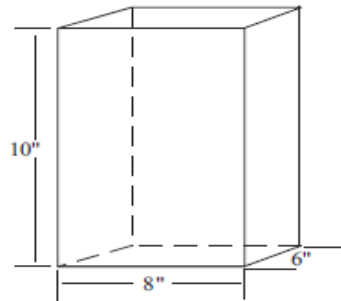


AiRTX Polar Stainless Steel Control Coolers

Determining Requirements for Sizing Correct Control Cooler



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

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

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

2. Determine inside temperature reading for maximum hotter outside temperatures.
 - a. 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.
3. 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.
4. 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.
5. 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.
6. The intersection of these two numbers gives you the BTUs required to maintain the desired 90°F inside temperature.
7. 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 includes 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.

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) | | | | | |
|------------------|--|------|------|------|------|------|
| | Square feet | 90°F | 70°F | 50°F | 30°F | 10°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 | 70008, 70108, 70308 | |
| 1100 BTU/H | 70015, 70115, 70315 | |
| 1800 BTU/H | 70025, 70125, 70325 | |
| 2500 BTU/H | 70035, 70135, 70335 | |
| 5000 BTU/H | 70070, 70170, 70370 | |

Kcal = BTU x .2520
 °F = 9/5 (°C + 32)
 °C = 5/9 (°F - 32)
 BTU = Watts x 3.41