Technical Specifications and Requirements of Magic Cooler:

COMPRESSED AIR SUPPLY

With proper filtration and separation of dirt, moisture and oil from the compressed air supply, the Magic Cooler will run for years with no maintenance required. Filtering for contaminants and separation of moisture is required for all Magic Coolers.

All Magic Cooler Systems include a Automatic Drain Filter Separator which provides 5 micron filtration. The automatic drain is float actuated to eliminate the possibility of passing water into the enclosure, even during continuous operation. (Impulse-type automatic drains must not be used. They may allow water to pass through the filter during continuous operation.)

To prevent problems associated with oil, use an oil removal filter. The oil removal filter should be used downstream from the automatic drain filter separator. Filters should be used close to each Magic Cooler, within 3 to 4.6m is best.

Magic Coolers are designed to use normal shop air supplies of 5.5 to 6.9 BAR. Thermostat control can minimize compressed air usage and should be used whenever possible.

USING THE ELECTRICAL ENCLOSURE COOLER (MAGIC COOLER)

The Magic Cooler mounts to the enclosure through a 32mm diameter hole. A nut is supplied to lock it in place. The cooler is not position sensitive. The Magic Cooler will provide a 28 C temperature drop from supply air temperature at 100 PSIG (6.9 BAR). An elevated inlet temperature will produce a corresponding rise in cold air temperature and reduction in cooling capacity.

HUMIDITY

If ambient air can circulate the enclosure, humidity from this air may condense on the tubing used to distribute the cold air. Any moisture in an electrical enclosure is dangerous. To prevent this potential problem, close off any vents or fan intakes that allow ambient air into the enclosure. Fans can be relocated inside the cabinet to help circulate the cold air. **For a continuous operating Cabinet Cooler, relative humidity inside the enclosure stabilizes at 45%. No moisture condenses inside the enclosure. (The enclosure must be sealed to prevent condensation.)**

THERMOSTAT

Some Magic Cooler Systems are equipped with thermostat control. The Thermostat mounts in a 22mm diameter hole. It is not position sensitive and should be mounted in a hot area of the enclosure. It may be mounted through the enclosure wall or on a bracket inside the enclosure.
The electrical requirement is 240V, 50/60Hz, and should be connected to the hot line supplying the solenoid valve. It is normally open, actuated close, when the temperature rises.

The thermostat is preset at 35 C. It will normally hold that setting within + or – 1 C inside the enclosure.

SOLENOID VALVE

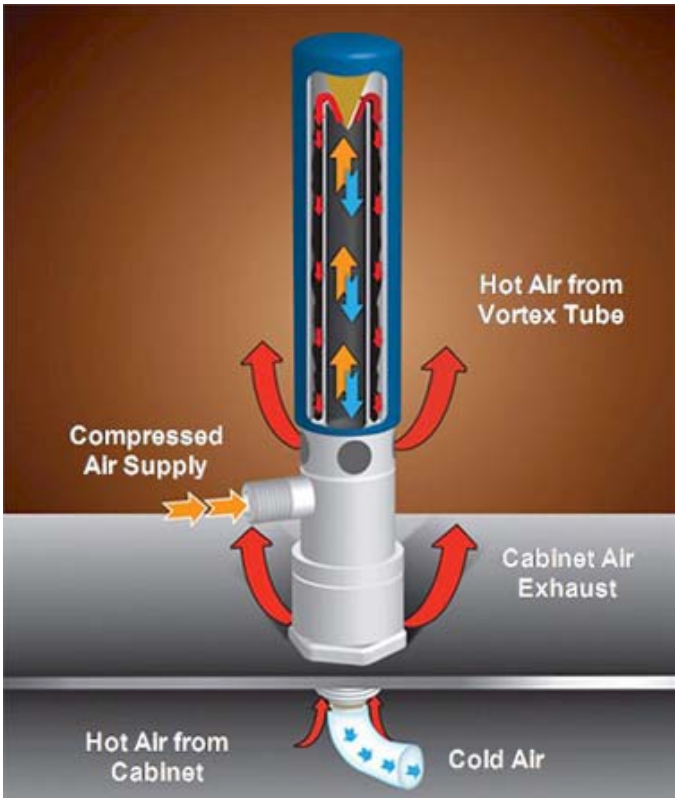
Systems with thermostat control include a Solenoid Valve. Mount the solenoid valve on the compressed air line between the filter and the Magic Cooler. The solenoid valve requires 240V, 50/60Hz supply. The valve is normally close, actuated open. In most cases, it is controlled by the thermostat. It can also be actuated by the machine control.

NOISE MUFFLING

All Magic Cooler Systems are equipped with sound muffling. In most applications, the noise level is less than 75 dBA. A muffler can be easily retrofitted to the cold air discharge.

How the ALBORZSUBCOOL Magic Cooler Works

Compressed air enters the magic tube powered Magic Cooler and is converted into two streams, one hot and one cold. Hot air from the magic tube is muffled and exhausted through the **magic tube exhaust**. The cold air is discharged into the control cabinet through the cold air distribution kit. The displaced hot air in the cabinet rises and exhausts to atmosphere through the **cabinet air exhaust** at a slight positive pressure. Thus, the control cabinet is both cooled and purged with cool, clean air. **Outside air is never allowed to enter the control panel.**



If you have any questions or problems, please contact an ALBORZSUBCOOL Engineer at:

Telefax: +98 28 32246920
Mobile: +98 9127867506
E-mail: info@alborzsubcool.com
Website: www.alborzsubcool.com