



## Air Cleaning Blowers, LLC

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### **Extending the Lifespan of Totally Enclosed Fan Cooled Motors**

#### **Air-Cleaning Blowers Keep TEFC (and Even Open) Motors Clean**

*ACBs can mount on the shafts of TEFC and other motors to keep them cooled and clean*

Totally-Enclosed Fan-Cooled (TEFC) motors, as the name implies, have fans built into them to blow air along the motors' sides to cool them. These fans use the air surrounding the motors. If that air is dirty, the fans often cover the motors with the dirt. As the dirt builds up on the motors' cooling fins, the transfer of heat diminishes, sometimes to the point of allowing the motor to overheat and be damaged. Now there is a way to minimize, or even eliminate, that accumulation of dirt with virtually no maintenance required.

Air Cleaning Blowers™ (ACBs) can replace those old-fashioned, built-in fans with blowers that clean the cooling air without filter media and then blow the cleaned air around the motors. In fact, ACBs can even go one step further and blow clean air THROUGH motors to cool the windings directly and improve the cooling even more.

#### **No Filter Media to Clog or Maintain**

Air Cleaning Blowers™ (ACBs) use a multi-patented technology to quickly separate particles and liquids out of the air and eject the debris back where it came from. ACBs then blow the cleaned air where it's needed. The ACBs' special construction uses the particles' own momentum to separate them from the air without need for any filter media that would eventually clog. As a result, the ACBs provide constant and dependable air flow, air pressure, air quality and energy consumption with no filter maintenance. Since they neither capture the debris nor clog, they can go for years cool motors and keep them clean for years.

Blowing clean air over motors helps prevent buildup of debris on the cooling fins on the outsides of the housings of the motors, thereby maintaining a good transfer of heat. Clean air also prevents the accumulation of corrosive materials on the body and, therefore, allow the motors to work more dependably and last longer in harsh and hot environments. Since the ACBs remove rain and mist as well as dust and sand, they will also help keep the motors drier over their lifetimes.

## **Motors with Open Windings**

As much as the Air Cleaning Blowers™ does for totally-enclosed motors, they can do even more for those with open windings. By blowing clean air through the windings ACBs directs cooling air directly onto them, thereby keeping the surrounding not-so-clean air out of the motors. In addition, since that air will be cleaned and dried, the insides of the motors will also stay cleaner and drier than they would otherwise.

Added benefit: Air cools motors much more effectively when it passes through them and directly over the windings and other internal parts than it does by just flowing around to cool the outside shells. Therefore, ideal motor cooling comes from blowing the air through the motors' shells or, even better, both through and around their shells. ACBs do both.

Since Air Cleaning Blowers™ (ACBs) can retrofit onto existing motors they can extend the lives of already-installed motors by making them more water and dust-tight, thereby raising their IP rating to 44 or even higher, turning some "open" motors into TEFC motors in the field with a minimum of work and investment.

## **ACBs Can Adapt to the Sizes and Shapes of Motors**

Properly adapted to specific motors, ACBs maintain their TEFC/IP44 or higher IP54 ratings. Hence, ACBs allow motor manufacturers and retrofitters to cool their motors enough to extend their lives and, in many cases, run in hotter environments.

Consequently, motor manufacturers (OEMs) can install the ACBs into existing products without much increase in cost. Designers could even open the motors at the ends so that the ACBs could blow clean, dried air through their TEFC motors while maintaining their IP44, IP54 or higher ratings since passing air through the hot parts of the motors provides direct cooling, much more effective than cooling them indirectly by passing the air over the outside shell.

Further, OEMs, automobile makers, farm equipment manufacturers and others that use motors with completely open and unprotected windings could add ACBs onto them to blow clean, dried air through the windings, helping them to clean longer and cool them better.

## **Retrofit Kits to Add ACBs to Existing Motors**

The manufacturer of the ACBs, Air Cleaning Blowers, LLC, offers retrofit kits for common motor sizes that will enable distributors, motor shops and end users to easily remove the current blowers and housings and replace them with Air Cleaning Blowers™.

An additional benefit of retrofitting ACBs onto existing motors is to enable the motors to work at higher ambient temperatures without shortening their lives.

ACBs for motors come in many shapes and sizes to mount onto many kinds of host motors and motor shapes, both SAE and metric.