unix Corporation

Dry Block Temperature Calibrator ED-800

Temperature Range: 50 to 800°C

ED-800 Instrument Manual

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PREFACE

Congratulation on purchase of "Tunix" make Dry block temperature Calibrator Model : ED-800. 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.

Standared Accessories

Please check for following Standard accessories/Observation

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.

6)   Calibration Certificate.

TECHNICAL SPECIFICATION

- Temperature Range: 50 to 800 ˚C.

- Resolution: 0.1°C.

- Control accuracy: ± 0.1 ˚C .

- Thermal stability:

   ± 0.2 ˚C @800 ˚C (calculated after stabilization time of 10 minutes).

   ± 0.1°C @ 300˚C (calculated after stabilization time of 10 minutes).

- Thermal Nonuniformity (Radial):

   ± 0.2 ˚C @500 ˚C (calculated after stabilization time of 10 minutes).

- Stabilization Time/settling time: 10 minutes after set point is achieved

- Time to reach 50° C to 800˚C (30 Minutes)..

- Power supply: 100-240 VAC @50-60 Hz.

- Current : 5A

- Power Consumption: single phase , 1200 Watt maximum

- Sound: 30 dB

- Enclosure Metal(SS)

- Weight: 13 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-800 is given below.

Block

Temperature Input

PID Controller

230VAC
@50
Hz

Control
Output

SSR
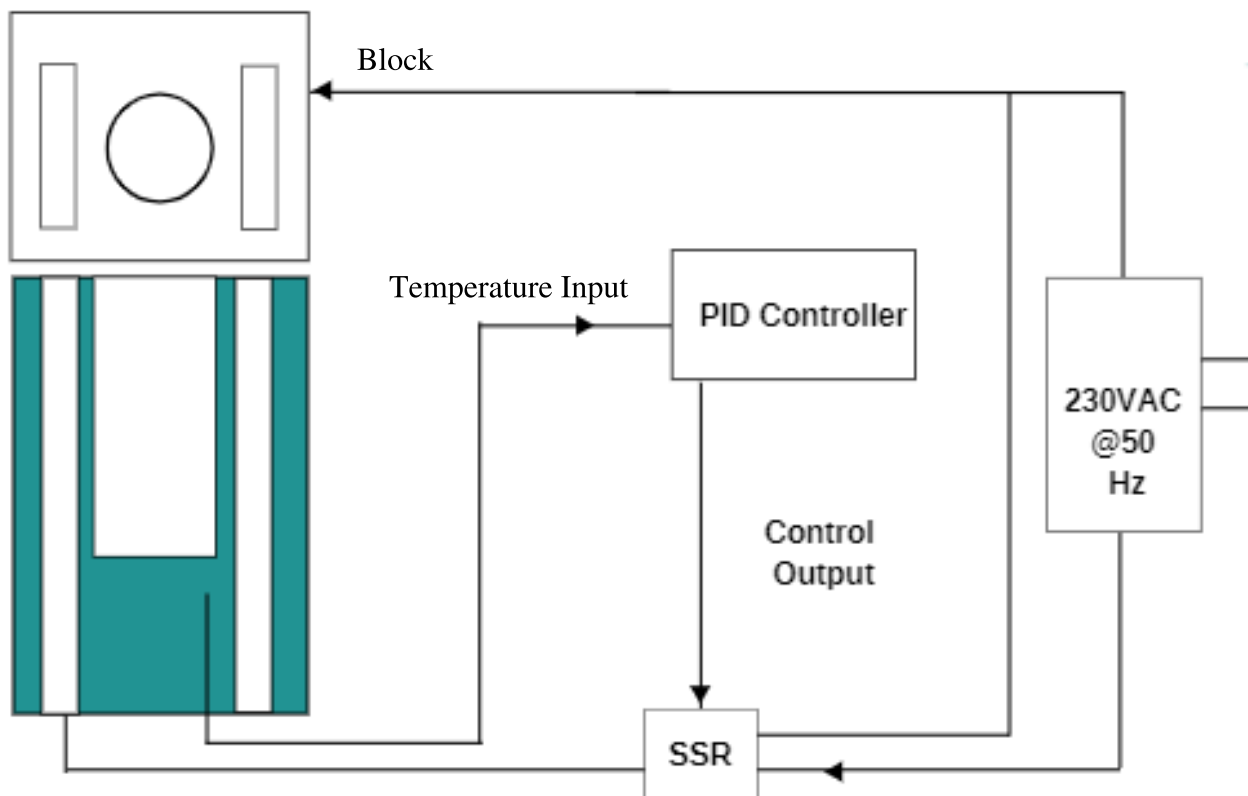
As Shown in above diagram, SS block is heated in such a way that a cavity in block has radial as well as
axial homogeneous temperature. This temperature is sensed by highly accurate and stable sensor and
block temperature is controlled by a PID controller.

OPERATING PRINCIPLE

IMPORTANT INSTRUCTION FOR OPTIMUM PERFORMANCE

1)   Use 1 Amp glass fuse as supplied with instrument.

2)   3 Pin Plug used should have 5 amp capacity.

3)   Cooling fan on the buttom are on .This is required to cool the electronics.
Ensure the air passage is not blocked

PID Controller

SAFETY MEASURES

- A 1 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.
- In the event of SSR failure temperature gets run away above set value. If it cross the set point by more than 800°C. Switch off the power immediately and consult factory.
- 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 168.5 ohm. It not fount 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/ Consult factory.
- Check for correct polarity in your mains plug. Phase should go thru SSR as per design. If phase is not routed thrue SSR It may not control the temperature.

3)   Calibrator is not not getting on.

- Check mains.
- Check fuse.
- Check tightness of all terminals on controller & main terminal strip.

4)   Calibrator temperature not getting stable.

- Check fan at the bottom cover it should be running.
- Need turning off/On controller.

WARRANTY CERTIFICATE

This is certify that, Dry Block Temperature Calibrator Model No. ED-800 having Sr. No.---------------------- Date-------- is properly Tested for workmanship. We Certify our Calibrator for satisfactory performance for the period of one year from the date of supply against any manufacturing defect.

Signature

CALIBRATION CERTIFICATE

Certificate No.   ....

Date   ....

Model No.   ED-800

Serial No.   ....

Standared reading

Standared reading on precision Digital Read Out	Reding on temperature Controller after stablization of 10 min	Instability

Signature

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