

## CALsys -80/50 Autocal -80/50



Highly accurate & Automatic Liquid Calibration bath for Industrial/Laboratory field use

### Liquid Calibration Bath

#### Wide Temperature Range

The Calsys -80/50 & Autocal -80/50 offer a wide temperature range from -80 °C to 50 °C

#### Large immersion depth

The Calsys -80/50 & Autocal -80/50 is ideal for Industrial/ Laboratory field use. Large immersion depth 200mm with 90x90 access opening and wide operating range

#### CFC free refrigerants

The Calsys-80/50 & Calsys-80/50 Autocal extremely highly accurate liquid stirrer bath with free of CFC refrigerants. CFC refrigerant is immensely damaging to the environment. CFC damages the Ozone layer and contributes directly to the destruction of our environment.

#### Accuracy and performance

The Calsys-80/50 & Calsys-80/50 Autocal is an easily portable unit that also provides excellent calibration accuracy with stability  $\pm 0.04^{\circ}\text{C}$  at -80°C.

#### Accredited calibration

Each Calsys -80/50 & Autocal -80/50 is delivered with an accredited calibration certificate

#### Computer Interface

The communication port (RS-232/USB) enables communication with selected Calsys -80/50 & Autocal -80/50 calibrators for automation calibration and documentation thus it made documentation easy.



Autocal -80/50



CALsys -80/50

CALsys -80/50 & Autocal -80/50 offers easy to use liquid temperature calibrator with high temperature range from -80 to 50°C. It is a highly stable standard furnace for calibrating thermocouples & RTD. It provides superior thermal environment for probe immersion as no air gap exists between the probe and the medium, thermal coupling is therefore much better than the alternatives described and the stirring results in very even heat distribution throughout the medium. Methanol is used for temperature below 0°C, water from 0 to 80 and silicon oil up to 250. It has a large tank which is filled with methanol. The liquid is heated or cooled to the desired temperature. We have seven types of liquid baths. The volume is 9 liters. And access opening is 120x120mm with 200mm depth. The temperature of the calibrator is set and controlled by a self-tuned PID controller with automatic super-fine adjustment. Our newly designed Calsys -80/50 model offers better aesthetic design and performance-wise upgraded to the next level. The Autocal -80/50 is an automatic temperature calibration system for the Thermocouple and RTD's. The system consists of Temperature bath and PC software, which together contribute to the whole cycle of auto calibration process. The system accepts 4 channels, 4 Thermocouples or 4 RTD's. The connection for these channels through special type of locking connectors. The channel configuration can be done with LCD display via touch screen keypad. The thermocouple microvolt & RTD ohm reading for each channel is monitored with CJC compensation. After the calibration process is complete, the PC software generates a report of actual calibrated values for the inputs.

With the Tempensens Compact Temperature Calibrator, you have chosen an extremely effective instrument which we hope will live up to all your expectations. This is a fast, time-saving, and reliable true industrial temperature calibrator designed for on-site use.

## SPECIFICATIONS

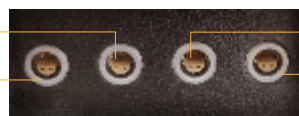
### Autocal -80/50 & CALsys -80/50

Temperature range	-80 °C to 50 °C
Stability	±0.04°C at -80°C
	±0.07°C at 0°C
	±0.05°C at 50°C
Uniformity	±0.05°C at -80°C
	±0.09°C at 0°C
	±0.07°C at 50°C
Volume	Approx 9 Ltr.
Immersion depth	200mm
Access opening	90x90 mm
Method of Control	Self tuned PID controller
Cooling time	90 Min ( Room Temperature to -80°C )
Resolution	0.1°C
Display	LCD, °C or °F user-selectable
Size (H x W x D)	1080(H) x 675 (W) x 555 (D) mm
Weight	135 kg
Power Requirements	230 VAC, 2 KW (50 Hz)
Computer interface	RS-232/USB
Calibration	Accredited calibration certificate provided (Optional)
Environmental operating conditions	0°C to 40°C, 0% to 90% RH (non-condensing)
Specifications valid in environmental conditions	13°C ... 25°C
PC Interface	Ethernet port (Autocal -80/50) , RS - 232 (CALsys -80/50 )
<b>Input {Autocal -80/50}</b>	<b>Four channels (one master and three test sensors).high quality universal LEMO connector suitable both for T/C {J, K, N,T,R,S, B type) and RTD</b>
<b>Software Autocal -80/50)</b>	<b>The calibrator will be provided with software for data recording (Manual Mode ) and Excel generation in Auto Mode</b>
<b>Data logging (Autocal -80/50)</b>	<b>Data logging facility with logged data export to computer through LAN port ( optional USB )</b>

### SENSOR CONNECTION (Autocal -80/50)

The Calibration system provides calibration upto four channels i.e. one master and three test sensors .We use high quality universal LEMO connector i.e. suitable both for T/C and RTD.

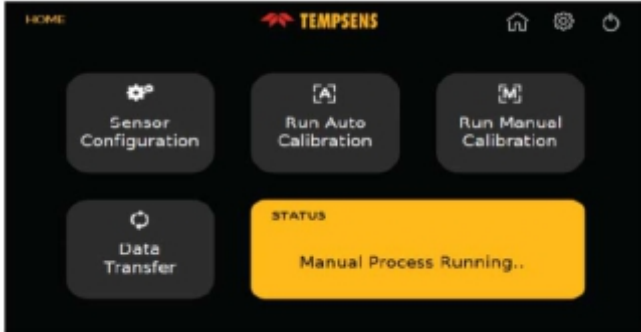
Connection for First TEST Sensor  
Connection for MASTER Sensor



Connection for Second TEST Sensor  
Connection for Third TEST Sensor

## USER INTERFACE (Autocal -80/50)

**Home Screen:** In this screen user can select sensor configuration (for selection of type of sensors), mode of operation (auto / manual) and data transfer (file transfer). This window also shows the ongoing process.

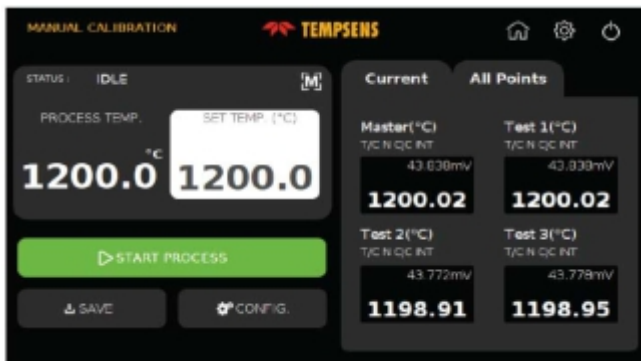


**Sensor Configuration:** In this screen user select the sensors Thermocouple (J, K, B, N, R, S, T type) / RTD (PT 100, PT 1000, PT50 etc.) for calibration with their serial number and temperature unit (C/F/K).

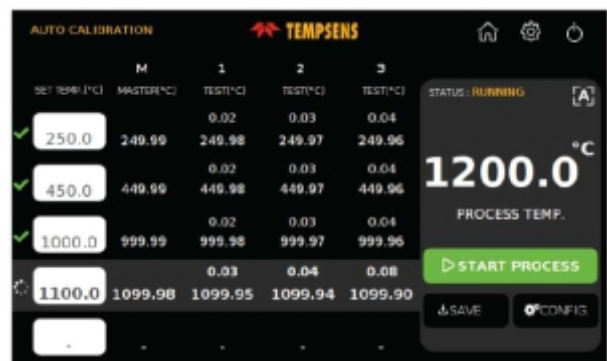


**Autocal -80/50 have two operating modes i.e. Manual and Auto mode**

**Manual Mode:** In this screen user set the temp. Point for calibration and on clicking start process button the process of calibration starts



**Auto Mode :** In this screen user sets the temperature Points for calibration (Max 5 Points)



**SOFTWARE :** Tempsens make Easy to use Customized software enables end user to access temperature data both for Manual mode and Automode



**AUTOMATIC CALIBRATION REPORT GENERATION (Optional)**

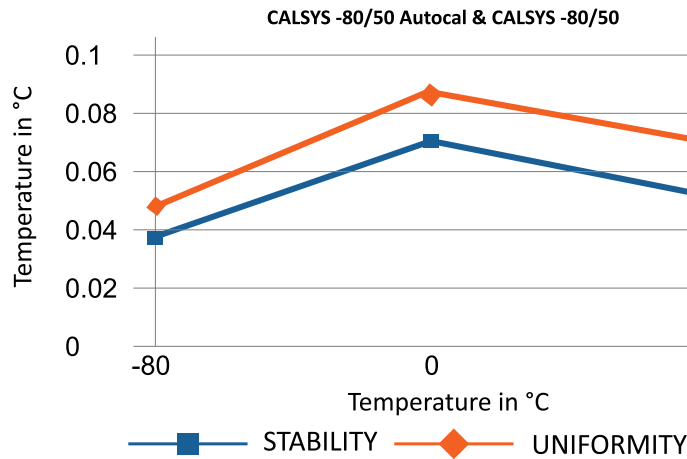
- Tempsens can offer customized data saving option both for manual and Automode.
- After completion manual / Automode automatic calibration report can be generated at PC side based on predefine format.

**CALIBRATION REPORT (TEMP MEASURING INST.)**

CUSTOMER			Serial No.:	1338/1
INSTRUMENT DATE :		INST. SR.NO :		
RANGE			MODEL NO :	
RANGE CALIBRATED	400.00	°C	LAB CONDITION (TEMP) : ± 25 +/- 5 °C	
DATE OF CALIBRATION	2021-08-24		RECOMMENDED RECALIBRATION DATE :	28-08-24

SR.NO	STANDARD TEMP °C	MASTER TEMP °C	ACTUAL TEMP °C	ERROR IN °C (W.R.T. MASTER)	REMARK
1	400.00	400.23	208.81	-211.32	
2	410.00	407.82	208.80	-218.02	
3					
4					
5					

## STABILITY & UNIFORMITY



## INSERT

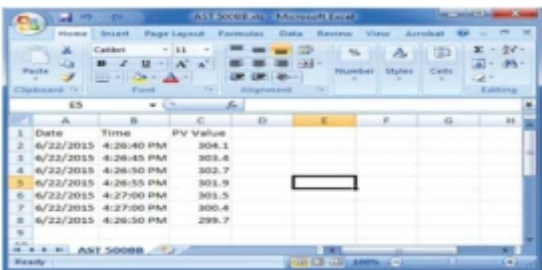
### Inserts for Autocal -80/50 & CALsys -80/50 model

Inserts for Autocal -80/50 & CALsys -80/50 about 90X90 mm access opening with 200mm insertion depth. All Specifications based on outer diameter of the sensor under test. We also offer customized hole size based on Customer requirements.

Inserts Model Description

Inserts	Description
Ci1	Multihole, 2 x 6.5 mm, 2 x 8.5 mm
Ci2	Special (Customized)

## SOFTWARE



- CalSoft including for setting bath temperature and monitoring the PV. Graphical representations of PV/TIME with 2 hours data logging.

## ACCESSORIES

- Insert
- Reference Standard RTD Part no. TPRT-A-300.
- Calsoft Software
- Operational Manual
- NABL accredited calibration certificate (Optional)

