

Beckman Coulter Automatic Temperature Compensation (ATC) Probe

A58722 ATC Probe for pHi Series 2xx, 3xx, 4xx, 5xx, 6xx pH Meters

The Beckman Coulter Automatic Temperature Compensation (ATC) Probe is intended for use with all Beckman Coulter series 2xx, 3xx, 4xx, 5xx, and 6xx pH meters.

Principle of Operation

The Beckman Coulter ATC Probe automatically provides continuous temperature correction to Beckman Coulter pH meters during pH measurements. The variation in resistance of the internal thermocompensator with temperature of the sample is utilized to read the temperature and/or compensate for variations in pH electrode response due to temperature changes.

The response of a pH electrode to a change of 1 pH unit is 59.16 mV at 25°C. This response changes by about 0.99 mV for each 5°C variation in temperature. To make accurate pH measurements, the Beckman Coulter pH meter compensates for this change.

Installation

The 3.5mm mini-phono plug connector of the ATC Probe plugs into the 3.5mm mini-phono jack on the pH meter. The ATC Probe should be either installed in the electrode holder or attached to the pH electrode so that the glass bulb of the pH electrode and the end of the thermocompensator are immersed to approximately the same depth in the sample.

Maintenance

The ATC Probe may require occasional removal of deposits that may act as thermal insulators. The probes are made of relatively inert materials, so cleaning should not be difficult.

The continuity in resistance of the sensing element may be checked with a standard ohm meter. The resistance between the sensor terminals and the cable connector are indicated in Table 1.

Table 1. Temperature readings in pH 7 buffer

Temperature °C	Resistance Ohms
0°C (32°F)	94,980
25°C (77°F)	30,000
50°C (120°F)	10,970
100°C (212°F)	2,069

 **WARNING**

Always follow laboratory safety procedures, including wearing protective gloves and eye wear. Avoid consuming, inhaling, or coming into direct contact with chemicals or solutions.

 **警告**

始终按照实验室安全程序操作，包括佩戴防护手套和眼罩。避免吞食、吸入或直接接触化学物质或溶液。

 **NOTE**

If you experience problems with your Beckman Coulter electrode that these procedures cannot resolve, call your local Beckman dealer. In the U.S., please call the toll-free Product Support line at (800) 742-2345.

 **NOTE**

Please visit www.beckmancoulter.com for a complete list of electrochemistry meters, electrodes, and accessories.