

AiRTX POLAR STAINLESS STEEL CONTROL COOLERS

Low-Cost Air Conditioning for Controls in Hot, Hazardous, Corrosive or Washdown Environments — Without Freon!

COOLING UP TO 5000 BTUH



UL US LISTED



▲ Model 70008 and 70025

AiRTX Stainless Control Cooler Advantages

- Maximum Cooling up to 5000 BTUH's
- Greater Cooling with the same CFM usage
- Higher BTU per CFM
- Eliminate lost production
- Heavy-gauge Stainless Steel Construction
- Use them anywhere — Stainless Steel constructed for hazardous, corrosive or washdown areas
- Low cost
- Variable cooling capacity — handles up to a 8' x 8' x 2' (2.4 m x 2.4 m x 0.6 m) cabinet
- Compact for cramped factory areas
- No maintenance, no moving parts
- No electricity or explosion hazard
- No RF/EMI interference
- No vibration to affect CCTV cameras
- Thermostatically controlled units available
- No fans or filters
- Muffled for quiet operation

All Kit Systems

All Kit Systems include one stainless cooler, 8' ducting kit with muffler, solenoid valve, thermostat, and five-micron automatic filter.

All items are available separately.

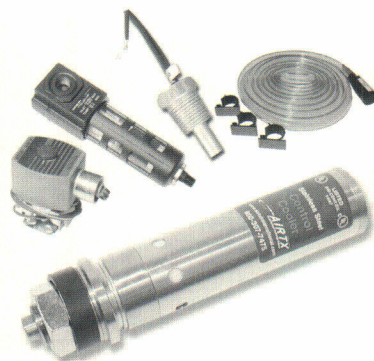
▲ Model 70008X and 70025X

Wide Range of Cooling

	BTU	BTU	BTU	BTU
POLAR	600	1100	1800	2500 5000

Use Them For

- NC/CNC cabinets
- Industrial PCs
- PLCs
- Measuring instruments and recording devices
- Closed-circuit TV cameras
- Motor controls and relays



Keep Factory-Floor Controls On-line with up to 2500 BTU/H of Cooling — Enough for a 8' x 8' x 2' Cabinet

Dirt, moisture, hazardous or corrosive materials — a bad environment is the Achilles' heel of industrial electronic systems. And it's a real hazard when you have to open the cabinet door to prevent heat build-up.

Maybe you've experienced:

- Heat-induced tripping below rated loads
- Lost production
- OSHA violations and worsening dirt build-up due to cabinets left open
- Clogged air filters that have to be cleaned or changed frequently
- Damaged electronic components or shortened life
- Mis-reads from electronic measuring, weighing, counting or recording instruments
- Inability to washdown food areas due to freon-based control air conditioners
- Freon control air conditioners failing quickly due to high heat or harsh factory conditions

Compressed-Air-Operated Stainless Control Coolers for Hazardous Environments

Using a low-cost, reliable Vortex Tube, compressed-air-operated AiRTX Control Coolers purge and cool electrical/electronic enclosures with filtered air that's 50°F / 27°C colder than your compressed air supply. A built-in relief valve lets hot air escape from the control enclosure, while the cooler supplies clean, cold air.

They mount — in minutes — in a standard electrical knock-out to maintain your NEMA 4, 4X, or 12 rating. A built-in, heavy-duty muffler makes the Control Cooler extremely quiet for use in production areas.

Use Them Anywhere! Heavy-Gauge Stainless Steel Construction — FOR THE PRICE OF OUR COMPETITORS' ALUMINUM COOLERS AND MORE BTU'S OF COOLING!

The AiRTX POLAR Control Cooler is heavy-duty industrial equipment. It's all Stainless Steel — no aluminum or plated-brass components. Corrosive environments and washdown won't affect it. It'll never pit, corrode or contaminate your product.

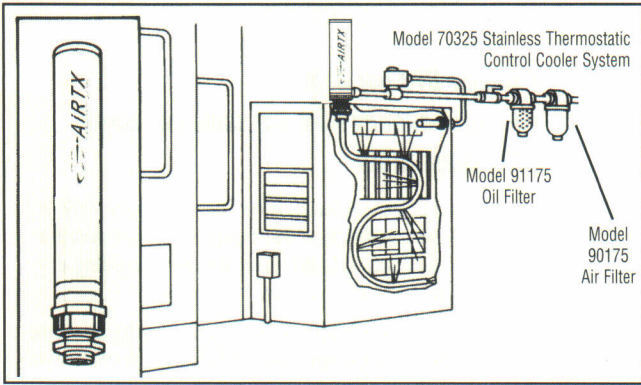
If you're an OEM, you'll find the fit and finish of our Control Coolers a complement to your own equipment.

They're available with or without an adjustable thermostatic control that's factory set for 90°F (32°C). Thermostatic systems reduce compressed air consumption and are ideal for varying heat loads. All include an air distribution kit to ensure even cooling in the control enclosure.

POLAR Stainless Steel Control Coolers at Work

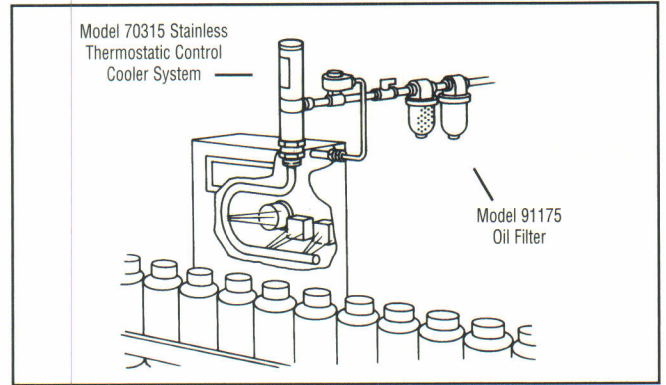


COOLING



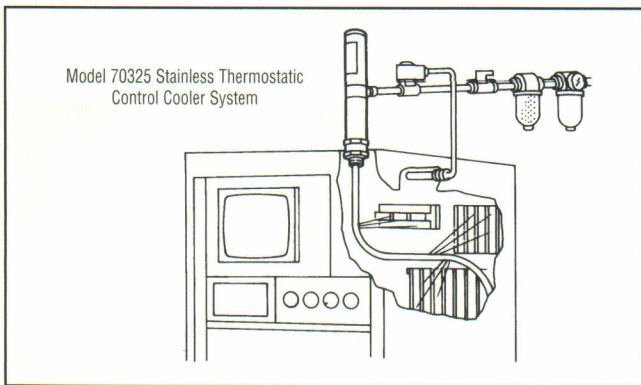
Multiple-Face Machining

The large investment in programming this horizontal/vertical machining center is protected by the Model 70325 Stainless Thermostatic Control Cooler, which eliminates heat build-up and coolant contamination of sensitive electronics.



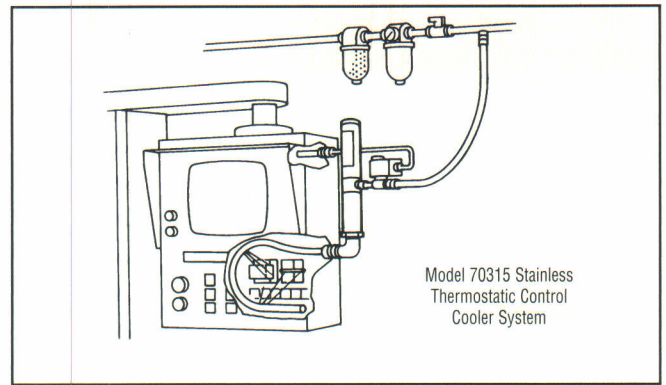
Bottling Plant

AiRTX Control Cooling Systems are Stainless Steel, so washdown of these leak testing and production controls in a bottling operation is easy. NEMA cabinets can be secured without concern for heat build-up.



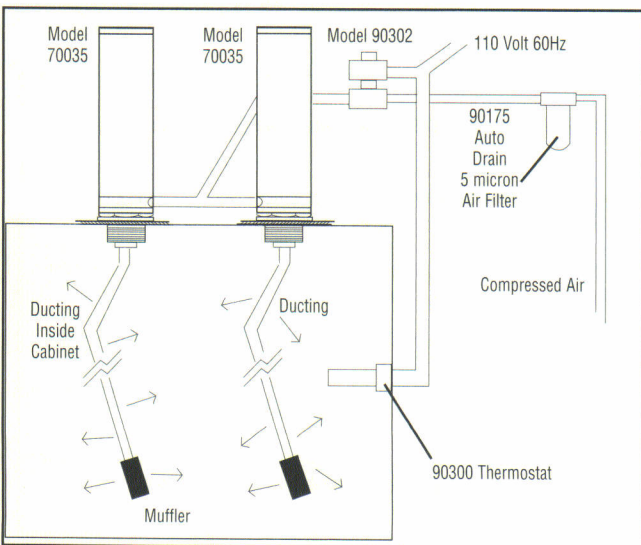
CNC Machining

The Model 70325 Stainless Steel Control Cooling System protects against fluctuations in this precision grinding operation by cooling the control and allowing it to be sealed against mist contamination. Thermostatic control assures you of efficient compressed air usage.



Chemical Processing

The Model 70315 Thermostatic Control Cooling System mounts on the side of this control, out of the operator's way, allowing free rotation of the control and clear view of the process. Thermostatic control minimizes air usage.



For double wide cabinets up to 10'W x 6'H x 2'D or cabinets in extreme hot conditions above 150°F, order Model 70370 for 5000 BTU/H of Cooling.

Double Wide System Components Model 70370

2 of Model	70035	Cooler with Ducting Kit
1 of Model	90302	Solenoid
1 of Model	90300	Thermostat and Capacitor
1 of Model	90175	Auto Drain Filter

AIRTX POLAR STAINLESS STEEL CONTROL COOLERS

Why Stainless Steel Control Coolers versus Freon Air Conditioners

Why Stainless Steel Control Cooling for Electronic Enclosure Versus Freon Air Conditioners?

- Less expensive to operate
- No freon leaks
- No costly repair calls
- Minimal if any maintenance
- Provide longer life to expensive controls
- No production down time waiting for repairs
- Maintain NEMA 4, NEMA 4x, and NEMA12 integrity
- All models are constructed of Stainless Steel



- **Higher BTU per CFM**
- **Greater cooling with the same air usage**
- **Stainless Steel**

*Freon air conditioners must be deregulated by 65% at 90°F and 95% at 115°F. Therefore, the freon air conditioners must operate longer than the Control Cooler or be oversized to provide the same amount of cooling during warmer weather when the ambient temperature is higher.

The recommended thermostat setting is 90°F (32°C). This setting is within the safe operating limits of most components and reduces condensation on the outside of the cabinet during hot humid weather.

The Stainless Steel Coolers are very inexpensive insurance against premature replacement of a \$2,000 to \$3,000 electronic circuit board.

Temperature swings create connector stress, while excess heat dries circuit boards and result in life spans of the controls being cut in half for every 20°F (10°C) over normal operating temperatures of 100°F (38°C).

Control Coolers — Cost Comparisons

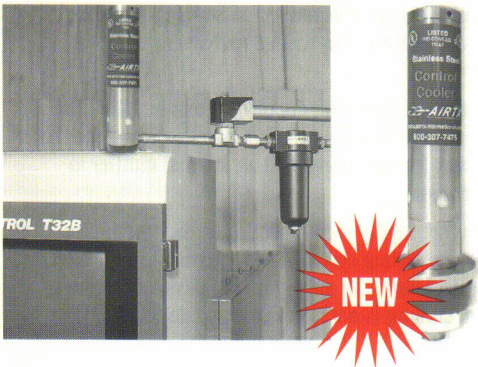
	AIRTX Stainless Steel BTU Model 70325	Freon Air Conditioner 1500 BTU
Initial Unit Cost	\$495.00 (20 year life) \$24.75/year	\$1800.00 (5 year life) \$360.00/year
Installation (one time cost)	\$50.00/hour \$2.50/year	\$50.00/hour \$10.00/year
Maintenance	No Maintenance	Maintenance 4 hours/year for charging freon, cleaning and replacing filters, leak checks \$200 per year
Operation	5 hours/day, 9 months/year Based on \$0.25/1000 cu. ft. of air \$288.00/year	7 hours/day, 9 months/year \$72.00/year
Total Operation Cost	\$315.25/year	\$642.00/year (Not including downtime for repairs)

Standard NEMA

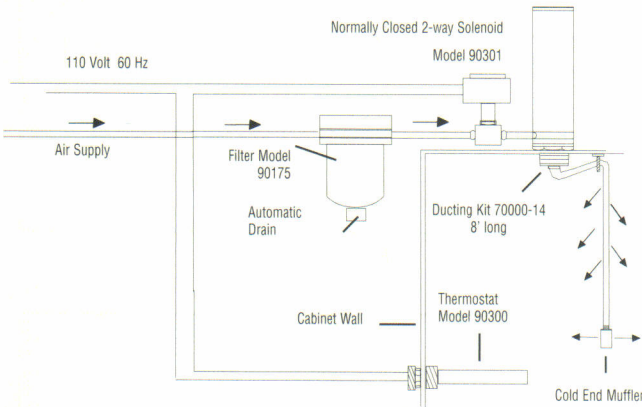
Enclosure Rating	NEMA — National Electrical Manufacturers Association (NEMA Standard 250) Electrical and Electronic Manufacturers Association of Canada (EEMAC)
Type 4	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose directed water, undamaged by the formation of ice on the enclosure.
Type 4x	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure.
Type 6	Enclosures are intended for use indoors or outdoors where occasional submersion is encountered. Limited depth; undamaged by the formation of ice on the enclosure; resists corrosion.
Type 12	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping noncorrosive liquids.
Type 13	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and noncorrosive coolant.

AiRTX POLAR STAINLESS STEEL CONTROL COOLERS

Cooling — Stainless Steel POLAR Control Coolers Maintain NEMA 4, 4X and NEMA 12 Integrity and are UL Listed

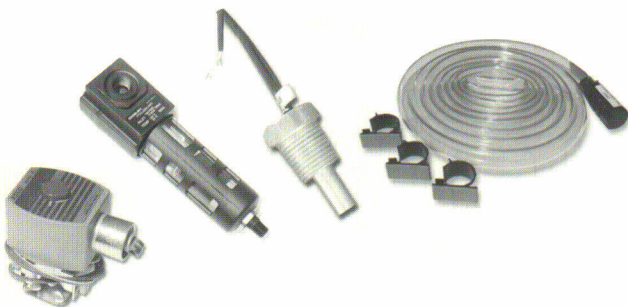


Installation of Thermostatic Control Cooler System



Thermostatic Kit Includes:

- Thermostat Model 90300
- 2 way normally closed solenoid Model 90301
- 5 micron automatic drain air filter Model 90175
- Ducting kit – 8 feet of ducting with 3 hold downs and muffler, Model 70000-14



70000 Series Part Number System

- 1st digit series Model 7 — indicates Stainless Steel Control Cooler Series
- 2nd digit 0 — indicates Stainless Steel
- 3rd digit 1 — filter included, 3 thermostatic kit
- The 4th and 5th digits of the part number indicate cfm usage at 100 psi

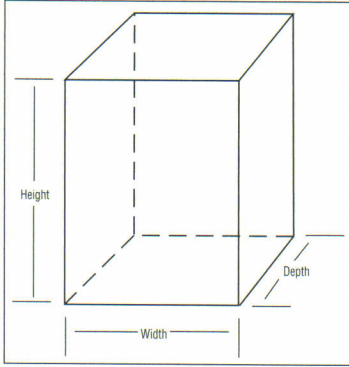
NEMA TYPE 4, 4X, 12	NEMA TYPE 4, 12	Description
70008X	70008	600 BTU/H Stainless Steel Cooler and ducting kit, muffler
70108X	70108	600 BTU/H Stainless Steel Cooler with ducting kit, muffler and 5 micron auto drain filter
70308X	70308	600 BTU/H thermostatic system includes: Stainless Steel Cooler, auto drain filter, ducting kit, muffler, thermostat, solenoid valve
70015X	70015	1100 BTU/H Stainless Steel Cooler and ducting kit, muffler
70115X	70115	1100 BTU/H Stainless Steel Cooler with ducting kit, muffler and 5 micron auto drain filter
70315X	70315	1100 BTU/H thermostatic system includes: Stainless Steel Cooler, auto drain filter, ducting kit, muffler, thermostat, solenoid valve
70025X	70025	1800 BTU/H Stainless Steel Cooler and ducting kit, muffler
70125X	70125	1800 BTU/H Stainless Steel Cooler with ducting kit, muffler, and 5 micron autodrainfilter
70325X	70325	1800 BTU/H thermostatic system includes Stainless Steel Cooler, auto drain filter, ducting kit, muffler, thermostat, solenoid valve
70035X	70035	2500 BTU/H Stainless Steel Cooler and ducting kit, muffler
70135X	70135	2500 BTU/H Stainless Steel Cooler with ducting kit, muffler, and 5 micron auto drain filter
70335X	70335	2500 BTU/H thermostatic system includes Stainless Steel Cooler, auto drain filter, ducting kit, muffler, thermostat, solenoid valve
70370X	70370	5000 BTU/H thermostatic system includes: 2 Stainless Steel Coolers (Model 70035) auto drain filter, ducting kit, muffler, thermostat, solenoid valve

BTU x .2520 = Kcal
Kcal x 3.968 = BTU

AiRTX POLAR STAINLESS STEEL CONTROL COOLERS

COOLING

Determining Requirements for Sizing Correct Control Cooler



1. Size the heat load area of the cabinet using the following formula:

$$(2 \times W + 2 \times D) \text{ Height} = \text{square feet of cabinet}$$

Example: 3' wide, 1' deep, 4' high = 32 square feet

2. Determine inside temperature reading for maximum hotter outside temperatures.

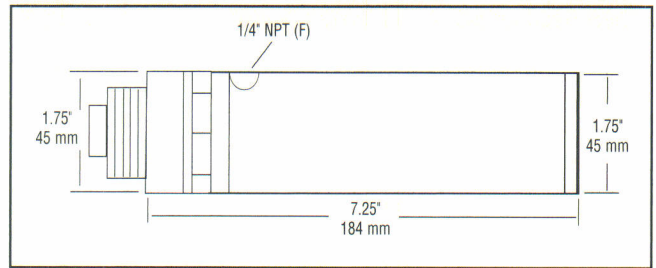
Example: If reading is taken on a 70°F day and the temperature reads 110°F, add 25°F if the electronics will be operating during a summer day temperature of 95°F or add more if it will get hotter.

- 90°F (32°C) is a safe operating temperature for most electronics to reduce heat stress on the controls and drying of the wafer boards.
- Subtract the temperature of 90°F as the desired temperature inside the operating cabinet from the temperature reading in step 2 to determine the temperature difference or Delta T.
- Use the square area of your cabinet readings on the left side of the scale and match it with the temperature difference from step 4 on the top of the sizing chart.
- The intersection of these two numbers give you the BTUs required to maintain the desired 90°F inside temperature.
- Match the BTU reading with the proper AiRTX Cooler.

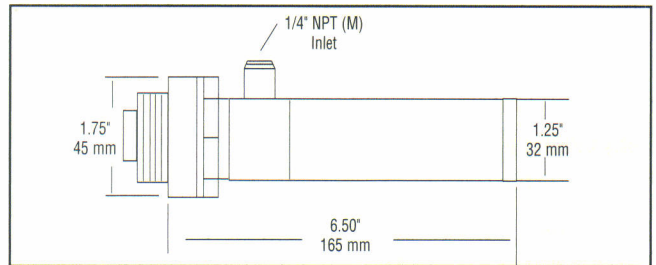
1. Size of cabinet?	W _____	D _____	H _____
2. Hottest temperature inside cabinet?	_____		
3. Desired temperature inside cabinet?	_____*		

*90°F. is recommended

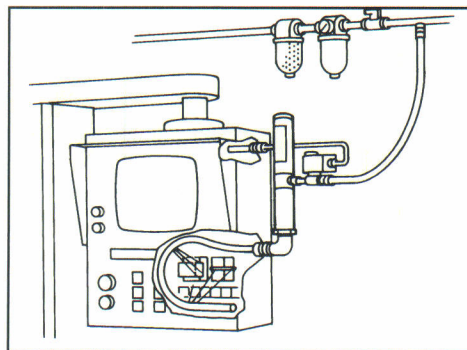
- All AiRTX Control Coolers are constructed of Stainless Steel for long lasting use as well as for use in wash down areas, high heat or corrosive conditions.
- All AiRTX Coolers are standard with ducting kit that include 8' of tubing to route the cold air from the AiRTX Cooler evenly throughout the cabinet, hold downs for the tubing, and an internal muffler to insure noise free operation.
- Thermostatic systems are highly recommended as they produce a truly **maintenance free** cooling system. No forgetting to turn it on or off, increasing or decreasing air supply on hot days, consuming compressed air when cooling is not necessary, and no thermal hot and cold changes. A constant 90°F (32°C) to provide the electronics with a long life.



▲ Models 70015, 70025, 70035



▲ Model 70008



▲ Model 70315 Stainless Steel Control Cooler System

All AiRTX **POLAR** Stainless Steel Coolers are UL Listed

Sizing Chart	BTU Requirements for Cooling Inside temperature drop needed to safe 90°F (32°C)					
	Cabinet Size	Square Feet	90°F	70°F	50°F	30°F
2'H x 2'W x 2'D	16	500	350	150	50	50
3'H x 3'W x 2'D	30	1100	800	450	150	100
4'H x 3'W x 1'D	32	1300	900	550	150	100
5'H x 3'W x 1'D	40	1600	1100	700	150	100
5'H x 4'W x 1'D	50	2200	1400	900	300	150
5'H x 4'W x 2'D	60	2600	1800	1100	500	200
5'H x 5'W x 2'D	70	3000	2100	1300	600	200
6'H x 4'W x 2'D	72	3100	2200	1400	700	200
6'H x 5'W x 2'D	84	3600	2600	1600	750	200
6'H x 6'W x 2'D	96	4200	3000	1900	900	200
7'H x 6'W x 2'D	112	4800	3500	2200	1000	200
7'H x 7'W x 2'D	126	5800	4100	2600	1300	250
8'H x 7'W x 2'D	144	6500	4600	2900	1450	300
8'H x 8'W x 2'D	160	7000	5200	3300	1650	350
8'H x 10'W x 2'D	192	8800	6400	5200	2100	450

Square Meters	50°C	39°C	28°C	17°C	6°C
1.49	126	88	38	13	13
2.79	280	202	113	38	25
2.97	330	227	139	38	25
3.72	405	280	176	38	25
4.65	555	353	227	75	38
5.60	655	454	280	126	50
6.50	756	530	328	151	50
6.69	781	555	353	176	50
7.80	907	655	403	189	50
8.92	1058	756	480	227	50
10.40	1210	882	554	252	50
11.71	1462	1033	655	328	63
13.38	1638	1159	730	365	76
14.86	1764	1310	832	416	88
17.84	2218	1612	1310	530	113

Stainless Steel Cooler Models		
	600 BTU/H Model	70008,70108,70308
	1100 BTU/H Model	70015,70115,70315
	1800 BTU/H Model	70025,70125,70325
	2500 BTU/H Model	70035,70135,70335
	5000 BTU/H Model	70070,70170,70370

$Kcal = BTU \times .2520$

$^{\circ}F = 9/5 (^{\circ}C + 32)$

$^{\circ}C = 5/9 (^{\circ}F - 32)$

$BTU = Watts \times 3.41$

Call the AiRTX Air Line
for Free Technical Support
1-800-307-7475
E-mail Us at
airtx@airtxinternational.com
Visit Our Website at
airtxinternational.com

COOLING