

# Fan Facts

## The Industrial Fan: What's the Difference

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# Hartzell Fan

First of all, be assured that there **is a difference** between industrial and commercial grade fans. Industrial equipment is specifically designed and built to stand up to the rigors of an industrial application. The differences are concrete and easy to spot...if you know what to look for. Hartzell Fan designs and builds equipment strictly for industrial applications and has been doing it that way for over 80 years.

### HOW ARE THEY DIFFERENT?

Industrial fans and blowers are constructed of heavier duty materials and with higher quality components than their commercial counterparts. When properly applied, industrial equipment can withstand vibration, high and low temperatures, fumes and corrosive gases, materials in the airstream, and many other situations in an industrial environment.

The equipment is built to provide longer service life, thus decreasing the need and frequency for replacements. Because industrial fans are expected to last longer, they are designed to be easy to install and maintain.

### A COMPARISON OF PANEL FANS

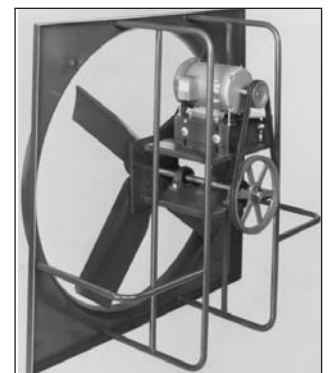
The best way to see the difference between an industrial product and a commercial product is to compare them feature for feature, including product weights. In the below example we'll look at commercial panel fans versus Hartzell industrial panel fans.

Multiple photos are provided for your reference and comparison. We've included a Hartzell Series 02SH, heavy duty industrial panel fan; a Hartzell Series 02SG, general duty industrial panel fan (on Page 2), a commercial grade version of a panel fan, and finally a commercial "basket" type fan. As you can see, there are some very distinct differences between the industrial and commercial panel fans.

The commercial grade panel fan has sheet metal, riveted blades, and a riveted hub. Hartzell industrial panel fans have a solid, one-piece cast aluminum airfoil propeller or a cast aluminum adjustable pitch propeller. Lighter fans sometimes have balance weights clipped, bolted, or welded to the back of the fan blades, which can fly off during operation. Hartzell Fan cast aluminum propellers are precision ground and balanced, and therefore require no balance weights.



Series 02SH Industrial Fan  
with Fixed Pitch Prop



Commercial Fan

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The commercial fan frame is constructed of hollow, thin wall tube and has a bolt-on adjustable motor base. The Hartzell heavy duty Series 02H fan frame is constructed of solid rolled rod supports, welded to the fan panel and to a heavy gauge steel motor base to provide additional support for the motor. The Hartzell general duty Series 02G fan features an adjustable steel motor base and heavy gauge tubular steel frame. On both the Series 02H and 02G, the steel motor base and solid steel support rods are oversized to provide structurally rugged construction.



Series 02SG Industrial Fan with Adj Pitch Prop

Another difference between these two fans is in the aerodynamic design. Hartzell Fan originally developed the air seal venturi to improve performance. With this design, the propeller is larger in diameter than the venturi opening, thus creating an air seal. This design eliminates back flow of air pressure and increases air delivery by 10% or more. The way most other panel fans are designed, the propeller is smaller than the venturi opening. This type of fan is easier to manufacture, but significantly less efficient. The basket fan provides even less value because of the air that is lost around the sides of the fan. A Hartzell venturi design fan pushes the air velocity from the blades out the front of the fan for increased spread and throw versus a commercial type fan.



Commercial Basket Fan



There are also installation differences to consider when purchasing a panel fan. Many commercial fans are shipped in parts. The motor and accessories may be shipped loose and must be assembled to the fan when received. In addition the commercial fan shown on the previous page has no provision for panel mounting or for accessory mounting. This means holes for bolts and mounting hardware must be drilled even before it can be completely assembled or installed. Hartzell Fan panel fans are shipped completely assembled and ready to install.

A large selection of industrial fans are available from our HRS Stock program for quick shipment, including our panel fans. They can also be purchased online at [www.FansInStock.com](http://www.FansInStock.com) for your convenience.

You can be sure that Hartzell equipment will provide many years of continuous service in your industrial air moving environment!

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