

The VORTEC logo features the word "VORTEC" in a bold, blue, sans-serif font with a white outline. To the right of the text is a stylized graphic element consisting of a blue swoosh that curves upwards and then downwards, ending in a red swoosh that curves upwards, resembling a stylized 'V' or a turbine blade.

VORTEC

The background of the entire page is a collage of industrial images related to compressed air technology. In the top left, a close-up shows a blue and silver air tool being used on a metal part. In the top right, a grey industrial control cabinet with a yellow warning symbol and a "VORTEC" label is shown. In the middle right, a red industrial beam is visible. In the bottom left, a welder in a green protective suit and mask is working on a metal piece, with bright blue sparks flying. In the bottom right, a high-pressure air jet is being used to clean a dark surface, creating a large spray of white particles.

**Innovative
Compressed Air
Technologies**



With over 50 years of industry expertise combined with the strong global foundation of ITW, Vortec is the preferred solution for compressed air applications around the world.

In 1961, Vortec became the first company to develop technology for converting the vortex tube phenomenon into practical, effective industrial cooling solutions.

Since then, Vortec has continued to refine and expand vortex tube applications, while also developing air amplification products for more efficient use of compressed air in blowing, cleaning and conveying applications. In 1990, Vortec was purchased by Illinois Tool Works, a Fortune 200 company; and is now part of the ITW Air Management business unit, which, in addition to Vortec products, offers the Paxton Product line of centrifugal blowers and air delivery products for drying and blow off.

The ITW Air Management team of design and technical application engineers have decades of experience and can help you to find a solution for your industrial and commercial applications. Vortec products are often incorporated into other machinery and equipment to maximize productivity and reliability.

Vortec's line of products include:

- Vortec Enclosure Coolerspg 4**
- Cold & Hot Air Gunspg 10**
- Personal Air Conditionerspg 14**
- Vortex Tubespg 16**
- Air Flow Amplifierspg 18**
- Air Knivespg 20**
- Air Nozzlespg 22**
- Air Jetspg 24**
- Spray Nozzlespg 26**
- Dual-Force Vac Drum Pump pg 28**
- Accessories & Partspg 30**

Best-in-Class 10 Year Warranty



All Compressed Air Products manufactured by Vortec, a business unit of ITW Air Management, are warranted for ten years after date of shipment from the Vortec factory against defects in materials or workmanship under normal use.

Applications

Cooling Solutions

ITW Vortec offers Vortex Tubes, Cold Air Guns, Enclosure Coolers, and Personal Air Conditioner products for process cooling, spot cooling, enclosure cooling, and personnel cooling applications. These products ensure your equipment and employees do not overheat resulting in an increase in productivity and reduced downtime.

Blow Off Solutions

ITW Vortec provides a full line of engineered nozzles, air knives, air amplifiers, and air jets for use in blow off, fume extraction and drying solutions designed to help conserve compressed air and ensure that products and work areas remain clean allowing the job to get done faster and more efficiently.

Conveying Solutions

Air Amplifier and Air Jet products are designed to help convey products by amplifying compressed air volumes up to 20x and 4x respectively. These amplifying products help move products from one area to another quickly and efficiently.

Maintenance Solutions

The Dual Force Vac Drum Pump provides a convenient and versatile solution for liquid material handling and spill cleanup. It can fill a 55-gallon drum in under two minutes and can discharge just as quickly with a ¼ turn of the knob. The Drum Pump can handle viscous liquids and particulates and has no moving parts, eliminating motor burn out.



Vortec 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. They also help extend the life of electronics by preventing enclosure contamination from dirty, humid air commonly caused by using 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 Coolers maintain a slight pressure in the cabinet to keep electrical and electronic components clean and dry. Most are thermostatically controlled to maintain enclosure temperatures within a specified temperature range.

Vortec Advantage

- Easy to install
- Quiet, efficient, reliable
- No ambient, dirty or humid air enters the cabinet
- Can be used on all cabinets, even in tight spaces
- Operate in environments up to 175° F (80° C)
- Low cost, compared to Freon air conditioners
- Use no refrigerants
- Multiple cooling capacities available
- Optimize performance and operating cost
- NEMA 12, 4, 4X and hazardous location solutions
- Only UL Classified Hazardous Location enclosure cooler, with the HazLoc Vortex A/C.



How Enclosure Coolers Create Cold Air

Vortec Enclosure Coolers are powered by a vortex tube - a unique device that creates a vortex from compressed air and separates it into hot and cold air streams. Here's how it works:

The vortex tube's cylindrical generator causes the input compressed air to rotate at speeds up to 1,000,000 rpm, as it is forced down the inner walls of the hot (longer) end of the vortex tube.

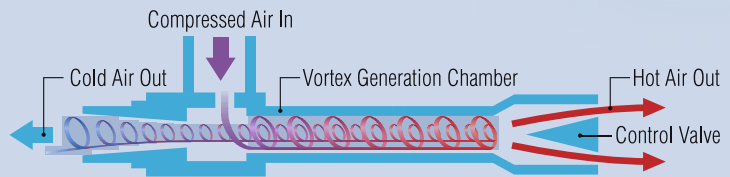
At the end of the hot tube, a small portion of this air exits through a needle valve as hot air exhaust.

The remaining air is forced back through the center of the incoming air stream at a slower speed.

The heat in the slower moving air is transferred to the faster moving incoming air.

This super-cooled air flows through the center of the generator and exits through the cold air port into the enclosure.

Vortex Tube Technology



A vortex tube spins compressed air to produce hot and cold air streams, generating temperatures down to 100F° below inlet temperature

Vortec Enclosure Cooler Family

Vortec offers multiple types of enclosure coolers to meet your enclosure cooling needs, all available in a variety of cooling capacities and ratings (NEMA, IP, HazLoc).

	HazLoc VORTEX A/C	VORTEX A/C	Panel Guard	Vortex Coolers
Maintain temperature between 80°-90° F	☞	☞	☞	
Mechanical Thermostat	☞	☞	☞	
Electric Thermostat				☞
Small mounting footprint for confined areas	☞	☞	☞	☞
Top Mount	☞	☞	☞	☞
Side Mount	☞	☞		☞ ²
Front Mount	☞	☞		
Maintains slight pressurization in enclosure	☞	☞	☞	☞
UL Listed and CE compliant		☞	☞	☞
UL Classified ¹	☞			
NEMA 12 Models		☞		☞
NEMA 4 Models		☞	☞	☞
NEMA 4X Models	☞	☞		☞
Quiet	☞	☞		
Supplied with air filter and ducting kit	☞	☞	☞	☞
10 Year Warranty	☞	☞	☞	☞

¹Class I Div 2, Class II Div 2 Groups F & G, Class III

²NEMA 12 models only



VORTEX A/C & HazLoc VORTEX A/C

The Vortex A/C coolers are 78% quieter than other Vortex coolers while offering fast, flexible installation.



Panel Guard

Panel Guard Enclosure Coolers enhance the benefits of Vortex coolers for enclosure cooling by adding a mechanical thermostat for optimum temperature control without the need for wiring.



Vortex Enclosure Coolers

Standard Vortex Enclosure Coolers are available NEMA 12, NEMA 4 and NEMA 4X versions, and can be purchased with an electric thermostat or without a thermostat (constant run).

Vortec Enclosure Coolers

Panel Guard Enclosure Coolers



Panel Guard Enclosure Coolers enhance the benefits of Vortex coolers for enclosure cooling by adding a mechanical thermostat for optimum temperature control without the need for wiring.

- Mechanical thermostat, no wiring needed.
- Easy to install, requires only a 1-1/2" knockout hole.
- Available in three different cooling capacities
- NEMA 4 rated.

Specifications

Model #	Rating	Thermostat	Quiet or Standard	System or Cooler	Cooling Capacity	
					BTU/hr	Watts
770-15H	NEMA 4	Mechanical	Standard	System	900	264
770	NEMA 4	Mechanical	Standard	System	1,500	440
770-35H	NEMA 4	Mechanical	Standard	System	2,500	733
701-15H	NEMA 4	Mechanical	Standard	Cooler Only	900	264
701	NEMA 4	Mechanical	Standard	Cooler Only	1,500	440
701-35H	NEMA 4	Mechanical	Standard	Cooler Only	2,500	733

Vortex Coolers

Standard Vortex Enclosure Coolers are available in NEMA 12, NEMA 4 and NEMA 4X versions, and can be purchased with an electric thermostat or without a thermostat (constant run).

- Available in electric thermostat or non-thermostat models.
- Maintain enclosure temperatures within +/- 3 deg F (1.6 deg C) with electric thermostat models.
- Cooling capacities ranging from 400 BTU/hr to 5000 BTU/hr (117 to 1465 watts)
- Available in NEMA 12, NEMA 4 and NEMA 4X models.



Specifications

Model #	Thermostat Option	Quiet or Standard	System or Cooler	BTU/hr	Watts
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NEMA 12 Models

750	Electric	Standard	System	400	117
760	None	Standard	System	400	117
730	None	Standard	System	900	264
740	Electric	Standard	System	900	264
780	None	Standard	System	1,500	440
790	Electric	Standard	System	1,500	440
785	None	Standard	System	2,500	733
795	Electric	Standard	System	2,500	733
7870	None	Standard	System	5,000	1,465
7970	Electric	Standard	System	5,000	1,465
711	None	Standard	Cooler Only	400	117
721-15H	None	Standard	Cooler Only	900	264
721	None	Standard	Cooler Only	1,500	440
721-35H	None	Standard	Cooler Only	2,500	733

NEMA 4 Models

737	None	Standard	System	900	264
747	Electric	Standard	System	900	264
787	None	Standard	System	1,700	498
797	Electric	Standard	System	1,700	498
787-35H	None	Standard	System	2,500	733
797-35H	Electric	Standard	System	2,500	733
7875	None	Standard	System	5,000	1,465
7975	Electric	Standard	System	5,000	1,465
721-15H	None	Standard	Cooler Only	900	264
727	None	Standard	Cooler Only	1,700	498
727-35H	None	Standard	Cooler Only	2,500	733

NEMA 4X Models

737SS	None	Standard	System	900	264
747SS	Electric	Standard	System	900	264
787SS	None	Standard	System	1,700	498
797SS	Electric	Standard	System	1,700	498
787SS-35H	None	Standard	System	2,500	733
797SS-35H	Electric	Standard	System	2,500	733
7875SS	None	Standard	System	5,000	1,465
7975SS	Electric	Standard	System	5,000	1,465
727SS-15H	None	Standard	Cooler Only	900	264
727SS	None	Standard	Cooler Only	1,700	498
727SS-35H	None	Standard	Cooler Only	2,500	733

* All systems include a compressed air filter

Vortec Enclosure Coolers

VORTEX A/C



VORTEX A/C Coolers are 78% quieter than other Vortex coolers while offering fast, flexible installation.

- Sleek, modern design
- Noise reduction of 78%, compared to other vortex enclosure coolers
- Energy use reduction through its integral mechanical thermostat
- Quick and easy installation in about 5 minutes
- Flexible installation: top, side or front (door) mount

The Vortex A/C is available in 4 different cooling capacities, and ratings of NEMA 12, NEMA 4 and NEMA 4X.

Specifications

Model #	Thermostat Option	Quiet or Standard	System or Cooler *	Cooling Capacity	
				BTU/hr	Watts

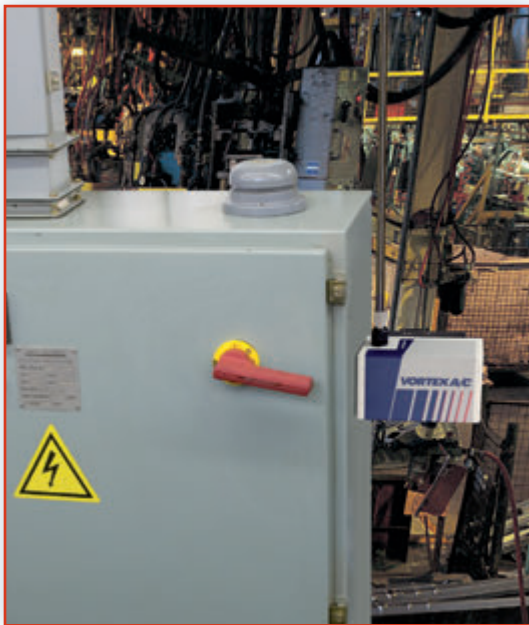
NEMA 12 Rating

7615	Mechanical	Quiet	System	900	264
7625	Mechanical	Quiet	System	1,500	440
7635	Mechanical	Quiet	System	2,500	733
7670	Mechanical	Quiet	System	5,000	1,465
7115	Mechanical	Quiet	Cooler Only	900	264
7125	Mechanical	Quiet	Cooler Only	1,500	440
7135	Mechanical	Quiet	Cooler Only	2,500	733
7170	Mechanical	Quiet	Cooler Only	5,000	1,465

NEMA 4/4X Rating

7715	Mechanical	Quiet	System	900	264
7725	Mechanical	Quiet	System	1,500	440
7735	Mechanical	Quiet	System	2,500	733
7770	Mechanical	Quiet	System	5,000	1,465
7015	Mechanical	Quiet	Cooler Only	900	264
7025	Mechanical	Quiet	Cooler Only	1,500	440
7035	Mechanical	Quiet	Cooler Only	2,500	733
7070	Mechanical	Quiet	Cooler Only	5,000	1,465

* All systems include a compressed air filter.



Hazardous Location VORTEX A/C



Hazardous Location (HazLoc)VORTEX A/C Coolers are designed specifically for purged* electrical enclosures in Class I Div 2, Class II Div 2, Groups F&G and Class III locations.

The HazLoc Vortex A/C incorporates the following features:

- Sleek, modern design
- Noise reduction of 78%, when compared to other enclosure coolers
- Energy use reduction through its integral mechanical thermostat
- Quick and easy installation in about 5 minutes
- Flexible installation: top, side or front (door) mount
- Check valve to prevent loss of enclosure pressure when cooling is not required
- T4 Temperature Class rating

* Purge system not included with purchase

Specifications

Model #	Rating	Thermostat Option	Quiet or Standard	System or Cooler **	Cooling Capacity	
					BTU/hr	Watts
7515	HazLoc	Mechanical	Quiet	System	900	264
7525	HazLoc	Mechanical	Quiet	System	1,500	440
7535	HazLoc	Mechanical	Quiet	System	2,500	733
7570	HazLoc	Mechanical	Quiet	System	5,000	1,465
7215	HazLoc	Mechanical	Quiet	Cooler Only	900	264
7225	HazLoc	Mechanical	Quiet	Cooler Only	1,500	440
7235	HazLoc	Mechanical	Quiet	Cooler Only	2,500	733
7270	HazLoc	Mechanical	Quiet	Cooler Only	5,000	1,465

** All systems include a compressed air filter.



Cold & Hot Air Guns

Cold Air Guns

Cold Air Guns use vortex tube technology and filtered compressed air to produce sub-freezing air as low as -30 deg F 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, cutting 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. Cold Air Guns can also be used for cutting and machining of moisture sensitive materials such as paper products, fabrics and wood.

Vortec Advantage

- 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, repair 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, chips, shavings and dirt away from surface



Vortec Cold Air Guns use filtered compressed air and vortex tube technology to produce sub-zero air for industrial spot cooling applications. With no moving parts to wear out, the internal vortex tube converts compressed air into a cold air stream, producing temperatures down to -30 F (-34 C).

Benefits

- Increased dry machining speeds up to 36%
- Extend tool life by 50%
- Substantially increase feed rates
- Eliminate heat related part growth
- Hold tight part tolerance

Applications

- Metal working operations
- Surface grinding
- Drill and tool sharpening
- Plastic, composite and wood machining
- Any application where cooling is needed



Specifications

Frost Free Model #	Standard Model #	Dual Nozzle Model #	Air Consumption		Cooling Capacity	
			SCFM	SLPM	BTU/hr	kCal/hr
	680	682	8	227	400	101
611	610	612	15	425	900	227
621	620	622	25	708	1,500	378
631	630	632	35	991	2,500	630

* Models come with air filter and magnetic base.

** For gun only, add -1 to the model number.

Standard



Frost Free



- Eliminates the mess associated with condensation and frost arising from continuous use of a Cold Air Gun

Dual Nozzle



- Allows for cooling both sides of a cutting tool or blade.

Mini Cold Air Gun



- The perfect solution for applications where the Cold Air Gun is too big or where lower flow rates are needed

Cold & Hot Air Guns

Cold Air Pistol



The Vortec Cold Air Pistol offers an ergonomic, easy to use and more mobile, alternative to the Cold Air Gun for intermittent spot cooling. The lightweight pistol features an integral trigger mechanism for an on/off squeeze action that can be aimed at the target site; and provides cool air as low as 0 deg F at a flow rate of 9 cfm. The Cold Air Pistol cools parts quickly and with no liquid mess so that jobs can be started and completed faster.

Benefits

- Speed jobs by cooling parts and welds faster
- Move cooling to the target more easily
- Trigger cooling only when needed
- Airflow clears shavings away from area

Applications

- Cooling weld and solders
- Thermal testing of sensors
- Spot cooling parts and assemblies
- Cooling molds and molded pieces
- Electronics cooling
- Bearing repair and replacement

Specifications

Model No.	Description	Air Consumption		Cooling Capacity	
		SCFM	SLPM	BTU/hr	kCal/H
615	Cold Air Pistol	15	425	900	227

Thread Guard Needle Cooler



The Vortec Thread Guard was designed specifically for industrial sewing applications. It keeps needles cool to reduce heat-related needle breakage and thread burning. The air stream is especially effective on difficult to sew surfaces such as belt loops and waist bands; or on tough materials like denim or canvas. Cold air temperature and flow rate are preset to 10°F and 4 scfm.

Benefits

- Virtually eliminates heat-related needle breakage
- Can save up to 11 man-hours per week per machine
- Eliminate the potential for burning and scorching
- Adapts to any machine
- Increases production speeds

Applications

- Industrial sewing
- Applications where needle cooling is needed
- Material applications where burning and scorching need to be prevented
- Other applications where the Cold Air Gun is too big or where lower flow rates are needed

Specifications

Model No.	Description	Air Consumption		Cooling Capacity	
		SCFM	SLPM	BTU/hr	kCal/H
424	Thread Guard	8	227	400	101

Hot Air Guns

The Vortec Hot Air Gun is used where milder heat is needed as compared to an electric heat gun.

With an output flow rate of 2-8 scfm it is ideal for pre-heating of parts, processes and solutions, 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 200°F.

Vortec Advantage

- Hot air flows up to 200°F
- No electricity used at the target
- Portable magnetic base
- Exceptionally reliable—no moving parts
- No EMI / RFI interference
- Meets OSHA noise and pressure specifications

609



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

Specifications

Model No.	Description	Air Consumption		Heating Capacity	
		SCFM	SLPM	BUTH	kCal/H
609	Hot Air Gun	15	425	900	227

* Comes with air filter and magnetic base

** For gun only, add -1 to model number

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. The Standard PAC provides adjustable cold air for cooling. The new Dual Action PAC switches quickly from cold to hot, to provide comfort in all seasons.

Vortec PACs have two components:

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



Vortec Advantage

- Eliminates incidence of worker heat stress or cold stress
- Maximizes worker productivity and comfort in extreme temperatures
- Eliminates the need to air condition large warehouse or shop areas
- Reduces frequency of non-productive cooling and warming breaks
- Provides continuous and consistent cooling or heating
- Improves worker safety
- Air is delivered at up to +/- 45-60 F° from compressed air inlet temperature
- Can be worn under other protective clothing
- Cooling only version has easy temperature adjustment, even with gloved hands
- All PAC models include adjustable waist belt and quick connect
- The Dual Action PAC can be easily switched from heating to cooling

Dual Action PAC



The newest addition to the Personal Air Conditioner line provides the wearer with the flexibility to benefit from Cold or Warm air relief for safety and comfort in any environment. With its unique belt bracket, the Dual Action PAC can be easily switched from cooling to heating mode to provide year-round comfort and protection.

Specifications

Integrated PAC/Vest Model #	Dual Action Pac Model #	Vest Size	Cooling Capacity		Heating Capacity		Air Consumption	
			BTU/hr	kCal/H	BTU/hr	kCal/H	SCFM	SLPM
29525	29625	L	900	227	900	227	25	708
29735	29635	XL	1,140	287	900	227	35	990
29935	29635	XXL	1,140	287	900	227	35	990

Cooling Only PAC



The original, cold-only PAC uses vortex tube technology to provide cold air relief and protection to workers in hot environments. It helps to minimize heat-related injuries and allows the worker to be cool and productive while eliminating the need for cooling breaks.

Specifications

Integrated PAC/Vest Model #	Dual Action PAC Model #	Vest Size	Cooling Capacity		Air Consumption	
			BTU/hr	kCal/H	SCFM	SLPM
-	22815	-	900	227	15	425
22525	22825	L	1,500	378	25	708
22735	22835	XL	2,500	630	35	990
22935	22835	XXL	2,500	630	35	990

Diffuse Air Vest



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.

Specifications

Replacement Vest Model #	Vest Size	Girth	
		Inches	cm
865	L	36 - 41	91 - 104
867	XL	41 - 46	104 - 117
869	XXL	46 - 52	117 - 132

Vortex Tubes

Vortex tubes produce up to 6000 BTU/hr of refrigeration and temperatures as low as -40° 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 6 – 13 inches long and cooling capacities ranging from 100 – 6000 BTU/hour. Vortex tube performance is easily adjustable by changing the inlet air pressure, the 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.

Vortec Advantage

- Cools without refrigerants, as low as -40°F (-40°C)
- Drops compressed air inlet temperature by up to 100F° (56C°)
- Lowest initial cost per unit of refrigeration of any cooling technique
- Cools instantaneously
- Environmentally friendly, with no refrigerants or chemicals needed
- Fits to provide cooling in the most confined areas
- Cycle repeatability within +/- 1° F
- Available heating, using the same tube, up to 250° F (121° C)
- Fully adjustable for varying cooling needs
- Maintenance-free with no moving parts



106 - Stainless Steel and Brass



208 - Aluminum



308 - Aluminum



208SS - Stainless Steel



328 - Nickel Plated Steel



Specifications

Model#	106-2-H	106-4-H	106-8-H	208-11-H	208-15-H	208-25-H	208-11-HSS	208-15-HSS	208-25-HSS	308-35-H	328-50-H	328-75-H	328-100-H
Material of Construction	Brass/ Stainless Steel	Brass/ Stainless Steel	Brass/ Stainless Steel	Aluminum	Aluminum	Aluminum	Stainless Steel	Stainless Steel	Stainless Steel	Aluminum	Steel, Nickel Plated	Steel, Nickel Plated	Steel, Nickel Plated
Inlet, NPT	1/8" (f)	1/8" (f)	1/8" (f)	1/4" (f)	1/4" (f)	1/4" (f)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (f)	1/2" (m)	1/2" (m)	1/2" (m)
Cooling Capacity (BTU/hr)	100	200	400	640	900	1,500	640	900	1,500	2,650	3,000	4,500	6,000
Air Consumption @ 100 psig (scfm)	2	4	8	11	15	25	11	15	25	35	50	75	100
Cold Air Outlet, NPT	1/8" (m)	1/8" (m)	1/8" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1" (f)	1" (f)	1" (f)
Hot Air Outlet, NPT	-	-	-	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	1/4" (m)	3/8" (m)	3/4" (f)	3/4" (f)	3/4" (f)

Air Flow Amplifiers

Air Flow Amplifiers deliver a large airflow for conveying, drying, cooling or ventilation. These high flow, bladeless blowers have no moving parts so they are inherently safe.

Air Flow Amplifiers amplify compressed air volumes by 5 – 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. They 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 32 to 2300 SCFM.

Vortec Advantage

- Amplify compressed air volumes by 5-20 fold in ducted applications and up to 60 fold in unducted applications
- Reduce compressed air usage vs open nozzles
- Easily adapts for smoke and fume control, vacuum, conveying or blow off
- Provides improved safety and eliminates shock hazards with no moving parts, electricity or motors.
- Available in stainless steel or aluminum



902**903****904****Specifications**

Model #	Amplification	Air Consumption		Ducted Output		Throat Diameter *		Suction End Outside Diameter		Output End Outside Diameter		Compressed Air Inlet
		SCFM	SLPM	SCFM	SLPM	inch	mm	inch	mm	inch	mm	NPT(F)
902	12:1	17	482	204	5,773	0.79	20	1.75	44	1.25	32	1/4" - 18
903	19:1	25	708	475	13,443	1.59	40	2.75	70	2.00	51	3/8" - 18
904	20:1	71	2,012	1,420	40,186	3.00	76	5.00	127	4.00	102	1/2" - 14

Air flows are at the standard factory setting and at 100psig (6.9 bar) inlet pressure.
Flows are adjustable via shim substitution.

*Throat diameter is the smallest inside diameter.

901XSS**902XS****903XSS****Specifications**

Model #	Amplification	Air Consumption		Ducted Output		Throat Diameter *		Suction End Outside Diameter		Output End Outside Diameter		Compressed Air Inlet
		SCFM	SLPM	SCFM	SLPM	inch	mm	inch	mm	inch	mm	NPT(F)
901XSS	5:1	9	255	45	1,358	0.39	10	1.00	25	0.79	20	1/8" - 27
902XS	12:1	17	482	204	5,773	0.79	20	1.50	38	1.19	30	1/4" - 18
903XSS	19:1	25	708	475	13,443	1.57	40	2.50	64	1.97	50	3/8" - 18

All air flows are at the standard factory setting and at 100 psig (6.9 bar) inlet pressure.
Flows are adjustable via rotation of the output end "barrel".

*Throat diameter is the smallest inside diameter.

Air Knives

Air Knives blow debris or liquids from surfaces to clean, dry or cool in a wide range of industrial applications. When static cling is an issue, a static neutralizing bar can be added to the air knife to neutralize static charges, releasing dust particles and contaminants to facilitate blow off.

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.

Ionizing Air Knives add a static neutralizing bar, to discharge static to clean surfaces of dust, shavings and debris more effectively. The static neutralizing bar generates positive and negative charged ions that are carried to the target in a uniform sheet of amplified air. Ionizing Air Knives kill the static build up that can attract dust and contaminants that ruin a painted or coated surface; and stop static discharges which can damage electronic equipment and shock personnel.

Vortec Advantage

- 25 times air amplification over compressed air input
- Costs significantly less than fans or blowers
- Reduced compressed air usage versus open nozzles
- Quiet – meets OSHA requirements
- More uniform blow off of large surfaces than nozzles or jets.



Air Knife



Standard Air Knives are available in the following lengths:

- 3, 6, 12, 18, 24 inches

Power Supplies



Two power supplies are available:

- 2 inlet power supply (F167)
- 4 inlet power supply (D167RY)

Ionizing Air Knife



Ionizing Air Knives (require a power supply) are available in the following lengths:

- 6, 12, 18, 24 inches

Specifications (US)

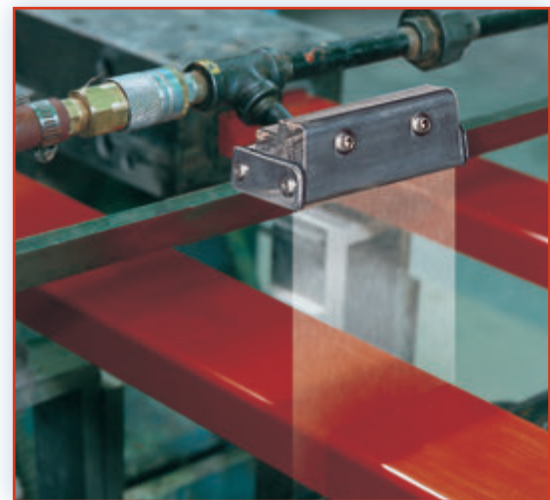
Pressure Psig	Air Consumption (SCFM)					Velocity At Distance From Outlet (ft/min)			Thrust* (oz)
	3"	6"	12"	18"	24"	2"	6"	12"	Per Inch
30	6	11	23	34	45	12,500	5,100	3,700	1.2
40	7	14	29	43	58	14,400	7,100	4,600	1.7
50	9	17	35	52	70	16,200	8,400	5,800	2.3
60	10	20	40	60	80	17,000	9,900	6,700	2.8
70	12	23	46	69	92	17,800	10,600	7,600	3.4
80	13	26	52	78	104	18,600	12,200	8,400	3.9
90	14	29	57	86	114	19,400	13,200	9,200	4.4
100	16	32	64	95	127	20,200	14,200	10,000	4.9

*Thrust measured at 12" from Air Knife outlet (e.g. a 12" Air Knife at 50 PSIG will produce 2.3 x 12 = 27.6 oz. of thrust.)

Specifications (Metric)

Pressure Psig	Air Consumption (SLPM)					Velocity At Distance From Outlet (m/s)			Thrust* (g)
	7.6cm	15cm	31cm	46cm	61cm	5cm	15cm	31cm	Per cm.
2.1	162	323	642	965	1,285	64	26	19	14
2.8	204	408	815	1,223	1,630	73	36	23	19
3.5	246	492	985	1,477	1,970	82	43	29	25
4.1	284	569	1,138	1,707	2,275	86	50	34	31
4.8	325	651	1,302	1,953	2,604	90	54	39	38
5.5	368	736	1,472	2,207	2,943	94	62	43	44
6.2	404	807	1,613	2,420	3,226	99	67	47	49
6.9	450	900	1,800	2,700	3,600	103	72	51	55

* At 30cm from Air Knife outlet.



Models

EFFECTIVE LENGTH	ALUMINUM				IONIZING		
	MODEL	OAL		MODEL	OAL		
		(in)	(mm)		(in)	(mm)	
3"	921-3	3 11/32	85	-	-	-	
6"	921-6	6 11/32	161	981-6	7	178	
12"	921-12	12 11/32	313	981-12	13	330	
18"	921-18	18 11/32	466	981-18	19	483	
24"	921-24	24 11/32	618	981-24	25	635	

* OAL = Overall Length

Air Nozzles

Vortec engineered blow off nozzles significantly reduce compressed air consumption and noise, compared to open nozzle jets.

Using proven 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%, compared to open pipes and non-engineered nozzles.

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.

Vortec Advantage

- Save time with better blow off capability
- Up to 25 times more air flow volume than the volume of compressed air
- 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 surfaces with flexible nozzles
- Blow off multiple or changing locations with flexible nozzles



1201**1202****1203****1205****1201F-12****1204****1206****1200****1200SS****1220****9401 Blow Gun**

Specifications

Model #	Description	Force		Air Stream at Nozzle	
		oz	g	inches	mm
1200	Aluminum nozzle, adjustable	3-21	85-205	5/8	16
1200SS	Stainless Steel nozzle, adjustable	3-21	85-205	5/8	16
1201	Nozzle on bendable copper tubing	6	170	3/16	5
1201F-12	1201 nozzle on flexible hose	6	170	3/16	5
1202	High thrust version of 1201	20	596	3/16	5
1203	Nozzle on bendable copper tubing	9	9	1/4	6
1204	1203 nozzle on flexible hose	9	9	1/4	6
1205	High thrust version of 1203	28	794	1/4	6
1206	1205 nozzle on flexible hose	28	794	1/4	6
1220	Ultra high thrust fixed nozzle, aluminum	72	2,041	1	25
9401	Blow gun with 1200 nozzle	3-21	85-205	5/8	16

Air Jets

Jets are round-throated air amplifiers. One end provides a strong airflow while the other creates suction as free air is entrained.

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 applications.

Additionally, because they deliver a precise air flow, jets are ideal for parts movement and ejection, with a focused air flow targeted directly on the parts being moved or ejected. Vortec Jets meet OSHA specifications for noise and dead-end pressure.

Vortec Advantage

- Convey small parts without motors or pumps
- Save time with better blow off and fume extraction capability
- Up to 4 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



901A



901DA



901BA



901HA



909A



Specifications

Item #	Application	Force		
		oz	g	Air Amplification
901A	Blow Off & Cooling	6	170	4
901BA	Conveying	6	170	4
901DA	Blow Off, focused output	14	397	4
901HA	Conveying	14	397	4
909A	Blow Off, adjustable	2-17	57-482	4

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

Spray Nozzles

Spray Nozzles provide ultra-fine droplet-sized sprays for evaporative cooling, atomization, humidification and wetting.

Spray Nozzles produce spray patterns that can be widely diffused or directed.

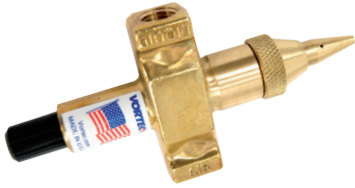
The liquid stream is entrained by high velocity compressed air to create a range of micron-level spray droplets, resulting in greater surface coverage than conventional nozzles. With this more efficient use of the liquid, Spray Nozzles accelerate air-liquid interaction to give more effective cooling, humidifying, wetting and dust control.



Vortec Advantage

- 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 adjustable flow rates minimize usage of expensive coatings, preservatives, rust inhibitors, etc.
- Droplet size and production is not dependent on liquid pressure
- Air and liquid mix externally to minimize clogging

1703 - Fogging



Directed spray having droplet sizes of 20 – 60 microns. Liquid viscosities up to 1100 cP.



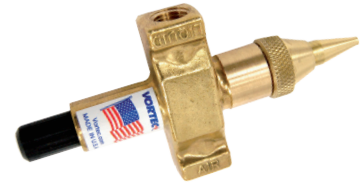
1707 - Humidifying



Wide spray with droplet sizes of 20 – 200 microns. Liquid viscosities up to 100 cP.



1713 - Atomizing



Directed spray having droplet sizes of 60 – 200 microns. Liquid viscosities up to 1100 cP.



Applications

- Evaporative Cooling
- Mist Cooling
- Moisturization
- Dust Suppression
- Static Neutralization
- Pressure Spray Cleaning
- Humidification
- Sanitizing or Deodorizing
- Wetting
- Lubrication
- Atomizing
- Spray Applications

Specifications

Model #	Description	Droplet Size, μ	Max Liquid viscosity, cPs	Spray pattern	Includes Filter and Liquid Strainer
1723	Fogging Nozzle System	20 - 60	1,100	Narrow	Yes
1727	Humidifying Nozzle System	20 - 200	100	Wide to Narrow	Yes
1733	Atomizing Nozzle System	60 - 200	1,100	Narrow	Yes
1703	Fogging Nozzle	20 - 60	1,100	Narrow	No
1707	Humidifying Nozzle	20 - 200	100	Wide to Narrow	No
1713	Atomizing Nozzle	60 - 200	1,100	Narrow	No

Experimental Kit Model # 1700

Contains a compressed air filter, liquid strainer, and one each of the following nozzles:

- Fogging Nozzle
- Humidifying Nozzle
- Atomizing Nozzle

Dual-Force Vac Drum Pump

The Dual Force Vac System is a convenient and versatile solution for liquid material handling and spill clean up.

Using powerful air amplification technology, the Dual Force Vac Drum Pump can either fill or discharge a 55 gallon drum in under two minutes. It switches easily -- with a 1/4 turn of a knob -- from fill to discharge mode. And 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 55-gallon drum and comes with a 10-foot hose and nozzle. An optional aluminum wand and squeegee are available to facilitate spill pick up.

Vortec Advantage

- 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
- Switches quickly from discharge to suction mode
- Low maintenance, with no motor or moving parts
- Automatic safety shut off valve prevents overflows
- Patented design



2109



2102



2109 Specifications

Compressed Air Pressure ¹	psig	50	100
Air Consumption	scfm	15	23
Vacuum	inch of Hg	6.7	9.5
Fill Rate ²	gal per min	29.5	33
Empty Rate ²	gal per min	37	33
Weight	lbs	10	

¹ Do not operate the Dual Force Vac Drum Pump at less than 50 psig (3.5 bar)

² Flow rates are based on a liquid viscosity of 0.8 cPs

Vortec Advantage

- Liquid transfers
- Coolant sumps, even with solids
- Sludge & waste water
- Spill pick up
- Containment aprons

Accessories & Parts

Filters and Regulators



7015-24A	5 micron compressed air filter with automatic condensate drain. 25 scfm	3/8" NPT ports, polycarbonate bowl with metal bowl guard. 125°F max. temperature, 150 psig max. pressure
7015-36A	5 micron compressed air filter with automatic condensate drain, 50 scfm	3/8" NPT ports, polycarbonate bowl with metal bowl guard. 125°F max. temperature, 150 psig max. pressure
7015-40A	5 micron compressed air filter with automatic condensate drain, 150 scfm	3/4" NPT ports, polycarbonate bowl with metal bowl guard. 125°F max. temperature, 150 psig max. pressure
7015-48	.01 micron oil removal filter with automatic condensate drain, 25 scfm	3/8" NPT ports, polycarbonate bowl with metal bowl guard. 125°F max. temperature, 150 psig max. pressure
7015-54	.01 micron oil removal filter with automatic condensate drain, 70 scfm	1/2" NPT ports, polycarbonate bowl with metal bowl guard. 125°F max. temperature, 150 psig max. pressure
402-20	Filter/pressure regulator combination, 8 scfm	1/8" NPT ports, 5 micron filter with polycarbonate bowl, self relieving regulator, with 0 to 160 psig pressure gauge
208R	Pressure regulator, 50 scfm flow	3/8" NPT ports, self-relieving type, with 0 to 160 psig pressure gauge
208RX	Pressure regulator, 140 scfm flow	3/4" NPT ports, self-relieving type, with 0 to 160 psig pressure gauge

Mufflers



106MC	Cold air muffler for 106 series vortex tubes	1/4" male NPT outlet
208MC	Cold air muffler for 208 and 308 series vortex tubes	1/4" male NPT outlet
208MH	Hot air muffler for 106 and 208 series vortex tubes	temperature adjustment knob is integrated into the muffler
308MH	Hot air muffler for 308 series vortex tubes	1/4" male NPT outlet
328M	Cold or hot air muffler for 328 series vortex tubes	3/4" or 1" male NPT outlet (depending on use a cold or hot air muffler)

Shims



904-002	.002" thick shim for 904 air flow amplifier	901-002	.002" thick shim for 901 series Jets
904-003	.003" thick shim for 904 air flow amplifier	901-003	.003" thick shim for 901 series Jets
930-7	.0015" thick shim x 24" long, for air knives	902-002	.002" thick shim for 902 air flow amplifier
930-8	.002" thick shim x 24" long, for air knives	902-003	.003" thick shim for 902 air flow amplifier
930-9	.003" thick shim x 24" long, for air knives	903-002	.002" thick shim for 903 air flow amplifier
930-10	.004" thick shim x 24" long, for air knives	903-003	.003" thick shim for 903 air flow amplifier

All shims are made of aluminum

Thermostat Kits



721T-70	Solenoid valve and thermostat kit for 8, 15 and 25 scfm Vortex Coolers, 120 volt AC	1/4" NPT ports on solenoid valve, 100 psig max., 50 to 120°F thermostat
721T-80	Solenoid valve and thermostat kit for 8, 15 and 25 scfm Vortex Coolers, 240 volt AC	1/4" NPT ports on solenoid valve, 100 psig max., 10 to 60°C thermostat
721T-100	Solenoid valve and thermostat kit for 35 scfm Vortex Coolers, 120 volt AC	3/8" NPT ports on solenoid valve, 150 psig max., 50 to 120°F thermostat
721T-110	Solenoid valve and thermostat kit for 35 scfm Vortex Coolers, 240 volt AC	3/8" NPT ports on solenoid valve, 150 psig max., 10 to 60°C thermostat
721T-120	Solenoid valve and thermostat kit for 70 scfm Vortex Coolers, 120 volt AC	1/2" NPT ports on solenoid valve, 150 psig max., 50 to 120°F thermostat
721T-130	Solenoid valve and thermostat kit for 70 scfm Vortex Coolers, 240 volt AC	1/2" NPT ports on solenoid valve, 150 psig max., 10 to 60°C thermostat

Generators



106GK-2H	2 scfm generator and bushing kit, set of 5	2 scfm brass generator and "H" style nylon bushing
106GK-4H	4 scfm generator and bushing kit, set of 5	4 scfm brass generator and "H" style nylon bushing
106GK-8H	8 scfm generator and bushing kit, set of 5	8 scfm brass generator and "H" style nylon bushing
208GK-11H	11 scfm generator kit, set of 5	11 scfm "H" style nylon generator and bushing
208GK-15H	15 scfm generator kit, set of 5	15 scfm "H" style nylon generator and bushing
208GK-25H	25 scfm generator kit, set of 5	25 scfm "H" style nylon generator and bushing
208GK-35H	35 scfm generator kit, set of 5	35 scfm "H" style nylon generator and bushing
328GK-50H	50 scfm generator and bushing	50 scfm aluminum generator and "H" style nylon bushing
328GK-75H	75 scfm generator and bushing	75 scfm aluminum generator and "H" style nylon bushing
328GK-100H	100 scfm generator and bushing	100 scfm aluminum generator and "H" style nylon bushing

Flex Nozzles (Cold/Hot Air Gun)




424-30	Flex nozzle for Thread Guard, dual outlet	4" long with two 1/8" diameter outlets
680-30	Flex nozzle for Mini Cold Air Gun, single outlet	6-1/4" long with 1/8" diameter outlet
682-30	Flex nozzle for Mini Cold Air Gun, two outlet	8" long with two 1/8" diameter outlets
606-FN	Flex nozzle for Cold Air Gun, single outlet	8" long with 3/8" diameter outlet
610-30	Flex nozzle for Cold Air Gun, two outlet	9" long with two 1/4" diameter outlets
611-FNU	Frost-free flex nozzle upgrade for Cold Air Gun, single outlet	Used to make a standard Cold Air Gun into a Frost-Free model (single outlet)

Spray Nozzle Tips



1703-1	Spray nozzle tip-Fogging	Brass construction, all O-Ring seals included
1707-1	Spray nozzle tip-Humidifying	Brass construction, all O-Ring seals included
1713-1	Spray nozzle tip-Atomizing	Brass construction, all O-Ring seals included
H0727	Liquid Strainer	Brass and stainless steel, 1/2" NPT ports, 40 mesh (.015" openings)



Innovative Compressed Air Technologies



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