

# Vortex Cooler™

## Enclosure Coolers



### ***Keep Electrical Enclosures Cool, Clean and Protected***

Today's small and 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 contribute to significant premature failures. Excessive heat causes components to "cook", digital displays to misread, controls to drift, and breakers to trip below their rated loads. The result is often lost productivity from machine or line shutdowns.

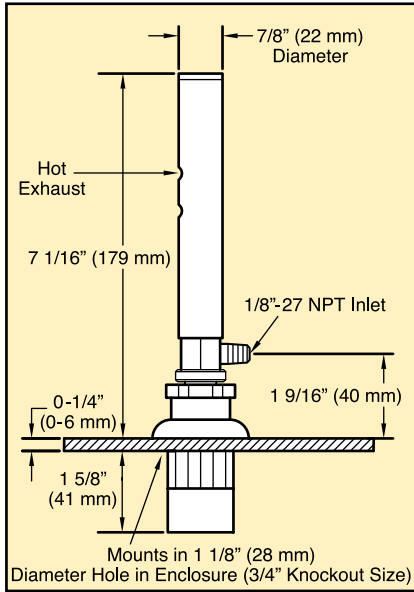
Fans often provide inadequate cooling and commonly pull in dirty, humid air creating another source of failure. Air conditioners require ongoing maintenance and are relatively expensive, large and difficult to install.

***ITW Vortec's Vortex Cooler Enclosure Coolers are the affordable, low maintenance, easy to install alternative for keeping enclosures cool and clean without Freon or other refrigerants.***

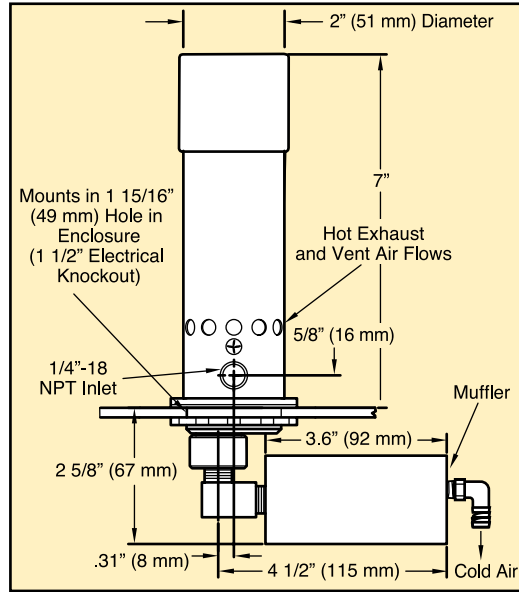
- Thermostatically-controlled to save energy. Continuous cooling models are available.
- Powered by compressed air, utilizing a vortex tube to generate cold air without Freon or other refrigerants (CFCs/HCFCs).
- Exceptionally reliable, no moving parts to break or wear.
- Low maintenance
- Cooling capacities to 5000 BTUH (1250 kcal/H)
- Maintains NEMA 4, 4X and 12 ratings. All models are UL-listed.



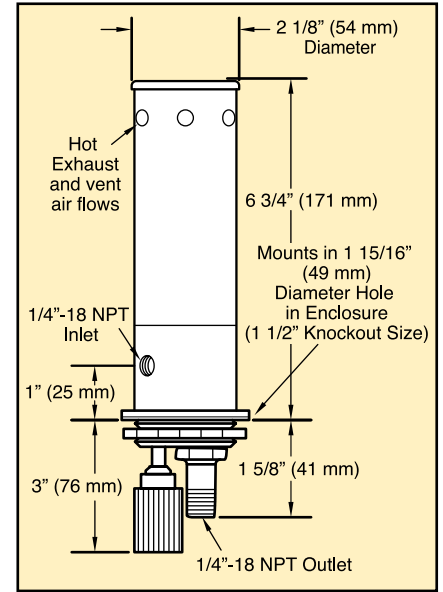
**ITW Vortec**  
Innovative Compressed Air Technologies



**Model 750/760 Mini  
Vortex Coolers**



**Model 757/767, 757SS/767SS  
Vortex Coolers**



**Model 770, 770-35H  
Panel Guard**

All Vortex Cooler systems include a 5-micron Auto-Drain filter and a ducting kit to distribute cold air throughout the enclosure. Thermostatically controlled models also contain a solenoid valve and thermostat, limiting compressed air usage to those times when cooling is required.

| NEMA RATINGS |  |
|--------------|--|
| 12           | <b>Indoor</b><br>Dust Tight/Drip Tight                         |
| 4            | <b>Outdoor</b><br>Weatherproof/Washdown                        |
| 4X           | <b>Outdoor</b><br>Weatherproof/Washdown<br>Corrosion Resistant |

All Vortex Coolers are UL-listed and maintain NEMA 4, 4x and 12 ratings based on selected model. Coolers are designed to use a filtered factory compressed air supply of 80 -100 PSIG.

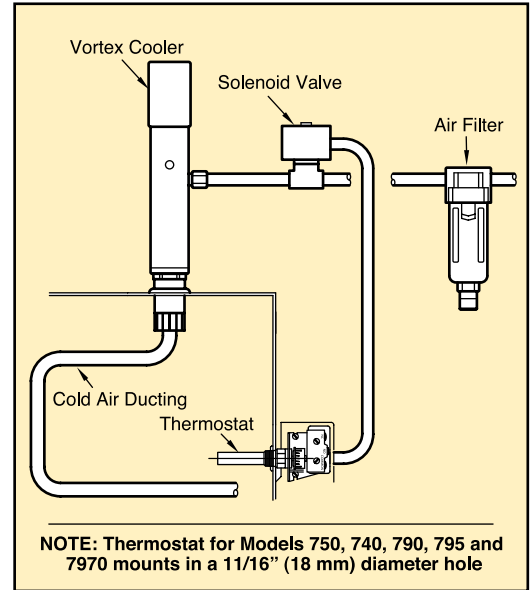
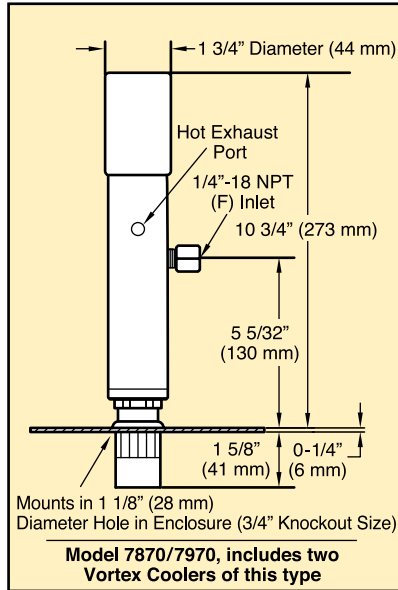
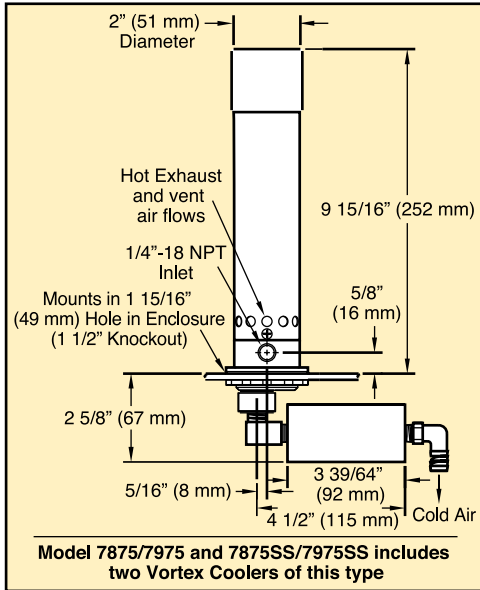
| NEMA Type | MODEL NO.       |                    | CAPACITY |          | AIR CONSUMPTION |      |
|-----------|-----------------|--------------------|----------|----------|-----------------|------|
|           | with Thermostat | without Thermostat | BTUH     | Kcal/hr. | SCFM            | SLPM |
| NEMA 12   | 750             | 760                | 400      | 101      | 8               | 227  |
|           | 740             | 730                | 900      | 225      | 15              | 425  |
|           | 790             | 780                | 1500     | 378      | 25              | 708  |
|           | 795             | 785                | 2500     | 630      | 35              | 991  |
|           | 7970            | 7870               | 5000     | 1260     | 70              | 1981 |
| NEMA 4    | 767             | 757                | 600      | 152      | 11              | 311  |
|           | 747             | 737                | 900      | 225      | 15              | 425  |
|           | 770             | (a)                | 1500     | 378      | 25              | 708  |
|           | 797             | 787                | 1700     | 428      | 25              | 708  |
|           | 797-35H         | 787-35H            | 2500     | 630      | 35              | 991  |
| NEMA 4X   | 770-35H         | (a)                | 2500     | 630      | 35              | 991  |
|           | 7975            | 7875               | 5000     | 1260     | 70              | 1981 |
|           | 767SS           | 757SS              | 600      | 152      | 11              | 311  |
|           | 747SS           | 737SS              | 900      | 225      | 15              | 425  |
|           | 797SS           | 787SS              | 1700     | 428      | 25              | 708  |
|           | 797SS-35H       | 787SS-35H          | 2500     | 630      | 35              | 991  |
|           | 7975SS          | 7875SS             | 5000     | 1260     | 70              | 1981 |

Models with 5000 BTUH capacity include two Vortex Coolers which use a common air line filter, solenoid and thermostat.

Thermostat models are factory set at 90°F±2°/32°C±1° with the exception of the following:  
(a) Panel Guard Vortex Coolers (770 and 770-35H) use a non-adjustable, mechanical thermostat which has an approximate control of 80-122°F/27-50°C.

NEMA 4X Vortex Coolers feature stainless steel construction for washdown protection and resistance to oxidation and corrosive surroundings.

**For assistance in sizing the appropriate model to your requirements: Call our Technical Service Department at 800-441-7475, or use the Interactive Sizing and Selection Worksheet on our website: [www.itwvortec.com](http://www.itwvortec.com)**



**Model 737/747, 787/797, 787-35H, 797-35H, 737SS/747SS, 787SS-35H, 797SS-35H & 787SS/797SS Vortex Coolers**

**Model 730/740, 780/790, 785/795 Vortex Coolers.**

**NEMA 12 Vortex Cooler System**

| MODEL NO. | ACCESSORIES   |
|-----------|---|
| 701S-48   | Auto-Drain Oil Removal Filter, 3/8" NPT(F), rated to 25 SCFM / 708 SLPM     |
| 701S-54   | Auto-Drain Oil Removal Filter, 1/2" NPT(F), rated to 70 SCFM / 1981 SLPM    |
| 701W-24A  | Water Trap, 3/8" NPT(F), point-of-use, rated to 25 SCFM / 708 SLPM          |
| 701W-36A  | Water Trap, 1/2" NPT(F), point-of-use, rated to 50 SCFM / 1415 SLPM         |
| 721T-70   | Solenoid Valve & Thermostat Kit, 1/4" NPT(F), 110V/60Hz, 25 SCFM / 708 SLPM |
| 721T-75   | Solenoid Valve & Thermostat Kit, 3/8" NPT(F), 110V/60Hz, 35 SCFM / 991 SLPM |

With no moving parts to wear out or maintain, Vortex Coolers use only compressed air and vortex tube technology to produce quiet, efficient and reliable cabinet cooling. As an added benefit, these coolers create a slight positive pressure inside the enclosure to prevent dirt or dust from entering - even in the most challenging environments.

### How Enclosure Coolers Create Cold Air

#### Vortex Tube Technology

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

Vortex Cooler 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 reaching 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 exhaust port.

***Vortex Coolers easily mount in tight spaces, with all models ranging only from about 7 to 11 inches tall.***



**Choose the best thermal management solution for your electrical enclosures and control panels - ITW Vortec's Vortex Coolers**



From small computer cabinets and touch-screen control panels to large electrical enclosures, a Vortex Cooler can protect sensitive controls from overheating to eliminate heat and dirt related shutdowns. Models are available to provide cooling capacities ranging from 400 to 5000 BTUH (101 to 1250 kcal/H).

Models 770 and 770-35H Panel Guard coolers feature an integral, mechanical thermostat. A heat sensitive element at the base of the cooler activates a control valve to open/close the compressed air supply. The non-adjustable thermostat requires no electrical connections and will provide cooling protection when enclosure temperatures reach a range of 80-122°F (27-50°C).

- Compact and easier to install than air conditioners and most fan units
- Has no moving parts for highly reliable cooling protection
- Keeps components clean - no outside air ever enters the cabinet
- Offers quiet operation and little to no maintenance
- An affordable, UL-listed solution that maintains NEMA 4, 4X and 12 ratings

**ITW Vortec manufactures a wide range of innovative compressed air products that improve productivity and reduce operating costs.**



**Cold Air Gun**

*Speeds Dry Machining Rates  
Eliminates Mist Coolants  
Prolongs Tool Life*

- Easy installation – No moving parts
- Single turn adjustable spot cooling solution
- Uses only filtered compressed air
- Cool dry grinding/machining operations



*The Highest Quality  
Dual Mode  
Drum Pump  
Available*



**Fast, pump-in/pump-out handling of:**

- Coolant sumps, even with chips and swarf
- Sludge and waste water from parts washers
- Solvents
- Hydraulic Oil
- And much more
- Tramp Oil
- Liquid spills



**Nozzles & Jets**

*Drastically Reduce  
Compressed  
Air Consumption*

- Lowers operating costs and saves energy
- Helps meet OSHA noise specifications
- Meets OSHA dead-end pressure specifications
- Wide range of styles and thrust performance
- Patented design amplifies air
- Big savings when replacing open copper tube jets



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e-mail: [techsupport@vortec.com](mailto:techsupport@vortec.com)

Reference the Product Guide catalog and/or ITW Vortec invoice **Conditions of Sale** for complete information and warranty terms.

Due to a policy of continuous development we reserve the right to change specifications without notice.