

6856. COLD AIR CONDITIONER



OPERATION

He compressed breathing air coming into respirators by as much as 18°C. He helps maximize worker comfort and increase productivity in hot/cold climates. He is fitted with an airflow regulator that allows the user to adjust the outgoing air temperature to suit their requirements. All components are replaceable and the unit can be disassembled for cleaning and maintenance. He is manufactured from non toxic engineering plastic which is extremely robust and ideal for the rigors of the workplace.

- All parts are easily removable for maintenance and cleaning
- Tough engineering plastic designed for harsh conditions
- Regulator to control air temperature and airflow
- Solid belt with strap

VORTEX EFFECT

The ability to produce cold and hot from compressed air was discovered in 1930 by French physicist Georges Ranque.

How does it work ?

Fluid (air) that rotates around an axis (like a tornado) is called vortex. A vortex tube creates cold air by forcing compressed air through a generation chamber, which spins the air at a high rate of speed (1,000,000 RPM) into a vortex. The high-speed air heats up as it spins along the inner walls of the tube toward the control valve. A percentage of hot, high speed air is permitted to exit at the valve. The remainder of the (now slower) air stream is forced to counterflow up through the center of the high speed air stream in a second vortex. The slower moving air gives up energy in the form of heat, becomes cooled as it spins up the tube. The chilled air passes through the center of the generation chamber finally exiting through the opposite end as extremely cold air. Vortex tubes generate temperatures down to 100°F below inlet air temperatures. The control valve located in the hot exhaust end can be used to adjust the temperature drop and rise for all vortex tubes.

