



ZM6137 Steam Jet Refrigeration Trainer

Note :

Due to keeping innovation, the specification and Machine pictures or color are subject to alteration without notice!



The Steam Jet Refrigeration System utilizes a steam ejector/eductor to create vacuum in the evaporative glass container. Student is able to visualize the inside of the evaporator to gain more understanding of the physics and thermodynamics properties of the cooling media. Two refrigeration circuits are used in the system, the first circuit is a refrigeration cycle to produce cooling effect and the second circuit (steam cycle) is generating motive steam.

The trainer uses an electric boiler system to create the steam cycle required to operate the eductor (steam jet compressor). The pressure of the steam Generator Tank is controlled by pressure control circuit. By changing the motive gas pressure the student is able to see the effect of changing motive gas pressure to eductor performance. Inlet, and Outlet of the eductor ports are connected to pressure gauges to monitor the pressure of each port. A needle valve also provided to do variation on the suction volume which will influence the time required to get such value of cooling effect.

The refrigerant in the evaporator (flooded type) absorbs the ambient heat or the heat form the load heater and evaporates. The final temperature of the evaporator depends on how much vacuum can be created by the eductor. A pump is used to transport the refrigerant from the condenser back to the steam generator. A water jacket tank with electric heater heated the tank and change the refrigerant into steam which drives the eductor (steam jet compressor). Pressure and temperature of various points are monitored and analyzed to get the conclusion.