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RESONANCE AUTOMATION & MACHINE

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.

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B.O.D INCUBATOR

RESOTECH



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B.O.D INCUBATOR

INTRODUCTION

Biochemical Oxygen Demand (BOD) incubators or low temperature incubators enable end users to determine levels of organic matter and nitrogen in wastewater samples. This wastewater must be effectively measured for contaminants, treated and then released back into the environment without posing a threat to the water supply system. Recently, stricter enforcement by government regulatory agencies charged with monitoring air and water quality has forced a greater number of organizations to actively test and treat their wastewater. BOD incubators facilitate the storage of wastewater samples, and can accommodate from 62 – 565 BOD bottles.

CONSTRUCTION DETAILS

- Material of Construction: Castor wheel mounted cabinet is double walled with inner chamber of Stainless steel sheet of grade SS 304/316. Outer wall is constructed out of heavy gauge PCRC steel sheet duly degreased and pretreated with primers, duly painted with attractive stove enamel or powder coated.
- Temperature Range: 5°C to 70°C
- Temperature Control: The temperature inside the BOD incubator is controlled by intelligent programmable temperature controller and indicator. This controller is based on the microcontroller Nano watt

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Technology and its ergonomic design suits for any specific requirement of the BOD incubator.

- Insulation: The gap of 50 mm between the outer and the inner wall is filled with special grade glass wool to prevent thermal losses.
- Mineral Glass Wool Insulation: Glass mineral wool is one of the most environmentally friendly, stable and sustainable. It does not propagate flames and toxic smokes. The thick it is, the best thermal resistance it has, thus reducing heat losses in our equipment's for better sensitivity and economical operations. And its impact on the environment is minimal.
- Air circulation: Triple walled back of unit is fitted with two air circulation fans for maintaining temperature uniformity throughout the chamber

FEATURES OF COAXIAL CIRCULATION FAN:

- Vacuum impregnated stator winding with dr. back varnish under red baktol
- Non-hygroscopic.
- Best IR value
- Bright bar (EN - 8 class) shaft.
- Bush bearing of branded companies.
- Surge comparison testing in fans and pumps eliminates into turn short circulating of the stator.
- Pressure die-casted-rotor manufactured with zero error.
- Boats of high accuracy

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Doors: Full view inner glass/Perspex door permits inspection of specimens, without disturbing the chamber temperature. Lock and Key arrangement is provided in the double walled outer door.

Illumination: Unit is fitted with door operated illumination lamp inside the chamber.

Refrigeration system: An energy efficient cooling unit is installed in incubators to enable studies at lower room temperatures. We use ISI marked high end CFC free compressors of Kirloskar /Tecumseh / Blitzer/ Danfoss make, conforming to latest international standards and guidelines.

CONDENSING UNIT

(1) AIR-COOLED CONDENSOR

Air-cooled condenser is internally grooved finned copper tubes used for high heat transfer area, which not only reduce power consumption, but also bring down the condensation faster. This unit is designed. & verdigris & reduces the resistance, saves energy consumption and ensure good heat exchange.

(A.) COMPRESSOR: HERMETIC COMPRESSOR

Single stage Reciprocating Compressor. Give the High Efficiency compared to sealed compressors, Less Power Consumption , Accessible for repairing, low noise level, Less Vibrations, Wide Voltage Range, Designed for Extremely High Ambient ,Full warranty etc.

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COOLING SYSTEM

The compressor is mounted perfectly to ensure recommended level of sound and vibration.

(B.) REFRIGERATION CONTROL (a).Low and High Pressure switch

Which ensures the compressor and refrigeration system when low pressure will occurs it trip off the compressor. This is the only operator friendly switch can easily reset.

(b).Hand shut off Valve

Is the only Condensing Unit, which is equipped with it this valve is used for pump down the total gas in to the condenser & receiver in the faulty condition

(c).Liquid Dryer

Which is equipped in the liquid line for ministration of moisture in the liquid. It will collect all the moisture inside the refrigeration line as well as gas.

(d).Moisture Indicator of

The sight glass area in the Moisture Indicator shows at a glance the condition of the refrigerant system. The moisture indicator element changes color and indicate if the system is safely dry, or dangerously wet.

(e). Solenoid Valve

In most refrigeration applications, in order to automatically control the flow of fluids in a system, it is necessary to be able to start or stop the flow in the refrigerant circuit. An electrically operated solenoid valve is usually used for this purpose. Its basic function is the same as a manually operated shutoff valve, but it can be positioned in remote locations, and may be conveniently controlled by simple electrical switches.

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(f). Oil Separator of Stainless Steel 304

The oil separator intercepts the oil mixed with compressed gas and returns it into the crankcase of the compressor, thus assuring an efficient lubrication of its moving parts. Also, it improves the overall efficiency in the system.

(g). Suction Accumulator

Maximum Efficiency of the relief device (expansion valve) because it is supplied with sub cooled Liquid.

SPECIAL FEATURE

- Digital Display Temperature
- Castor wheels for ease in movement.
- Providing fast and accurate results
- Safety Thermostat
- Push-button controls for temperature set point selection
- Forced-air circulation delivers excellent temperature stability
- Easy-to-clean, corrosion-resistant construction
- Compressor relay conserves energy
- Full opening door with silicon gaskets hinged on left side
- Heated viewing window

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Temperature Control

Temperature variation (time)	± °C	0.5
Temperature deviation (spatial)	± °C	0.5
Readability/ Set ability	°C	0.5
Temperature range	°C	2°C to 60°C
Sensor thermocouple		PT 100
Controller		PID Controller
Display		LCD/LED
Adjustable alarm limits (visual and acoustic)		Optional

Safety thermostats

Sensor thermocouple	PT 100
Automatic setting	Yes
Adjustable limits	Yes

Accessories

Automatic de-icing system	optional
Timer (1-999 minutes or hours)	optional
Real Time Program	optional
Printer Report Program	optional
Serial Data Port	N/A
Inspection window in door	yes

Shelves

Standard/ max	3
Dimensions	mm Model Specific

Accessories

Access Port 30 mm	optional
Inspection window in door with cover	optional
Castors, lockable	Yes

Power consumption

Nominal voltage	V	230, 1~
Frequency	Hz	50/60

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Working Size

INTERNAL DIMENSIONS (WxHxD)	CAPACITY
(a) 455 x 610 x 410 mm	4.0 Cu.ft (112 ltrs)
(b) 505 x 830 x 415 mm	6.1 Cu.ft (171 ltrs)
(c) 570 x 875 x 550 mm	10 Cu.ft (280 ltrs)
(d) 650 x 900 x 550 mm	12 Cu.ft (336 ltrs)
(e) 700 x 900 x 650 mm	15 Cu.ft (420 ltrs)

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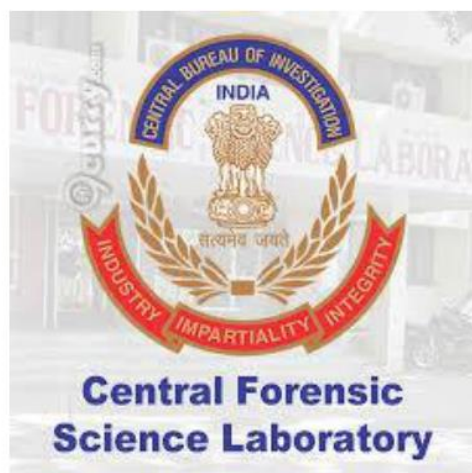


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Napino Auto & Electronics Ltd.

