



**Calibrate Hard-wired Remote  
Instruments On-Site with Ease!**

## CLB31 Advanced Portable Low Temperature Calibration Liquid Bath °F and °C

## CLB31DW Advanced Portable Low Temperature Calibration Liquid Bath / Dry Well °F and °C

## CLB51 Advanced Portable High Temperature Calibration Liquid Bath °F and °C

Palmer Wahl's line of advanced portable calibration baths offer high performance in a portable package for the most demanding, accurate on-site temperature calibrations. They are also well suited in the laboratory for demanding temperature calibration tasks. Units feature a 4.3" touch-screen PID controller for easy access to the numerous functions available.

The CLB31 also operates as a fast response multifunction bath as well as a dry block. Additional accessories enable it to calibrate any probe or thermocouple.

All units feature a 60mm diameter calibration well with a 190mm depth. The adjustable magnetic stirrer is controlled by a front panel potentiometer giving the user easy control of the stirrer speed. This allows for good circulation within the bath's calibration well to achieve high performance with high stability and excellent uniformity.

### Features for the CLB31 and CLB51

- Fast response time
- Attached handle and screw-top calibration tank lid make carrying easy and spill-free
- Temperature stability up to  $\pm 0.01^{\circ}\text{C}$  • Temperature uniformity of  $\pm 0.05^{\circ}\text{C}$
- Adjustable speed magnetic stirrer for easy control and good circulation
- Internal Pt100 sensor for reference temperature measurements
- Temperature chamber with basket for temperature sensors to be calibrated



**CLB31**

### Specifications

	CLB31	CLB31DW	CLB51
	Low Temp Liquid Bath User Selectable Scale	Low Temp Liquid Bath / Dry Well User Selectable Scale	High Temp Liquid Bath User Selectable Scale
<b>Temperature Range:</b>	-35° to 165°C / -31° to 329°F <sup>1</sup>		30° to 225°C / 86° to 437°F
<b>Control Sensor:</b>	External / Internal Pt100 (3/4 wires) Switch		
<b>Temperature Stability:</b>	$\pm 0.01^{\circ}\text{C}$ / $\pm 0.02^{\circ}\text{F}$		
<b>Temperature Uniformity:</b>	$\pm 0.05^{\circ}\text{C}$ / $\pm 0.09^{\circ}\text{F}$		
<b>Screen Resolution:</b>	0.1°C / 0.01°C / 0.001°C / °F		
<b>Accuracy:</b>	$\pm 0.1^{\circ}\text{C}$ / $\pm 0.18^{\circ}\text{F}$		
<b>Heating Time:</b>	-5° to 100°C: 25 min. 23° to 212°F: 25 min.		25° to 220°C: 42 min. 77° to 428°F: 42 min.
<b>Cooling Time:</b>	25° to -25°C: 45 min. 77° to -13°F: 45 min.		220° to 100°C: 35 min. 428° to 212°F: 35 min.
<b>Immersion Depth:</b>	7.48 in. / 190 mm		
<b>Well Diameter:</b>	2.36 in. / 60 mm		
<b>Well Capacity:</b>	0.7 liters		
<b>Housing and Assembly:</b>	Portable		
<b>Tank Dimensions:</b>	2.36 x 7.48 in. / 60 x 190 mm		
<b>Dimensions W x D x H:</b>	11.02 x 14.56 x 17.32 in. (280 x 370 x 440 mm) (with handle)		
<b>Weight:</b>	33.51 lbs. / 15.2 kg		25.13 lbs. / 11.4 kg
<b>Power Supply:</b>	100 to 234 Vac, 50 to 60 Hz		
<b>Power Consumption:</b>	310 W Max		320 W Max

### Advanced Features for CLB31DW

- Optional External reference Pt100 4 wire probe
- Advanced 4.3 inch color touch screen
- Data Recorder functions, 80 Mb internal memory
- 40 Programs
- Communications: Ethernet and two USB ports
- Advanced functions: Trends, Programs (Ramps), Data Logging, 10 point Calibration, Alarms, Events.

### Applications

Calibration Laboratories  
Chemical Industry  
Food Industry  
Maintenance & Service  
Pharmaceutical Industry  
Research & Development Testing Labs  
Universities



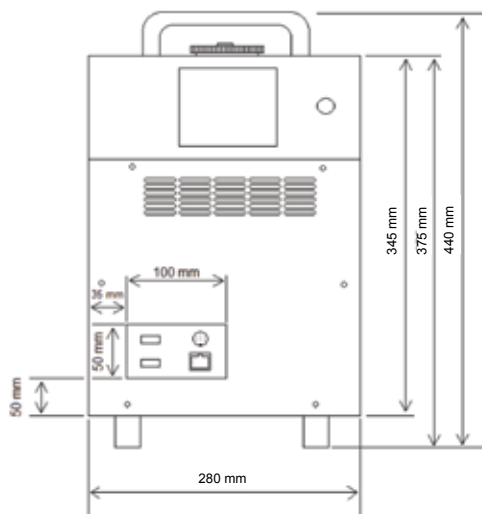
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CERTIFIED QUALITY  
MANAGEMENT SYSTEM

<sup>1</sup> Minimum Temperature is 55°C / 131°F below Ambient, Absolute Minimum -35°C / -31°F.

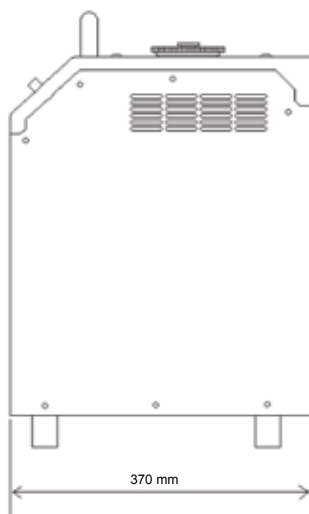
Specifications subject to change without notice.

## CLB Series Dimensions

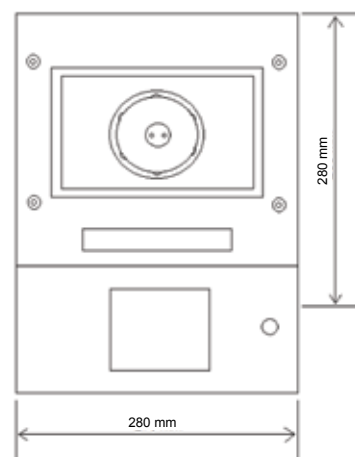
CLB31 / CLB51 Front view



CLB31 / CLB51 Side view



CLB31 / CLB51 Upper view



### CLB31 and CLB51 Series Order Guide

**CLB31:** -35° to 165°C / -31° to 329°F - Advanced Low Temperature Liquid Bath, North American Power Cord

**CLB31-E:** -35° to 165°C / -31° to 329°F - Advanced Low Temperature Liquid Bath, European Power Cord

**CLB31DW:** -35° to 165°C / -31° to 329°F - Advanced Low Temperature Liquid Bath / Dry Well, North American Power Cord

**CLB31DW-E:** -35° to 165°C / -31° to 329°F - Advanced Low Temperature Liquid Bath / Dry Well, European Power Cord

**CLB51:** 30° to 225°C / 86° to 437°F - Advanced High Temperature Liquid Bath, North American Power Cord

**CLB51-E:** 30° to 225°C / 86° to 437°F - Advanced High Temperature Liquid Bath, European Power Cord

**Includes:** Stainless Steel Transport Cover, Sensor Basket, Teflon Magnetic Stirrer Capsule, Liquid Removal Syringe, Power Cord (1.5m), Certificate of Conformance, User Manual (available online at [palmerwahl.com/downloads](http://palmerwahl.com/downloads)). Model CLB31DW also includes Insert J.

#### Accessories

**12457-01:** External Control Option. Includes FAN DIN 6 connector, (Male) (12457-07 Probe not included)

**12457-02:** Hermetic Methacrylate lid with 6 inserts to hold probes, 1/8" G female thread, eliminates condensation in the oil and prevents entry and exit of vapors

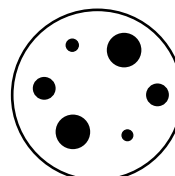
**12457-04:** Trolley Transport Case for CLB31 / CLB31DW / CLB51, with high density foam, wheels and handle, 14.77 x 12.41 x 21.07 in. / 375 x 315 x 535 mm.

**12457-05:** Silicone Oil - 10cSt, 0.7 liters, -35° to 160°C (Recommended for CLB30/CLB31)

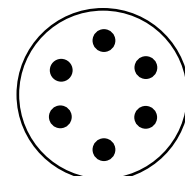
**12457-06:** Silicone Oil - 50cSt, 0.7 liters, 30° to 225°C (Recommended for CLB50/CLB51)

**12457-07:** External Control PT100 Probe, 1/8" OD x 12" L, 1 meter cable.

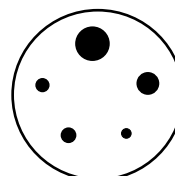
**12457-03: Optional Trolley Transport case with wheels and handle**



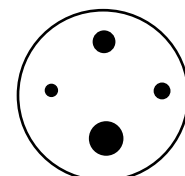
12457-21: Insert J



12457-22: Insert K



12457-23: Insert L



12457-24: Insert M

#### Additional Inserts

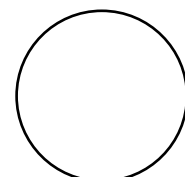
**12457-21: Insert J:** 2 each: 1/8 inch; 1/4 inch; 3/8 inch Diameter Holes (Replacement)

**12457-22: Insert K:** 6 each: 1/4 inch Diameter Holes

**12457-23: Insert L:** 1 each: 1/16 inch; 1/8 inch; 3/16 inch; 1/4 inch; 3/8 inch Diameter Holes

**12457-24: Insert M:** 1 each: 1/8 inch; 3/16 inch; 1/4 inch; 3/8 inch Diameter Holes

**12457-25: Insert E:** Blank, No Holes, (user drill)



12457-25: Insert E:



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MANAGEMENT SYSTEM

**Palmer Wahl**  
BEYOND THE SCALE

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