1°C @ 0°C
Response time	<60s



Measuring temperature in blood cassettes

In cryopreservation scenarios where cryo freezers are employed for controlled-rate freezing of blood bags within cassettes, the primary sensor predominantly measures the overall freezer temperature.

It is essential to note, however, that the temperature of the blood bags may deviate from that of the freezer. This discrepancy emphasizes the critical need for a specialized sensor to monitor the blood bag's specific temperature conditions.

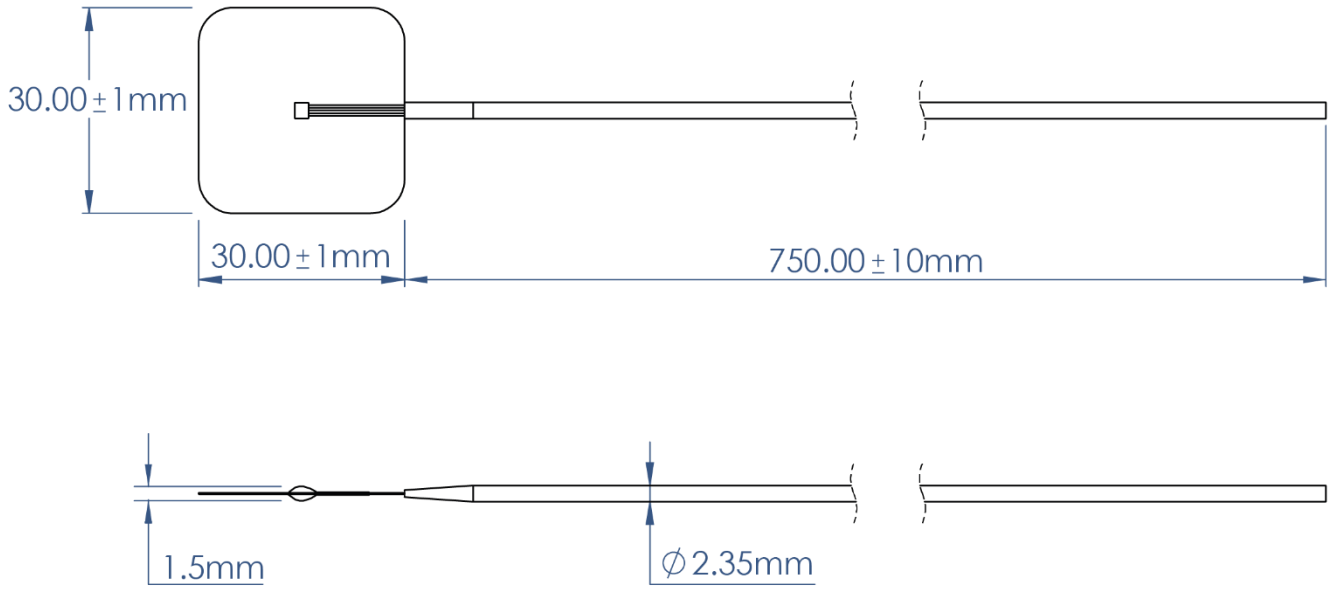
- Thin flexible patch sensor that can be wedged in between the blood bag and the cassette.
- 0.05°C, High accuracy between -10°C to 10 °C PT100 RTD sensor.
- Designed to operate in extreme cryogenic environments.
- A flexible lead wire that enables the freezer to close securely, preventing any potential leaks.
- Sterilization with Isopropyl alcohol (IPA).
- **Metrum 2 MSA (Multi Sensor Adaptor)**

  Simultaneously monitoring up to 10 blood cassette temperatures is achievable by using the Metrum 2 thermometer in combination with the Metrum 2 MSA.

TSP1000BCS

TSP1000BCS Blood Cassette Sensor Probe Specification

TSP1000BCS	Blood Cassette Sensor Probe
Sensor type	3 wire RTD
Dimensions	Sensor element = 2.1mm x 1.8mm x 1.05mm; Sensor head (rounded square) = 30mm x 30mm x 0.13mm; Cable length = 750mm; Cable thickness = 2.35mm;
Measuring range	--180°C to 50°C
Accuracy	±0.05°C between -10°C to 10 °C
Response time	<30s



Sensor Probe Application Matrix

Sensor Probe Description		Assisted with integrated sensor probes			Manual					
	Part Number	Petri dish surface measurement (Inside & outside incubators)	Petri dish liquid measurement (Inside incubators)	Petri dish liquid measurement (Outside incubators)	Liquid measurement (Outside incubators)	Liquid measurement (Inside incubators)	Surface measurement (Excluding Heated Glass stage)	Surface measurement (Incubator top, bottom, Heated surfaces)	Incubator/ Time lapse incubator measurement (1.1mm Ø opening)	Test tube measurement
Petri dish probe (Thin needle sensor)	TSP1000TNxx		✓	✓						
Petri dish probe (Needle sensor)	TSP1000Nxx			✓						
Petri dish probe (Thin flexible sensor)	TSP1000Txx	✓								
Thin flexible probe	TSP1000UFT				✓	✓			✓	✓
Needle probe	TSP1000NDL				✓					✓
Thin needle probe	TSP1000TNDL				✓	✓				✓
Surface probe	TSP1000SFC						✓			
Flexible Surface probe	TSP1000FSFC						✓	✓		

T-Type Thermocouple and RTD/ PT100 / PT1000

Custom Temperature Sensor Probes

Customized Solutions

We offer custom sensor probes designed to meet your specific requirements.

Industry-Leading Performance

Our capabilities ensure that we can match or surpass the performance of sensor probes from other manufacturers in the industry.

Precision Engineering

Our expertise in design and engineering ensures the highest level of accuracy.

" I tested the Metrum 2 thermometer simultaneously with the digital thermometer from Cooper Surgical when I did calibration to my L126 IVF dual workstation from K-Systems with the engineer from Thailand. The results are compatible with both of them. Besides, it's much cheaper than K-Systems "

Myat Tha Zin
Chief Embryologist | Bahosi Fertility Center

VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

Custom Sensors Integration

Connect up to 10 x T-Type Thermocouple Sensors and RTD/ PT100/ PT1000 Sensors

Limitless Potential

Connect up to 10 different types of Thermocouple sensors and 10 different types of RTD sensors.

Seamless Interchangeability

Effortlessly switch between various thermocouple sensors and RTD sensors, with calibration values conveniently stored on the device.

“ Designed to meet the complete spectrum of temperature measurement requirements within IVF clinics and research laboratories ”

VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

Multi Sensor Adaptor Accessory for PT100, PT1000, and RTD Sensor Probes

Metrum 2 MSA (Multi Sensor Adaptor)

An intricately designed supplementary accessory tailored to enhance the functionality of the Metrum 2 Digital Thermometer, specifically catering to the unique demands of fertility clinics and research laboratories.

The Metrum 2 MSA (†) concurrently captures temperature from up to 10 sensor probes, encompassing surface sensor probes, cryo tank sensor probes, blood cassette sensor probes, and fridge/freezer sensor probes, either individually or in combination.

Through the establishment of a USB connection with the Metrum 2 Digital Thermometer, the Metrum 2 MSA seamlessly integrates into the system. At the same time, a distinct USB link connects to a PC, enabling real-time visualization of data.

Temperature readings are readily available on both the display of the Metrum 2 Digital Thermometer and through specialized PC software.

(†) Metrum 2 MSA can only be used in conjunction with the Metrum 2 Digital Thermometer.

TSP1000FSFC TSP1000SFC TSP1000CTP TSP1000FFP TSP1000BCS

High Accuracy
Temperature accuracy ± 0.03°C all channels in the physiological range

10 Channels
10 x PT100, PT1000, and RTD temperature measurement channels

MicroSD Card
Data logging on MicroSD card

Desktop Software
Real-time data viewing on PC real-time

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INSPIRED INNOVATIVE SOLUTIONS

Metrum 2 MSA (Multi Sensor Adaptor)

Product Features

- Simultaneous measurement of up to 10 temperatures.
- Connect a combination of surface sensor probes, cryogenic sensor probes, and blood cassette sensor probes.
- Any type of RTD, PT100, or PT1000 with connectors that adhere to industry standards can be used with the Metrum 2 MSA.
- Interface to Metrum 2 Thermometer via Micro USB.
- Temperature display Celsius/Fahrenheit.
- Computes Minimum, Maximum, or Average temperature.
- High and low alarms for rapid detection of temperatures outside the limits.
- Hold function.
- Powered by PC USB or 5V power adaptor.
- LED for Status indication.
- Date and time display.
- Ability to store data on a MicroSD card.
- USB connectivity to monitor/analyze temperature on PC.

" Keeping control of temperature in heated worksurfaces and incubators is crucial for successful IVF treatment …. " - Dr Lars Johansson, ART Consultant

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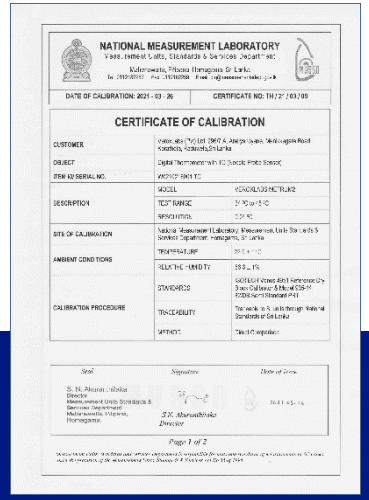
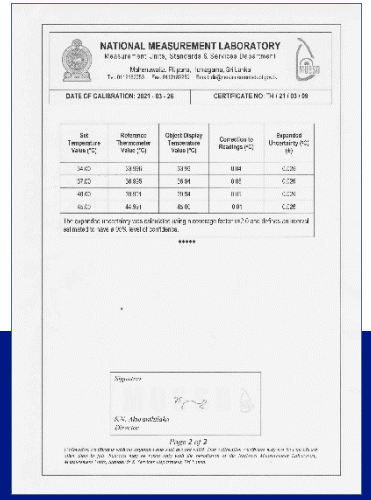
INSPIRED INNOVATIVE SOLUTIONS

Calibration

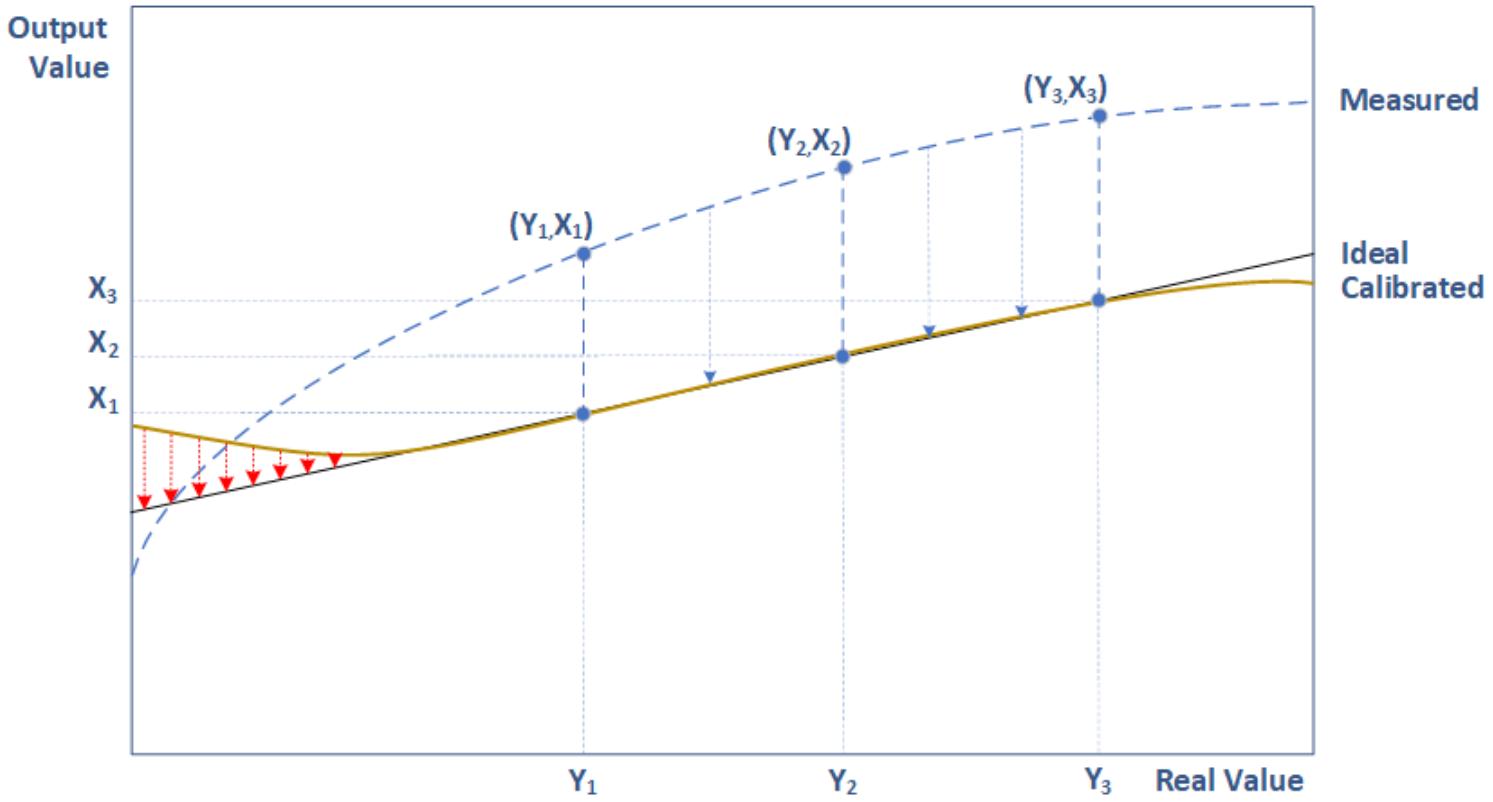
- Inbuilt calibration function eliminates the need to add correction factors during readings.
- Unique calibration algorithm eliminates fluctuations.
- 3 - Point calibration (32°C, 37°C, 40°C) enhances accuracy.
- Traceable calibration certificate included for each sensor probe.


NATIONAL MEASUREMENT LABORATORY

CERTIFICATE OF CALIBRATION


NATIONAL MEASUREMENT LABORATORY

3- Point Calibration Effect



" We are using Metrum 2 series devices easily and fondly for service purposes. It really makes our job a lot easier "

Sumeyra Kozak
International Relations Manager | TEKSERVIS LTD

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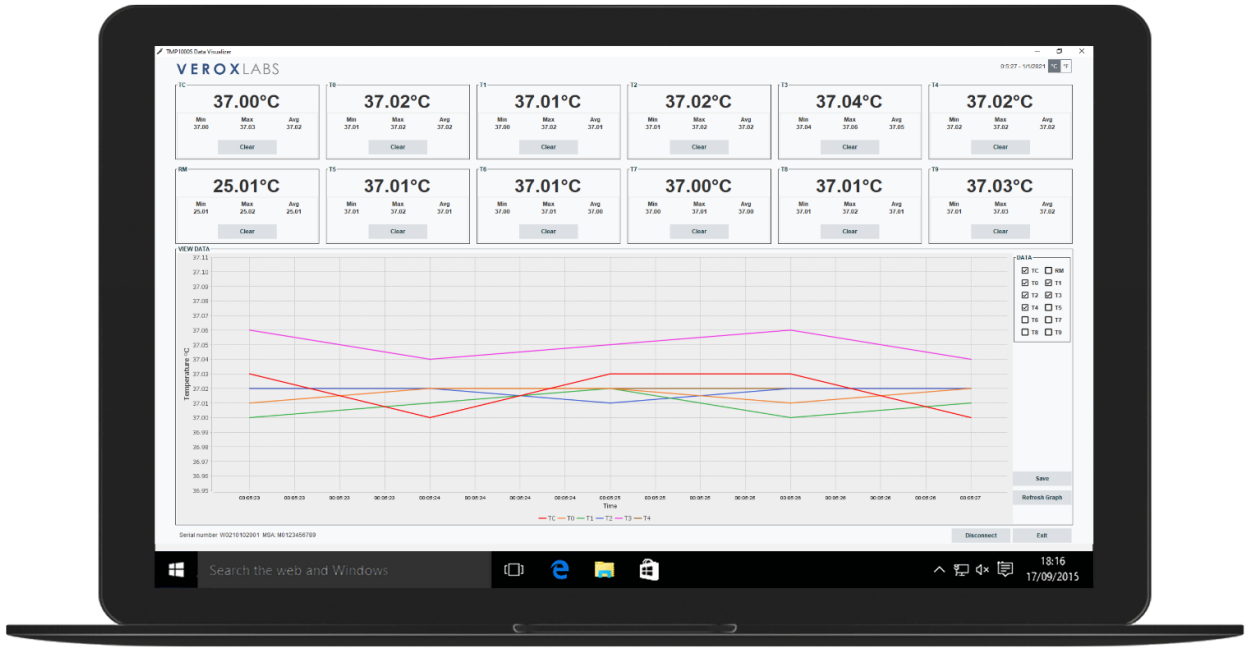
INSPIRED INNOVATIVE SOLUTIONS

PC Software

- Real-time temperature analysis on PC via USB.
- In-depth analysis of data can be performed by zooming in on critical points.
- Able to export graphs from the PC software.
- Able to select channels to view temperature data.
- Data can be saved in CSV or Excel format for later use.



METRUM 2 Dual Channel Digital Thermometer Specification

TMP1000S

Operating temperature	5°C to 40°C
Display type	Custom LCD
Display range	-573.32°C to +537.77°C
Display resolution	0.01°C
Temperature resolution	0.01°C
Connectivity	USB

Automatic power off	Default 5min / adjustable
Battery type	1 x 9V Alkaline battery
Battery life	Approximately 60 hours (†)
Power supply	5V Micro USB (PC/adaptor)
Dimension (L x W x H)	203mm x 66mm x 54 mm
Net weight	180g
Standard warranty	2 Years

(†) Tested with a Duracell Ultra Alkaline Battery

Metrum 2 MSA Product Specification

TMP1000MSA	
Operating temperature	5°C to 40°C
Temperature resolution	0.01°C
Power On/ Off	Push button switch
Connectivity	USB
PC interface	Micro USB
Thermometer interface	Micro USB
Power supply	5V Micro USB (PC/adaptor)
Dimension (L x W x H)	180mm x 140mm x 71 mm
Net weight	565g
Standard warranty	2 Years

TSP1000SFC	Surface probe
Sensor type	3 wire RTD
Dimensions	Sensor disk Ø = 35mm; disk height = 8.5mm; cable length = 1000mm; cable thickness = 0.8mm
Measuring range	-50°C to +200°C
Accuracy	±0.03°C in the physiological range
Response time	< 50s

“ They have very interesting products, one of which we already ordered and used for some time in the service department with very good results ”

Cornelia Craciun
Product Manager | ELTA 90 Medical

VEROXLABS®

INSPIRED INNOVATIVE SOLUTIONS

Hard Carry Case

Metrum 2 Hard Carry Case

Metrum 2 and Metrum 2 MSA Hard Carry Case

Ordering Information

Order Code Format

Base Order Code		T-type thermocouple sensor probe Order Code		RTD/ PT100 sensor probe Order Code
A	-	B	-	C

Notes:

- (A) Select the appropriate order code from the section Base Order Codes.
- (B) Select the appropriate order code from the section T-type thermocouple sensor probes.
- (C) Select the appropriate order code from the section RTD/ PT100 sensor probes

Base Order Codes (A)

Base Order Codes Option	Metrum 2 Thermometer	Metrum 2 MSA	Sensor Probes	Carry Case
MET-CCC	✓		Any two sensor probes	Cardboard carry case
MET-HCS	✓		Any two sensor probes	Hard carry case small
MET-MSA05-HCL	✓	✓	Any two sensor probes 5 x RTD/ PT100 sensor probes	Hard carry case large
MET-MSA10-HCL	✓	✓	Any two sensor probes 10 x RTD/ PT100 sensor probes	Hard carry case large
MSA05-HCL		✓	5 x RTD/ PT100 sensor probes	Hard carry case large
MSA10-HCL		✓	10 x RTD/ PT100 sensor probes	Hard carry case large

Ordering Information

T-Type Thermocouple Sensor Probes (B)

Order Code	Description
NDL	Needle sensor probe with stand
UFT	Thin flexible sensor probe with stand
N5W-M (†)	Five well dish with integrated needle sensor probe
N1W-M (†)	Single well dish with integrated needle sensor probe
NIC-M (†)	ICSI dish with integrated needle sensor probe
TN5W-M (†)	Five well dish with integrated thin flexible needle sensor probe
TN1W-M (†)	Single well dish with integrated thin flexible needle sensor probe
TNIC-M (†)	ICSI dish with integrated thin flexible needle sensor probe
T5W-M (†)	Five well dish with integrated thin flexible sensor probe
T1W-M (†)	Single well dish with integrated thin flexible sensor probe
TIC-M (†)	ICSI dish with integrated thin flexible sensor probe
CST	Custom sensor probe
X	None

- (†) For dish sensor probes N5W-M, N1W-M, NIC-M, TN5W-M, TN1W-M, TNIC-M, T5W-M, T1W-M,, and TIC-M replace “M” with the appropriate labware manufacturer code.
- Contact us to integrate sensor probes into other labware manufacturers.

Labware Manufacturers

Order Code	Description
B	BIRR labware
V	VitroLife
O	Oosafe
N	Nunc
X	None

RTD/ PT100 Sensor Probes (C)

Order Code	Description
SFC	Surface sensor probe
FSFC	Flexible surface sensor probe
CTP	Cryogenic sensor probe for Cryo Tanks
FFP	Cryogenic sensor probe for fridges and freezers
BCS	Blood cassette sensor probe
CSR	Custom sensor probe
X	None

Ordering Information

Parts Identification

Part Number	Description
TMP1000S	METRUM 2, Dual Channel Digital Thermometer
TMP1000MSA	Metrum 2 MSA (Multi Sensor Adaptor)
TSP1000N5W	Five well dish with integrated needle sensor probe
TSP1000N1W	Single well dish with integrated needle sensor probe
TSP1000NIC	ICSI dish with an integrated needle sensor probe
TSP1000TN5W	Five well dish with integrated thin needle sensor probe
TSP1000TN1W	Single well dish with integrated thin needle sensor probe
TSP1000TNIC	ICSI dish with an integrated thin needle sensor probe
TSP1000T5W	Five well dish with integrated thin flexible sensor probe
TSP1000T1W	Single well dish with integrated thin flexible sensor probe
TSP1000NIC	ICSI dish with an integrated needle sensor probe
TSP1000NDL	Needle sensor probe with stand
TSP1000TNDL	Thin flexible needle sensor probe with stand
TSP1000UFT	Thin flexible sensor probe

Part Number	Description
TSP1000SFC	Surface sensor probe
TSP1000FSFC	Flexible surface sensor probe
TSP1000CTP	Cryogenic sensor probe for Cryo Tanks
TSP1000FFP	Cryogenic sensor probe for fridges and freezers
TSP1000BCS	Blood cassette sensor probe
TSP1000STD	Probe stand for needle/ flexible sensor probes
TMP1000CC	Calibration certificates
TMP1000MSC	MicroSD card
TMP1000MPA	5V DC power adapter
TMP1000MUC	Micro USB cable
TMP1000PCS	PC Software
TMP1000HCS	Hard carry case small
TMP1000HCL	Hard carry case large

Notes:

- When ordering additional sensor probes refer to Parts Identification table.

In keeping with VeroxLabs policy for continual product development and improvement, we reserve the right to amend

Registered office as below

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