

Product Catalogue



Innovative Compressed Air Technologies

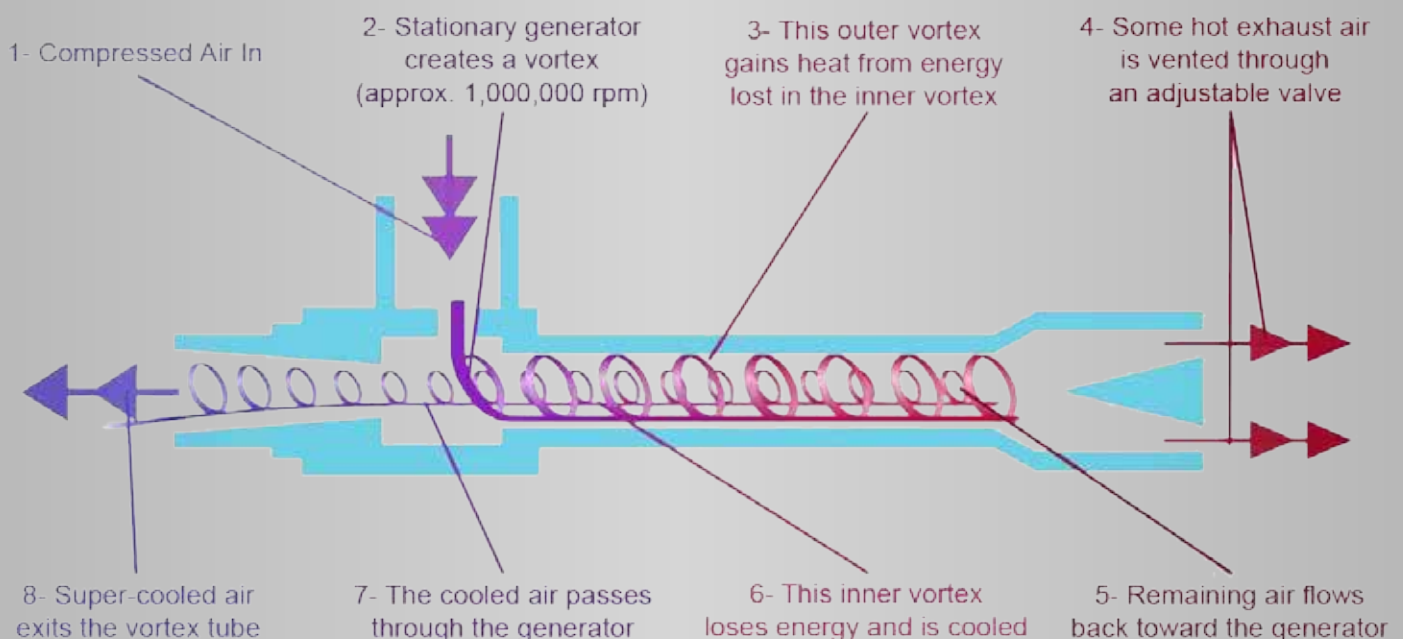


About Vortec

In 1961, ITW Vortec became the first company to develop technology for converting the vortex tube phenomenon into practical, effective cooling solutions. Since then, Vortec has continued to refine and expand vortex tube applications as well as develop other ways to use compressed air efficiently. ITW Vortec products - for spot and enclosure cooling, airflow amplification, blowoff and conveying - increase equipment efficiency, improve manufacturing methods and eliminate more costly methods for cooling and increasing airflow. All Vortec products are designed to enhance your operation's productivity. In our European Headquarters in The Netherlands we stock our products for quick delivery; all with BSP thread connections and, where applicable, with 230V thermostats and solenoid valves.

Vortex Principle

Fluid (air) that rotates around an axis (like a tornado) is called a vortex. A Vortex Tube creates cold air and hot air by forcing compressed air through a generation chamber, which spins the air at a high rate of speed (1,000,000 RPM) into a vortex. The high-speed air heats up as it spins along the inner walls of the Tube toward the control valve. A percentage of the hot, high speed air is permitted to exit at the valve. The remainder of the (now slower) air stream is forced to counterflow up through the center of the high-speed air stream in a second vortex. The slower moving air gives up energy in the form of heat and becomes cooled as it spins up the tube. The chilled air passes through the center of the generation chamber finally exiting through the opposite end as extremely cold air. Vortex tubes generate temperatures down to 56°C below inlet air temperature. The control valve located in the hot exhaust end can be used to adjust the temperature drop and rise for all Vortex Tubes.



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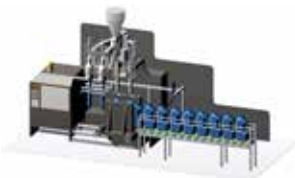
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Vortex Tubes

Vortex tubes produce up to 1757 watts of refrigeration and temperatures as low as -40 deg to solve a variety of industrial spot cooling and process cooling needs. With no moving parts, a vortex tube is highly reliable and inexpensive; and requires no electrical connection at the cooling site. Vortex tubes cool instantly, relying on compressed air spinning in the tube to separate the air into cold and hot air streams.

Vortex tubes are a compact source of refrigeration and cooling, with models ranging from 160 – 330 mm long and cooling capacities ranging from 29 – 1758 watts. Vortex tube performance is easily adjustable by changing the inlet air pressure, ratio of cool air to exhaust, or by changing the generator in the tube itself. And while normally used for cooling, vortex tubes can also be used for heating applications, merely by channeling the exhaust hot air to the application.

Vortex tube technology was invented by French physicist Georges Ranque in 1930, and first developed for industrial use by Vortec in the 1960s. Since then, vortex tubes have been applied for a wide range of cooling applications on machines, assembly lines, in processes and for testing and measurements.



APPLICATIONS

- Cool machine operations
- Dry ink on labels and bottles
- Temperature cycle parts
- Keep electronics cool
- Set solders and adhesives
- Condense gas samples
- Cool cutter blades
- Thermal test sensors
- Cool heat seal operations
- Cool plastic injection molds

APPLICATION

notes

The manufacturer of form, fill and seal packaging equipment uses #106-8-H Vortex Tubes to keep sealing bar clamp shield temperatures below 66°C. Excessive clamp shield heat would inadvertently melt film adjacent to the seal and cause marred wrap or a defective package.

A laboratory uses a #208-15-H Vortex Tube connected to a simple heat exchanger to lower and maintain the water temperature in a cold water bath testing device.

One of the largest producers of air conditioning compressors cools the exterior shell of its units after a baked on painting process with #308-35-H Vortex Tubes mounted on a cooling enclosure.

Plastic injection and blow molders increase their production rates by using Vortex Tubes to speed the cooling of molded areas, especially those to be machined.

A worldwide manufacturer of finishing equipment for the printing industry incorporates ITW Vortec Vortex Tubes as a cooling device for slitter blades.



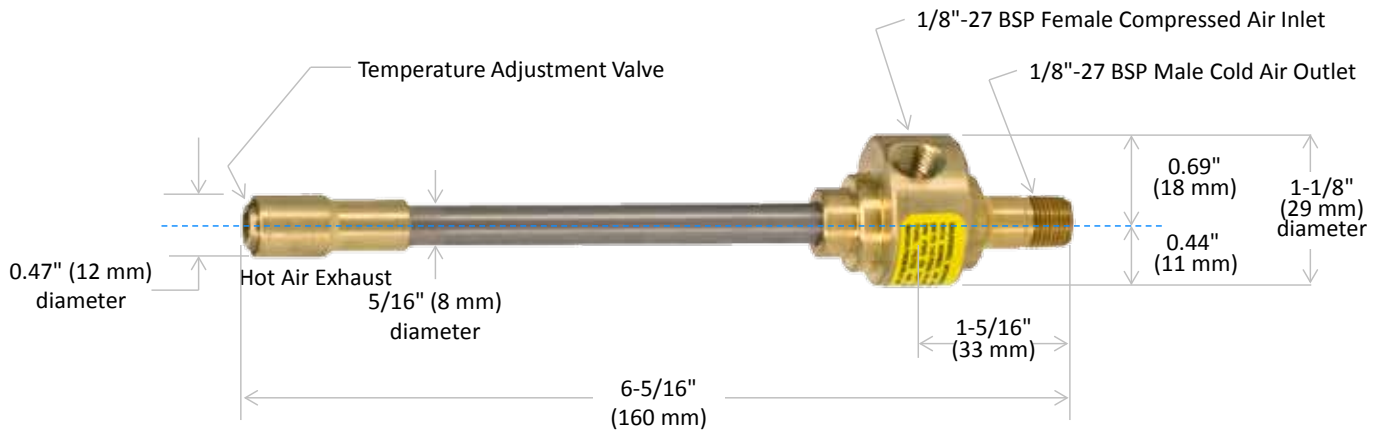
Benefits

- Cools instantaneously
- Lowest cost per unit of refrigeration of any cooling technique
- Fully adjustable cooling, easily moved from site to site as needed
- Fits to provide cooling in the most confined areas
- Lowest maintenance requirements of any refrigeration technique
- Environmentally friendly, with no refrigerants or chemicals needed
- Easy to install, just connect compressed air and go

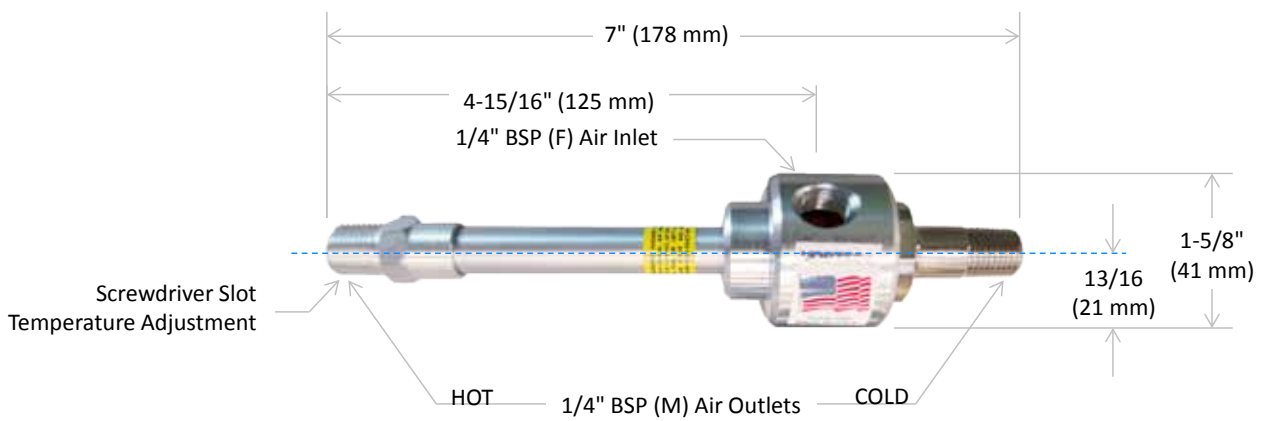
Features

- Maintenance free, with no moving parts
- Cycle repeatability within +/- 1 deg
- Drops compressed air inlet temperature by up to 56 °C
- No electricity required at the cooling site
- Cools without refrigerants, as low as -40 deg
- Compact and lightweight, highly transportable
- Adjustable for varying cooling needs
- Available heating capacity using the same tube, up to 93 °C
- Available in aluminum and stainless steel models
- Replacement generators available for modification of cooling or upon contamination

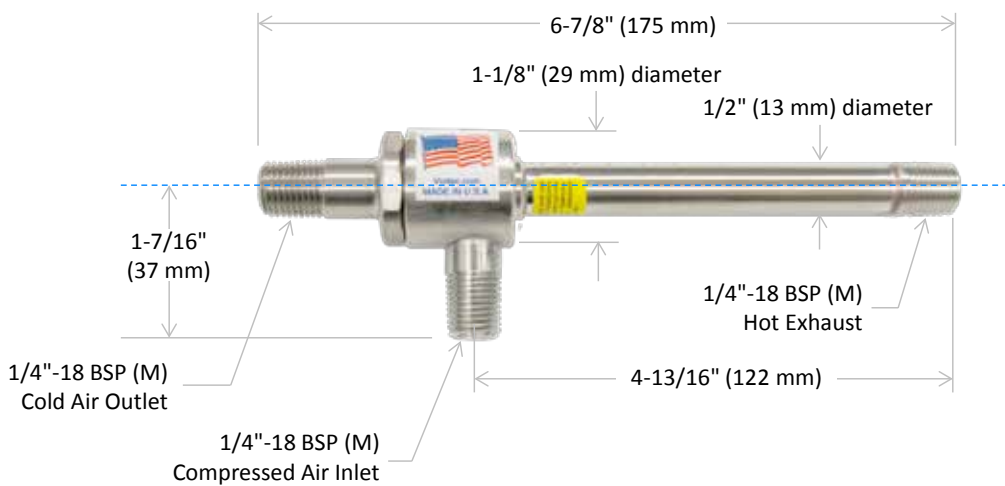
106BSP



208BSP



208SSBSP





Model	106-2-H	106-4-H	106-8-H
Material	Brass/Stainless Steel	Brass/Stainless Steel	Brass/Stainless Steel
Total length	160 mm	160 mm	160 mm
Compressed air inlet	1/8" BSP	1/8" BSP	1/8" BSP
Outlet size	1/8" BSP	1/8" BSP	1/8" BSP
Cooling capacity (watts)	29	59	117
Air Consumption @ 6.9 bar (slpm)	57	113	226
Inlet	Female	Female	Female

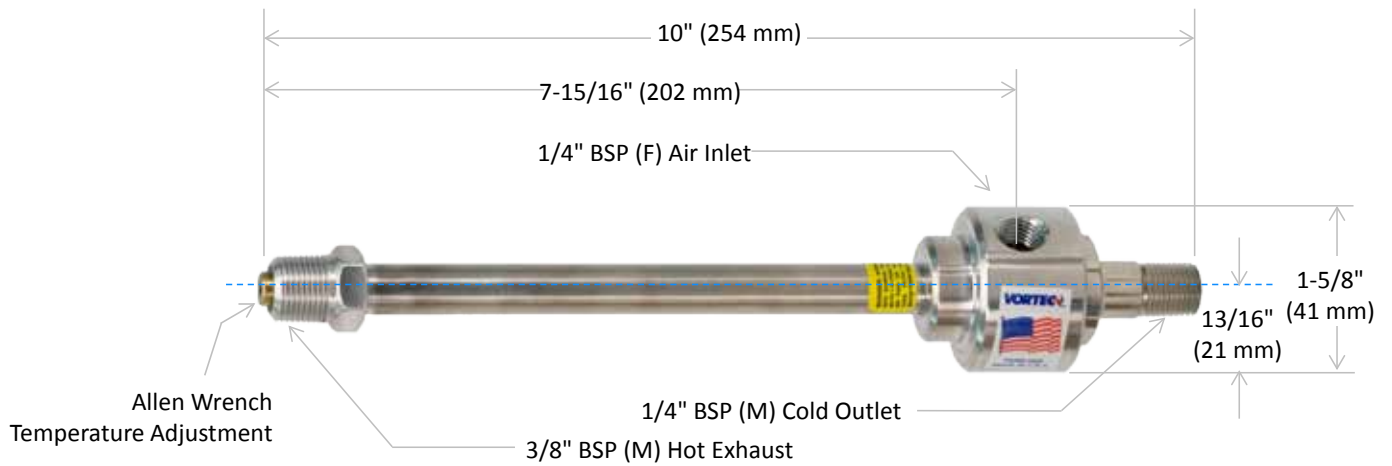


Model	208-11-H	208-15-H	208-25-H
Material	Aluminium	Aluminium	Aluminium
Total length	178 mm	178 mm	178 mm
Compressed air inlet	1/4" BSP	1/4" BSP	1/4" BSP
Outlet size	1/4" BSP	1/4" BSP	1/4" BSP
Cooling capacity (watts)	188	264	440
Air Consumption @ 6.9 bar (slpm)	311	425	708
Inlet	Female	Female	Female

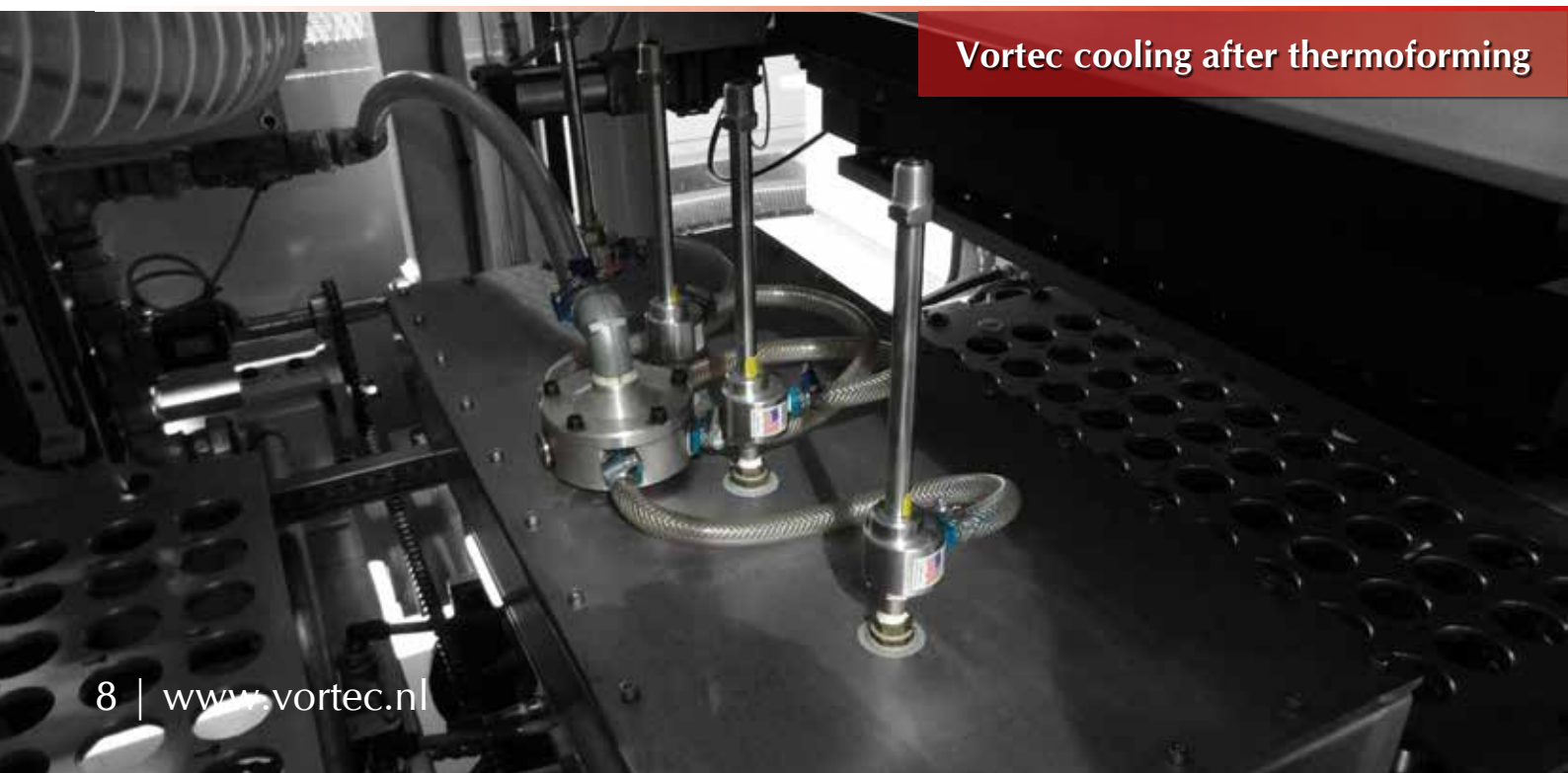
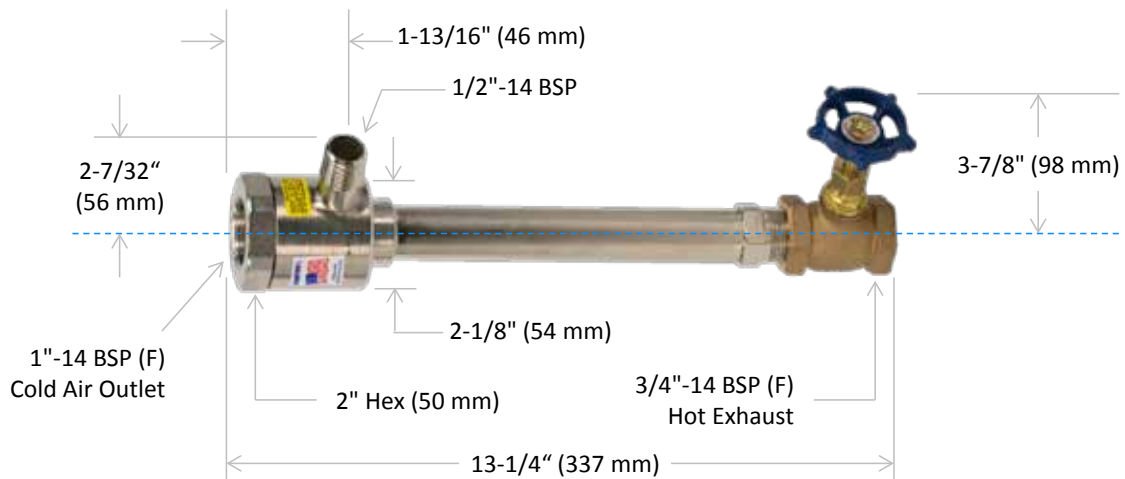


Model	208-11-HSS	208-15-HSS	208-25-HSS
Material	Stainless Steel	Stainless Steel	Stainless Steel
Total length	175 mm	175 mm	175 mm
Compressed air inlet	1/4" BSP	1/4" BSP	1/4" BSP
Outlet size	1/4" BSP	1/4" BSP	1/4" BSP
Cooling capacity (watts)	188	264	440
Air Consumption @ 6.9 bar (slpm)	311	425	708
Inlet	Male	Male	Male

308BSP



328BSP





Model	308-35-H
Material	Aluminium
Total length	254 mm
Compressed air inlet	1/4" BSP
Outlet size	1/4" BSP
Cooling capacity (watts)	777
Air Consumption @ 6.9 bar (slpm)	991
Inlet	Female



Model	328-50-H	328-75-H	328-100-H
Material	Steel, Nickel Plated	Steel, Nickel Plated	Steel, Nickel Plated
Total length	337 mm	337 mm	337 mm
Compressed air inlet	1/2" BSP	1/2" BSP	1/2" BSP
Outlet size	1" BSP	1" BSP	1" BSP
Cooling capacity (watts)	879	1319	1758
Air Consumption @ 6.9 bar (slpm)	1415	2123	2830
Inlet	Male	Male	Male

Vortec cooling of the horn during ultrasonic welding/cutting

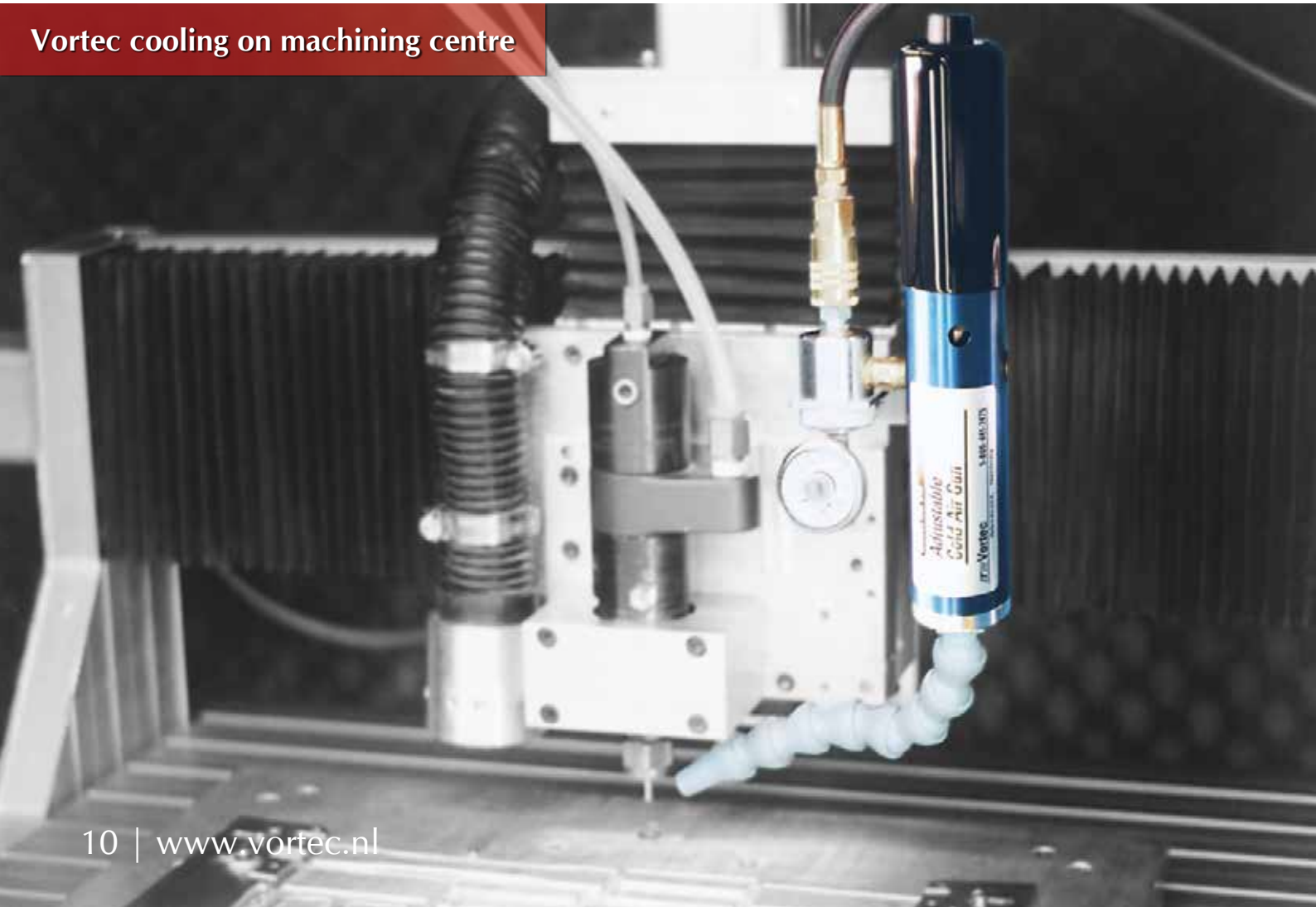


Cold Air Guns

Cold Air Guns use vortex tube technology and filtered compressed air to produce sub-freezing air as low as $-34\text{ }^{\circ}\text{C}$ for numerous industrial spot cooling applications. With no moving parts to wear out, Cold Air Guns require no electricity at the target, just a compressed air source.

Cold Air Guns are most often used for cooling of metal parts, in the machining and repair of metals, plastics, wood, ceramics and other materials. Cold air machining outperforms mist coolants and substantially increases tool life and feed rates on dry machining operations. The effective cooling from a Cold Air Gun can eliminate heat-related parts growth while improving parts tolerance and surface finish quality. Cold Air Guns have adjustable temperature and flow settings; as option we have a frost free nozzle to eliminate mess from frost and condensation.

Vortec cooling on machining centre



APPLICATION

notes

Apparel manufacturers have improved cutting speeds by mounting a Cold Air Gun on automated fabric cutter machines.

Operators of CNC routers used in industrial woodworking applications use Cold Air Guns to extend tool life, while the low pressure airflow clears sawdust from the cutting area.

Manufacturers of grinding equipment sell or recommend #680 Mini Cold Air Guns to minimize heat buildup and reduce wheel loading.

An Italian manufacturer of twist drill sharpening machines offers an optional pneumatic system that uses an internally mounted #610 Adjustable Cold Air Gun which is ducted to the work area.

Automated equipment for the composites industry is using Cold Air Guns to chill graphite epoxy materials for improved guiding in fiber placement layup machinery.

A facility producing thermostats saved money in their quality control test area by replacing CO₂ with two Cold Air Guns for testing low temperature settings.



Vortec cooling of the cutting blade during converting (tissue) paper

Benefits

- Increase dry machining speeds up to 36%
- Extend tool life by 50%
- Eliminates the mess, expense and safety concerns of using mist coolants
- Reduce waiting or normalization time by cooling parts faster
- Eliminate the potential for burning and scorching
- Avoid secondary parts cleaning after machining
- Reduce grinding wheel loading caused by overheating
- Airflow clears sawdust, shavings and dirt away from surface

Features

- Creates cold air up to 56 °C below the inlet compressed air temperature
- Quiet operation; meets OSHA noise specifications
- Adjustable temperature and flow rate
- Highly reliable with no moving parts
- Low pressure outlet air
- Uses only compressed air – no Freon
- System includes a magnetic base and a 5 micron auto-drain compressed air filter
- Magnetic base allows for easy, close in positioning and easy portability
- Frost free nozzle eliminates mess from frost and condensation

610BSP



Model	610	620	630
Compressed air inlet	1/4" BSP	1/4" BSP	1/4" BSP
Minimum Outlet Temperature, °C	-23	-12	-1
Cooling Capacity (watts)	264	440	733
Air Consumption @ 6,9 bar (slpm)	425	708	991
Outlet Air Flow Rate (slpm)	57 to 425	227 to 708	510 to 991

680BSP



Model	680BSP
Compressed air inlet	3/8" BSP
Minimum Outlet Temperature, °C	-12
Cooling Capacity (watts)	117
Air Consumption @ 6,9 bar (slpm)	227
Outlet Air Flow Rate (slpm)	113
Magnetic base and filter included?	Yes
Also available with dual nozzle: 682 BSP	

424BSP



Model	424
Compressed air inlet	1/8" BSP
Minimum Outlet Temperature, °C (at 20 °C inlet air)	-12
Cooling Capacity (watts)	117
Air Consumption @ 6,9 bar (slpm)	227
Outlet Air Flow Rate (slpm)	113



615BSP



Model	615BSP
Compressed air inlet	1/4" BSP
Minimum Outlet Temperature, °C	-18
Cooling Capacity (watts)	264
Air Consumption @ 6,9 bar (slpm)	425
Outlet Air Flow Rate (slpm)	256





Vortec cooling during/after welding



Vortec cooling during grinding of rubber hoses

Hot Air Guns

Hot Air Guns are used where milder heat is needed as compared to an electric heat gun. It is ideal for pre-heating of parts, processes and solutions, with an output flow rate of 57-227 slpm; and is also widely used for softening adhesives, rubber and vinyl, and accelerating drying. The hot air gun requires no electricity at the target, and uses only filtered compressed air to generate fully adjustable temperatures up to 93 °C.

609BSP



609-1BSP



Model	609	609-1
Compressed air inlet	1/4" BSP	1/4" BSP
Maximum Outlet Temperature, °C	93	93
Air Consumption @ 6,9 bar (slpm)	425	425
Outlet Air Flow Rate (slpm)	57 - 227	57 - 227
Magnetic base and filter included?	Yes	No

Applications

- Pre and post heating of urethane, epoxy & acrylic adhesives and substrates
- Parts drying after solvent cleaning
- Heating of parts and films
- Material softening to assist in forming

Features

- Hot air flows up to 93°C
- No electricity used at the target
- Portable magnetic base
- Exceptionally reliable—no moving parts
- No EMI / RFI interference
- Meets **OSHA** noise and pressure specifications

Spray Nozzles

Spray Nozzles provide ultra-fine droplet-sized sprays for evaporative cooling, atomization, humidification and wetting. Superior to conventional hydraulic and piezoelectric nozzles, Spray Nozzles produce spray patterns that can be widely diffused or directed. The liquid stream is entrained by high velocity compressed air to create a range of micron-level spray droplets, resulting in greater surface coverage than conventional nozzles. With this more efficient use of the liquid, Spray Nozzles accelerate air-liquid interaction to give more effective cooling, humidifying, wetting and dust control.

Three types of Spray Nozzles are available, all producing adjustable flow rates from 23 to 114 liters per hour.

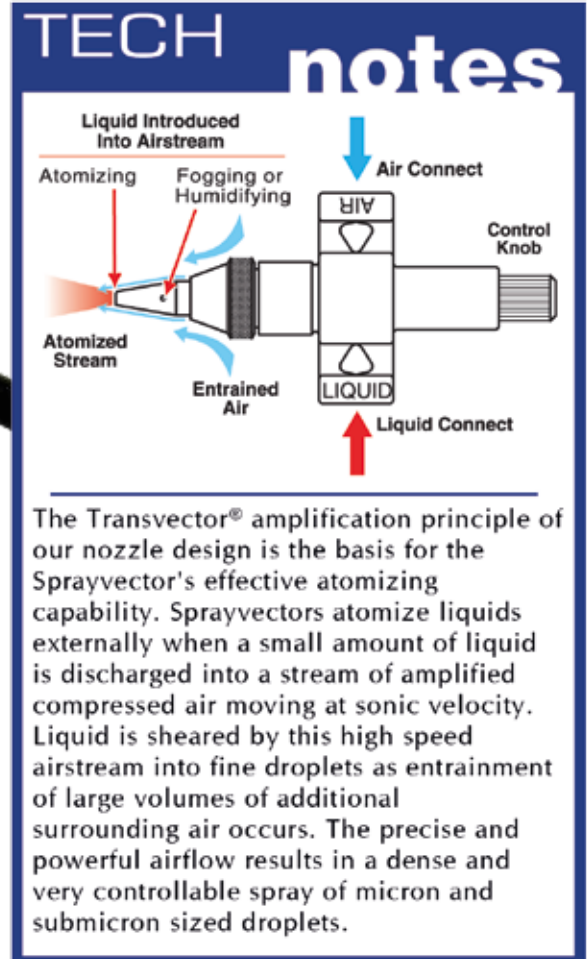
- Fogging: Directed spray having droplet sizes of 20 – 60 microns. Liquid viscosities up to 1100 cP.
- Atomizing: Directed spray having droplet sizes of 60 – 200 microns. Liquid viscosities up to 1100 cP
- Humidifying: Wide spray with droplet sizes of 20 – 200 microns. Liquid viscosities up to 100 cP.





Benefits

- More efficient use of liquid as it is entrained by the compressed air
- Consistent, effective cooling of surfaces reduces heat distortion of parts
- Eliminates damage to wood and other water sensitive surfaces due to low humidity
- Provides even coverage when applying coatings, rust inhibitors, lubricants, preservatives, etc. to parts, wood, rubber, plastic, food, and more
- Reduces noise levels
- Speeds testing for humidity effects due to varying humidity levels
- High pressure liquid flows are not required
- Precision flow rates minimize usage of expensive coatings, preservatives, rust inhibitors, etc.
- Produce finer drops than will hydraulic nozzles
- Droplet size and production is not dependent on liquid pressure
- Air and liquid mix externally to minimize clogging



Features

- Produce controlled, ultra-fine droplet sizes
- Removable nozzle tips for easy cleaning and replacement
- Interchangeable nozzle tips give flexibility for fogging, atomizing and humidifying
- Can be used with a wide viscosity range of 1 – 1100 cPs
- Deliver a wide range of liquid flow rates (23 – 114 liters per hour)
- Require no electrical connection at the nozzle
- Allow low pressure liquid supply (0.14 - 1.4 bar)
- Use only 340 slpm of compressed air
- Liquid entrainment using compressed air minimizes clogging

1703BSP



Model	1703
Application	Fogging
Droplet Size, μ	20-60
Max Liquid Viscosity, cPs	1100
Spray Pattern	Tight
Air Consumption @ 6,9 bar (slpm)	340
Compressed air inlet	1/4" BSP
Liquid flow rate (@ 0,1-1,4 bar liquid pressure)	23-114
Liquid inlet	1/4" BSP
Suggested applications	Moisturizing, coating, evaporative cooling, dust suppression

1707BSP



Model	1707
Application	Humidifying
Droplet Size, μ	20-200
Max Liquid Viscosity, cPs	100
Spray Pattern	Wide
Air Consumption @ 6,9 bar (slpm)	340
Compressed air inlet	1/4" BSP
Liquid flow rate (@ 0,1-1,4 bar liquid pressure)	23-57
Liquid inlet	1/4" BSP
Suggested applications	Mist coating, moisturizing, evaporative cooling, spray drying

1713BSP



Model	1713
Application	Atomizing
Droplet Size, μ	60-200
Max Liquid Viscosity, cPs	1100
Spray Pattern	Tight
Air Consumption @ 6,9 bar (slpm)	340
Compressed air inlet	1/4" BSP
Liquid flow rate (@ 0,1-1,4 bar liquid pressure)	23-114
Liquid inlet	1/4" BSP
Suggested applications	Washing, applying lubrication



Air Jets

Jets are round-throated air amplifiers: one end provides a strong airflow while the other creates suction as free air is entrained. As the free air is entrained, jets amplify air volume up to **4** times more than the compressed air supplied, resulting in less compressed air usage to deliver the same or greater thrust performance.

Jets are designed to reduce compressed air consumption and noise drastically as compared to open jets, copper tubes and iron or steel pipes without an engineered nozzle. Perfect for all types of blow off, conveying, cooling and drying applications, jets are available in a variety of high and low thrust models. Since they output a more concentrated, targeted volume of air than nozzles, they are ideal for water, solvents or light oil stripping and extraction applications. Additionally, because they deliver a precise air flow targeted directly on the parts being moved or ejected, jets are ideal for parts movement and ejection. Vortec Jets meet **OSHA** specification for pressure and dead-end noise.





APPLICATIONS

- Weigh sorting
- Parts drying
- Waste or trim removal
- Vacuum generation
- Blow off cleaning
- Cooling
- Conveying small parts or materials
- Ejection of parts or cut-outs
- Fume extraction systems

Benefits

- Convey small parts without motors or pumps
- Save time with better blow off capability
- Up to **25** times blow off power compared to compressed air alone
- Reduce operating costs due to compressed air usage by up to 75%
- Reduce noise levels by up to 70% compared to non-amplifying jets

Features

- Wide range of designs and force/thrust levels
- Several suction and outlet options
- Adjustable jets enable varying power/thrust levels for each application
- Power/thrust levels ranging from 57 - 482 grams force
- Low noise levels, ranging from 65 to 80 dBA.
- Output thrust can be varied on all 901 units by changing or adding an internal shim. Larger shims give more blow off force.

901BSPA



Model	901A
Application	Blow Off & Cooling
Compressed air inlet	1/8" BSP
Thrust, g	170
Air Amplification, Unducted	25
Air Amplification, Ducted	N/A
Air Consumption @ 6,9 bar (slpm)	226

901DBSPA



Model	901DA
Application	Blow Off, focused output
Compressed air inlet	1/8" BSP
Thrust, g	397
Air Amplification, Unducted	25
Air Amplification, Ducted	N/A
Air Consumption @ 6,9 bar (slpm)	481

901BBSPA



Model	901BA
Application	Conveying
Compressed air inlet	1/8" BSP
Thrust, g	170
Air Amplification, Unducted	25
Air Amplification, Ducted	4
Air Consumption @ 6,9 bar (slpm)	226

901HBSPA



Model	901HA
Application	Conveying
Compressed air inlet	1/8" BSP
Thrust, g	397
Air Amplification, Unducted	25
Air Amplification, Ducted	4
Air Consumption @ 6,9 bar (slpm)	481

909BSPA



Model	909A
Application	Blow Off, adjustable
Compressed air inlet	1/8" BSP
Thrust, g	57-482
Air Amplification, Unducted	25
Air Amplification, Ducted	N/A
Air Consumption @ 6,9 bar (slpm)	142-594



Vortec amplification for cleaning measurement area from sensors

Air Knives

Air Knives deliver a flat sheet of amplified air designed to:

- Efficiently blow off water and debris from wide surfaces
- Provide high speed drying or cooling

Air Knives are air amplifiers, using a small amount of filtered compressed air to deliver a powerful, high velocity, laminar sheet of air over wide areas such as moving webs, film, sheets, strips, auto bodies and other large assemblies and objects. Vortec's patented design produces increased thrust and velocity, reduced noise and excellent uniformity.





APPLICATION

notes

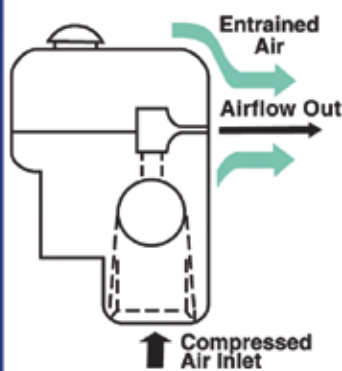
On an automated fabric cutting machine, a problem-prone, retracting clamp bar was replaced with two #921-24 Curtain Transectors. The maintenance free air knives hold the fabric in position for slitting and blow away any loose threads.

After testing many different products, a sheet metal fabrication plant stamping oil pans for automobile engines determined that a #921-18 Curtain Transvector was ideal for replacing their inefficient, drilled-pipe blowoff. The patented air knife did a superior job of stripping moisture and debris from the pans, while reducing air consumption.

A German packaging company increased production rates of their label printing equipment by 34% when a #921-12 Curtain Transvector was installed to speed ink drying.

Cooling parts emerging from a powder coating oven had been the problem for a metal finishing firm until they mounted #921-24 Curtain Transectors on each side of the product to quickly dissipate the heat.

TECH notes



The Curtain Transectors' amplification uses an impulse principle to accelerate a large mass of stationary air with a thin sheet of sonic-velocity compressed air. When compressed air enters the Transvector, it fills a plenum which has only one exit path - a linear 0,051mm gap running the length of the curtain. As the air is forced out of the orifice, it accelerates and collides with surrounding air entraining a great volume of free, ambient air. The result is an air knife that delivers a large volume of output air in return for a small amount of compressed air.

Benefits

- More uniform blow off of large surfaces than nozzles or jets
- Dries surfaces quickly and thoroughly
- Costs significantly less than fans or blowers
- Inherently safe, with no guards or rotating equipment
- Reduced compressed air usage, versus open nozzles
- Easily controlled output
- Quiet – meets **OSHA** requirements
- No electrical connections at the target site
- Easily mounted and moved
- Give a cleaner surface for painting or coating

Features

- 25 times air amplification over compressed air input
- High performance, patented design gives high thrust
- Interchangeable shims enable air flow to be adjusted for the specific application
- Aluminium Airknives available in lengths of 76, 152, 305, 457, 610 mm. Special lengths till 2200 mm possible.
- Stainless steel Airknives available in lengths of 152, 305, 457, 610 mm. Special lengths till 2200 mm possible.
- Instant on/off
- No moving parts; no maintenance

921-03BSP



Model	921-03BSP
Length, mm	76
Air Consumption @ 6,9 bar (slpm)	450
Number of Air Inlets (1/4" BSP)	1

921-06BSP



Model	921-06BSP
Length, mm	152
Air Consumption @ 6,9 bar (slpm)	900
Number of Air Inlets (1/4" BSP)	1

921-12BSP



Model	921-12BSP
Length, mm	305
Air Consumption @ 6,9 bar (slpm)	1800
Number of Air Inlets (1/4" BSP)	1

921-18BSP



Model	921-18BSP
Length, mm	457
Air Consumption @ 6,9 bar (slpm)	2700
Number of Air Inlets (1/4" BSP)	2

921-24BSP



Model	921-24BSP
Length, mm	610
Air Consumption @ 6,9 bar (slpm)	3600
Number of Air Inlets (1/4" BSP)	2



921SSBSP

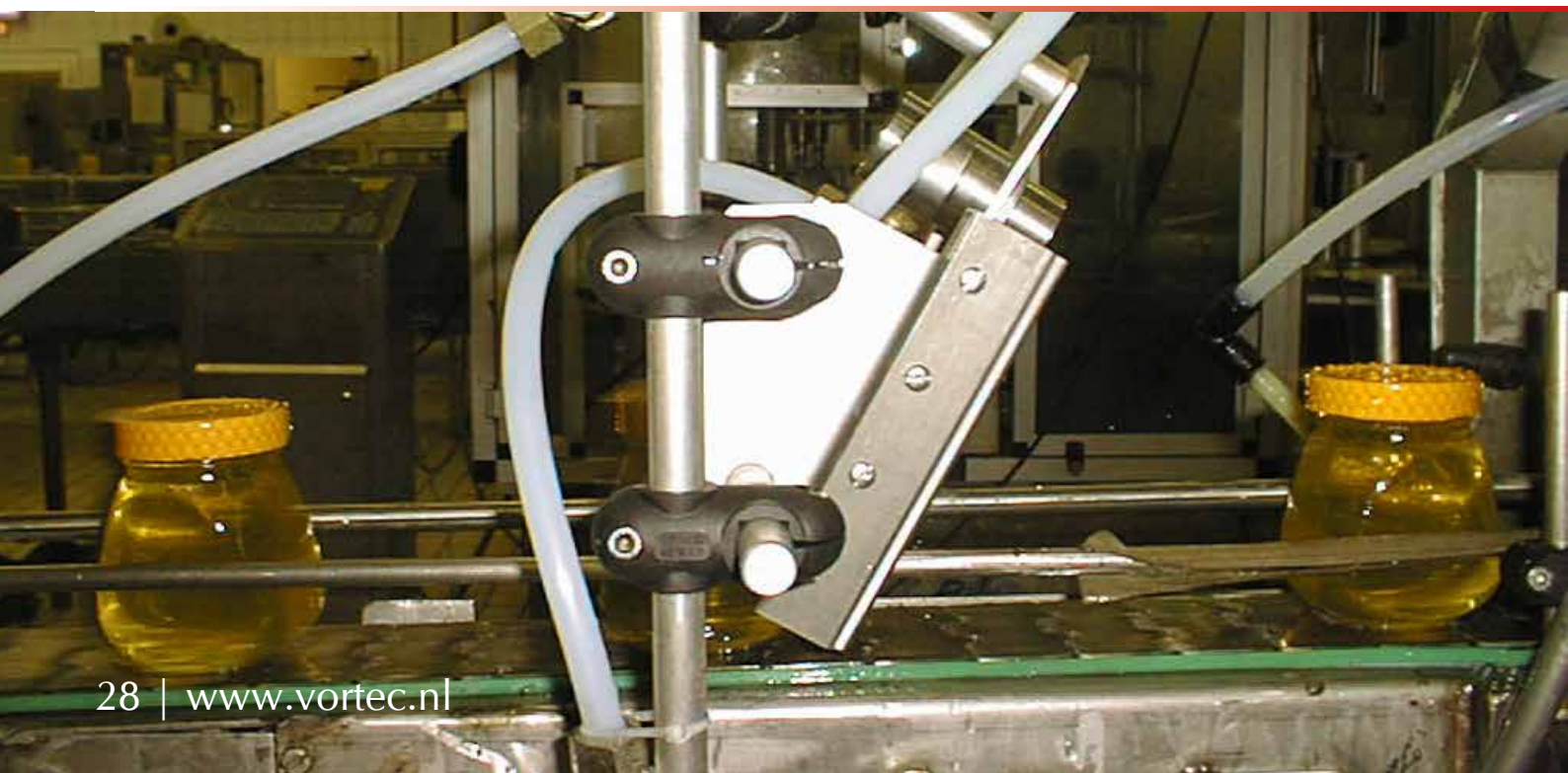


Model	921SSBSP
Length, mm	152
Air Consumption @ 6,9 bar (slpm)	900
Number of Air Inlets (1/4" BSP)	1

922SSBSP



Model	922SSBSP
Length, mm	305
Air Consumption @ 6,9 bar (slpm)	1800
Number of Air Inlets (1/4" BSP)	1



924SSBSP



Model	924SSBSP
Length, mm	457
Air Consumption @ 6,9 bar (slpm)	2700
Number of Air Inlets (1/4" BSP)	2

923SSBSP



Model	923SSBSP
Length, mm	610
Air Consumption @ 6,9 bar (slpm)	3600
Number of Air Inlets (1/4" BSP)	2



Air Nozzles

Vortec engineered blow off nozzles significantly reduce compressed air consumption and noise, compared to open nozzle jets. Using proven Transvector® amplification technology, Vortec nozzles entrain and accelerate free surrounding air, resulting in air flow volume up to 25 times more than the volume of compressed air, giving 25 times the blow off capacity at a significantly reduced energy usage and lower operating cost. And while reducing air consumption, Vortec nozzles also reduce noise levels by as much as 60%.

Vortec nozzles are available in a full range of designs, materials of construction, sizes and force/thrust levels compatible with most installations; capable of replacing open copper tubes, flex-line, drilled pipe and other nozzles that are not designed to save air. Worker safety standards are met as well, as Vortec safety air nozzles are compliant with **OSHA** 1910.242(b) dead-end pressure regulations.

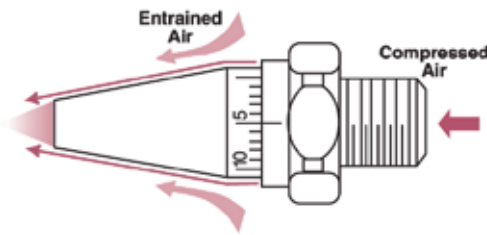


Compressed air through open 1/4" copper tubes was the method being used by a wood slotwall manufacturer to clean each slot of excessive sawdust. The company replaced the tubes with quiet #1201 Nozzles and saved €10,800 in reduced air consumption.

A company-wide conversion from open tube blowoffs to ITW Vortec Nozzles and Jets at the largest US producer of aluminum cans resulted in impressive compressed air savings. In one plant's aerosol can press department alone, annual savings of €39,500 were achieved.

Styrofoam cups were being ejected from molds with continuous air from a blower motor until bearing replacements and ongoing maintenance proved too costly. The precise and instant airflow from #1201 Nozzles, set up in an on/off cycling, became the maintenance-free solution.

A Canadian facility machining aluminum extrusions reconfigured their automated lathe with #1204 Nozzles. The flexible hose mounting of the nozzles allowed them to easily reposition the blowoff to accommodate varying sizes of extrusions.



We incorporate the proven Transvector® amplification principle in our nozzle and jet designs. When compressed air enters the nozzle or jet, it fills a chamber with only one exit path - a 0,051mm annular orifice. As air passes through this orifice, it accelerates to 305 meter per second and entrains free surrounding air as it exits. The result is airflow volume up to 25 times more than the compressed air supplied.



Vortec amplification for cap transport

Benefits

- Up to 25 times blow off power
- Reduce operating costs due to compressed air usage by up to 80%
- Reduce noise levels by as much as 60% compared to non-amplifying nozzles
- Reach tight spaces with effective blow off
- Better positioning to target with flexible nozzles
- Blow off multiple or changing locations with flexible nozzles

Features

- Flexible nozzles allow better positioning
- Adjustable nozzles enable varying power/thrust levels for each blow off job
- Power/thrust levels ranging from 85 – 2041 grams force
- Air stream sizes at nozzle ranging from 5 – 25 mm
- Meet **OSHA** noise guidelines; reduces noise compared to open copper tubes and drilled pipe

1200BSP



Model	1200
Thrust, g	85-205
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	226 to 736
Air stream at nozzle, mm	16
Material	Aluminium
Threaded connection is ideal for installing on blow guns and manifolds. Adjustable micrometer dial sets airflow and thrust.	

1200SSBSP



Model	1200SS
Thrust, g	85-205
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	226 to 736
Air stream at nozzle, mm	16
Material	Stainless steel
Threaded connection is ideal for installing on blow guns and manifolds. Adjustable micrometer dial sets airflow and thrust.	

1201BSP



Model	1201
Thrust, g	170
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	255
Air stream at nozzle, mm	5
Compact size. Permanently mounted on copper tubing which can be bent, flared, used with compression fittings or soldered.	

1201F-12BSP



Model	1201F-12
Thrust, g	170
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	225
Air stream at nozzle, mm	5
Compact size. Permanently mounted on flexible hose. Holds position under full line pressure. Ideal for areas with limited space.	

1202BSP



Model	1202
Thrust, g	596
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	255
Air stream at nozzle, mm	5
Compact size. Permanently mounted on copper tubing which can be bent, flared, used with compression fittings or soldered.	

1203BSP



Model	1203
Thrust, g	9
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	368
Air stream at nozzle, mm	6
Permanently mounted on copper tubing which can be bent, flared, used with compression fittings or soldered.	

1204BSP



Model	1204
Thrust, g	9
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	368
Air stream at nozzle, mm	6
Permanently mounted on flexible hose. Holds position under full line pressure. Efficient replacement for flex-line used for blowoff.	

1205BSP



Model	1205
Thrust, g	794
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	877
Air stream at nozzle, mm	6
Permanently mounted on copper tubing which can be bent, flared, used with compression fittings or soldered.	

1206BSP



Model	1206
Thrust, g	794
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	877
Air stream at nozzle, mm	6
Permanently mounted on flexible hose. Holds position under full line pressure. Efficient replacement for flex-line used for blowoff.	

1220BSP



Model	1220
Thrust, g	2041
Air Amplification	25
Air Consumption @ 2,7 bar (slpm)	3396
Air stream at nozzle, mm	25
Threaded connection. Ideal for maximum thrust applications such as large surface blowoff. Perfect for paving, roofing and construction uses.	

9401BSP



Model	9401
Thrust, g	85-205
Air Amplification	25
Air Consumption @ 6,9 bar (slpm)	226 to 736
Air stream at nozzle, mm	16
Thumb lever operated blow gun with model 1200 adjustable output nozzle.	

1206EBSP



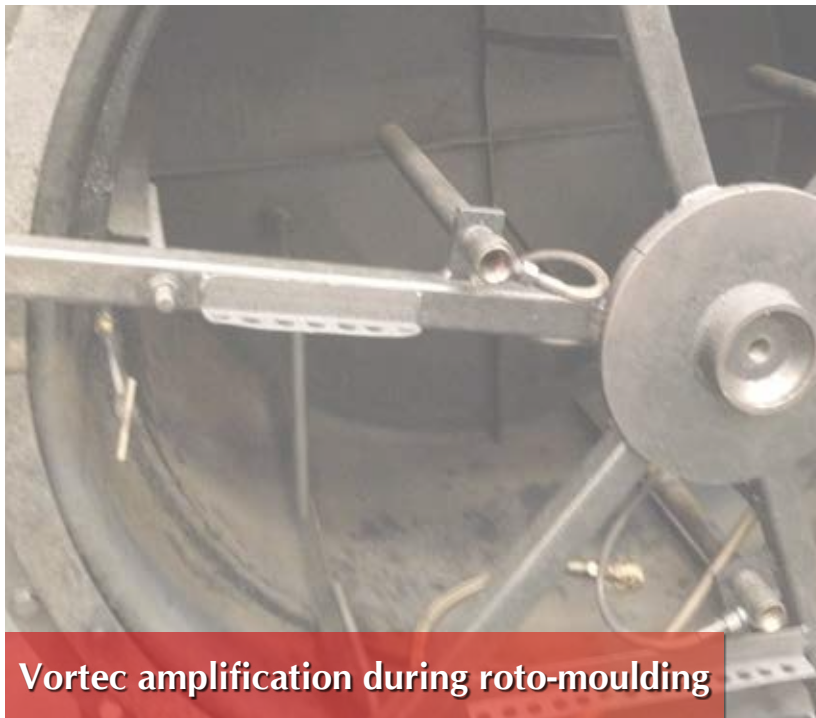
Model	1206EBSP
Lenght	305 mm
Connections:	1/4" BSP (male)
	3/8" BSP (female)

Air Flow Amplifiers

Air Flow Amplifiers deliver a large airflow for conveying, drying, cooling or ventilation. These high flow, compressed air volumes by 12 – 20 fold in ducted applications and up to 60 fold in unducted applications. They are especially useful for removing metal chips and scrap, ventilating fumes or smoke, and conveying small parts, pellets, powders and dust.

As a vacuum or blow-off device, air amplifiers are more compact and less expensive than variable-speed blowers and fans, provide instant on/off performance, and operate at low noise levels to meet **OSHA** requirements. Air Flow Amplifiers are easily mounted and can be used in both ducted and unducted applications. They are available in several sizes, both aluminum and stainless steel and deliver flow rates from 900 to 65,000 SLPM.





Vortec amplification during roto-moulding

APPLICATION

notes

When the vacuum from an electric motor blower proved ineffective, a label manufacturer opted for the strong suction of a #904 Round Transvector to pull away paper trim scrap from a die cutting operation.

A facility producing plastic body side moldings for the automotive industry increased production by installing two #903 Transvector air amplifiers - one to remove moisture after a water bath, and the second to pull away edge trim for recycling.

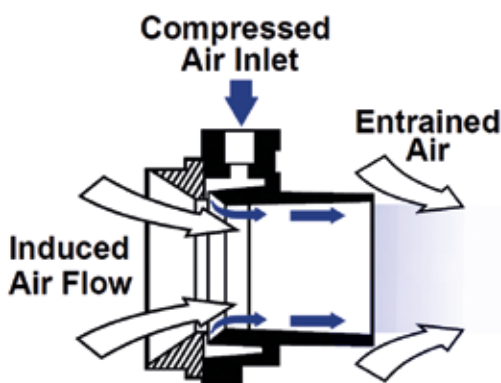
Each welding station at a wrought iron furniture assembly plant is equipped with #904 Transvectors to ventilate smoke and fumes.

One of the leading pharmaceutical companies uses #902XSS Stainless Steel Transvectors to weigh sort drug capsules after filling. The precise suction lifts away only those capsules that failed the filling process, while the heavier, filled pieces move on to packaging.

CNC routers at a New England kitchen cabinet company have #903 Transvectors mounted near the router bit to vacuum sawdust and directly convey it to a reclamation container.

TECH

notes



Transvectors use the impulse principle to achieve amplified airflows. When compressed air enters the Transvector, it fills a chamber that has only one exit path – a 0,051mm annular orifice. As the air is forced out of the orifice, it accelerates and collides with surrounding air entraining a great volume of free, ambient air. The result is a large volume of output air in return for a small amount of compressed air.

Benefits

- Increase production rates by removing smoke, dust and debris
- Improve quality through better weigh sorting of under-filled or underweight capsules and parts
- Reduce compressed air usage vs open nozzles
- Lower cost as compared to fans or blowers
- Application mobility, compared to large fans and blowers
- Improved safety and eliminate shock hazards, with no moving parts, electricity or motors

Features

- Amplify compressed air volumes by 12 – 20 fold in ducted applications; and up to 60 fold in unducted applications
- Adjustable airflow and output
- Quiet – meets **OSHA** noise requirements
- Easily mounted, ducted and moved
- No electrical connections required at target
- Instant on/off performance
- Easily adapts for smoke and fume control, vacuum or blow off
- Available in stainless steel and aluminum



902BSP

Model	902
Air Amplification	12
Throat diameter (mm)	20
Suction End Diameter (mm)	70
Ducted Output (slpm)	5.773
Material	Aluminum
Air Consumption @ 6,9 bar (slpm)	482



903BSP

Model	903
Air Amplification	19
Throat diameter (mm)	40
Suction End Diameter (mm)	70
Ducted Output (slpm)	13.443
Material	Aluminum
Air Consumption @ 6,9 bar (slpm)	708



904BSP

Model	904
Air Amplification	20
Throat diameter (mm)	76
Suction End Diameter (mm)	127
Ducted Output (slpm)	40.186
Material	Aluminum
Air Consumption @ 6,9 bar (slpm)	2012

901XSSBSP



Model	901XSS
Air Amplification	5
Throat diameter (mm)	10
Suction End Diameter (mm)	25
Ducted Output (slpm)	1.358
Material	Stainless Steel
Air Consumption @ 6,9 bar (slpm)	255

902XSSBSP



Model	902XSS
Air Amplification	12
Throat diameter (mm)	20
Suction End Diameter (mm)	38
Ducted Output (slpm)	5.773
Material	Stainless Steel
Air Consumption @ 6,9 bar (slpm)	482

903XSSBSP



Model	903XSS
Air Amplification	19
Throat diameter (mm)	40
Suction End Diameter (mm)	64
Ducted Output (slpm)	13.443
Material	Stainless Steel
Air Consumption @ 6,9 bar (slpm)	708

Enclosure Coolers

Enclosure Coolers keep Electrical and Electronic Enclosures cool, clean and protected and are a low cost alternative to expensive, high maintenance air conditioners; and avoid contamination with dirty, humid air caused by fans.

Today's small, compact multi-function electronic controls, variable speed drives, servos and programmable logic controllers are extremely sensitive to heat and contamination. Smaller cabinet sizes make temperature control difficult and prone to premature failures. Excessive heat will cause digital displays to misread, controls to drift, and breakers to trip below rated loads. The result is productivity lost due to machine or line shutdowns.

Vortex Enclosure Air Conditioning Coolers maintain a slight pressurization in the cabinet to keep electrical and electronic components clean and dry; and most are thermostatically controlled to maintain enclosure temperatures within a specified temperature range.



APPLICATION

notes

One of the leading US manufacturers of shrinkwrap packaging equipment uses Vortex Coolers to maintain safe temperatures in control panels near heated shrink tunnels.

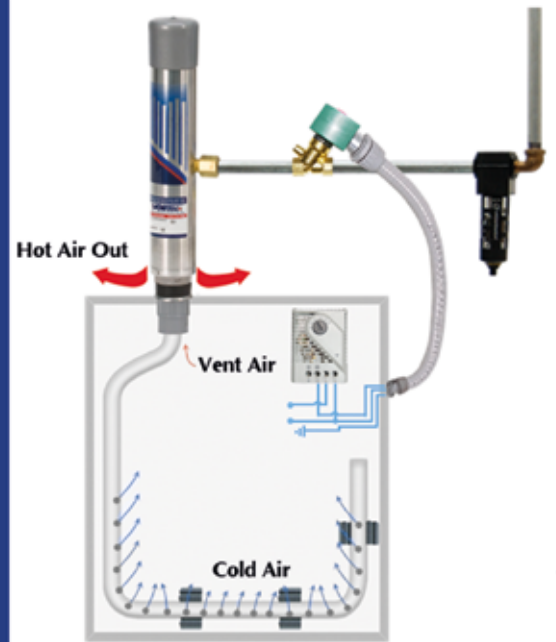
Since the evolution of catalyzed coating systems has spawned the need to control paint temperature in many applications, insulated enclosures equipped with Vortex Coolers are now available to keep paint cold and within specifications for optimal spraying.

Model #790 Vortex Coolers were installed on computer control panels on three robotic welding stations in an automotive assembly plant. The cooling solution purged the panels of dirty welding fumes and high ambient temperatures that were causing the computer malfunctions.

A major snack foods company uses ITW Vortec Vortex Coolers on the control cabinets on all of their baking ovens to prevent heat-related shutdowns. Compact, easy to install Vortex Coolers are popular for enclosure protection on industrial ovens and heat finishing / processing systems and equipment.

TECH

notes



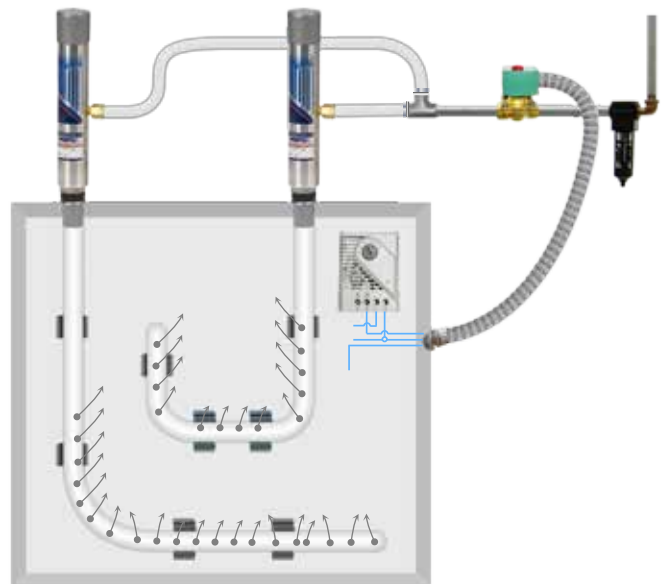
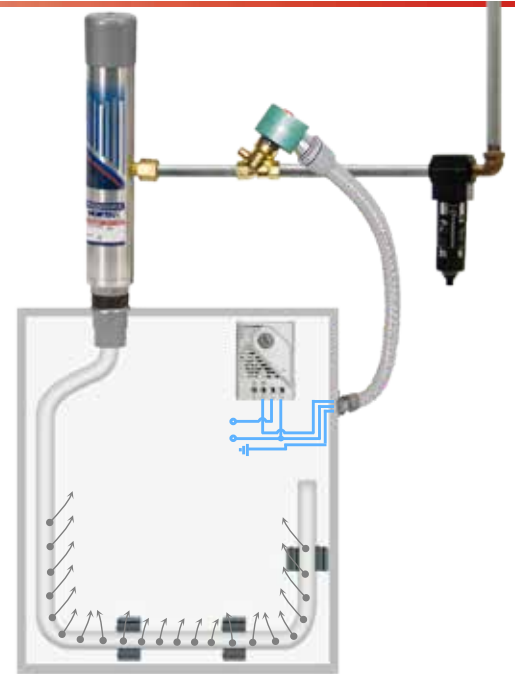
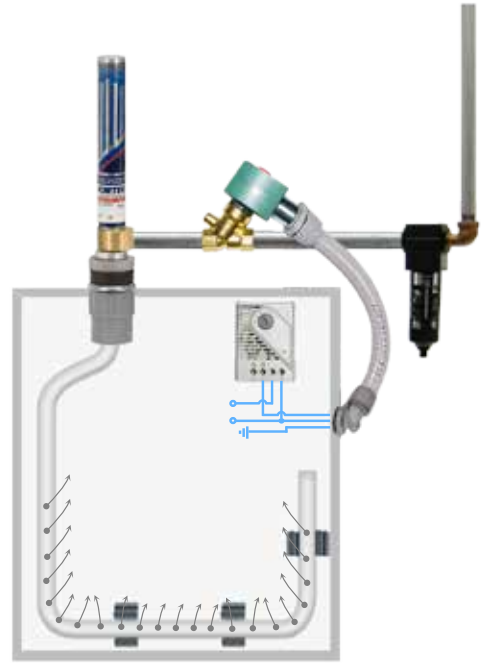
Inside the Vortex Cooler, a Vortex Tube spins the supplied compressed air, separating it into hot and cold airstreams. (See Vortex Tubes for more detail) The cold airstream is distributed throughout the enclosure via a ducting tube, while the hot side exits out the side of the Cooler body. The low pressure cold air flows into the cabinet forcing the heated internal air out a relief valve or vent built into the base of the Cooler. This slight positive pressure helps purge the cabinet of dust and dirt. Thermostat controlled models utilize a solenoid valve to activate the compressed air flow to the unit.

Benefits

- Easy to install, with the Vortex A/C and Panel Guard models installing in about 5 minutes
- Thermostatically controlled models maintain enclosure temperatures within ideal range
- Highly reliable, with full 10 year warranty
- Vortex A/C models are very quiet, 62 dBA operation
- No ambient, dirty or humid air enters the cabinet
- Can be used on all cabinets, even in tight spaces
- No wiring required to install Vortex A/C, Panel Guard, and constant run Vortex Cooler models
- Operates in environments up to 80 °C
- Multiple cooling capacities available, to optimize performance and operating cost
- Thermostatically controlled models reduce operating cost
- Use no refrigerants

Features

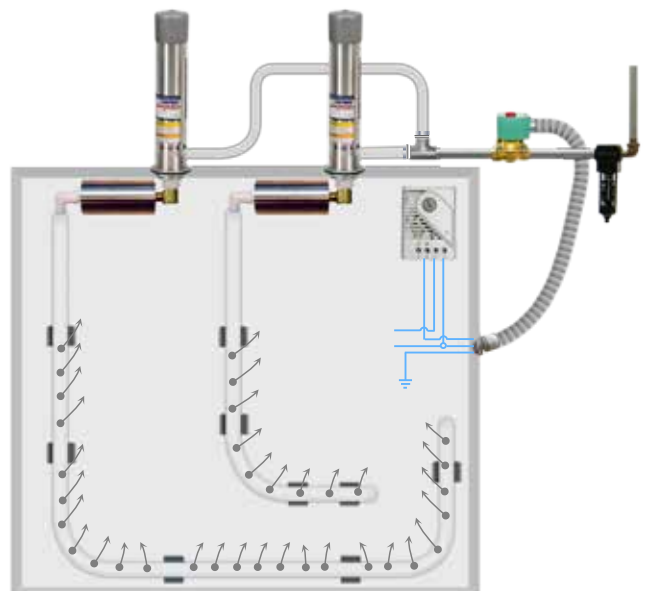
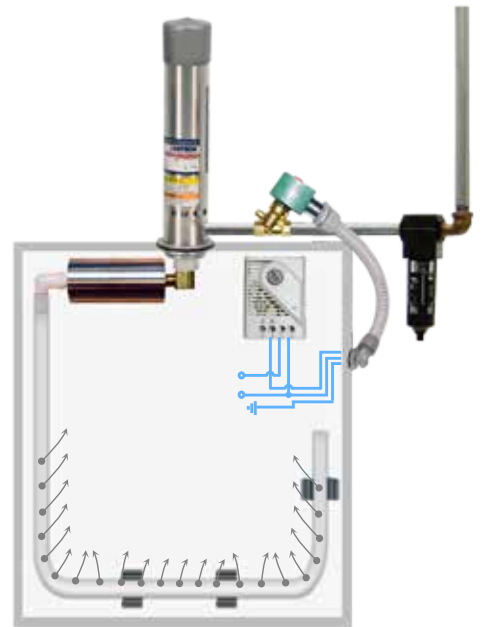
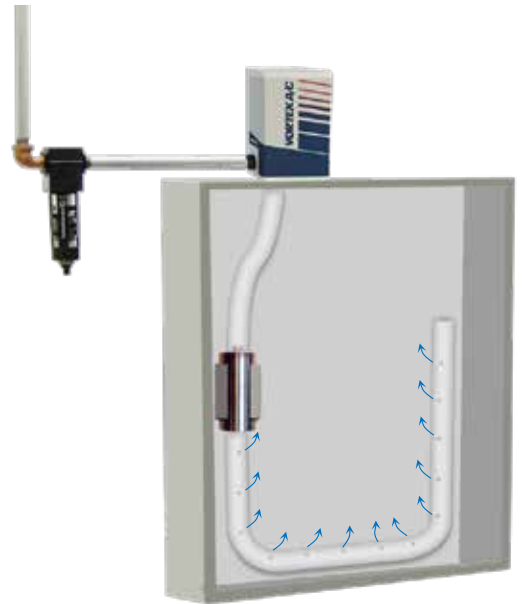
- Top, side or front (door) mount models available
- Small footprint to fit on all enclosures and in confined areas
- Mechanical thermostat models maintain temperature between 27 – 32 °C
- Electrical thermostat models can be set to desired temperature +/- 1.7 °C
- Supplied with air filter and ducting kit
- Maintains slight pressurization in the enclosure



NEMA 12 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
750FBSP	Electric with solenoid	Yes	227	117
760BSP	None	Yes	227	117
711BSP	None	No	227	117

NEMA 12 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
740FBSP	Electric with solenoid	Yes	425	264
730BSP	None	Yes	425	264
721BSP-15H	None	No	425	264
790FBSP	Electric with solenoid	Yes	708	439
780BSP	None	Yes	708	439
721BSP	None	No	708	439
795FBSP	Electric with solenoid	Yes	991	732
785BSP	None	Yes	991	732
721BSP-35H	None	No	991	732

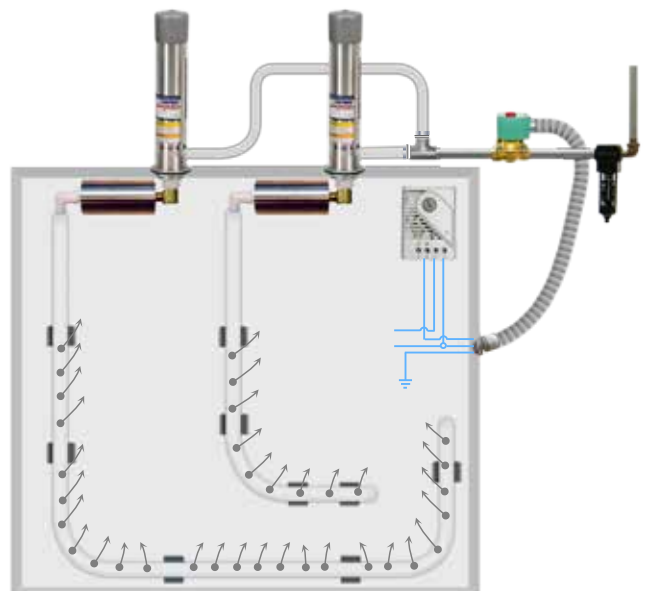
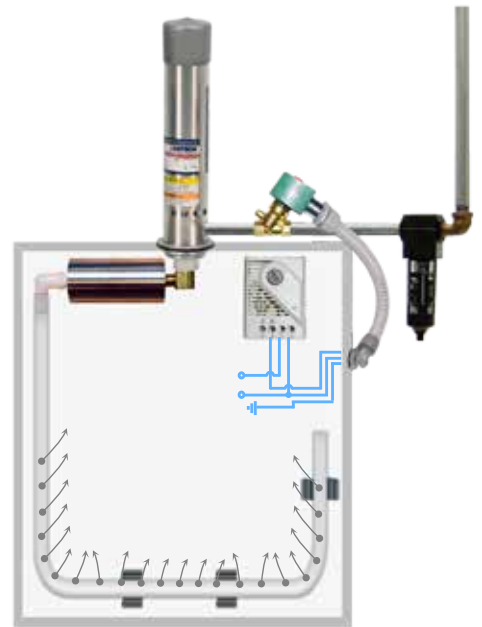
NEMA 12 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
7970FBSP	Electric with solenoid	Yes	1981	1464
7870BSP	None	Yes	1981	1464



NEMA 12 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
7615BSP	Mechanical	Yes	425	264
7625BSP	Mechanical	Yes	708	440
7635BSP	Mechanical	Yes	991	733
7670BSP	Mechanical	Yes	1981	1465

NEMA 4 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
747FBSP	Electric with solenoid	Yes	425	264
737BSP	None	Yes	425	264
727BSP-15H	None	No	425	264
797FBSP	Electric with solenoid	Yes	708	498
787BSP	None	Yes	708	498
727BSP	None	No	708	498
797BSP-35H	Electric with solenoid	Yes	991	732
787BSP-35H	None	Yes	991	732
727BSP-35H	None	No	991	732

NEMA 4 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
7975FBSP	Electric with solenoid	Yes	1981	1464
7875BSP	None	Yes	1981	1464



NEMA 4 Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
770BSP-15H	Mechanical	Yes	425	264
701BSP-15H	Mechanical	No	425	264
770BSP	Mechanical	Yes	708	439
701BSP	Mechanical	No	708	439
770BSP-35H	Mechanical	Yes	991	732
701BSP-35H	Mechanical	No	991	732

NEMA 4X Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
747SSFBSP	Electric with solenoid	Yes	425	264
737SSBSP	None	Yes	425	264
727SSBSP-15H	None	No	425	264
797SSFBSP	Electric with solenoid	Yes	708	498
787SSBSP	None	Yes	708	498
727SSBSP	None	No	708	498
797SSBSP-35H	Electric with solenoid	Yes	991	732
787SSBSP-35H	None	Yes	991	732
727SSBSP-35H	None	No	991	732

NEMA 4X Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
7975SSFBSP	Electric with solenoid	Yes	1981	1464
7875SSBSP	None	Yes	1981	1464



NEMA 4X Enclosure Coolers				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
7715BSP	Mechanical	Yes	425	264
7725BSP	Mechanical	Yes	708	440
7735BSP	Mechanical	Yes	991	733
7770BSP	Mechanical	Yes	1981	1465

NEMA 4X Hazardous Location Enclosure Coolers				
Class I, Div. 2, Groups A, B, C and D;				
Class II, Div. 2, Groups F and G; Class III				
Model	Thermostat	Includes filter and ducting kit?	Air consumption @ 6,9 bar (slpm)	Cooling Capacity, Watts
7515BSP	Mechanical	Yes	425	264
7525BSP	Mechanical	Yes	708	440
7535BSP	Mechanical	Yes	991	733
7570BSP	Mechanical	Yes	1981	1465



Hand-E-Vac

The Hand-E-Vac is a powerful, hand-held vacuum gun that's lightweight and durable. Its internal air amplifier converts the supplied compressed air into a strong suction that is regulated by an ergonomic trigger. Dust, chips and debris can be ducted directly to a drum, recycling container, or to an optional collection bag. In seconds, the Hand-E-Vac converts to a blowgun by reversing the nozzle insert. Made of strong, impact-resistant nylon, the Hand-E-Vac's internal amplifier has no moving parts to break or wear out.

Fast and efficient clean up for a wide variety of materials

- 🌀 Metal Chips
- 🌀 Small Parts
- 🌀 Lint
- 🌀 Rubber and Plastic Trim
- 🌀 Sawdust
- 🌀 Cloth Scrap
- 🌀 Powders
- 🌀 Glass
- 🌀 Dust
- 🌀 Plastic Media



APPLICATION

notes

On an automated assembly line, a continuously running, electric shop vacuum was used to clear metal shavings that occasionally accumulated in the corners of a stamped metal frame. Operators now use the instant on/off vacuuming capability of a Hand-E-Vac for the job.

An electronics company in California uses Hand-E-Vac's in their packaging department to convey small Styrofoam pellets into shipping cartons around delicate components.

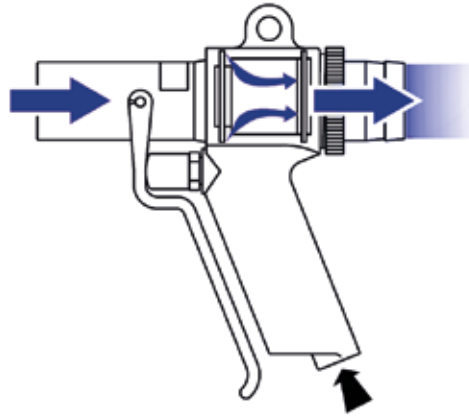
All 17 machining cells at a plastics fabrication facility have Hand-E-Vac's which are ducted to adjacent recycling drums. While recycling efficiency was their objective, the company also realized an 11 man-hours/week saving in plant maintenance labor.

Working with large wood panels, a furniture manufacturer improved their assembly procedures by using a Hand-E-Vac to thoroughly vacuum sawdust out of drilled holes before inserting wooden dowels.

Being able to regulate vacuum with the ease of a trigger was the reason workers applying paint to assemblies chose the Hand-E-Vac. The gun allowed them to control their pre-paint cleaning, reducing suction in some areas to prevent pulling off masking materials.

TECH

notes



The Hand-E-Vac's internal air amplifier uses an impulse principle to accelerate a larger mass of stationary air with a lesser volume of high velocity compressed air. When the trigger is activated, compressed air enters the Hand-E-Vac and fills a chamber that has several small holes as its only exit path. As the air is forced out of the holes, it accelerates and collides with surrounding air entraining a great volume of free, ambient air. The result is a large volume of output air in return for a small amount of compressed air. Reversing the amplifier insert changes the direction of the airflow to create either the vacuum or blowgun mode.

2001BSP Hand-E-Vac Dual Purpose Gun (blowing/suction)



Inlet (bar)	Air consumption (slpm)	Total flow (slpm)	Thrust, g (at 300 mm)
2,8	325	2280	340
4,2	444	3140	527
5,6	566	3980	737
6,9	628	4400	940

2000-6 Collection Bag for 2001BSP (with clamp)



Personal Air Conditioners

Workers in extreme temperatures wear Personal Air Conditioners (PACs) to minimize heat stress, cold stress and fatigue and improve comfort and productivity.

Vortec PACs have two components:

- a cooling/heating tube with belt that generates cold and/or hot air to provide air flow to the worker;
- a diffuse cooling vest through which the cold or hot air flows to cool the worker's torso and neck

PACs are available in three cooling capacities, and one model that provide versatility to switch back and forth between heating and cooling. Our PAC0019 model produces cold and hot air that can be used for cooling down our heating up breathing air or provide helmet cooling/heating. All models can achieve temperature differentials of +/- 33 °C from the inlet compressed air temperature using vortex tube technology. The cooling only models are adjustable by the worker using an integral temperature adjust knob.

The diffuse air vest is available in three sizes and provides continuous cooled or heated air through its perforated inner lining. The durable plasticized PVC vest allows full range of motion with no airflow restrictions; and does not absorb sweat or other contaminants. The vest can be worn under other protective clothing and features a collar that can be unfolded to deliver airflow to the neck and face.



APPLICATION

notes

A Texas company specializing in welding repairs inside large storage tanks has been using ITW Vortec Personal Air Conditioners for the last 10 years.

Unbearable summer heat in a metal plating and finishing facility prompted the owner to equip his workers with #22815 PAC's, and to reject the €145,000 quote to install air conditioning in the shop area.

A forging plant reported more than a 30% increase in productivity using #22825 PAC's with vests, eliminating an average of four daily cool-down periods for their workers.

Workers stationed near an oven in a Southeast powder coating facility scrapped their "gel pack" type vests and opted for the adjustable cooling of PAC's.

Leading manufacturers of welding hoods, respirators and breathing apparatus incorporate ITW Vortec Personal Air Conditioners into their products as a cooling option.



Benefits

- Improves worker safety
- Eliminates the incidence of worker heat stress or cold stress
- Reduces frequency and duration of non-productive cooling and warming work breaks
- Maximizes worker productivity and comfort in extreme temperatures
- Eliminates the need to air condition large warehouse or shop areas



Features

- Provide continuous, consistent cooling, unlike ice or gel paks
- Three cooling capacities available in the cooling only mode
- Air is delivered at up to +/- 25 - 33 °C differential from the compressed air inlet
- Cooling only version has easy temperature adjustment by user, even with gloved hands
- All PAC models are supplied with an adjustable waist belt
- Can be worn under other protective clothing
- Three vest sizes available to fit all workers
- Vest is impermeable to sweat, dirt and other contaminants; easily cleaned
- Collar unfolds to deliver air to the neck and face
- Vest allows full range of motion with no airflow restrictions
- Vest collar unfolds to deliver air flow to neck and face
- The vest is made of an abrasion resistant, flame retardant vinyl laminated nylon that is self-extinguishing and has a melting point of 149°C.



Model	22815	22825	22835
Compressed air inlet	1/4" BSP	1/8" BSP	1/8" BSP
Outlet size	3/4" GHT	3/4" GHT	3/4" GHT
Cooling capacity (watts)	264	440	733
Air Consumption @ 6.9 bar (slpm)	425	708	991
Temperature drop, °C	33	33	33



Model	PAC0019
Compressed air inlet	1/4" BSP
Outlet size	3/4" GHT
Cooling capacity (watts)	264
Air Consumption @ 6.9 bar (slpm)	425
Temperature drop, °C	33
Temperature rise, °C	33





Model	865	867	869
Material	Vinyl/nylon	Vinyl/nylon	Vinyl/nylon
Size	Large	X-Large	XX-Large
Waist	91-104 cm	104-117 cm	117-132 cm
Connection	3/4" GHT	3/4" GHT	3/4" GHT



Model	220BSP
Compressed air inlet	1/4" BSP
Outlet size	3/4" GHT
Cooling capacity (watts)	440
Air Consumption @ 6.9 bar (slpm)	708
Temperature drop, °C	33
Temperature rise, °C	33

ITW Vortec PAC's provide effective cooling or heating, and are especially popular for workers in confined spaces or operating in or near:

- 🌀 Foundries
- 🌀 Casting Shops
- 🌀 Forging Shops
- 🌀 Powder Coating
- 🌀 Paint Baking Operations
- 🌀 Hazardous Waste Removal
- 🌀 Steel Mills
- 🌀 Boiler Rooms
- 🌀 Welding Operations
- 🌀 Asbestos Abatement
- 🌀 Refrigerated Lockers
- 🌀 Power Plants
- 🌀 Glass Plants
- 🌀 Sand Blasting
- 🌀 Smelters
- 🌀 Mines

Drum Pump

The Dual Force Vac System is a convenient and versatile solution for liquid material handling and spill clean up. Using powerful Transvector technology, the Dual Force Vac Drum Pump can either fill or discharge a 200 liter drum in under two minutes. It switches easily – with a 1/4 turn of a knob – from fill to discharge mode. The Dual Force Vac can handle viscous liquids and particulates. Quiet and safe, the Dual Force Vac is air-powered with no moving parts, meaning no motor burn out and no shock hazard. It quickly installs on a 200 liter drum and comes with a 3m hose and nozzle. An optional aluminum wand and squeegee are available to facilitate spill pick up.



APPLICATION

notes

After literally four motor burnouts in less than a year, a Pennsylvania machine shop purchased a Dual-Force Vac to replace the electric vacuum used for clean out of parts washers. In the pump mode, they now directly transfer the liquid waste into 55 gallon drums for disposal.

A company supplying industrial cleaning fluids uses Dual-Force Vacs for product delivery, and remarked that, if they dispense too much product in the customer's tank, they simply vacuum it back.

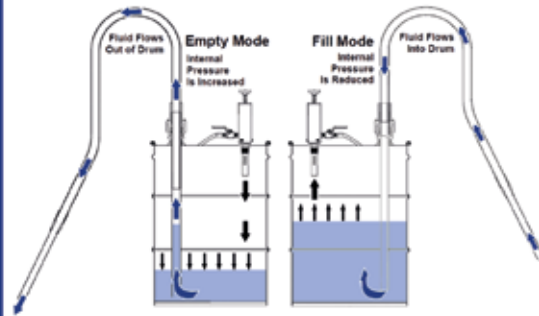
Faced with frequent floor spills, a facility processing lubricants told us that their Dual-Force Vac paid for itself in less than a month from their savings in absorbents and disposal costs.

Dual-Force Vacs are widely used to thoroughly clean machine sumps because of its fast vacuuming of both chips and coolant.

An East Coast firm providing industrial wastewater and water pollution control consulting services recommends ITW Vortec Dual-Force Vacs to their clients as an affordable means of liquid transfer.

TECH

notes



A powerful Transvector air amplifier delivers the two-way pumping strength of a Dual-Force Vac. (See Round Transvectors for more detail) In a vacuum mode, the suction side of the Transvector is used to create a vacuum inside the drum, drawing the liquid in through the hose. Air from the output side of the amplifier exits out the pump assembly in a safe, downward direction.

Depressing and locking the knob for the pump-out mode changes the direction of the airflow to create pressure inside the drum. The downward regulated pressure on the surface of the liquid forces the liquid out the hose.



Benefits

- Fast pick up or discharge, fills or empties a drum in less than 2 minutes
- Cleans machine sumps including chips and particulates
- Handles liquids up to 1500 cPs
- Handles particulates and swarf with ease
- Single tool switches quickly from discharge to suction
- Safe, with no shock hazard
- Low maintenance, with no motor or moving parts

Features

- Ease of use with patented design
- Automatic safety shut off valve prevents overflows
- Relief valve limits internal drum pressure to 1.6 bar
- Installs on a 200L drum in less than a minute: Drum spec UN/1A1/X1.8/300
- Resistant to most non-volatile, non flammable liquids
- Optional wand and squeegee kit handles large floor spills
- Switches from fill to discharge mode with a ¼ turn of a knob
- Installed unit pivots 360 deg for easy hookup to compressed air line; facilitates caster-mounted drum portability
- Available Spill Pick Up Kit, Model 2102, includes aluminum wand and squeegee

Dual-Force Vac



2109BSP		
Compressed Air Pressure	3,5 bar	6,9 bar
Air Consumption	425 slpm	651 slpm
Vacuum	22,7 kPa	32,2 kPa
Fill Rate	112 l/m	125 l/m
Empty Rate	140 l/m	125 l/m
Weight	4,5 kg	4,5 kg

Spill Pick Up System

2102	
Lenght wand	1,17 meter
Width squeegee head	152 mm





Conveying Hose with 90° coupler



Long Reach Wand



Evacuation Tube Assembly

2102



Filters and Regulators



703S-24A



703S-36A



703S-40A

CAG



611-FNU Frost Free Nozzle Upgrade Kit



610-30 Dual Point Flexible Nozzle for CAG
(2 cold end outlets)

Mufflers



106MCBSP: Cold End Muffler for
106 Vortex Tube



208MCBSP: Cold End Muffler for
208/308 Vortex Tube

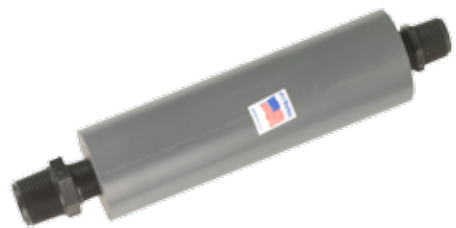


208MH: Hot End Muffler for
106 and 208 Vortex Tube

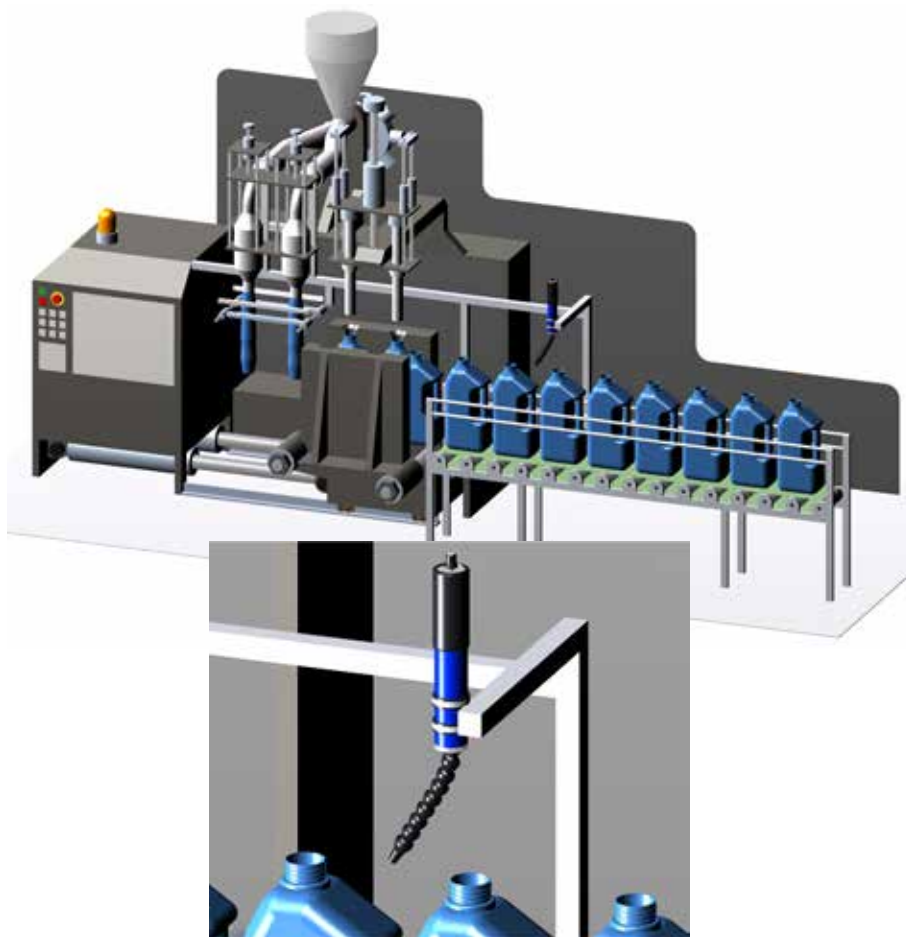
	703S-24A	703S-36A	703S-40A	703S-48	208R	208RX	402-20
Type	Auto drain filter 5 micron	Auto drain filter 5 micron	Auto drain filter 5 micron	Auto Drain Oil Removal Filter	Pressure Regulator	Pressure Regulator	Auto Drain Filter Separator/ Regulator
Capacity	up to 708 l/min	up to 1415 l/min	up to 4245 l/min	up to 708 l/min	up to 1415 l/min	up to 5660 l/min	up to 226 l/min
Compressed air inlet	3/8" BSP	3/8" BSP	3/4" BSP	3/8" BSP	3/8" BSP	3/4" BSP	1/8" BSP



308MH: Hot End Muffler for
308 Vortex Tube

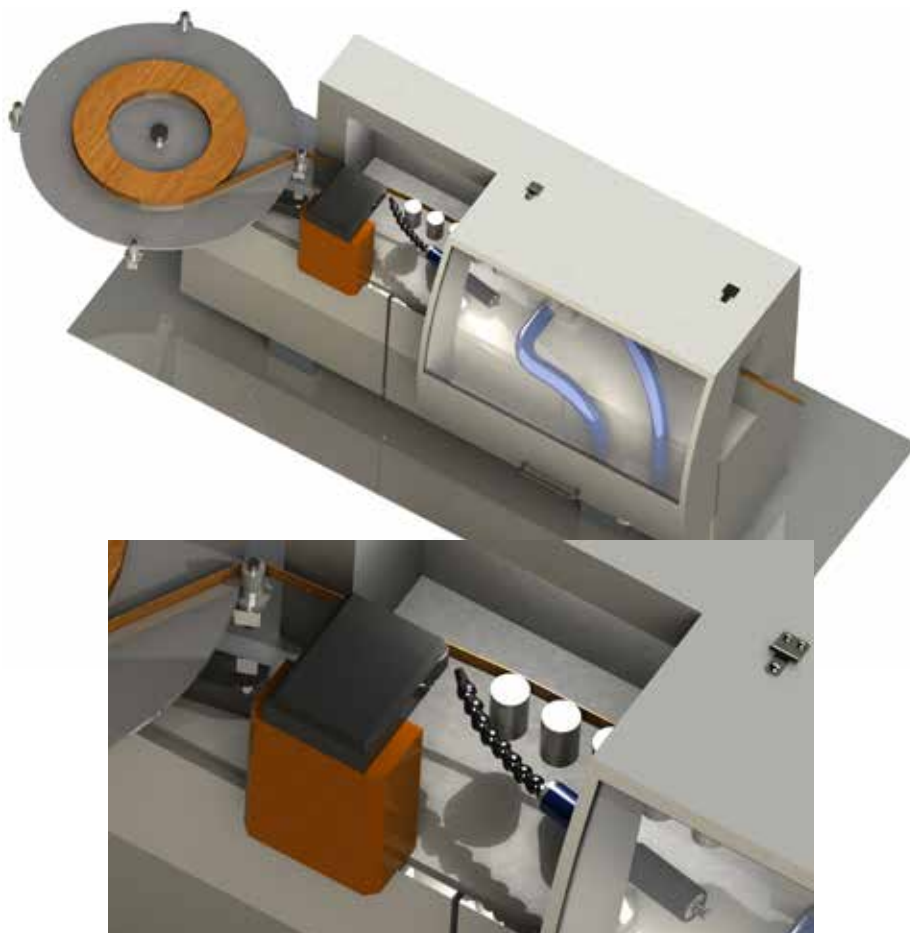


328MBSP: Muffler for 328 Vortex Tube
(Hot and Cold Ends)



Vortec cooling on Blow moulding machines

Blow molders increase their production rates by using a Vortec Cold Air Gun to speed the cooling of molded areas, especially those that need trimming/machining.



Vortec cooling on Edgebanding machines

In the wood industry an edgebander bonds edge banding material to a product, Vortec cooling directly after the hot gluing section will result in higher edgebanding speeds. Also in better trims of leading and trailing edges.

Vortec blow-off on labelling machines

Products that need to be labelled have to be clean before passing the labelling machine. Water, dust or other particles on the product can result in poor label placement and bad positioning, also the entire labelling machine can get contaminated. Two Vortec airknives that produce a powerful blow off will clean the product to prevent contamination of the machine and will result in less rejection rates.



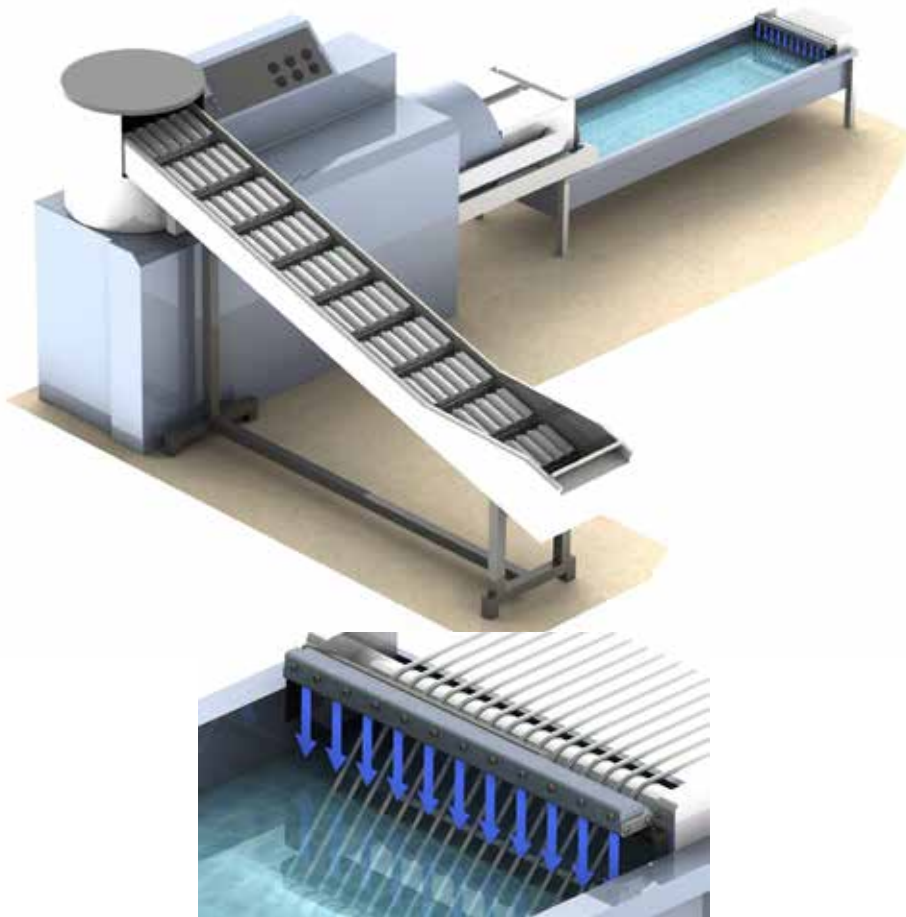
Vortec cooling on PET stretch molding machines

PET bottles or containers are blow molded from pre-form to PET. Because of the energy used for blowmolding the temperature of the bottle/container is high. Local cooling of the bottom with a Vortec Tube will have a major improvement on the blowing speed as misforming is prevented.



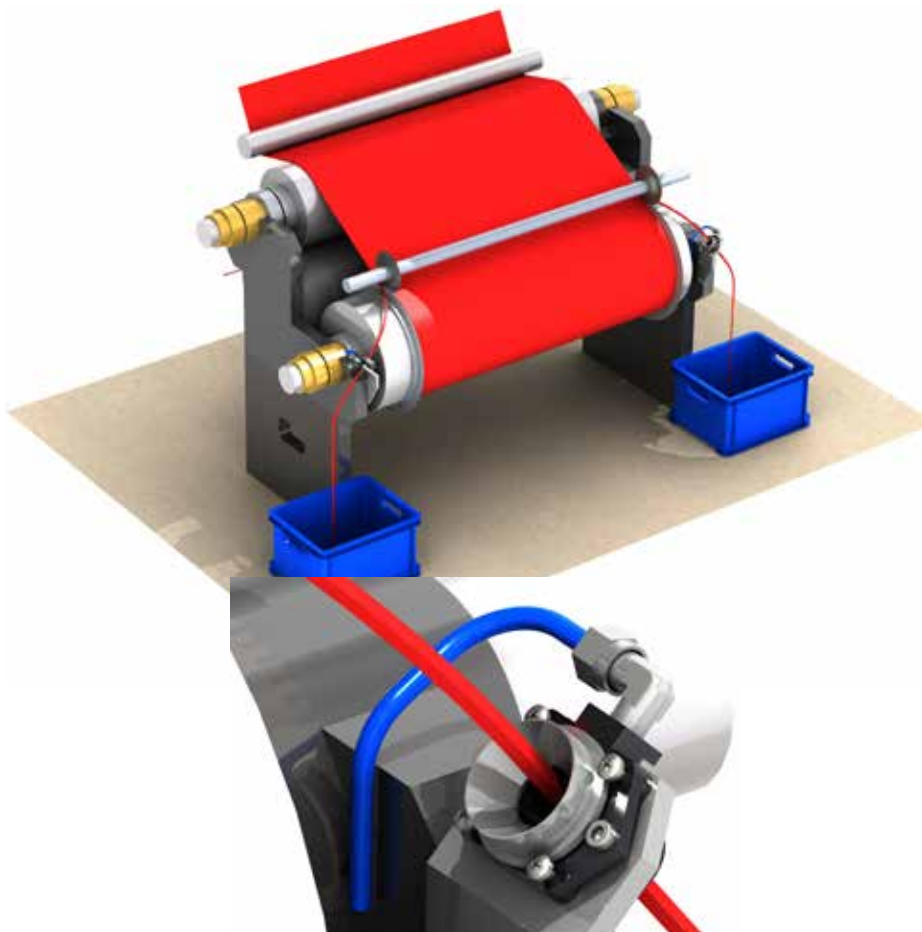
Vortec blow-off on re-granulation machines

Plastic waste is sorted and washed before being shredded into small flakes. Then the flakes are extruded into strings that are cooled by a cooling bath. A Vortec airknife installed at the end of the cooling bath will produce a powerful blow-off resulting in drying the strings before a cutter is cutting the strings into granulate. This granulate can be used to produce new plastic products.



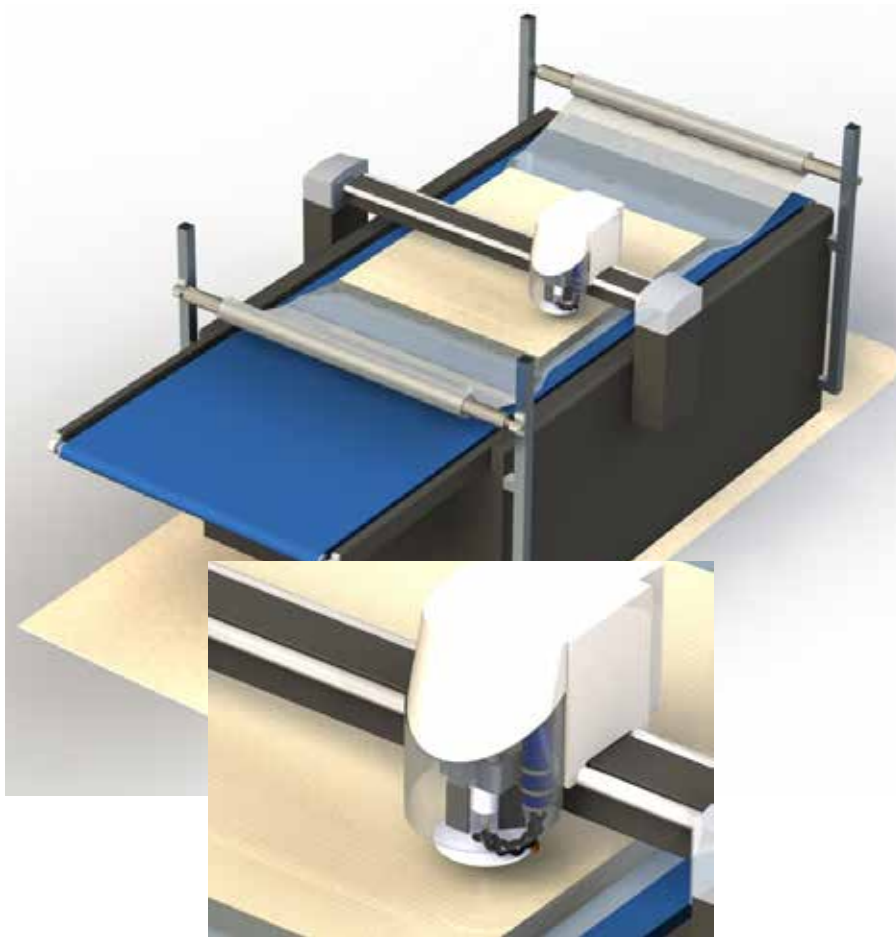
Vortec suction on edge trimming machines

Vortec round transvectors can be used to create a powerful vacuum to guide edge trimming material. Working only on compressed air and not needing blowers to create the vacuum will result in a maintenance free solution.



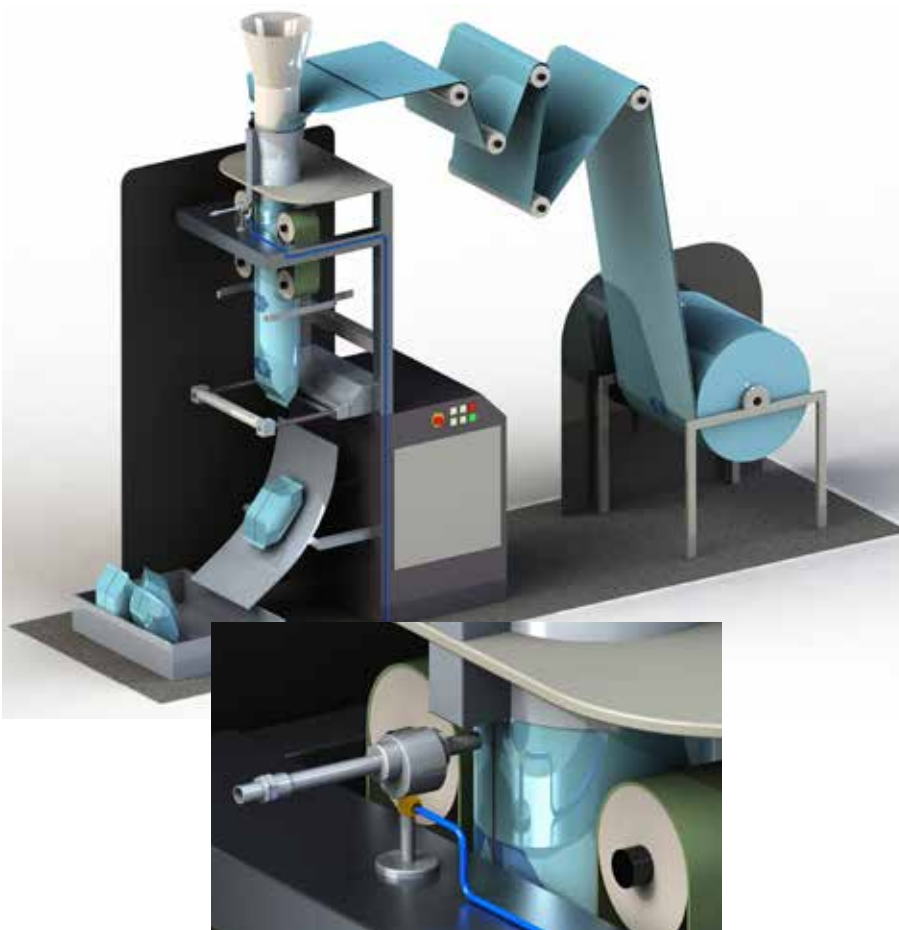
Vortec cooling on fabric routers

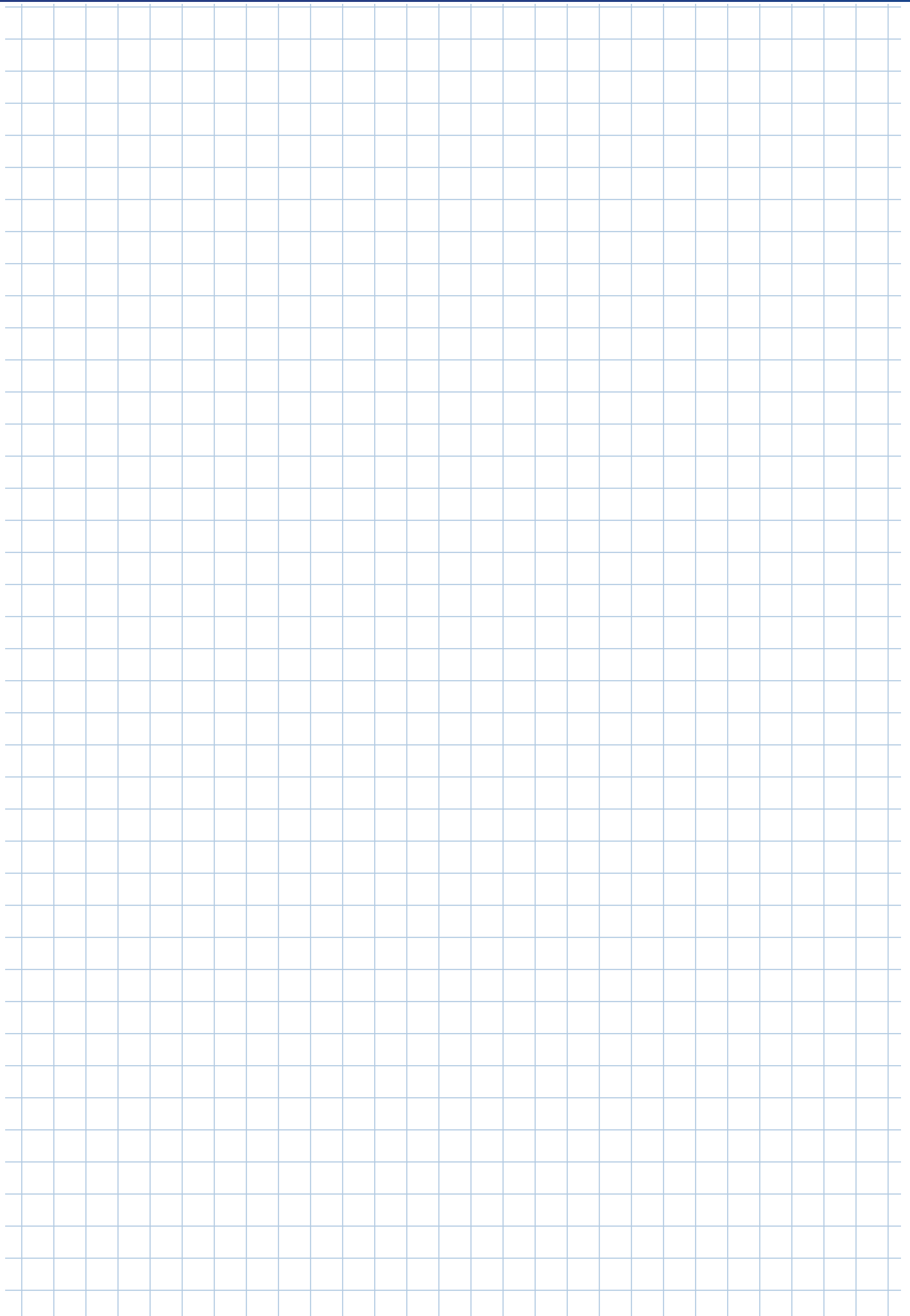
Automated fabric routers are capable of cutting complex forms out of various products like fabrics, carbon, fiberglass, honeycomb, Kevlar, canvas, vinyl, plastics ect. Installing a Vortec Cold Air Gun that directly cools the cutting tool can improve cutting speeds. Targeted Vortec cooling will also extend the cutting tool life.

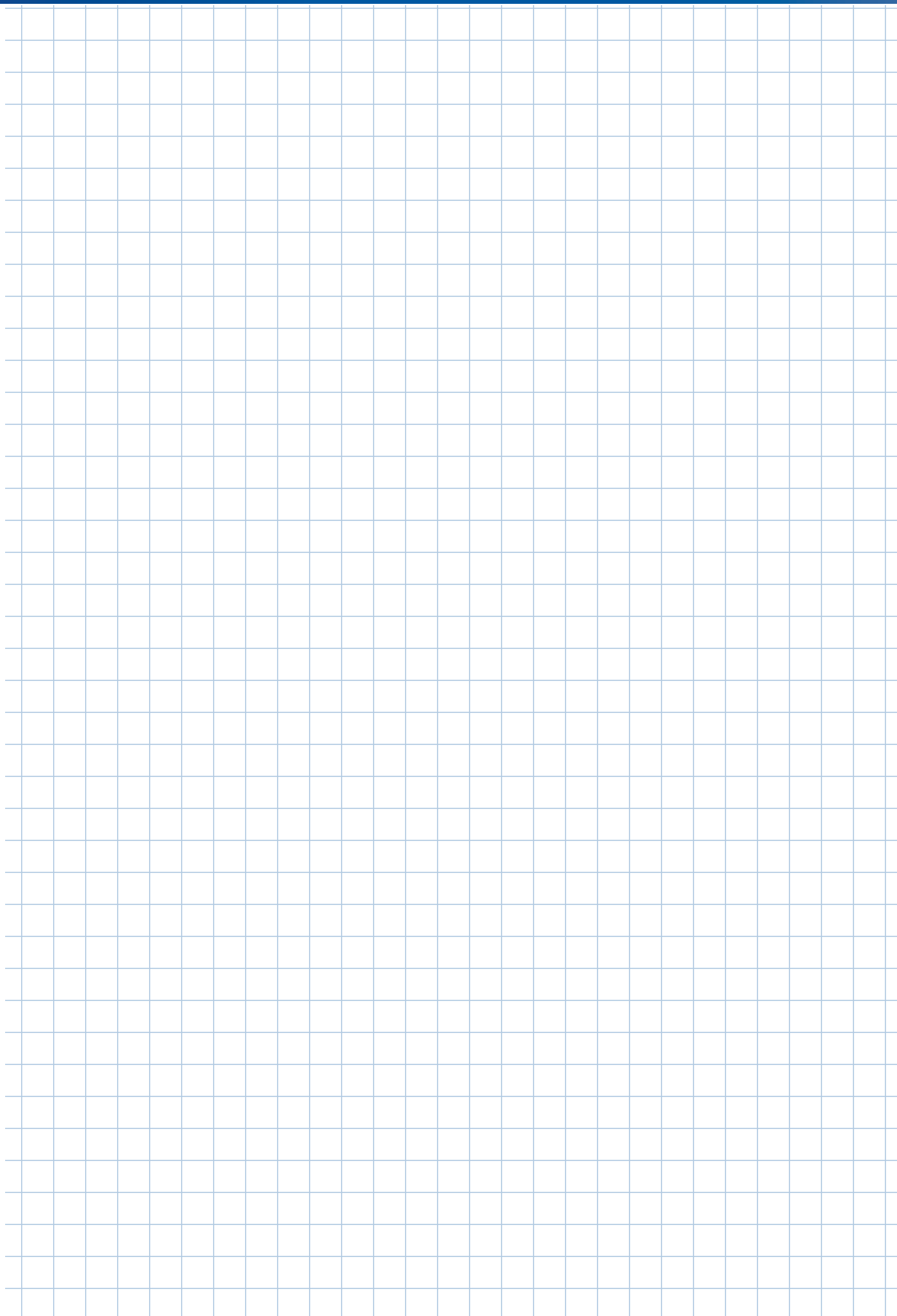


Vortec cooling on Vertical Form, Fill and Seal machines

During vertical form, fill and seal operations a film is unwound from a roll and drawn through a forming shoulder. After forming into a tubular film a longseal (vertical sealing) is made, a Vortec Tube is cooling the sealed section of the tubular film preventing it from tearing open in high speed operation. Also cooling the horizontal sealing after filling can be needed if the weight of heavy products are putting pressure on the seal.









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