6858. AIR CONDITIONER

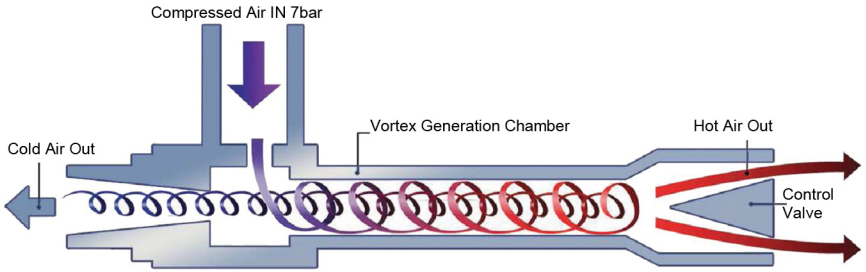
Air Conditioner is created to keep workers,wearing air purifying systems, comfortable in either hot or cold working conditions using only one device. Air Conditioner uses breathable compressed air to reach temperature ranges of up to circa 20°C cooler or warmer than the inlet temperature. he works without any moving parts, electricity, freon or other chemicals.

TECHNICAL SPECIFICATIONS

Operating pressure: 4.5 bar dynamic
Min. supply at 4.5 bar operating pressure, with 40 m hose: 165 l/min
Min. compressed air at 5 bar operating pressure, with 40 m hose: 350 l/min
Minimum ambient temperature: -10 °C
Maximum ambient temperature: +60 °C
Maximum hose length: 40 m
Maximum operating pressure: 7 bar
Noise level at 5.5 bar and maximum air flow: 90 dB(A)
Weight on the belt: 400 g

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, wich 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 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.