FANS

Commonly Used Terms

IAC
INDUSTRIAL ACCESSORIES COMPANY

ACFM	actual cubic feet per minute; the quantity or volume of a gas flowing at any point in the system. Fans are rated and selected on the basis of ACFM, as a fan handles the same ACFM = 0.75 /actual density X SCFM.
AF	fan wheel design with airfoil-shaped blades.
AIR VELOCITY	rate of speed of an air stream, expressed in FPM.
ALTITUDE	the height above sea level of a given location. Density corrections for altitude are made using the following formula where "z" is the feet above sea level. Density (Alt) = Density (Std) x [1 – (6.73 x 10) Z]
AMBIENT	immediate surroundings or vicinity (air temperature/atmosphere).
AMCA	Air Movement and Control Association (certified rating).
AXIAL FAN	where the airflow through the impeller is predominantly parallel to the axis of rotation. The impeller is contained in cylindrical housing.
BI	fan wheel design with backwardly – inclined blades.
BRAKE HORSEPOWER (BHP)	mechanical energy consumed at a rate of 33,000 ft. lbs. Per minute; a consumption rating, as compared to the production rating of horsepower itself.
CENTRIFUGAL FAN	a fan design in which air is discharged perpendicular to the wheel's rotational axis.
CFM	cubic feet per minute; the volume of flow for a given fan or system.
CURVE, FAN PERFORMANCE	a graphic representation of static or total pressure and fan BHP requirements over an airflow volume range at a stated inlet density and fan speed.
DAMPER	an accessory to be installed at the fan inlet or outlet for air-volume modulation used to control air flow.
Dba	sound-pressure level corrected to the "A" weighing network.
DENSITY	the measure of unit mass equal to its weight divided by its volume (lbs / ft. ^{3}).
EVASE	a diffuser at the fan outlet which gradually increases in area to decrease velocity and to convert kinetic energy to static pressure (regain).
FPM	feet per minute; commonly defines air velocity (to determine velocity pressure or suitability for material-lubrication requirements) and wheel tip speeds.
FRP	abbreviation for fiberglass-reinforced-plastic. Type of fan.
IMPELLER	another term for fan "wheel". The rotating portion of the fan designed to increase the energy level of the gas stream.
INCH OF WATER	unit of pressure equal to the pressure exerted by a column of water one inch high at a standard density (27.73" water = 1 PSI).
LI-10 BEARING LIFE	the theoretical number of hours after which 90% of the bearings subjected to a given set of conditions will still be in operation; also know as B-10.
POINT OF OPERATION	the intersection of a fan's static pressure curve and the system curve to which the fan is being applied; may be designated as velocity pressure divided by static pressure or by a given CFM and SP.
RADIAL BLADE	fan wheel design with blades positioned in straight radial direction from the hub – material handling fans.
RPM	revolutions per minute.
SP	static pressure; pressure as measured in all directions within an air-handling system, not including the force or pressure of air movement.
STATIC PRESSURE	the static pressure for which a fan is to be selected based on system calculations; fan SP – SP outlet – SP inlet – VP inlet.
SWSI	single-width single-inlet Centrifugal Fans.
DWDI	double-width, double-inlet Centrifugal Fans.

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