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WHAT IS THE MECHANISM BEHIND AN AIR CURTAIN?

Air enters the Air Curtain (Air Door) through the fan housing before being accelerated by the fan. This fast moving air gets into the plenum which ensures that the air is evenly distributed along the entire length of the discharge nozzle.

The airfoil design of blower with vortex shaped housing in combination with the nozzle ensures the uniformity of the air stream and a minimum turbulence. The air which is discharged via the nozzle, goes to the floor as a jet stream and about 80% of the air volume gets to the side where the Air Curtain (Air Door) is installed or the suction side while 20% flows towards the opposite direction.

Or, in simpler words, we can say that the air curtains divide the internal and external environment.

It follows a complicated mechanism where the air enters the machine through an inlet grille attached inside the air

The complete Guide to Air Curtains

curtain and then compressed by a few internal centrifugal fans (as visible in Fig. 6) and forced out through an air outlet, which is directed towards the open doorway.



Fig.6

Heated air curtains have a coil (electric, hot/chilled water, steam, indirect or direct gas, direct expansion, etc.) to heat or cool the jet. Heating is used to save people from feeling a cold jet of air while crossing the doorway and also, to heat the volume of air coming in at the entrance.

These types of air curtains are generally used in cold climates and are placed inside.