VORTRON®

AIR SUPERIORITY™ NEWS

INDUSTRIAL Volume 4, Issue 1 · March 2005 www.vortron.com

Vortron Introduces NEW Mobile Aire™ Systems

Vortron's highly successful Mobile Aire™ System has been redesigned and upgraded for 2005. Mobile Aire™ now takes on a fresh new look with added convenience and more features available. A new platform cart has been designed to greatly enhance mobility and make Mobile Aire a truly portable system. Mobile Aire™ is completely "turn-key", and consists of a complete blower, suction filter, air-knife system, and control station which can be quickly ported to a blow-off site, set-up and started within minutes. Mobile Aire™ is entirely flexible – It can be equipped with blowers ranging from 3 to 10 HP, and any number of complimenting air knife arrangements. Air knife options range from our high-efficiency aluminum, to stainless steel products. Up to 4 individual air knives are supported. All manifolding, connecting ducts, hardware and accessories are included. To enable full control and optimal system adjustment, a variable frequency drive is incorporated, and equipped with a standard 30-foot cord and plug for connecting into any nearby 208-230V or 460V 3-phase service (specify which).

Rules of Thumb - *For Energy Efficiency*

A high-efficiency blower and air knife system consumes as little as 1/10th the energy of a high pressure, plant-air based blow-off system.

Astute Plant Managers realize that compressed air is an expensive utility. The US Department of Energy (DOE), the Compressed Air Challenge, and others cite the general rule that energy costs account for 80-85% of the lifetime cost of a compressed air system. The remaining 15-20% goes for initial acquisition and maintenance.

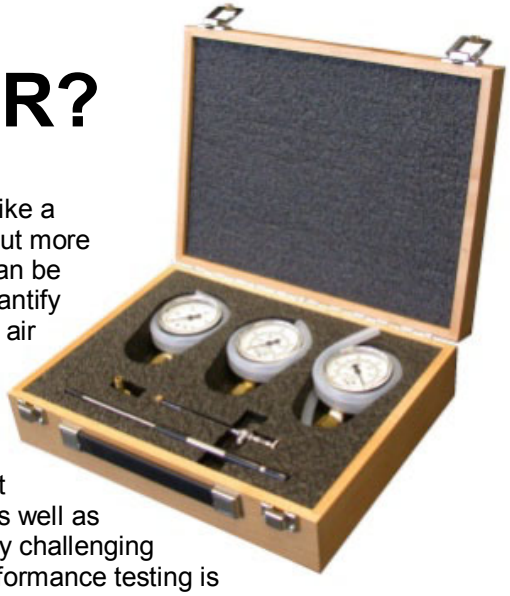
One "inappropriate use" of compressed air which is routinely seen in plants is the open or drilled pipe system, commonly used for blow-off, drying, particulate removal, and the like.

As a general rule, these very inefficient systems can consume up to 10 times the energy when compared to a high-efficiency blower and air-knife system. Surprising, but true! For example, a blow-off application that dictates a 10HP blower and air knife system would generally replace 100HP of compressor room air using the crude drilled-pipe devices. Even the so-called engineered nozzles, fans, and "super" air knife products are only marginally better. These devices consume 4 to 5 times the energy, or 40 to 50HP when compared to our 10HP blower system.

Even a 30HP difference in energy usage can add up in a hurry. In many cases, this amount of energy savings provides a 6-month payback (simple ROI) for the full acquisition cost of a high-efficiency Vortron blower air-knife system. After that, the rest is gravy that only adds to a plant's bottom line!

Published by: Vortron Industrial, 1650 Pacific Avenue, Oxnard, CA 93033 (805) 240-2516 © 2005 Printed in US. Email: sales@vortron.com

Got AIR?



This might sound like a simple question. But more often than not, it can be quite difficult to quantify performance of an air blow-off system. Chances are you have an old blow-off system in your plant that isn't performing quite as well as you think. One very challenging part of system performance testing is the evaluation of air nozzle or air knife discharge velocity and overall efficiency. As it turns out, appropriate instrumentation used in the correct manner can make quick work of accurately characterizing blower and air knife performance. Also, instrumentation often proves invaluable when troubleshooting systems and identifying problems in piping or ducting systems, or losses at the blower inlet. Now, Vortron saves you the trouble of trying to find the right tools by offering a complete instrumentation kit with instructions for accurate air blow-off system evaluation. Included are special probes which can be used to evaluate system pressures, including a uniquely designed probe which is used to measure the very narrow, high velocity flow regime at the discharge of an air knife. Three gages are included: Vacuum to 100 in-Wc, pressure to 100 in-Wc, and pressure to 200 in-Wc. Contact Vortron to learn how you can fine-tune and optimize the efficiency of your blower air-knife systems using the new pressure test kit.

Air-Knife Cooling Applications

Above: A newly installed line for production of fluorescent light bulbs at the Drummondville, Quebec manufacturing facility of Osram Sylvania. This oven section is cooled by two twelve-foot air-knives with an air supply from two 10HP Vortron Z40 blowers. After the blowers had been tested along with the rest of the new equipment, it was clear that Vortron had met the customer's demanding requirements:

"Our machine is shipping today to our Drummondville Canada plant after a successful commissioning in our build facility. The blowers perform EXACTLY as anticipated, providing us with a thermal balance just as calculated! WONDERFUL! … I want to thank you for your help and for the performance of your product. Good Job!"

- Ralph Cooper
  Osram Sylvania, Equipment Design Group
  Manchester, NH