



POLARVrTX

HIGH-CAPACITY COOLING

ATS POLARVrTX™ family provides high-capacity active cooling that outperforms liquid cooling options, making them a cost-effective thermal solution. When deployed in high power systems that would normally be cooled with water, POLARVrTX™ provides the thermal resistance of water using air. Added benefits of air cooling versus liquid cooling include low-maintenance, uniform cooling, and ease of installation.

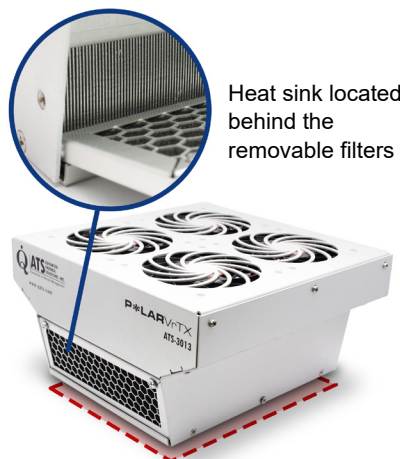
POLARVrTX's™ high-efficiency fin field design enables them to cool high-output devices in a variety of applications. Cool air is pulled through the heat sink base and the resulting hot air is pulled through the duct by the fans. To ensure long-term performance, removable filters are used to keep the heat sink fin field free of debris.

GENERAL FEATURES

- » Length: 205 to 680 mm (8.07 to 26.77")
- » Width: 105 to 200 mm (4.13 to 7.87")
- » Height: 104.3 to 113.5 mm (4.11 to 4.47")
- » Comes with preinstalled PWM enabled fans for dynamic control
- » Provided space for attaching PWM fan controller
- » High-efficiency and high density fin design
- » Low thermal resistance makes POLARVrTX ideal for varied applications
- » Removable air filters to keep heat sink fins clean for low maintenance
- » Ideal for cooling high-power applications
- » Greater performance than liquid cooling
- » Customizable for specific applications



1 Airflow through POLARVrTX



Heat sink located behind the removable filters

POLARVrTX attaches to PCBs on the bottom of the unit



» Active Cooling

High-capacity active cooling outperforms liquid cooling options.

» Air Cooling vs Liquid Cooling

Air cooling provides the added benefits of less maintenance, uniform cooling, and easy installation.

» Fans

All POLARVrTX models come with PWM enabled fans

» Heat Sink Design

POLARVrTX employs a high-efficiency and high density fin design.

» Removable Filters

Polyurethane filters keep the heat sink fin field clear of debris for consistent cooling performance

» Plug and Play

Easy set-up allows for quick implementation into the system

APPLICATIONS

- » UV-C LED Cooling
- » Laser Cooling
- » Medical Diagnostic Equipment
- » Electronics Cooling
- » Industrial Cooling
- » HVAC
- » Food & Beverage Processing
- » Imaging Equipment

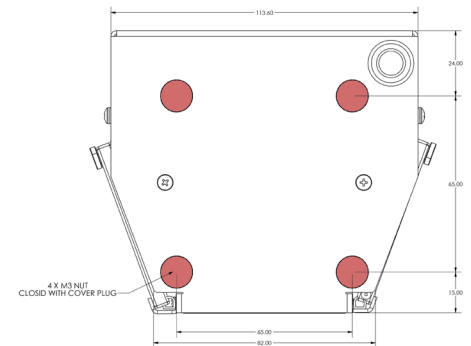
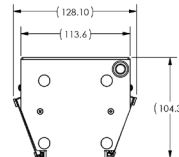
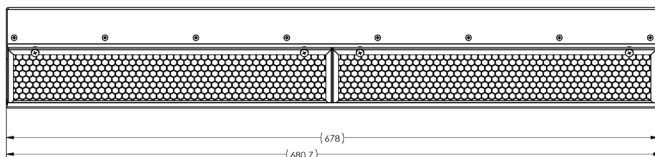


ATS-3012



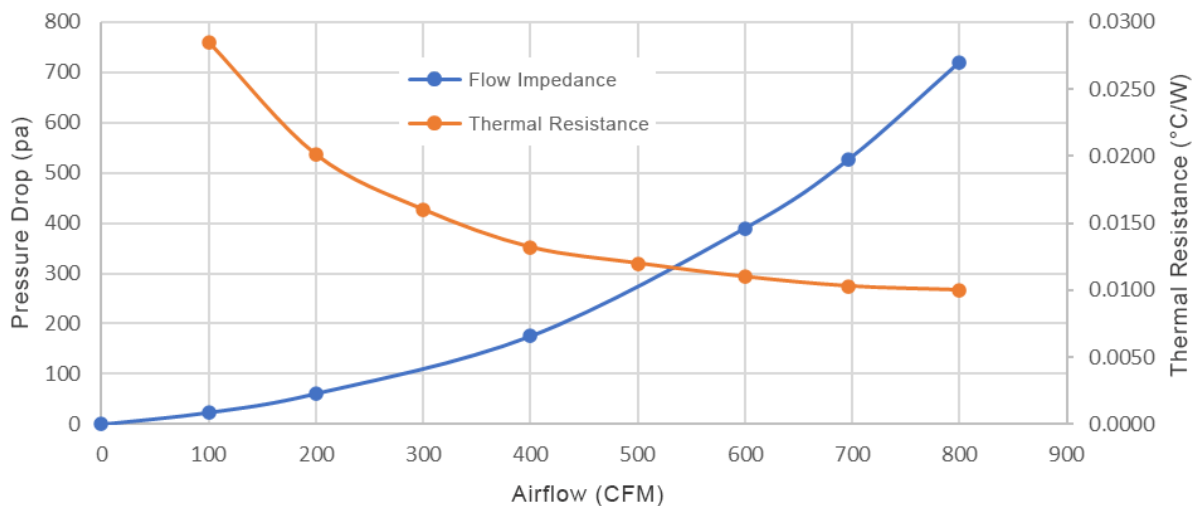
- » **Part Number:** ATS-3012
- » **Thermal Resistance:** 0.015 °C/W
- » **Max TDP:** 13.0 kW ($T_{\text{ambient}} = 20^{\circ}\text{C}$, $T_j = 125^{\circ}\text{C}$)
8.1 kW ($T_{\text{ambient}} = 20^{\circ}\text{C}$, $T_j = 85^{\circ}\text{C}$)
- » **Air Mover:** 8 fans
- » **Fan Voltage:** 12 VDC
- » **Noise:** 83 dB
- » **Material:** Aluminum Duct, Aluminum Heat Sink
- » **Filter Material:** Aluminum Frame with Polyurethane Foam
- » **Overall Dims.:** 680 x 128 x 104.3 mm (26.77 x 5.04 x 4.11")
- » **Base Dimensions:** 675 x 60 mm (26.57 x 2.36")
- » **Weight:** 5062g (11.16 lbs)
- » **Lead Wire Pin Out:** 7 AWG Wire

Positive (+)	Negative (-)	Control
Red	Black	Brown



- » User can mount the PCB that powers and houses the PWM fan controller on the side of the unit by removing the plugs highlighted in red.

ATS-3012 Impedance and Performance



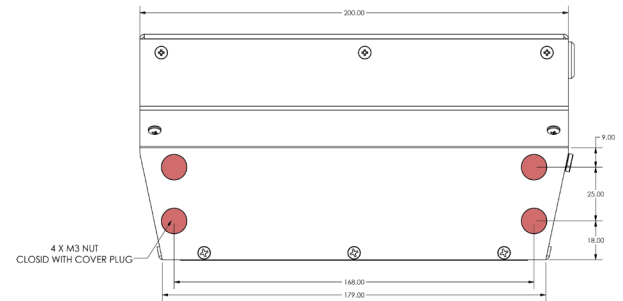
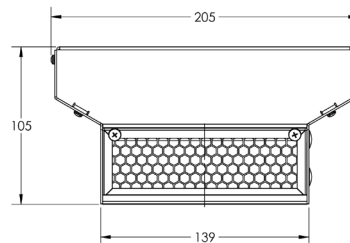
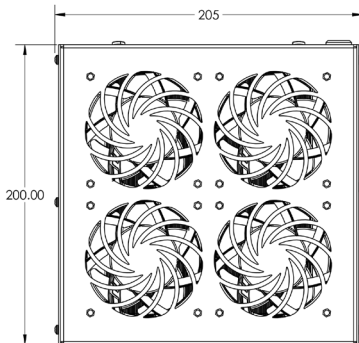


ATS-3013



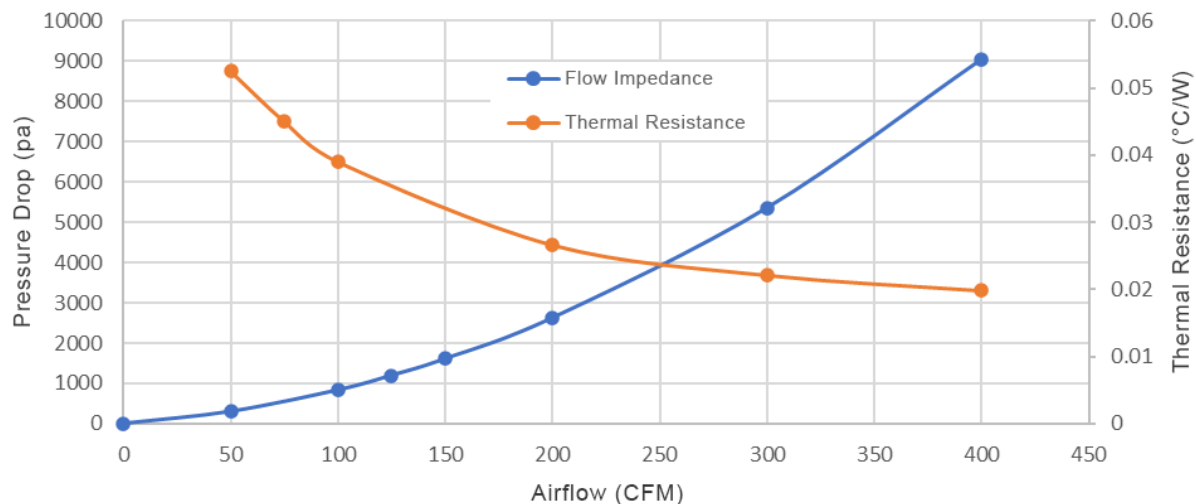
- » **Part Number:** ATS-3013
- » **Thermal Resistance:** 0.034 °C/W
- » **Max TDP:** 6.2 kW ($T_{\text{ambient}} = 20^{\circ}\text{C}$, $T_j = 125^{\circ}\text{C}$)
3.8 kW ($T_{\text{ambient}} = 20^{\circ}\text{C}$, $T_j = 85^{\circ}\text{C}$)
- » **Air Mover:** 4 fans
- » **Fan Voltage:** 12 VDC
- » **Noise:** 82.5 dB
- » **Material:** Aluminum Duct, Aluminum Heat Sink
- » **Filter Material:** Aluminum Frame with Polyurethane Foam
- » **Overall Dims.:** 205 x 200 x 105 mm (8.07 x 7.87 x 4.13")
- » **Base Dimensions:** 136.2 x 162 mm (5.36 x 6.38")
- » **Weight:** 2516g (5.55 lbs)
- » **Lead Wire Pin Out:** 10 AWG Wire

Positive (+)	Negative (-)	Control
Red	Black	Brown



- » User can mount the PCB that powers and houses the PWM fan controller on the side of the unit by removing the plugs highlighted in red.

ATS-3013 Impedance and Performance



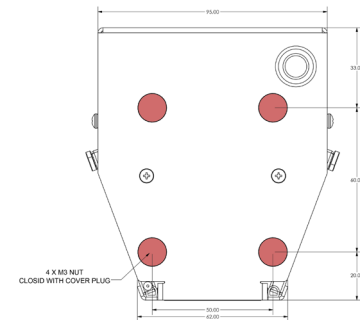
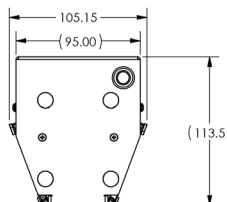
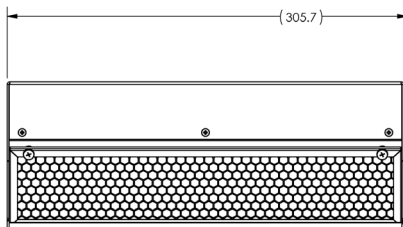


ATS-3014



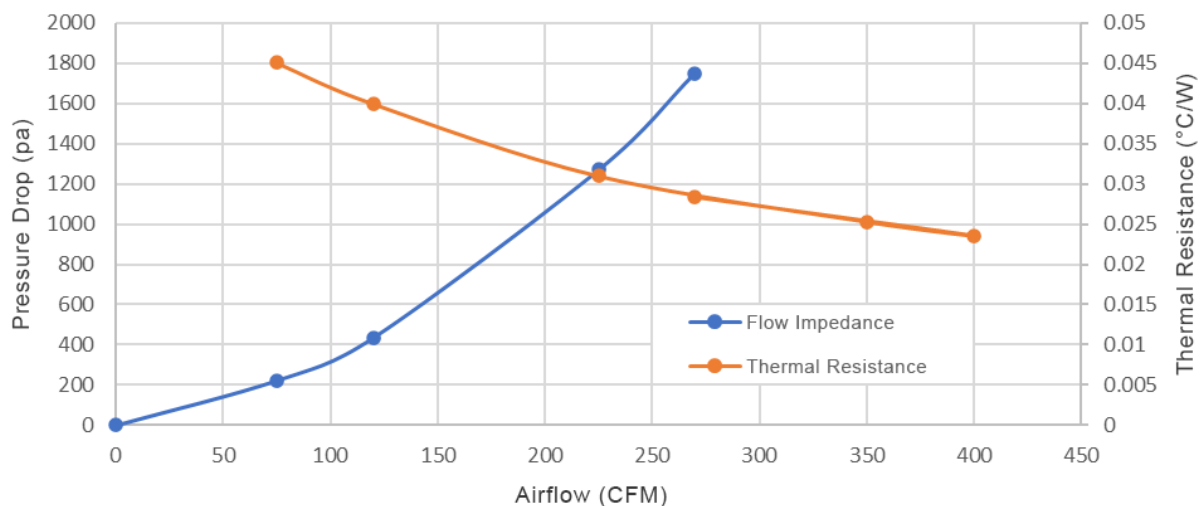
- » **Part Number:** ATS-3014
- » **Thermal Resistance:** 0.05 °C/W
- » **Max TDP:** 3.9 kW ($T_{\text{ambient}} = 20^{\circ}\text{C}$, $T_j = 125^{\circ}\text{C}$)
2.4 kW ($T_{\text{ambient}} = 20^{\circ}\text{C}$, $T_j = 85^{\circ}\text{C}$)
- » **Air Mover:** 3 fans
- » **Fan Voltage:** 12 VDC
- » **Noise:** 82.5 dB
- » **Material:** Aluminum Duct, Aluminum Heat Sink
- » **Filter Material:** Aluminum Frame with Polyurethane Foam
- » **Overall Dims.:** 306 x 105 x 113.5 mm (12.05 x 4.13 x 4.47")
- » **Base Dimensions:** 300 x 40 mm (11.81 x 1.57")
- » **Weight:** 1850g (4.08 lbs)
- » **Lead Wire Pin Out:** 11 AWG Wire

Positive (+)	Negative (-)	Control
Red	Black	Brown



- » User can mount the PCB that powers and houses the PWM fan controller on the side of the unit by removing the plugs highlighted in red.

ATS-3014 Impedance and Performance

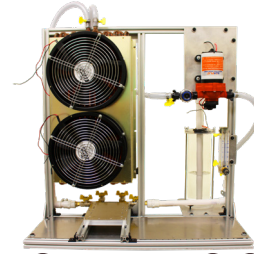




WHY CHOOSE POLARVrTX™ AIR COOLING OVER LIQUID COOLING?



POLARVrTX™



LIQUID LOOP

Single unit design
using air can be
easily implemented



**IMPLEMENTATION
SIMPLICITY**

Requires plumbing,
electrical, fittings,
fans & larger
footprint

Single unit solution
with fan
Less than \$500



**COST TO
DEPLOY**

Multi-part solution
including heat
exchanger, cold plate,
& pumps - \$1500+

Very low
maintenance:
Must ensure fin
spacing stays clean



**COST OF
MAINTENANCE**

Higher maintenance
due to possible leaks
or fungus growth

Mechanical fans
create noise due
to high speeds



**ACOUSTIC
NOISE**



Liquid cooling is
generally low noise

A uniform base
temperature helps
LED's keep their
consistent color



**TEMPERATURE
UNIFORMITY**

Mouser Electronics

Authorized Distributor

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