

FAN BLADE REPLACEMENT

Step 1 Identify the part number from the label on the fan blade (Label Decoder is available at revcor.com). If label is not legible or does not exist then move to Step 2

Step 2 Identify the following characteristics then move to step 3:

Fan Diameter:

Measure the distance between the center of the hub and the furthest tip of one fan blade. Double this measurement and you will have the diameter of the fan blade.

Fan Blade Width:

Measure the distance from one edge of the blade to the other.

Number of Fan Blades:

Count the number of blades

Fan Blade Pitch:

If the shape of the blade is not flat then there is no guaranteed way for you to identify the pitch and therefore you're better off taking the blade to your local wholesaler/distributor. If the shape of the blade is relatively flat then you can measure the pitch using a pitch gauge, or you can calculate the pitch:

Calculating Fan Blade Pitch:

- 1) Place the fan face down on a flat surface
- 2) Measure The Height:(ex. Height=4.75)
Distance between surface to the highest point of the fan blade
- 3) Measure The Width:(Ex. Width=9.5)
- 4) Divide the Height by the Width (Ex. $4.75/9.5=.5$)
- 5) Use a calculator to calculate the Arcsin of .5 to gain the pitch. If you received .52 for this example then you've identified the Arcsin in Radians, but you actually need the Arcsin in degrees. To convert the Arcsin in radian into degrees you can take this number and multiply it by $180/\pi$ (ex. $.52*180/\pi= 29.79$)

If you received 30 for this example then you've identified the Arcsin correctly - the Pitch is 30 degrees.

Fan Rotation:

With the air discharging in your face, the fan is spinning either clockwise (CW) or counter clockwise (CCW).

Fan Bore Size: This is the shaft diameter

Fan Hub Position: Is the hub located on the intake or discharge side of the fan.

Fan Material:

Fan blades are made from Plastic, Aluminum or Galvanized material. It's important to replace blades with the like material, but is not always necessary. If the application is exposed to the elements then you're better off replacing with plastic or Galvanized Steel.

Fan Material Thickness:

The spider and fan blades both range in various thicknesses. Using a caliper you can identify the thickness of the blade that you need to replace. The weight of the material could burn out the motor or create a resonance frequency issue. OEM's continue to demand thinner lower cost fan blades so it's important that you try to replace fan blades with an OEM qualified fan blade.

Motor: (Max RPM - Rotations Per Minute)

The motor RPM is essential in determining what fan should be used in the application. A fan that is run at a higher RPM than what it is designed for can result in blade failure.

Motor: (Max HP - Horsepower)

This specification is necessary to provide to a wholesaler when attempting to find the replacement fan. The motor HP is critical because it determines the maximum impeller loading (which can be used as an estimate of the impeller performance). An overloaded system can lead to motor failures due to overheating while an underloaded system can result in a significant reduction in unit performance. Improper loading can also be a contributing factor in excess noise generation. An interchangeable hub on a hubless fan blade may be used to allow flexibility in bore size and hub location.

Step 3 Contact your preferred distributor or wholesaler for price and availability.