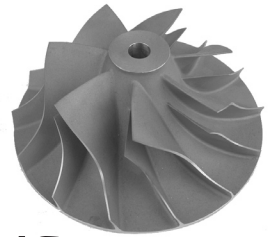




AIR SUPERIORITY NEWS



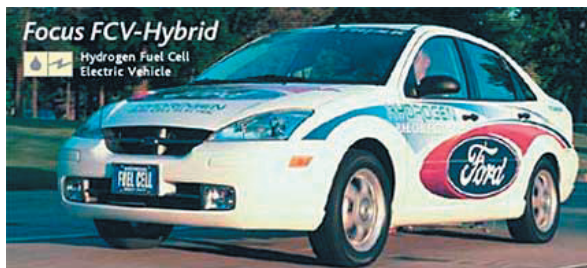
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May 2003

Vortech Makes History At Ford Motor Company 100th Anniversary

Ford will celebrate its Centennial Year this June at the Henry Ford II World Center, Ford World Headquarters in Dearborn, Michigan. The event will feature classic Ford cars and trucks, as well as present and future vehicles. Building on its centennial heritage Ford's FCV and Model U hybrid vehicles begin a second century of innovation.



The Focus Hybrid Fuel Cell Vehicle brings the latest in fuel cell technology to life.



Ford Model U hydrogen-hybrid concept vehicle

The Model U's hydrogen ICE is based on Ford's global 2.3-litre 4-cylinder engine equipped with a Vortech supercharger and intercooler for maximum efficiency, power and range. This is the

world's first supercharged hydrogen ICE. Its emission of all pollutants, including carbon dioxide, is nearly zero, and the engine is up to 25 percent more fuel-efficient than gasoline engines. Vortech Engineering is pleased to be part of Ford's "second century of innovation".

Vortron's Technology In Review –

Vortron's advanced blower technology addresses the needs of environment safe power systems. Vortron's technology supports a family of blowers that address the requirements of both stationary and vehicular fuel cell power systems.

State-of-the-Art Technology Assures The Best Return-On-Investment

Vortron's high efficiency blowers are available to meet the stringent design goals for air handling systems. System designers and engineers do not need to use lower pressure ratios and other less than optimal operating parameters. Beyond our standard blower line, blowers can be designed to comply with specific size, weight, cost and system efficiencies to match the process needs. Vortron blowers capable of variable airflow at required pressure ratios, at exceptionally high operating efficiencies, up to 79%, are available today, not tomorrow.



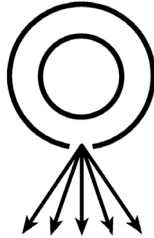
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Air Superiority Air Knife Systems Increase Productivity

AirPower™ high efficiency air blow-off systems assure increased productivity and the highest Return-On-Investment in the industry. Air Superiority air knives can achieve overall efficiencies greater than 95%.

What is an air knife?

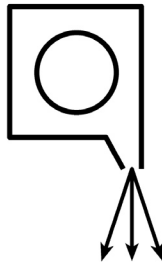
An air knife is essentially a pressurized chamber that discharges a high velocity curtain of air through a line of small holes or a slot. High velocity air curtains may be used for a variety of liquid and dust removal applications.



Tubular air knife

The simplest air knife is a tube with a slot cut along its length. While this shape of knife is cheap to manufacture, the air curtain from a tubular knife fans out excessively as it leaves the slot.

The impact force generated by such an air curtain diminishes rapidly with increasing distance from the slot. These simple air knives tend to be ineffective when the distance from the slot to the impact surface is more than 0.2 (5 mm) to 0.4 inch (10 mm).

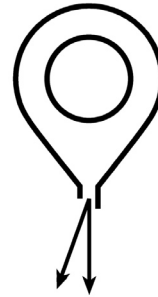


Box air knife

For increased effectiveness at a distance from the air knife, a more concentrated air curtain can be achieved by discharging the air through a converging nozzle. Fabricated box air knives are

fairly simple in shape and do provide better control of the air curtain but their effectiveness is limited.

A more effective shape is the **teardrop** due its improved converging aerodynamics. These air knives maybe extruded in aluminum alloy or fabricated of stainless steel. Many apply advanced flow technologies such as the Conda effect, a phenomena that provides a very tight control of the exist flow. These types of air knives will achieve



overall pressure efficiencies greater than 95%.

Vortech to Circumnavigate the Globe

Later this summer, an attempt to circle the globe faster than any single-engine aircraft before will be made with a Vortech supercharged engine. This first attempt in the new century of aviation to circumnavigate the globe will be a grueling quest of man and machine, a 22,858-mile journey into aviation history! **Watch for News.**



Visit our **WEB** site at www.vortron.com for more extensive information on **AirPower™** high efficiency blowers and air blow-off system and updates on Circumnavigate the Globe.