Motor Options

Direct Drive – The motor shaft connects to the blower assembly without the use of pulleys, sheaves or belts. Direct-Drive motors are 1 hp and smaller. They may be 3-speed, permanent split capacitor (PSC) or brushless DC, but are only available for single phase power.

Standard (low static) direct-drive motors – These are PSC and are generally suitable for external static pressure (ESP) values of 0.25 inch or less with three discrete motor speeds. These motors are used on ER/LH/LV/LS models.

Note: Available ESP for a given unit is dependent on the number of coil rows, cabinet type, filter and fins per inch and may be less than 0.25 inch W.C. (See WeDo for maximum allowable ESP)

High static direct-drive motors – These are PSC type and generally suitable for external static values of 0.50 inch W.C. (See WeDo for maximum allowable ESP). These motors are used on HH/CV models.

Note: Available ESP for a given unit is dependent on the number of coil rows, cabinet type, filter and fins per inch and may be less than 0.50 inch W.C. (See WeDo for maximum allowable ESP)

Brushless DC motors – These motors are generally suitable for external static range 0.0 – 0.50 inch W.C. They are highly efficient motors compared to PSC type and come preprogrammed from the factory to meet one of three applications: constant volume standard speed splits, constant volume custom user input speed splits or variable volume as selected by the user.

Constant Volume Standard Speed Splits – High = 100% Nominal CFM, Medium = 75% Nominal CFM, Low = 50% CFM: maintained against varying static pressures within the range of motor capabilities.

Constant Volume User Input Speed Splits – Allows a user to adjust the CFM for each speed. Motor is wired to a control board which allows an air balancer to go in and make slight adjustments to each fan speed between 25-105% of nominal CFM.

Variable Volume – Utilizes a PWM (Pulse Wave Modulation) controller which accepts 0-10VDC input signal from DDC and is field adjustable to desire CFM output; generally for a range being 25-105% of nominal CFM.

Note: Available ESP for a given unit is dependent on the number of coil rows, cabinet type, filter and fins per inch and may be less than 0.50 inch W.C. (See WeDo for maximum allowable ESP) Brushless DC motors are capable of overcoming higher ESP’s in certain applications. Consult the factory for ESP values greater than 0.50 inch W.C.

Belt-Drive – The motor powers the blower assembly via customized combination of pulleys, sheaves or belts to turn the blower a specific RPM to achieve a specified CFM and ESP operation point. Belt-drive motors are ¼ HP and larger with a single –speed configuration and are available in three-phase as well as single-phase voltages.

Standard motors – Motors are open drip proof type, available in single-phase or three-phase configurations and resilient mounted or rigid base NEMA frame type. Horsepower range from ¼ to 5hp for single-phase voltages: 115, 208 and 230V. Standard three-phase motors are available from 1/3 to 10hp for voltages: 208, 230 and 460.

Premium Motors – Motors are open drip proof type, available in single-phase or three-phase configurations and resilient mounted or rigid base NEMA frame type. They meet EPAct 1992 standards and carry E+ efficiency rating.

Three-phase motors range from 1 to 10hp and have efficiencies ranging from 82.5% to 89.4%. Single-phase motors range from ¼ to 3/4hp and have efficiencies ranging from 74% to 84%

Note: other enclosure types: TEFC, etc must be quoted as custom