



Ref. No.

Date:

Laboratory Scale Water Chiller

A laboratory scale water chiller is a compact refrigeration unit designed to precisely cool liquids, typically water, for various scientific research and analytical applications.

Description:

- **Size:** These chillers are typically benchtop sized, taking up minimal laboratory space. They are often mobile with casters for easy positioning.
- **Functionality:** They operate on a vapor-compression refrigeration cycle similar to your home refrigerator. A compressor circulates refrigerant, which absorbs heat from the water in a heat exchanger (evaporator). The heated refrigerant travels to a condenser where it releases heat to the surrounding air (air-cooled) or an external water source (water-cooled). The cooled refrigerant then returns to the evaporator to repeat the cycle.

Features:

- **Temperature control:** A key feature is precise temperature control. They offer digital displays and controls allowing researchers to set and maintain desired cooling temperatures, often within a range of -20°C to $+40^{\circ}\text{C}$.
- **Cooling capacity:** While varying depending on the model, they provide enough cooling power to chill water for a variety of laboratory instruments. Factors like desired temperature range and flow rate will influence chiller selection.
- **Flow rate:** The chiller provides a consistent flow of chilled water through an internal pump, ensuring efficient heat transfer to connected equipment.
- **Safety features:** They often include alarms to warn of high or low temperatures, pressure imbalances, or low coolant levels.
- **Connectivity:** Some models may offer options for external control or data logging through ports or interfaces.





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Product Description	
Cooling Medium	Water (D.M or Softened)
Design temperature	+5 °C to +25 °C
Cooling Capacity	3000 Kcal/Hr @ 5 °C
Flow Rate (Recirculation)	50 LPH
Ambient Temp.	25 °C
Raw material	Sheet metal and frameworks will be in Powder coated MS
Reservoir Volume	45 L in SS 304
Return water temperature	Max 20 °C above the leaving water temperature
Refrigeration unit	R 407-based air-cooled condensing unit With Hermetic Emerson make compressor and PHE.
Temperature control	Microprocessor-based PID digital controller, best quality
Power	230 V AC, Single pH, 50Hz, 3.5 KW





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Note*: Customized dimensions based Water Chiller available

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