



Ultra Cool Dry Block Temperature Calibrator

Temperature Range: -90 °C to +25°C



ED-90X Instrument Manual

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Preface

Congratulation on purchase of “Tunix” make Ultra Cool Dry block temperature Calibrator Model : ED-90X. This instruments is one of the best available in its class.

We have taken enough care in designing and manufacturing to give you trouble free performance for longer period. Before starting the instrument, we suggest you to go through the instruction manual.

On Arrivel

Please check for following Standard accessories

- 1) Product is not physically damaged.
- 2) Operating Manual With Warranty certificate.
- 3) 1 Insert & 1 Insert Pull out tool.
- 4) Power Chord.
- 5) Carrying Bag / Carrying Box.

Technical Specification

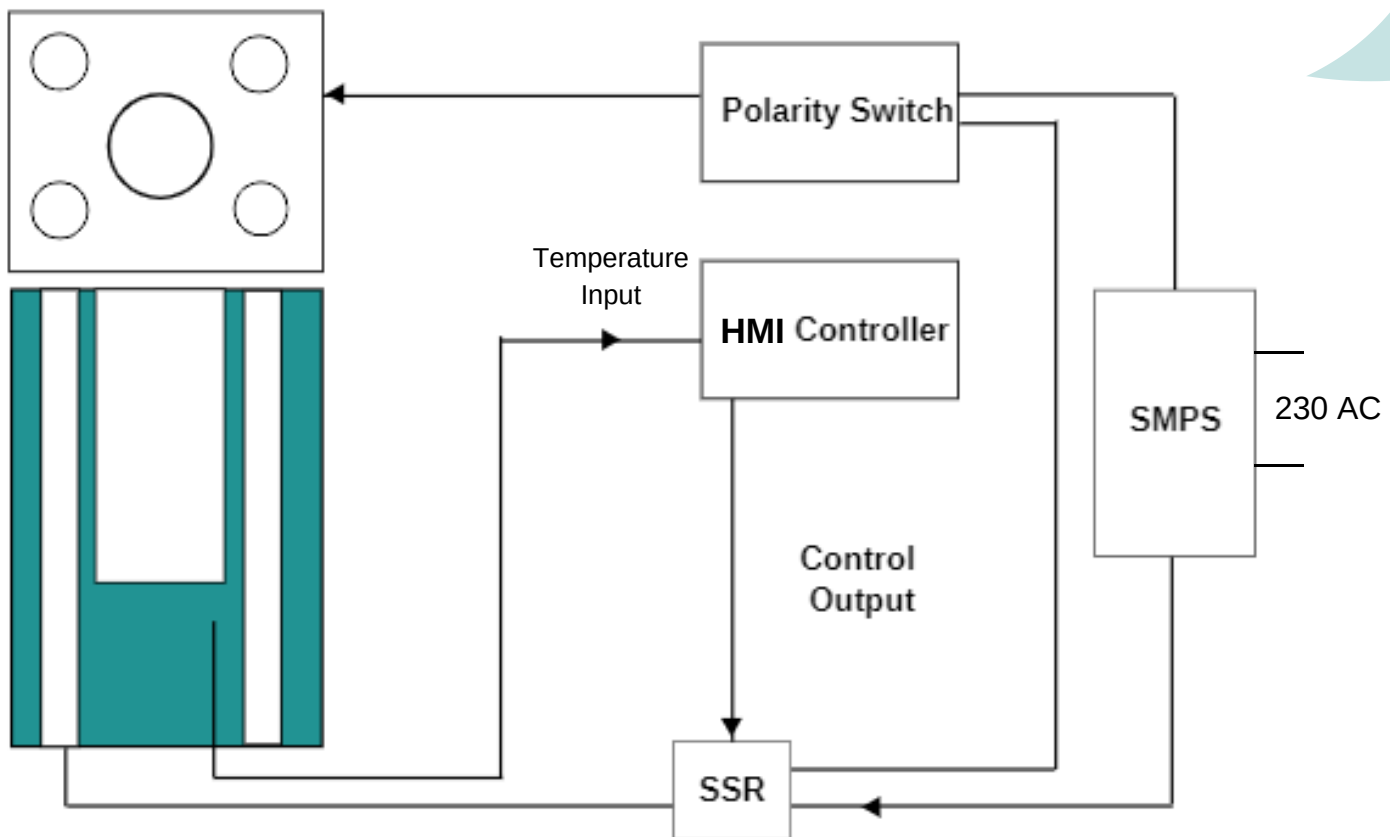
- Temperature Range : -90 °C to 25 °C at 25 °C
- Resolution : 0.1 °C
- Control accuracy : ± 0.1 °C
- Thermal Instability : ± 0.020 °C
- Thermal Non uniformity (Radial) : ± 0.070 °C
- Stabilization Time/ settling time : 15 minutes after set point is achieved
- Time to reach : -90 °C (90 Minutes) from @25 °C ambient temperature
- Power supply : 100-240 VAC @50-60 Hz.
- Current : 0.3 A
- Power Consumption : single phase :120 Watt maximum
- Sound : Less than 30 dB
- Enclosure : Metal(MS Powder coated)
- Display : Color touchscreen Display
- Weight : 19.5 Kg

Operating Principle

For temperature calibration you require a stable known temperature source. The certainty of the calibration depends on

- 1) Stability of the source temperature.
- 2) Uniformity to which the stable temperature is known.

Designed diagram of ED-90X is given below.



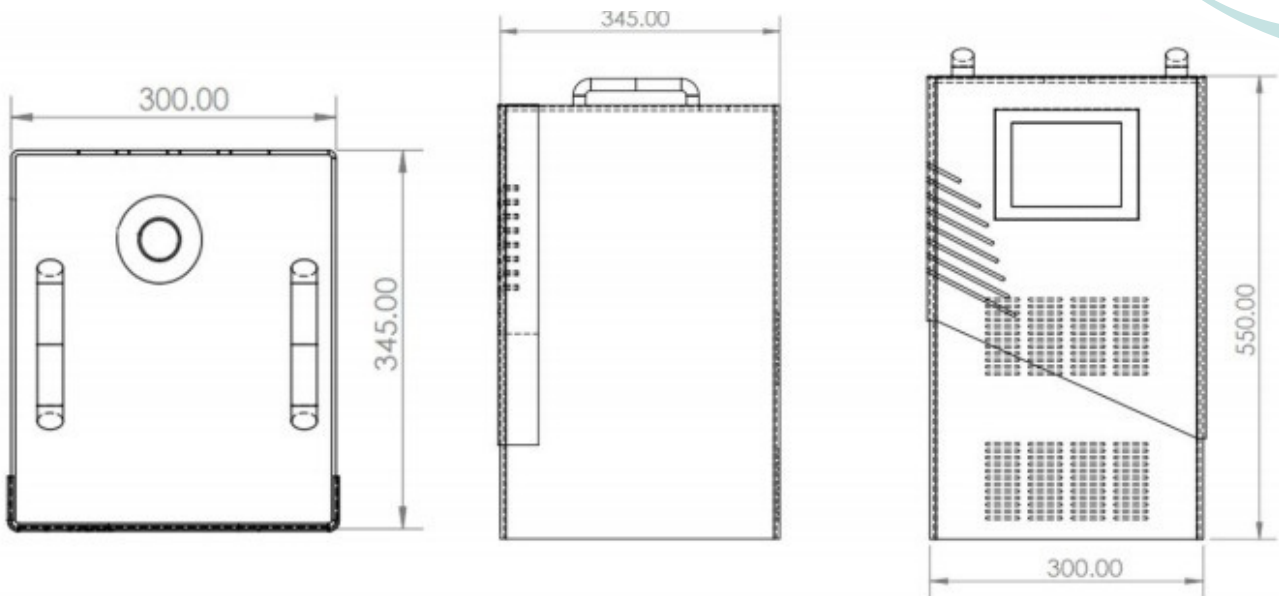
As Shown in above diagram, Aluminum block is heated & cooled by Thermoelectric coolers in such a way that a cavity in block has radial as well as axial homogeneous temperature. This temperature is sensed by highly accurate and stable sensor and block temperature is controlled by a HMI controller.

Operating Principle

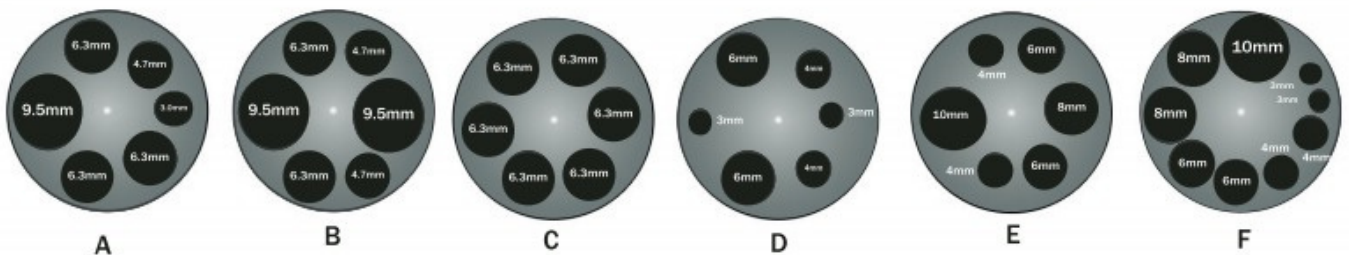
IMPORTANT INSTRUCTION FOR OPTIMUM PERFORMANCE

- 1) Use 6 amp glass fuse as supplied with instrument.
- 2) 3 Pin Plug used should have 6 amp capacity.
- 3) Cooling fan on the bottom are on .This is required to cool the electronics.
Ensure the air passage is not blocked

Product Dimensions(LXBXH)



Insert Dimension



Well Diameter : 35 mm.

Immersion length(Well depth): 115mm

Safety Measures

- 1) A 6 amp Glass fuse is used in the supply line to prevent any problem due to failure of Thermoelectric module. In case of fuse being fused to frequently kindly consult factory.
- 2) In the event of SSR failure temperature gets run away above set value. If it cross the set point by more than 50°C. Switch off the power immediately and consult factory.
- 3) Do not temper wiring as it may be safety hazard.

Trouble Shooting

- 1) Calibrator is not reaching set value.
Check mains for full voltage.
Check resistance of heater by opening the side cover as per wiring diagram.
It should be 75 ohm. If not found in range consult our factory.
- 2) Calibrator temperature is running over.
Check terminal 1 & 2 of SSR for getting short for ever. If it is short replace it.
Check for correct polarity in your mains plug. Phase should go thru SSR as per design. If phase is not routed thru SSR It may not control the temperature.
- 3) Calibrator is not getting on.
Check mains.
Check fuse.
Check tightness of all terminals on controller & main terminal strip.
- 4) Bath temperature not getting stable.
Check fan at the bottom cover it should be running.
Need turning of controller.

Warrenty Certificate

This is certify that, Ultra Cool Dry Block Temperature Calibrator having Sr. No.-----
----- Date----- is properly Tested for workmanship. We Certify our Calibrator
for satisfactory performance for the period of one year against any manufacturing
defect.

Signature

Calibration Certificate

Certificate No. :

Date :

Model No. :

Temperature Range :

Reading On Calibrator	Reading on Master

Calibrated By

Authorized By

Check-list

- Is Instrument is working properly(Yes/No)
- Is power chord is available?(Yes/No)
- Is Insert is available?(Yes/No)
- Is Insert puller is available?(Yes/No)
- Is Carry bag is available?(Yes/No)
- Has all factory setting parameters of Instruments locked?(Yes/No)

Signature

Date