

Tight Columns and the Floor Jet

The Floor Jet is the means of an HVLS fan effectively cooling a space:

HVLS fans and Open Ceiling Destratification fans create precise columns of air. Columns of air that hold their shape over long distances.

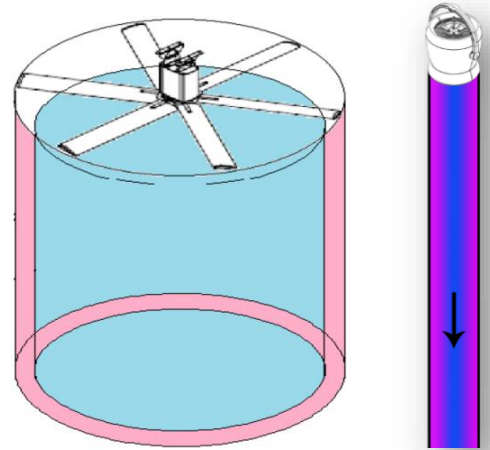
The tight column of air creates Horizontal air flow to the floor that is then pushed outward at a depth that is based upon the diameter of the fans. This outward movement of air along the floor is called the Floor Jet.

The purpose of the first HVLS fans were created for the purpose to cool cows in California.

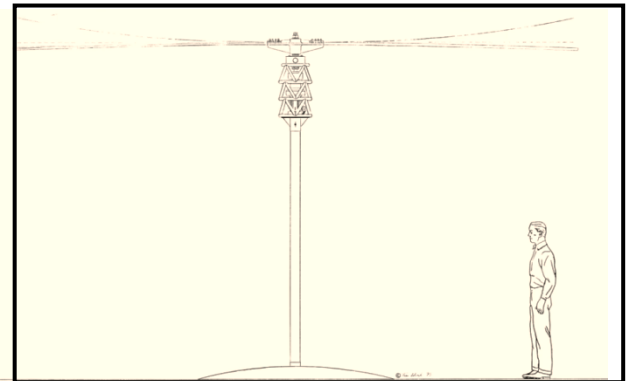
The University of California Riverside approached Walter Boyd, a renowned inventor, for a solution to cool the dairy cows. These animals were not suited for the Hot California summers.

After much research Walter Boyd settled on the 24' fan. He had found that this size fan would be the most advantageous way to cool the cows. It was realized that the air movement by a 24' fan would create a Floor Jet, with an equal depth both above and below the cows, and become optimized for cooling.

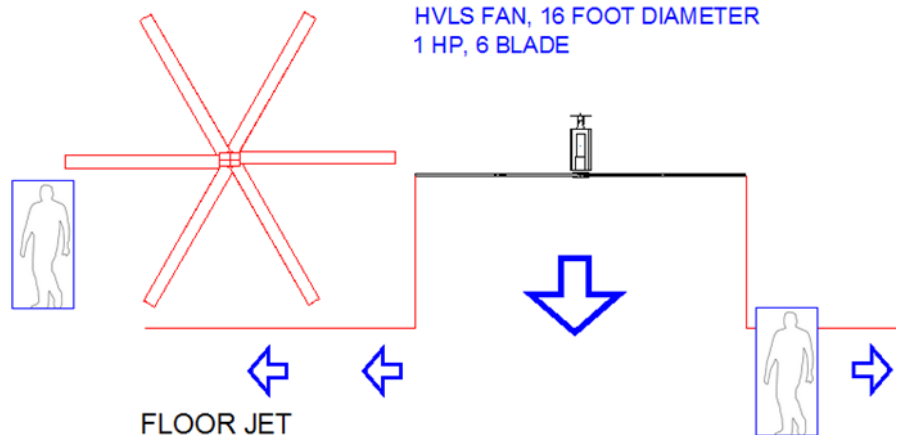
HVLS fan and Destratification fan Depicted Columns



Original Concept Drawing, Walter Boyd, Macroair



<u>Fan Diameter</u>	<u>Approx. Depth of Floor Jet</u>
8'	28 inches
10'	37 inches
12'	46 inches
14'	55 inches
16'	64 inches
18'	72 inches
20'	82 inches
24'	100 inches



Cooling Benefits of HVLS fans

Cooling and Associated Savings with HVLS fans and associated Floor Jet:

Utilizing HVLS fans in areas that are either in a normally dry climate or in climate requiring dehumidification. An HVLS fan can optimize comfort and minimize the amount of cooling required for the space.

By elevating the spaces setpoint and creating a more desirable condition by utilizing improved air movement, dramatic energy savings can be realized.

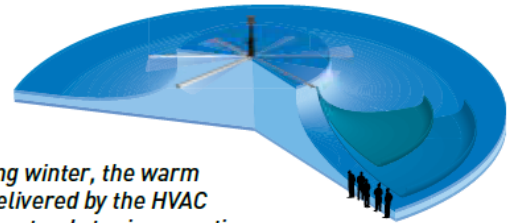
HVLS fans designed in size and location for Optimum cooling in a Gym



	Air Speed (fpm)	Set Point (F)	Annual BTU	Annual kWhr	Annual Energy Savings
No HVLS Fans	< 40	72	432,000,000	33,000	
With HVLS Fans	250	78	276,000,000	21,000	36%

MacroAir fans provide cost-saving comfort to the Valencia Airport

During summer months, the use of MacroAir HVLS fans has resulted in a cooling effect for passengers of between 4 and 5 degrees. This allows the Valencia Airport to increase the temperature of its HVAC system, which has resulted in significant energy cost savings.



During winter, the warm air delivered by the HVAC system tends to rise, creating a temperature difference of more than 5 degrees between the upper and lower floors of the terminal. By installing and operating MacroAir fans, the result is homogenized air and a constant temperature throughout the terminal. And this has generated a 40% savings in energy cost.

FAN SPACING CHART

