

RESOTECH COOLING CABINET

Professional Manufacturer of Test Equipment



Type of Testing

- COLD Test
- MAKE : RESOTECH
- MODEL NO. : RESOTECH DELMORE-2607

MANUFACTURERS & SUPPLERS

SPECIAL PURPOSE MACHINE, MATERIAL TESTING MACHINE, LEAKAGE TESTING MACHINE, PACKAGING TESTING MACHINE, ENVIRONMENTAL TEST CHAMBER, ASSY. LINE EQUIPMENT, SOLUTION FOR ELECTRONIC AUTOMATION AND PRODUCT DEVELOPMENT, COMPUTERIZED CONTROL MACHINE , PLC HMI SCADA VISUAL BASIC SOFTWARE DEVELOPMENT SOLUTION AND OTHER SERVICES.

We are manufacturers and suppliers cold rooms. We make cold rooms as per customer requirements. We make cold rooms such as cold rooms for industry. Industry cold rooms are also designed for definite temperature and humidity levels that maintain freshness of the product. High humidity evaporators play an important role in most of these cold rooms. These cold rooms are designed the airflow away from the product and are low and also avoid turbulence.

COOLING CABINET DESCRIPTION :-

Polprost branded Cold Rooms are indigenous in design. Turnkey Cool and Cold Room Solutions, right from Conceptualization, Heat-Load Calculations, Design of Structural Panels as well as Thermal Control Systems and CA systems, Manufacturing to Commissioning and Installation.

In house production of panels, complete from Decoiling Units to CNC Turret Press and Bends. Polprost Cold Room Panels are well designed and have a good strength to weight ratio.

Complete sealing of air gaps in the panel joining system by use of tongue and groove interlocking system, doubly ensured air tightness by cam locking system.

Easy and quick assembling and disassembling of the structure PUF panels due to the Cam Locking system, establishing complete Modular Cold Rooms and Pre-Fab structural requirements.

Imported PUF forming chemicals from Reputed International Brands, implying uniform PU density. This helps in maintaining uniform temperature throughout the Cold Room zones minimizing the possibilities of temperature leaks.

PU Panels to suit every application including Cleanrooms, Cold Rooms, CA Chambers, Food and Beverage Storage Applications, Long Storage Applications and Fruit Ripening Chambers.

Design and Construction of Walk-In Cold Rooms / Cool Rooms / Chambers.

Exhaustive range of Door Systems, such as Flush

Doors, Swing Doors, Sliding Doors – Manual and Automated, Commercial Doors, Temperature Retardant Glass Doors, Fire Doors, Hangar Doors, Acoustic Doors, Double Leaf Hinged and Sliding Doors, etc.

Thermal Breaks at door sections reducing Thermal Losses at junctions as well as via conduction, using High grade FRP sections.

Specialized Door systems, customized to suit customer requirements, with Reputed International Brands' door hardware.

Walk-able ceilings and Custom made PU floorings complete with Tar felt and in-situ construction.

Wide variety of skins to choose from SS, GIPP (Galvanized Iron Pre-Painted), GIPC (Galvanized Iron Powder Coated), with different choice of thicknesses from 0.45mm to 1.2mm. Aluminum and PVC Coving to suit the corners and restrict contamination. **PIR Panels for fire retarding structures and Rockwool Panels manufactured on request.**

Special skins available on request such as PVC Coated Steels, for specialized applications like Medical sector cleanrooms, Cleanrooms, Operation Theatres, CA Chambers, etc.

COOLING CABINET

RESOTECH is a market leader in refrigeration technology. RESOTECH representing market with widest range of cooling cabinet by their own manufactured refrigeration system and evaporators. All refrigeration systems are designed according to the need of customers. RESOTECH COOLING CABINET division customized and designed modular COOLING CABINET of all sizes. We are serving customer through our COOLING CABINET for Fresh food, Frozen food, Meat, Sea food, Ice Cream, Medical product and many more perishables products. Our technical department maintains an International standard and world class technology in their refrigeration system, which provides tremendous efficiency, durability, & reliability.

We have a long list of satisfied customer's right across the board. We have installed our cold rooms for different industry such as, dairy, horticulture, floriculture, sea food and meat, hospitality, pharmaceuticals & food processing. If you are looking unmatched solutions for your refrigeration needs, let's move forward together to satisfy your need.

RESOTECH acts as an imagination, innovator, and implementer, that is why customer can get widest temp. Range in cooling cabinet from

+1°C to +10°C. In our products humidity is a crucial factor to keep products extremely fresh for a longer period of time. Our experts always ensures humidity level as per products by using dehumidifier and ultrasonic humidifier.



which form will be large.

Advantages of Blast Freezing:

1. Rapid temperature reduction prevents the reproduction of microorganisms.
2. Increase shelf life of product.
3. Appearance, flavour, texture and nutritional value remain as natural.
4. High and constant quality.
5. Reduction in electricity consumption
6. Prevention of large ice crystals which can damage food.
7. Reduced kitchen waste as unused portions can safely be stored for later use.
8. Increased Kitchen efficiency lets you prepare large batches and use some portions later.
9. Cost effective operation & maintenance.
10. Production always available for the sale

● $\pm 1^{\circ}\text{C}/\pm 5\%\text{rh}$ guaranteed

All models fulfill the HUMIDITY requirements of the Long Term Storage Testing and Intermediate Testing. The conforms to more demanding Accelerated Testing HUMIDITY requirements.

● Reliable temperature and humidity sensor

A high-accuracy resistance temperature detector (Pt100) is used for the temperature sensor, and a capacitive thin-film polymer sensor is used for the humidity sensor. You are free from wet-bulb wick replacement in dry-bulb systems and the effects of microorganisms that have become attached to the wick.

● Saving energy

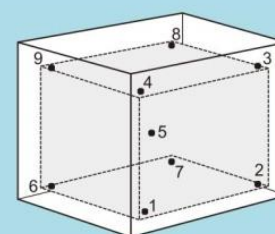
The 132, a newly developed large capacity type, can be used with the same power consumption as the 122, which is expected to hold down running costs during long-term usage. The maximum load current has been reduced 36% compared to previous model.

● Frost-free, continuous operation

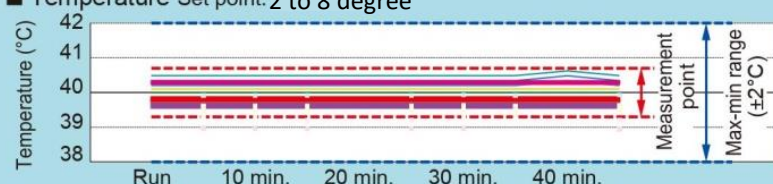
Evaporator frosting is prevented to allow continuous operation without interrupting test.

● Temperature and humidity distribution measurement data

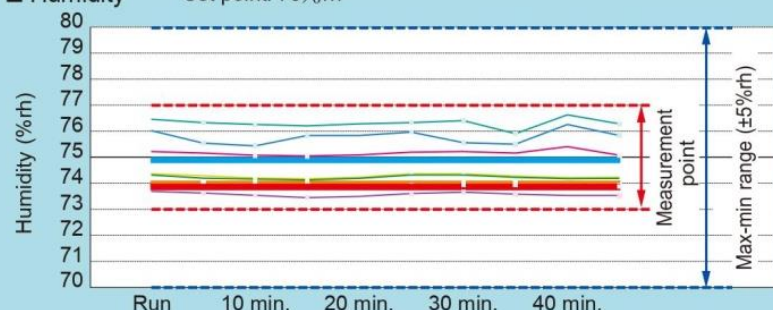
Nine points in the effective space of the test area are measured.
(Performance shown above conforms to IEC)



■ Temperature Set point: 2 to 8 degree



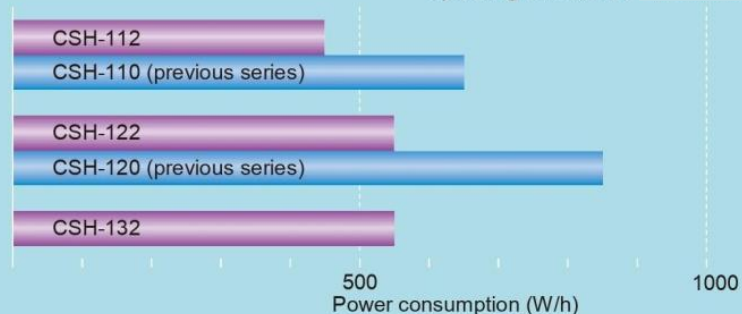
■ Humidity Set point: 75%rh



● Power consumption comparison

- CSH

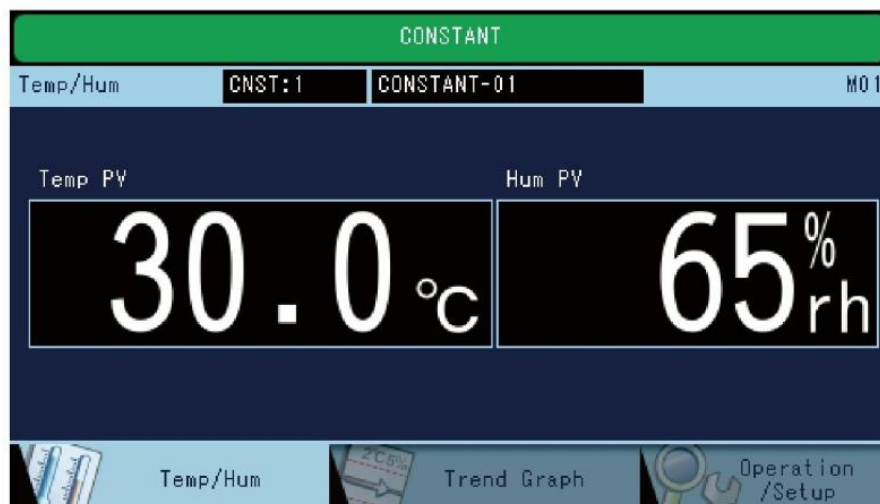
Operating conditions: Rh : 61 to 80%



● Easy-to-use instrumentation

Unlike the smartphones, the controller comes with resistive touchscreen, which allows you to operate without taking off your gloves.

Various items, including operation settings and chamber setup, can be selected with the tabs at the bottom of the screen.



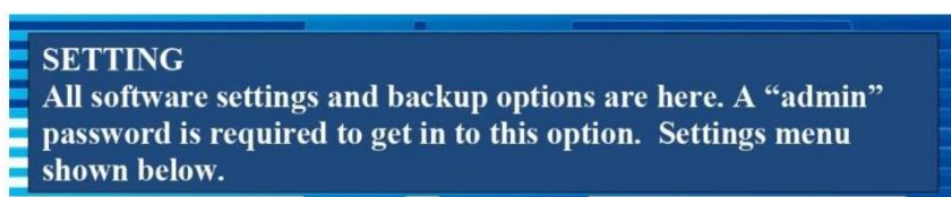
● Absolute temperature/humidity limit alarm

This chamber is equipped with a standard function to transmit an alarm when a process value has deviated from the temperature/humidity set points. The temperature/humidity allowable range and temperature/humidity HUMIDITY time can also be registered as desired. Registering the HUMIDITY testing guideline standards of 61 to 80% Rh allows a rapid response when problems occur.

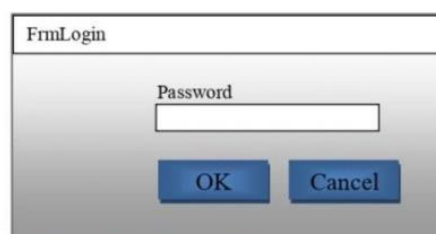
HUMIDITY CHAMBER



RESONANCE AUTOMATION AND MACHINES
PLOT NO:- 1131 HARI ENCLAVE KIRRARI SULEMAN
NAGAR NEW DELHI-110086



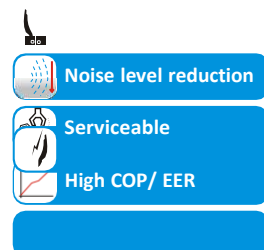
HUMIDITY CHAMBER



RESONANCE AUTOMATION AND MACHINES
PLOT NO: - 1131 HARI ENCLAVE KIRRARI SULEMAN
NAGAR NEW DELHI-110086

COOLING CABINET

THE INSIDE STORY



(Inverter Spike Resistant)

High Ambient Design



AIR-COOLED & WATER-COOLED CONDENSING UNITS

Compressor for three phase and single phase 230 V/1/50Hz with fitted starting device and run capacitor.

- Condenser with grooved copper tubes and Aluminium Fins. Generously sized liquid receiver.
- High & Low pressure cut-out including mounting brackets, wired to terminal strip, Electrical wiring to the connection box IP65.
- Operating pressure up to 28 bar. High cooling capacity with reduced power consumption.
- Full exploitation of the finned package due to the careful matching of the high capacity external rotors fans.
- Fans with especially efficient low noise external rotor motors single phase & three phase.
- Precharged with ester oil for R134a and R404A/R507A. Designed for extremely high ambient condition upto 65°C/75°C.
- Copper pipe without any elbow coupler in single pipe with CNC bending machines.
- Special epoxy plus polyurethane metallic paint. Big size filter dryer, moisture indicator, solenoid valve, oil separator & accumulator.
- Shell & tube condenser made of copper and coppernickel (seawater resistant design) with newly developed tube geometry and low fouling profile on the coolant side.



EVAPORATORS/ INDOOR UNITS

STRUCTURE FEATURES

Coil: use new high efficient aluminum wave fin, high heat conductivity, fast water discharge, use high efficient copper pipe, high heat transfer,

- use new type liquid distributor & uniform frost

Fan: low cost, high reliability, lower temperature- resistant and low noise external Rotor fans

- **Defrost:** use electric heating stainless steel pipe, high leak-proofness at the end, anti-electric leakage and long life

- **Casing:** use aluminum plate and stainless steel or cold plastic spraying plate, nice appearance and durable

- **Maintenance:** flexible to disassemble and lean

Service & food Industry: special design for hotel & food industry

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COMPRESSORS



SEMI HERMETIC RECIPROCATING COMPRESSORS



SCROLL COMPRESSORS



SEALED COMPRESSORS

ELECTRIC CONTROL PANELS

RESOTECH electrical control panel is operator friendly designed, which provides better safety with following.

- Single Phase Preventor, which protect compressor from single phasing, phase failure and phase reversal.
- Overload Protector current Sensing Device with current relay. This Safeguards compressor motor from the overload.
- Miniature Circuit Breaker with 4-POLE, which safeguards the Condensing Unit from short circuit.
- Electrical controller to check voltage, ampere, frequency, phase to phase and phase to neutral voltage.
- Phase indicator with 3 nos. for Red, Yellow and Blue.
- ON/Off Buttons with Light Indicators.
- Auto & Manual Mode switch over button.
- Indicating lamp with 5 nos. of LED to help the operator to make out fault, also from distance. For thermal protection unit, L.P./H.P. cutout, heater on and oil pressure cut out.
- Contractor of standard makes 3 No.s Separate for Compressors, Indoor Fan & Heaters.
- All electrical cables are of standard make.
- Control Panel MCB used for protection of Electrical Panel.
- Connectors: Finolex make with serial nos. used for connection with Condensing Unit & Evaporator.

COOLING CABINET CONTROLLER: Microprocessor Based Controller with two Sensors used for COOLING CABINET & evaporator coil to save life of cooling coil & defrosting electricity. Also With Flexibility to control Defrosting Timing & Duration, Option for manual defrosting & internet connectivity* with RS232 port to monitor all the parameters of COOLING CABINET on computer, remote monitoring facility and communication of all faults alarm.



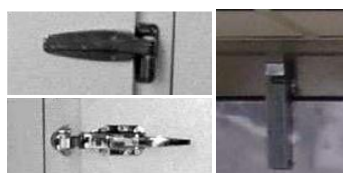
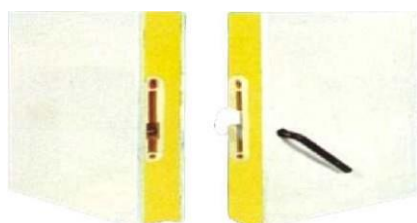
PUF PANELS & ACCESSORIES



PUF PANELS



DOORS



PUF PANELS

COOLING CABINET panels have a lightweight, self-supporting, aluminum / GI-sandwich construction with special aluminum / GI profile as wall joints. They are extremely robust, corrosion-resistant, and have waterproof sealing.

Key Features:

- These COOLING CABINET are designed & developed customized as per specific requirement of the customer.
- These are fire retardant as per code, sheeted cabinet using high quality PUF insulation, minimizing the outside ambient temperature.
- The panel Thickness can be made from 60 mm to 150 mm. with the maximum size of 1.2mtr X 6.5mtr.
- Standard density of these PUF filled panels shelter is 40 ± 2 k.g. however the same can be increased or decreased as per specific requirements.

Doors

High quality COOLING CABINET door of different thickness and sizes like overlap door, flush type door and sliding door using imported lock and hinges. With thermal break parameter to avoid thermal conductivity otherwise lead to ice formation. For viewing the inside without opening the door, to check if the door swing-path is clear, view glass option is available.

Camlock

Posi-loc locking assemblies that provide perfect alignment of walls, ceiling, floor, corners and door frames

Hardware & Posi-seal Closure

Heavy-duty cast alloy handles and hinges with attractive brushed-chrome finish. Cushions closing of door, making it noiseless and firmly shut

Flooring

Useful to provide the result of an insulated regular floor and also to form a stable base for wall and partitions.

Puf slab with Kota stones are being used in big cold rooms.

Interior & Exterior Ramps

Movement of material become easy due to use of ramp, without causing any damage to floor.

Sweep Gasket

The heavy duty sealing gasket under the door keeps it flexible at any temperature, which makes it completely airtight.

TECHNICAL COMPARISON

SEMI-HERMETIC	VS	HERMETIC
SEMI-HERMETIC (Semi-Seal)		HERMETIC (Sealed)
EASY TO ACCESS FOR REPAIRS		NOT POSSIBLE
NOISE LEVEL 75dB (A)		88 dB (A) NOISE LEVEL
VIBRATION ARE VERY LESS		MORE VIBRATIONS DUE TO ONE SHELL ASSEMBLY
WIDE VOLTAGE SELECTION AVAILABILITY		LESS IN COMPARISON OF SEMI HERMETIC
LESS POWER CONSUMPTION FOR THE SAME H.P. COMPRESSOR		HIGHER POWER CONSUMPTION DUE TO MORE MOVING PARTS
SUCTION GAS COOLED MOTORS		FAN COOLED MOTORS
LOW MOTOR TEMPERTAURE		NOT SUITABLE FOR VERY LOW TEMPERATURE APPLICATIONS
a) AVAILABLE FROM 0.5 TO 50 H.P. (AIR COOLED)		AVAILABLE FROM 0.5 H.P. TO 15 H.P
b) AVAILABLE FROM 0.5 TO 50 H.P. (WATER COOLED)		
DESIGNED FOR EXTREMELY HIGH AMBIENT CONDITIONS (UPTO 75° c)		DESIGNED FOR MAXIMUM 46° C / 50° C AMBIENT
SPARES EASILY AVAILABLE LIKE GASKETS, MOTOR WINDING, VALVE PLATE		REPLACEMENT OF COMPRESSORS IS PREFERRED AS REPAIRING IS VERY DIFFICULT

POWER & COOLING CAPACITY COMPARISONS

Model No.	RESOTECH DELMORE	RESOTECH DELMORE
Displacement	16.73m ³ /hr	16.24m ³ /hr.
Gas	404A	404A
Selection	-30°C Evaporating temp. 50°C Condensing temp.	-30°C Evaporating temp. 50°C Condensing temp.
Cooling Capacity (Watt)	1870 Watt	2690 Watt
Cooling Capacity (Btu/ hr.)	6377 Btu/ hr.	9173 Btu/hr.
Power Input	2.64 Kw.	2.39 Kw.
Sub Cooling	0 K	0 K (without liquid sub cooling)
Super Heat	10 K	10 K
COP/EER	0.71	1.12

Other Advantages:

Warranty
Spares Easily Available

- Low Noise
-
-

R A L E S

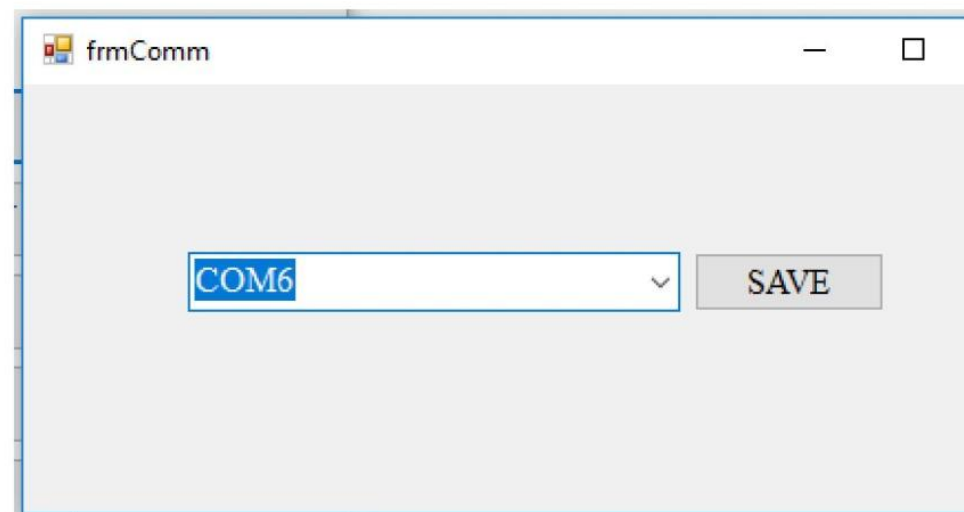
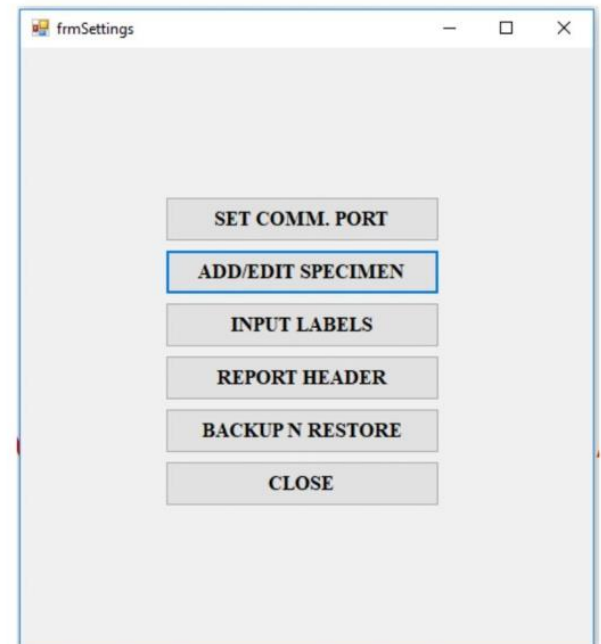


Services

take backup of all test and settings here. It is advised to take back in regular intervals.

Restore

Any time if your software get corrupted or loss of data, administrator can restore back data back to system using this option. Care should be taken while restoring the data, by clicking delete all data administrator has to clear all current then use restore.(Note : only the data till backup date will be restored).



BACK UP

RESTORE

DELETE ALL

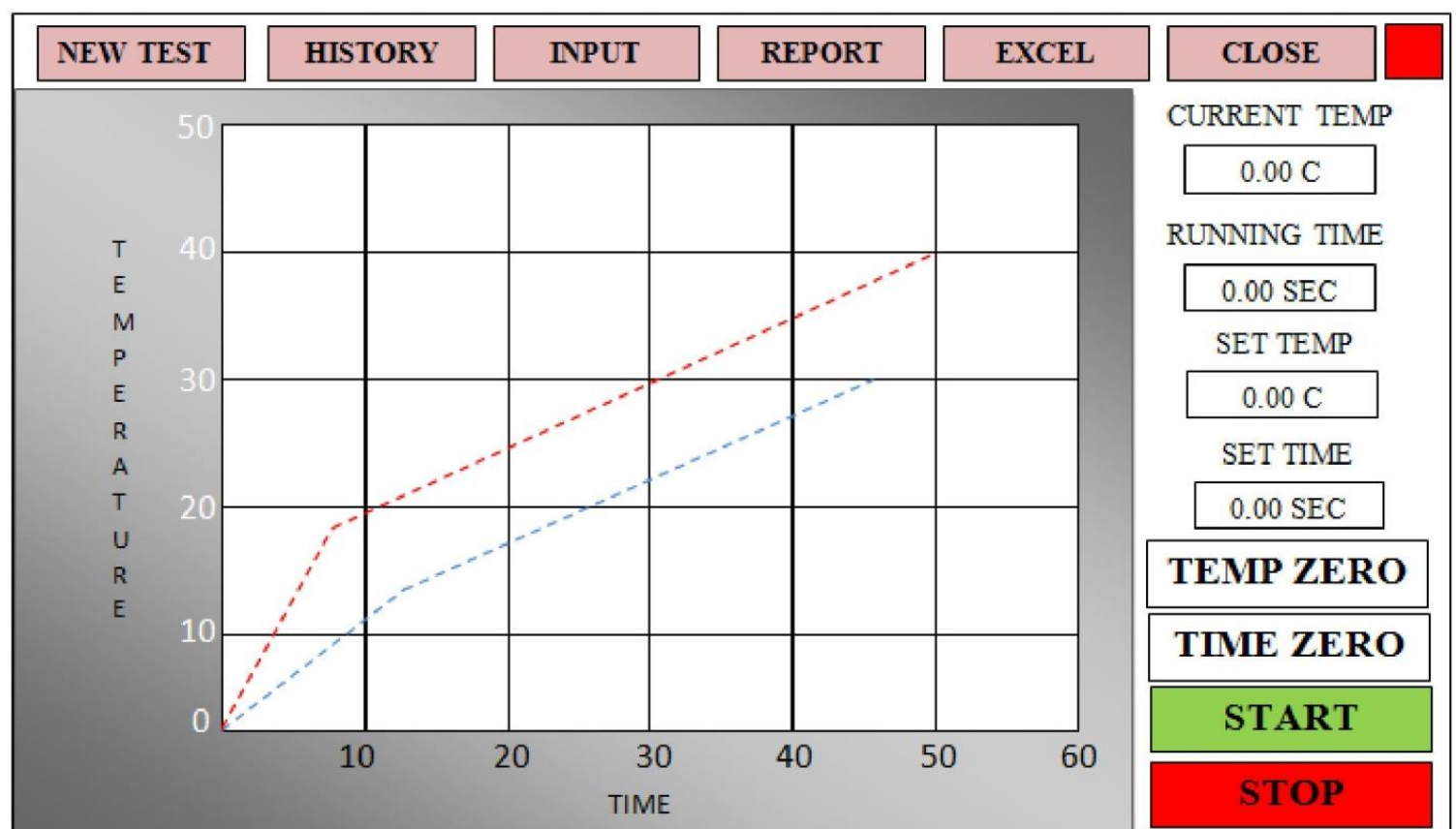
CLOSE

TESTING

New Test – Old Test data and graph get cleared and ready for new test.

User has to select the group in which he want to do testing. When user select a group all settings get loaded.

Click Start to start test. Input details given below.



HISTORY

Here user can see all previous test and take print out from here.

GROUP

TEST DATE FROM

TEST DATE TO

TMT bar

13-Nov-17

14-Nov-17

SELECT RANGE CLICK

Load Vs Elongation

	Sl. No.	Test No	Operator	Test Date	Peak Force	Force at Break	Elong. at Peak	Elong. at Break	Test Time	Proof Load	Peak Stress	Peak Strain	% Elong
	1	57		13-Nov-17 6:45:14 PM	24.721	24.056	18	17.5	7.1	0	258.75	0.18	18
	2	56		13-Nov-17 6:39:48 PM	80	80	90	91.5	37.1	76.5	837.34	0.92	92
	3	55		13-Nov-17 6:06:48 PM	80	80	90	162.5	66.1	76.5			162
	4	54		13-Nov-17 5:58:41 PM	79.562	79.486	84	83.5	33.8	76.5			84
	5	53		13-Nov-17 5:51:25 PM	80	80	90	110	44.7	76.5			110
	6	52		13-Nov-17 5:46:20 PM	80	80	90	96	38.9	0			96
	7	51		13-Nov-17 5:13:27 PM	65.129	64.721	54.5	54	0	0			54
	8	50		13-Nov-17 4:42:27 PM	80	80	90	126.5	51.3	0			126
	9	49		13-Nov-17 4:38:39 PM	80	80	90	159	138.1	0			159
	10	48		13-Nov-17 4:29:50 PM	80	80	90	120.5	48.9	0			120
	11	47		13-Nov-17 3:30:50 PM	80	80	90	195	0	0			195
	12	46		13-Nov-17 2:52:45 PM	80	80	90	100.5	0	0			100
	13	45		13-Nov-17 2:49:15 PM	80	80	90	99	0	0			99
	14	44		13-Nov-17 2:46:06 PM	80	80	90	98	0	0			98
	15	43		13-Nov-17 1:27:22 PM	11.212	8.09	7.6	8.2	0	0			8
	16	42		13-Nov-17 1:17:35 PM	11.421	5.041	8.7	9.3	0	0			9
	17	41		13-Nov-17 1:07:40 PM	9.929	9.114	5.8	5.9	0	0			6
	18	40		13-Nov-17 12:57:01 PM	6.578	3.248	6	6.4	0	0			6

PRINT

EXIT

REPORT

REPORT

After each testing the report will be auto generated and saved into specified folder.

User can generate a report directly from testing window and from history.

range settings also here.

EXCEL

EXCEL

User save raw test data into excel file using this option.

TEST REPORT FORMAT



EXCEL



PDF



WORD

OUR VALUED CUSTOMERS



IndianOil



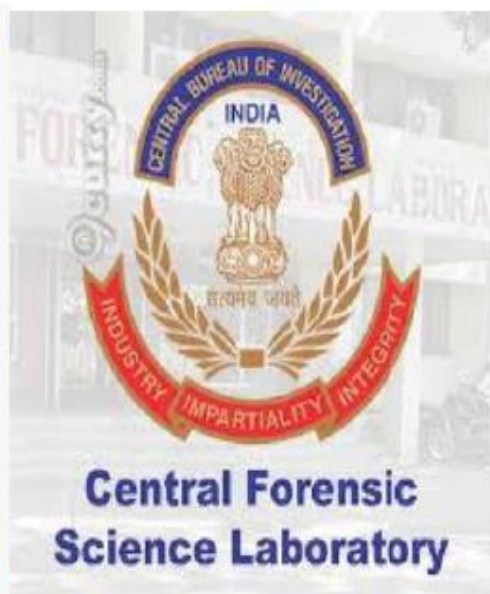
आरोग्यम् सुख सम्पदा



भारतीय मानक ब्यूरो
Bureau of Indian Standards
The National Standards Body of India

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रक्षा मंत्रालय
**MINISTRY OF
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रक्षा उत्पादन विभाग
**DEPARTMENT OF
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ORDNANCE FACTORY, KANPUR



सत्यमेव जयते

Department of Animal Husbandry,
Dairying & Fisheries




ICAT
Innovation • Service • Excellence

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Napino Auto & Electronics Ltd.


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 ISO 9001 - Certified Superior in Performance

