



A2A SERIES AIR TO AIR HEAT EXCHANGERS

| HIGH EFFICIENCY HEAT PIPE DESIGN | UL LISTED FOR STANDARD & HAZARDOUS LOCATION

Thermal Edge Air to Air Heat Exchangers use heat pipe technology to move heat out of your electrical enclosure in a sealed, closed-loop system. The waste heat itself drives the process, so the only power required runs two circulating fans. Where ambient temperatures allow, this makes heat pipes one of the most efficient ways to cool an enclosure.



Closed-Loop Design

Cool air inlet and outlet vents are completely covered by the heat exchanger. This provides NEMA Type 12, 4 or 4X.



Heat Pipe Technology

Heat pipes operate with a phase change process, much like that of mechanical air conditioning, but without the compressor.



Energy Efficient Operation

The only power requirement is to operate two circulating fans or blowers.



Industry Leading 5-Year Warranty

Thermal Edge products are warranted to be free of defects in workmanship, materials and components.

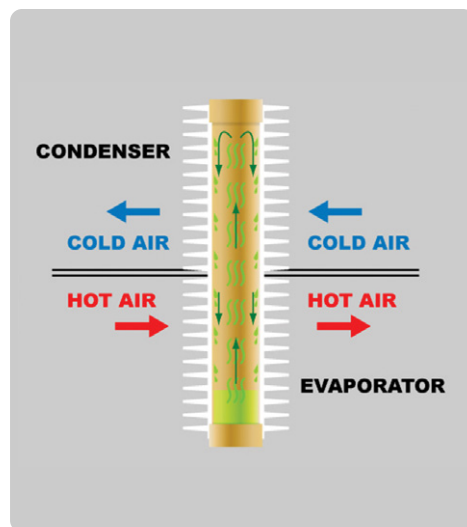
A2A Series:

Air to Air Heat Exchangers

The Thermal Edge Air to Air Heat Exchanger is a closed loop cooling system which employs the heat pipe principle to exchange heat from an electrical enclosure to the outside. Where ambient temperatures are suitable for heat pipes, they are the most efficient method of cooling as the waste heat is the engine which drives the system. The only power requirement is to operate two circulating fans or blowers.

Heat pipes have a liquid refrigerant under a partial vacuum inside sealed tubes. They operate with a phase change process which is much like that of mechanical air conditioning, but without the compressor. The heat pipes are assembled with finned evaporator and condenser sections which are separated by a sealed baffle so as to provide a closed loop.

The lower section of the heat pipe assembly is in contact with heated air from the electrical enclosure. The heat causes the refrigerant to change phase (vaporize). The vapor flashes (at the speed of sound) to the top of the pipe which is in contact with the outside (ambient) air. When the outside air temperature is lower than the enclosure temperature, the refrigerant vapor gives up heat to the outside air and returns to the liquid phase.



The liquid falls to the bottom and repeats the cycle endlessly, so long as there is a negative temperature differential between the outside air and the enclosure. Heat pipes will not operate in reverse cycle, so heat cannot be transferred from ambient to interior.

The Thermal Edge design has a top-to-bottom enclosure air flow pattern with maximum separation of the inlet and outlet. This design pulls the hottest air from the top of the enclosure and returns the cooled air from the bottom of the heat pipe to the enclosure. The air flow on the ambient side is bottom in, top out, so that the hotter discharge air moves up and away rather than being recirculated.

As with all of our coil systems, we use aluminum end plates and baffles which improve conduction and reduce corrosion for longer life. The center aluminum baffle, which is swedged into the heat pipe coil, provides an air tight seal between the two air systems.



A. Compact Series

12 Watts/°F

B. Deep Series

24 Watts/°F

C. Tall Series

40 Watts/°F

A2A Series:

Air to Air Heat Exchangers

Model	Body Style	Watts/ °C	Watts/°F	Voltage/ Hz.	Running Amps	Maximum Ambient	H x W x D (Mounting Dimensions)
A2AC080120	Compact	22	12	115 50/60	.35	149°F	16.5" x 11" x 3.5"
A2AC080230	Compact	22	12	230 50/60	.20	149°F	16.5" x 11" x 3.5"
A2AC080D24	Compact	22	12	24VDC	.80	149°F	16.5" x 11" x 3.5"
A2AD160120	Deep	44	24	115 50/60	.35	149°F	16.5" x 11" x 5.5"
A2AD160230	Deep	44	24	230 50/60	.18	149°F	16.5" x 11" x 5.5"
A2AD160D24	Deep	44	24	24VDC	.80	149°F	16.5" x 11" x 5.5"
A2AD160D48	Deep	44	24	48VDC	.40	149°F	16.5" x 11" x 5.5"
A2AT260120	Tall	71.6	40	115 50/60	.47	160°F	29" x 13.88 x 5.5"
A2AT260230	Tall	71.6	40	230 50/60	.24	160°F	29" x 13.88 x 5.5"
A2AT260D24	Tall	71.6	40	24VDC	1.94	160°F	29" x 13.88 x 5.5"
A2AT260D48	Tall	71.6	40	48VDC	.96	160°F	29" x 13.88 x 5.5"

ADVANTAGES:

- Industry leading 5-Year Workmanship Warranty
- High efficiency heat pipe design
- Standard units include on/off switch
- NEMA Type 12, 4 & 4X
- Coated coils standard on all units
- 115VAC, 230VAC & 24VDC
- Needs no filter
- UL Listed for standard & hazardous location
- Equipment tested to perform and built to last
- Units designed with our customers' applications and environments in mind

OPTIONS:

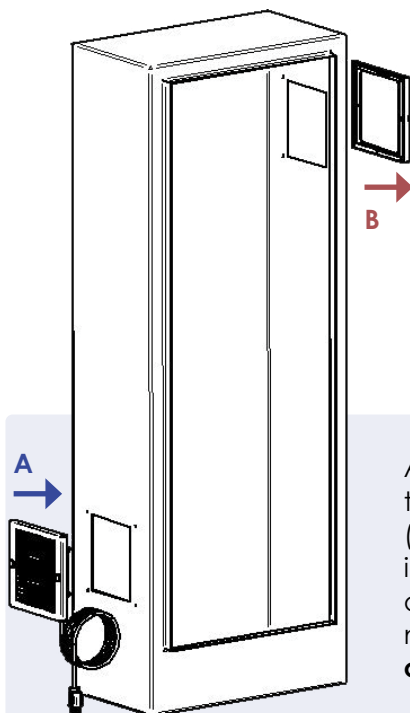
Hazardous Location Class 1, Div 2,
Groups A, B, C, D (XJX)



Components failing inside electrical enclosures when using filtered fans?

Consider Air To Air Heat Exchangers, a better solution:

- **Always closed loop**
- **Low cost and maintenance free**
- **Easier to mount** on only one side of your enclosure
- **Energy efficient**, using no more power than a filtered fan system
- **Filter free**, so no diminished cooling capacity.
- **Available in NEMA Types 12, 4 and 4x**



A standard installation shows where the dirt and particulate will enter (A) the enclosure and be pulled in by the fans on your drives and devices before exiting (B). Filters or not, contamination is invited in by this **open loop** approach.

A standard installation demonstrates the **closed loop** condition maintained by the Air to Air Heat Exchanger. Cool air inlet and outlet vents are completely covered by the heat exchanger, providing NEMA Type 12, 4 or 4X.

