

**AIR SYSTEMS**

**engineered  
blower  
and  
air knife  
solutions**

**manufacturer  
of blowers &  
air knife systems  
with an  
international  
sales & technical  
support network**



# about sonic air systems

## Products

Sonic Air Systems services all sectors of the manufacturing industry worldwide, providing Engineered Blower & Air Knife Solutions. We manufacture an entire range of blowers, air knives, enclosures, HEPA filters and other accessories used in drying/liquid blow-off, cooling, coating control, static control and a wide array of applications in air/gas handling. Sonic Air is your engineering resource and one-stop shop. Since our founding in 1990 we have provided tens of thousands systems and solutions to thousands of customers around the world. Sonic products are **CE** certified and labeled in compliance with European standards.

## Service

Our extensive customer base invariably requires service and technical support. Sonic Air Systems, headquartered in Southern California, USA has established an extensive international sales and technical support network. Sonic has built the infrastructure to support not only our customers, but also our customer's customers – especially original equipment manufacturers. When an OEM integrates Sonic Centrifugal blowers into their systems they are secure in the knowledge that a Sonic distributor is close by in many parts of the world to provide service, and lend technical assistance in the local language. In addition to Sonic being the world's leading blower/air knife system provider, our reps and distributors are also there to assist with process improvement, equipment integration and after sales support.

## What sets us apart

In the last decade Sonic Air Systems has grown to gain recognition as one of the 500 fastest growing companies in America. This was achieved by building a loyal customer base with an emphasis on:

- **Guaranteed results on any system quoted by Sonic.** We work closely with you to determine your exact requirements. We make your Sonic system work or we take it back.
- **Shortest order fulfillment time in the industry.** Not surprisingly, when our customers discover what we have to offer, they want it now. Our expertise in supply chain management enables us to offer five day lead times on systems comprising standard Sonic equipment.
- **Product innovation.** Sonic developed the first automatic belt tensioning system for a centrifugal blower (patent pending) and the first modular, infinitely adjustable high efficiency air knife.

For more information please ring us on

**+44(0) 1501 825024**



**The  
Inc  
500**  
AMERICA'S  
FASTEST-GROWING  
PRIVATE COMPANIES  
(1999)



# sonic centrifugal blowers

## PERFORMANCE RANGE:

Flow: 50–3500 ft<sup>3</sup>/min (85-6000 m<sup>3</sup>/hr)  
Pressure: 0.5–4.2 psig (35-290 mbar)  
Vacuum: 1.0 – 7.4 Hg (34-250 mbar)

## FEATURES:

Sonic automatic belt tensioning system  
Compatible with both NEMA & IEC motors

## 3-50 HP MOTORS

Electric, Hydraulic, Pneumatic & PTO



## BLOWER ENCLOSURE

- Reduces blower noise to <85dB
- Protects drive & belts in hostile environment



## HEPA / ULPA FILTER

- Filtration to 0.12 micron
- Vacuum gauge
- Max 1000 cfm @ 4 psi (1700 m<sup>3</sup>/hr @ 275 mbar)



## SONIC XE AIR KNIVES

- 2" to 240" long
- Materials: aluminum or stainless
- Multiple inlet configuration options



## AIR WIPES

- Used with Sonic blowers for 360° blow-off of wire, cable, extrusions, pipe & tubing



**Sonic's expertise in engineering blowers and exhausters** to your application is one of the keys to our success. As the world becomes more specialized, Sonic is expanding our array of blower designs, optional features and our custom engineering capabilities. Although standard Sonic Centrifugal Blowers are used in a number of conventional blower applications, the need to put compact Sonic blowers into pressure or vacuum applications formerly reserved for bigger and bulkier blowers is creating more demanding applications for Sonic. When you request a Sonic solution, we'll ask more about your application than anyone else because we want to understand your needs to the fullest and offer a complete solution, not just a piece of it.

**For delivering air under pressure,** Sonic has some of the most versatile blower performances available. Combustion air systems utilizing Sonic blowers prefer the 10:1 turn down ratios, the gradual sloping flow vs. pressure curve, the very small footprint and the low noise level. Sonic blowers are preferred for tank/pond aeration applications and small parts conveying eductor systems because of the low temperature rise, the steady (no pressure pulsing) air delivery and the low noise level.

**When vacuum is what you need,** the Sonic performance range has many ideally suited uses. The most demanding of our vacuum applications is for picking up water and concrete slurry during the grinding phase for highway construction and maintenance. Sonic has designed an assortment of custom built hydraulic motor/blower units coupled to truck mounted vacuum systems for highway maintenance companies around the United States.



**Many gas handling applications incorporate Sonic** to pull and/or propel gases from landfills, contaminated soil remediation sites, tanker terminal hydrocarbon vapor control systems and other such hostile operating environments. Sonic's optional welded 150# flange design results in a blower housing with a hydrostatic burst pressure of nearly 150 PSIG. Standard double lip PTFE shaft seals are rated to 10 PSI with higher ratings available. Electroplated or coated aluminum blower components are popular options and other blower materials can be offered. Other features include water cooling the bearing housing for up to 400°F (204°C) inlet gas temperatures, bearing mounted thermocouple for blower monitoring and chemical duty painting for protection from the environment. In addition, we can provide any motor a customer may need.





# air knife systems drying/liquid blow-off

**Sonic has air knife designs to remove any liquid or moisture from any surface.** Since 1990, Sonic has been setting the standards for high velocity air knife system designs, and pioneering the application engineering for a wide variety of industries. Sonic's beginnings, and the basis for our high design standards still, are a direct result of the 1987 Montreal Protocol which has been the driving influence behind the worldwide phase out of ozone depleting chemicals from manufacturing industries. Sonic has been on the leading edge of designs for blower supplied high velocity air knives to remove the aqueous based CFC replacement chemistry cleaning solutions on production lines ever since.



**In-line parts cleaning system manufacturer's rely on Sonic** to design blower/air knife systems that meet everyone's expectations. Sonic's responsibility goes far beyond our blowers and our air knives as there are so many dynamics involved with achieving effective parts drying. At Sonic we make sure that our designs work together with the whole cleaning system.



We engineer our air knife solutions while taking into account every important element including your required drying standard, the part cleanliness specification, the type of tunnel/cabinet, conveyor/parts carrier designs, spray zones/cycles, heat sources and the air balancing, which are all critical to the successful integration of a Sonic high velocity air knife system. It is quite common for Sonic to be asked to replace a poorly performing drying module supplied by others in an existing cleaning system, but you don't need to worry about the drying effectiveness of a Sonic Engineered Air Knife Solution. We guarantee it!

**Sonic engineers air knife systems for any product, production speed, conveyor or drying standard.** Customizing a Sonic Air Knife System to your existing production line is one of the things we do best. With our vast experience in so many industries and applications, and our leading edge air knife designs, we will engineer to your specific application and provide the technical support needed to successfully integrate our system into your line.



**Adding compressed air blow-off may have a low "short term" price tag , but it's total cost that counts.**

As a quick fix solution compressed air knives and nozzles, although easy to adapt to a machine, have a tremendous long term operating cost. The return on investment for a Sonic Air Knife System vs. the high energy cost and maintenance costs of compressed air blow-off is almost always less than 1 year and very often as little as a few months. Using a very typical example, a Sonic 10 Hp blower/air knife system replaces compressed air requiring over 40 Hp to achieve a comparable drying/blow-off standard. The reduction of your process costs (parts drying is a process cost) helps add directly to the bottom line. In a very competitive world, this can mean the difference between success and failure of a product or a production line. Let Sonic help you improve profitability.



## debris removal/static control

**Sonic is changing the way debris removal & static control are being handled.** With ever increasing production speeds, greater part complexities and more stringent contamination controls, low velocity fans and compressed air devices are no longer the favored air supply for these applications. Customers are demanding more effectiveness and lower operating costs. Sonic's high velocity air knives coupled with properly sized air ionizing bars are answering the call.

**Low velocity fan designs are not effective** for an increasing number of today's higher production speeds and complex part geometries that manufacturers must blow debris from while creating a static neutral part surface. Compressed air supplied knives can require up to 4 times more Hp than a Sonic blower/air knife system. The R.O.I. on a 10 Hp Sonic system is usually less than 1 year for a typical static control application and less than 6 months for complex parts or with large debris where more compressed air would be required.

**HEPA filters from Sonic** ensure that we clean the surface of the part with air that won't compromise the customer's cleanliness specification. Most fan driven air knives and ionizing bars that have HEPA filters are on the inlet of the fan. The result is that a rotating piece of machinery (the fan) is located after the HEPA and will compromise the entire clean air circuit at some point in time. Sonic is the only company to manufacture a production model, in-line, high volume HEPA filter system because the part is only as clean as the air that blows it off.



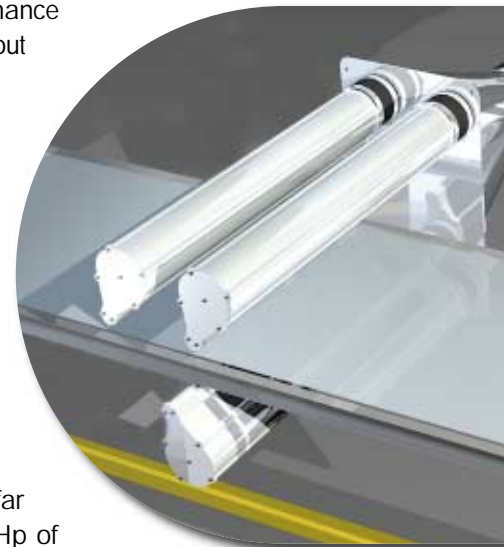
## continuous coating control

**Sonic's Engineered Air Knife Systems** are providing alternatives for a host of maintenance intensive methods needed for continuous coating control, that have been used throughout industry for decades. With our precise, fully adjustable, non-contact, Sonic Air Knife Systems, manufacturers are achieving optimum coating thickness and at higher speeds than ever before for conveyor widths of 1" to 192" (2.5 cm to 487 cm) and almost any coating liquid viscosity.

**Eliminating squeegee rolls and scraper blades** are the most common application for Sonic. You will no longer have the maintenance costs associated with cleaning, adjusting and/or replacing the rollers and scrapers. A significant benefit is that a Sonic Air Knife System delivers clean, dry, oil/dirt free air at higher than ambient temperatures to further improve the coated product and accelerate the coating drying process as well.

**Replace compressed air or other low efficiency blowers** connected to air knife designs that are not ideally suited for effective coating control applications, and simply cost far too much to operate. A typical 48" wide (122 cm) coated product could require up to 40 Hp of compressed air to do what a Sonic 10 Hp blower will do. Compressed air also has high costs associated with the after coolers, dryers and extra filtration.

**Sonic guarantees the air knife system** we design for your coating control process will deliver the exact coating thickness, at the speed you want to operate, with the lowest operating and maintenance costs of any other mechanical coating control method.



# continuous coating drying



**Sonic provides efficient air knife designs to dry** or assist heater tunnels in the drying of continuous coated product while reducing cost, complexity and size of traditional methods. No matter what the product size, speed and coating materials, Sonic designs solutions for a wide cross section of industries. Whether aqueous or solvent based coatings, there is a Sonic solution for you.

**Reduce the size, energy consumption and dwell time of heater tunnels** that in many cases will trap the moisture within the coating as a "skin" forms on the coating surface. The result of trying to dry a coating from the outside in is that the drying zone must be increased in length or time to evaporate the remaining trapped moisture. Running higher tunnel heater temperatures is not usually the best option. Aside from the tremendous increase in operating costs, the coating, a heat sensitive substrate or the mass of a large part simply may not permit or benefit from more heat. A Sonic air knife accelerates the natural evaporative process by removing moisture from a coating before the surface pores of the coating are dried. This reduces the drying time and allows the heater system, if required to complete the drying or curing process, to operate much more efficiently (lower total kW and BTU) and/or with less product to heater dwell time.

**Heated air knife air** is yet another feature that can be incorporated into your system. Sonic blowers always produce a natural heat of compression and may not require any supplemental heating. Alternatively, we can pull heat from your oven and through the blower to the air knife as well as numerous other options.

**No disturbance of the coating finish** is achieved by balancing flow, pressure and heat, and with multiple adjustment of the installed Sonic design, you can compensate for a wide range of process variables. Whether it is changes in coating viscosities, lines speeds or product surface contours, a Sonic system can adapt to your needs.

# air knife cooling



**A Sonic air knife system can accelerate radiant parts cooling** (air quench) in situations where a liquid quench is not acceptable and low velocity fans are not meeting the need. As high temperature products exit ovens or other processes where heat is introduced, rapid air cooling of the parts can help stabilize the structure, reduce conveyor lengths and facilitate operator handling or other subsequent processing of such products.

Compressed air cooling systems are highly inefficient as compared to a Sonic blower/air knife system. A Sonic 10 Hp blower system will generally do the work of 40+ Hp of compressed air in the same application.

**Low velocity fans are not powerful enough to break the boundary layer of surface heat** and, in many cases, must be supplemented with refrigeration to make up for the lack of air impingement velocity. Sonic utilizes ambient blower air for most applications and if in-line air chillers are required, the net result is that Sonic is most often a far more efficient air quench.

**Sonic tailors our air knife systems to your specific cooling objectives.** Parts cooling and air quenching are sometimes as much an art as a science, so let Sonic give you a new perspective with a high velocity blower/air knife solution.



## automotive

Sonic has designed Engineered Blower & Air Knife Solutions for use in nearly every phase of the automotive manufacturing industry. With ever increasing quality, production speed, automation and focus on environmental stewardship, the need for energy efficient removal of water based liquids used in machining, cleaning, cooling, plating and painting processes has never been greater. Sonic blowers and exhausters also provide high velocity air for static control as well as pressurized air cooling. Vacuum is used for exhaust emissions sampling systems and high volume flow bench testing of engine components.



## beverage

In the highly competitive market of canned & bottled beverages, product packaging aesthetics is almost as important as the quality of the beverage that is inside. Sonic Engineered Blower & Air Knife Solutions are the standard of the industry in helping to ensure that today's ground breaking labeling and packaging technology is not compromised by water used in the packaging process. For line speeds from 100 to 2000 CPM, Sonic guarantees that there will be no moisture related problems with sleeve labeling, paper or APL roll fed labeling, crown drying, safety sealing, stress corrosion, hygiene, ink jet coding, shrink wrapping or cardboard packing.



## civil engineering

In the continuing search for better ways to build the transportation infrastructure, protect our environment and reclaim former wastelands, Sonic Engineered Blower Solutions are making major contributions. From shipboard air inflation of rapid deployment oil spill containment booms to save marine life, gas extraction for landfills and the remediation of sites contaminated by leaking underground storage tanks to truck mounted vacuum systems for faster concrete surface preparation on America's superhighways, Sonic is there every step of the way. Wherever pressure or vacuum are required, Sonic has adapted to suit the customer's need.



## construction materials

Nearly every product that goes into the construction industry has liquid or debris removal phases during their manufacture. With the growing awareness of the high cost of compressed air and the overall push for improvements in process effectiveness at today's increasing line speeds, Sonic Engineered Blower & Air Knife Solutions have a proven track record of success. Regardless of whether the product is metal, wood, plastic, glass or composites, Sonic's guaranteed system designs are yielding construction materials manufacturer's some of the shortest ROI's versus previous blow-off methods.





## defense



The best offense is a good defense, both military and civil. Sonic Engineered Blower and Air Knife Solutions are meeting the needs of foreign and domestic threats by responding to calls for product developments and the adaptation of Sonic products to military and civilian protection systems. With state of the art product designs and the resources to put our compact blower systems to work in any operating environment, Sonic is on duty in a number of critical air & gas requirements.

## food



With food processors and packagers demanding that their production lines run faster, occupy less space, be cleaner, have more flexibility and operate more efficiently than ever before, Sonic's Engineered Blower and Air Knife Solutions, with our guaranteed performance, take a huge burden off the customers shoulders. On any conveyor line where surface water/moisture needs to be completely removed, coatings require precise thickness control, solids or debris must be displaced or static eliminated, Sonic has set the standards for all. Sanitary air knives and HEPA filters are also routine options to handle the most stringent requirements.

## medical devices



There is no more critical a conveyORIZED drying application than that which involves medical devices. Sonic Engineered Blower & Air Knife Solutions have been chosen for a number of medical devices and related product applications. After a complete analysis of the product, the level of drying required and the appropriate in-line air filtration (HEPA 0.3 micron or ULPA 0.1 micron), Sonic designs a system per customer specifications. Systems are also available with tri-clamp connectors and air knives which can be routinely sanitized to the highest levels.

## metal finishing



As the complexity and cost of metal components for all industries continues to rise, the variety and quality of metal finishing options has allowed lower grade base metals to perform in application's where once only higher grade metals could be used. Sonic Engineered Blower and Air Knife Solutions are providing the metal finishing industry with the most effective and efficient blow-off and drying as compressed air and heater systems have been proven much less cost effective methods for today's higher production rates and standards. For conveyor belt, monorail, automatic hoist and reel to reel, Sonic designs systems to meet your exact needs.

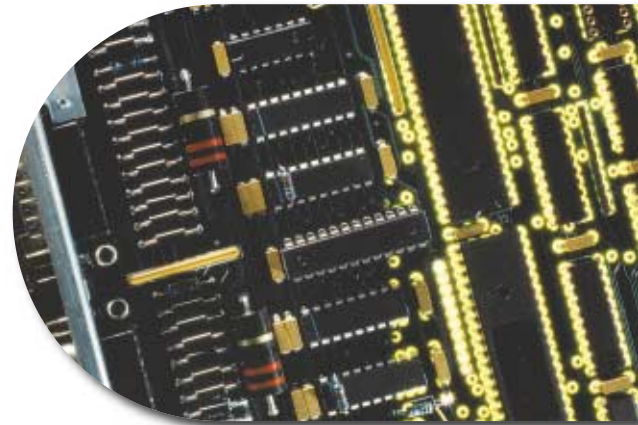
## metals forming & fab

No matter if metals are coming straight out of the furnace or at the final phase of cleaning, polishing, stamping or coating, Sonic Engineered Blower & Air Knife Solutions are in use every step of the way. As mill speeds continue to rise, the power and complexity of the historical blow-off and coating control methods increases as well. Sonic's guaranteed system eliminate squeegee rolls, high volume compressed air and large blowers and heaters in most applications. With a proven track record throughout the metals industry, line speeds are going up while Sonic contributes to operating costs going down.



## high tech

In a world of rapid technological advancements, manufacturing the critical components in complex assemblies often involves aqueous based cleaning systems. Sonic Engineered Blower & Air Knife Solutions have their roots in the manufacture of p.c. boards and other precision products. With pioneering designs in blowers, air knives, HEPA filters and their successful integration to cleaning systems for the high tech industry, Sonic is synonymous with drying. The Montreal Protocol mandated the phase out of many solvents used in the high tech world and now Sonic continues to set the standards for removing the water based cleaning solutions.



## petro-chemical

The need for movement and control of air and gas in petrochemical plants creates unique challenges to all blower manufacturers. Because Sonic doesn't just provide blowers, but rather Sonic engineers blower solutions, we analyze each application to ensure that we understand all of the conditions and variables so that the blower successfully integrates to the plant environment and operates at all extremes of your stated parameters. With a wide assortment of blower options Sonic can handle almost any gas composition at temperatures up to 400°F; and with electric, hydraulic, pneumatic and PTO drives, we can operate virtually anywhere.



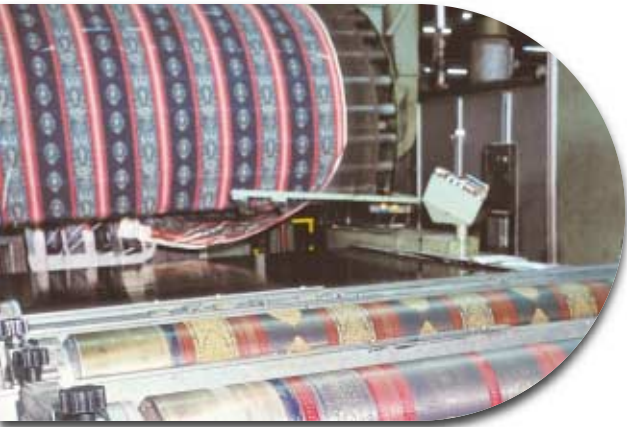
## pharmaceuticals

The quality and longevity of our Lives is directly influenced by continuous advancements in medicinal products. Regardless of whether prescription or over the counter, many of the manufacturing and/or packaging processes require Sonic Engineered Blowers and Air Knife Solutions to help complete various phases. From drying containers of infant formula, air conveying scrap foil from packaging, handling air or gas at the formulation stage to accelerated drying of mixing and storage tanks, Sonic designs systems for nearly ever stage. Sonic's in-line air filtration systems (HEPA 0.3 micron or ULPA 0.1 micron) help protect the most critical of environments.





## textile



For a wide variety of natural and man made woven fiber materials, liquids used for cooling and coating must be removed or the coating thickness maintained. Sonic Engineered Blower & Air Knife Solutions have been adapted to a number of web and braided fiber blow-off applications. Instead of expensive compressed air, squeegee rolls, steam rolls or chemical dispersion, Sonic designs air knife systems to achieve the liquid blow-off for any width product at any production speed required. Additionally, vacuum from Sonic blowers aids the garment industry during laser cutting processes.

## tire & rubber



The process of tire & rubber manufacturing can be greatly helped or hindered by the presence of water in the product. Whether cooling water with talc after the banbury or after the molding of tread and side walls, Sonic is delivering guaranteed drying in all manufacturing stages to ensure that water does not compromise the molding/bonding process. During the manufacture of rubber products for weather stripping, door seals and other extruded shapes, Sonic is replacing out moded compressed air and other drying methods with a very short payback period. The drying of steel cord in multi-strand cleaning and plating processes is yet another ideal application for Sonic.

## wire & cable



The process of extruding an insulating layer or jacketed cover over a wire then requires a cold water trough to bring the extrusion to a manageable temperature. Sonic Engineered Blower and Air Knife Systems have shown to be the most effective drying system, after the cooling trough, for the majority of our wire and cable customers. The Sonic self contained units result in some of the shortest ROI justifications in the industry due to their effectiveness. A large range of product diameters can be put through a single air wipe thereby providing greater operating flexibility.

## custom solutions



Sonic Air Systems is routinely designing blowers and air knife systems for use in applications where no other company has gone before. Whether it be custom designing components or systems, alternate materials of construction or special blower drive methods, our wealth of application engineering experience allows us to tailor Sonic products to your needs. With this "outside the box" thinking, Sonic has provided solutions for companies all around the world. Let us show you our unique perspective to solving your biggest air/gas processing or air knife system challenges.



**AIR SYSTEMS**

**sonic air systems  
has provided  
drying solutions for**

Adolph Coors  
Alcoa  
Alconex  
Amana  
American Home Products  
American Power Conv.  
Anderson Windows  
Anheuser-Busch  
Armstrong World  
Asian Micro  
Bacardi  
Bandag  
Belden  
Benchmark Electronics  
BICC  
BMW  
Boeing  
Bridgestone/Firestone  
British Steel  
Cadbury  
Campbell Soup  
Carpenter Tech.  
Caterpillar  
Centria Metals  
Coca Cola  
Coleman Cable  
Commercial Metals  
CommScope  
ConAgra Foods  
Conch y Toro  
Condumex  
Delphi  
Diamler Chrysler  
Double Eagle Steel  
E & J Gallo  
Encore Wire  
Essex  
Fiskars  
Ford Motor Company  
General Electric  
General Mills  
General Motors  
Goodyear Tire & Rubber  
Granite City Steel  
Guinness  
Heineken  
Heinz  
Hershey  
Hewlett Packard  
IBM  
Indiana Harbor Works  
Indiana Tube  
Intel  
Hitachi Metals  
Johnson & Johnson  
Jumex  
Keystone Wirecloth  
Knauf Fiberglass  
Kodak  
LaBatt  
Land O'Lakes  
Lorin Industries  
LTV Steel  
Lockheed Martin  
Lucent Technologies  
Marvin Windows  
Maytag  
Michelin  
Miller Brewing  
Modelo Breweries  
Molsen  
Natsteel  
Nestlé  
Nextrom  
Parsons Engineering  
Pepsi  
Perdue Farms  
Phelps Dodge  
Olin Brass  
Owens Corning  
Pella  
Parkview Metals  
Raychem  
Roll Coaters  
Ross Labs  
Sandoz  
Shell Oil  
South African Breweries  
Southwire  
Spartanburg Stainless  
Standard Products  
Stolle Products  
Summit Corp.  
Sutter Home  
Tiger Breweries  
Thomas & Betts  
Thyssen Steel  
Toyota  
Transitions Optical  
Unistrut  
Universal Studios  
USG Corp  
West Bend  
Wisconsin Fineblanking



Controlled Air

**Calderhead Road, Shotts  
Lanarkshire, Scotland  
ML7 4EQ**

**T: +44(0) 1501 825024  
F: +44(0) 1501 825029  
E: sales@cpa-group.com**

**[www.sonicairsystems.com](http://www.sonicairsystems.com)**