

FANTASTICS

A Quarterly Industrial Ventilation Newsletter

Fourth Quarter 2013

Sound Levels

Sound levels of fans and blowers are often expressed in decibels or sones, either at 5 feet or 3 feet. Sones are linear and much easier to compare than decibels which are exponential.

The following outlines comparisons:

Decibels @ 5 feet	Sones @ 5 feet	% Quieter
95	84	Ø
90	60	28.5%
85	44	47.6%
80	33	60.7%
75	24.5	70.8%
70	18.2	78.3%

Company News

- HARTZELL AIR MOVEMENT has just about completed major plant renovations adding a high bay for large centrifugal blowers, adding a new powder coating system, launching a new website, and new selection software.
- CINCINNATI FAN & VENTILATOR COMPANY continues to offer all of their standard fans and blowers on 10 working day shipment.
- IAP, INC. introduces a 36 page general bulletin outlining all standard and custom designs of extra heavy duty axial fans, centrifugal blowers, dampers, and accessories.

Technical Tidbit

Over the last few months, we have had a number of customers want to know what the increase in air temperature results coming out of the discharge of fans and blowers. The following outlines the formulas needed to compute this temperature rise:

$$1.) \text{ S.E.} = \frac{\text{CFM (S.P.)}}{6356 \text{ (BHP)}}$$

$$2.) \% \text{ Heat Dissipated} = 1.00 - \text{S.E.}$$

$$3.) 1 \text{ Motor HP} = 2545 \frac{\text{BTU}}{\text{Hr}}$$

$$4.) \text{ Total Motor BTU/Hr } (\% \text{ Heat Dissipated}) = \text{BTU/Hr Heat Produced}$$

$$5.) \text{ Temperature Rise} = \Delta T = \frac{\text{BTU/Hr Heat Produced}}{\text{CFM (1.085)}}$$

Key:

CFM-Air Flow	S.P.-Static Pressure	BHP-Brake Horsepower	ΔT -Temperature Rise	$\frac{\text{BTU}}{\text{Hr}}$ - Heat Produced
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