

**MPTest**



Mr. Minfeng Pan  
The founder of the company

MPTest is founded by Mr. Minfeng Pan who is a leading expert in temperature metrology and calibration equipment with over 40 years of industry experience. In 1996, he established his first company in China, specializing in the innovative development and manufacturing of temperature calibration instruments and devices.

During this time, he invented the patented precision thermostatic bath jet stirring technology, which led to the creation of compact, portable, precise, and low-noise products. These products are equipped with the company's self-developed precision temperature controllers, effectively improving temperature stability within small-medium fluid systems. This enables his company to deliver high-precision, highly stable portable temperature standards and superior thermostatic baths.

Over the past 30 years, Mr. Pan and the innovative R&D team he led have designed more than 50 products and accessories. Their work has resulted in a unique and highly systematic product line for the company.



## TP-0380L/S

The TP-0380L/S is an industrial standard thermometer designed by MPTest to replace traditional mercury thermometers. It features a digital direct-reading display with a range of -80°C (-112°F) to 300°C (572°F), available in long-stem and short-stem versions, with an accuracy of  $\pm 0.05^{\circ}\text{C}$  ( $\pm 0.09^{\circ}\text{F}$ )/year.

Error adjustment functions for standard thermometers are password-protected.

It includes a rechargeable battery with USB Type-C charging and data transfer interface. The adjustable omnidirectional viewing angle enhances readability. It offers large-capacity data storage (1GB) and direct Excel export functionality.

## TP-0420

The TP-0420 is a rod-type standard platinum resistance thermometer developed by MPTest in compliance with the ITS-90 standard, featuring a digital direct-reading display.

As a temperature standard, it is traceable to ITS-90 fixed points. It is divided into temperature zones per ITS-90, with a common range of -189°C (-308.2°F) to 419°C (786.2°F), available in long-stem and short-stem versions, with an accuracy of  $\pm 0.025^{\circ}\text{C}$  ( $\pm 0.045^{\circ}\text{F}$ )/year.

Error adjustment functions for standard thermometers are password-protected.

It includes a rechargeable battery with USB Type-C charging and data transfer interface. The adjustable omnidirectional viewing angle enhances readability. It offers large-capacity data storage and direct Excel export functionality.



## GD-1040S

Within the ITS-90, the temperature values of both the water triple point and the mercury triple point are realized using precision liquid (water or alcohol) bath.

These thermostats feature a temperature control stability of  $\pm 0.002^{\circ}\text{C}$  (32°F) and can achieve low temperatures down to  $-42^{\circ}\text{C}$  (107.6 °F).

The bath has a depth of 520 mm (20.47 in) and weighs approximately 40 kg (88lbs). It features a working diameter of 138 mm (5.43 in) and is cooled by a single-stage refrigerator.

## GD-2680S

Mptest specializes in the manufacture of fixed-point cells for the realization of temperatures as defined by the ITS-90. Our product range encompasses fixed points including: aluminum, zinc, tin, indium, and gallium melting points; water, mercury, and argon triple points; as well as liquid-nitrogen-cooled low-temperature comparators.

Notably, our realization apparatus for the aluminum freezing-point cell incorporates a metallic bath design.

This key feature effectively suppresses overheating, thereby ensuring the protection and integrity of the precious fixed-point cell.



## TD-1196C

The Kelvin temperature corresponding to liquid nitrogen is 77 K (-196°C). While it is not a defining fixed point on the ITS-90 scale, it is very close to the argon triple point temperature (-189.3442°C) and is commonly used for the calibration of low-grade standard platinum resistance thermometers (SPRTs).

The MPTest system requires only 10 liters of liquid nitrogen to complete the comparison calibration of nearly 20 secondary standard SPRTs. More importantly, in general operation, it typically requires no refilling of liquid nitrogen, and the thermometers are not damaged by being frozen in ice.

It is equipped with a buoyancy level indicator, allowing the user to easily monitor the current liquid level in the Dewar.

## TD-1189C

Compared to a liquid nitrogen comparator, a temperature-controlled liquid nitrogen comparator can regulate the bath temperature at or above the argon triple point (-189.3442°C), thereby preventing the liquefaction of the protective gas inside standard platinum resistance thermometers (SPRTs), which may occur when they are operated below the argon triple point.

Furthermore, it can function as an ultra-low temperature bath and maintain stability at any set point below -80 °C. It is also capable of temperature control below 0 °C; however, this operating mode consumes liquid nitrogen rapidly and requires frequent refilling.



### GL-1080

The so-called -80 °C constant temperature baths typically use high-purity alcohol as the medium because lower temperatures would increase the kinematic viscosity of alcohol, resulting in unsatisfactory temperature control stability.

The MPtest low-temperature bath can achieve a technical specification of stable temperature control at -90 °C in ambient temperatures of up to 30 °C, though it requires the use of industrial alcohol instead of high-purity alcohol.

Furthermore, MPtest incorporates unique jet-stream agitation technology and advanced cascade refrigeration technology, which enable rapid cooldown and quiet operation.



### GL-1020SA

This ultra-precision thermostatic bath is the model with the best temperature control performance in MPtest's miniaturized product series. It features a temperature stability of  $\pm 0.0006\text{ }^{\circ}\text{C}$  per 10 minutes, a liquid capacity of approximately 35 liters, and a bath depth of 520 mm.

With an effective aperture diameter of 220 mm, a cylindrical bath design, and MPtest's unique jet-stream agitation technology coupled with a rapid cooling system, it effectively balances high efficiency with precision, and operates very quietly when maintaining a set temperature.



### AR-1250A/B

This model AR-1250 standard resistor is specifically designed for use as an external standard resistor in AC/DC thermometry bridges and ultra-precise thermometry instruments, and can also be utilized for resistance value transfer in electrical measurements.

It employs a highly stable, oil-encapsulated metal foil resistor element. The unit is supplied only after undergoing temperature compensation, resistance value matching, and prolonged screening and aging processes.

The product features an all-metal enclosure with a fully oil-filled internal cavity. This effectively isolates it from air, mitigates the impact of ambient temperature, and enhances its long-term (annual) resistance stability. The Type A model can achieve a stability better than 2 ppm per year, and does not require placement in a constant temperature oven or oil bath.

### AR-1270A/B

The Model AR-1270 builds upon the AR-1250 by incorporating an integrated temperature control (constant temperature) device. It is equipped with a low-noise, DC 12-volt power supply capable of simultaneously powering up to eight standard resistors and indicating their operational status.

The temperature control unit itself utilizes a low-noise fan for heat dissipation and features a 4 mm diameter temperature measurement port for convenient monitoring of the internal oil temperature and the status of the temperature control via an indicator light.

The binding posts are machined from low-thermal-emf tellurium copper and offer standard 4mm plug/pressure connection terminals for leads.



### Why Choose MPtest



#### Precision Engineering

Delivering consistent and high-precision results with the latest technologies and rigorous quality control.



#### Tailored Solutions

Specifically designed to meet the stringent demands of north America market.



#### Dedicated Support

Expert assistance at every stage, from selection to after-purchase technical support.



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Temperature Stability:  
 $\pm 0.0003\text{ }^{\circ}\text{C}/10\text{min}$  (typical value)

Possibly the world's finest constant-temperature bath for marine sensor calibration.....

MPtest  
Company website



<https://www.mptestusa.com>

### Precision on Every Degree

MPtest LLC specializes in designing and manufacturing advanced temperature measurement and calibration devices. Our products are engineered to provide unmatched accuracy, reliability, and performance, ensuring that your operations run smoothly and efficiently, no matter the environment.