

6859. AIR CONDITIONER « PANBLAST »



Compressed air is simply fed to the inlet, and then exits the unit either cooled or heated, depending on the setting. A simple sliding lever arrangement is provided to switch the unit between cooling and heating, and an adjustable belt for attaching Climate Controller to the operators waist, as well as protective heat shield, are each unit.

For CE requirements, breathing air must be in accordance with EN12021.

TECHNICAL SPECIFICATIONS

Min. air flow at 4.5 bar dynamic pressure : 450 l/min

Max. air flow at 7 bar dynamic pressure : 708 l/min

Ambient temperature : -10 °C / +60 °C

Maximum hose length : 30 m

Weight on the belt : 600 g

Materials : Aluminium

The **PanBlast Climate Controller** system meets the latest CEN European EN14594: 2005 respiratory protective devices standard. The use of the Climate Controller can reduce the incoming air temperature by upto 15°C (59°F) from ambient, or increase the air temperature by up to 30°C (86°F) from ambient. The unit operates on the principle of using a static vortex to heat or cool the air, and it requires no batteries or power supply, and has no moving parts.

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 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.

