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

Airflow through POLARVrTX
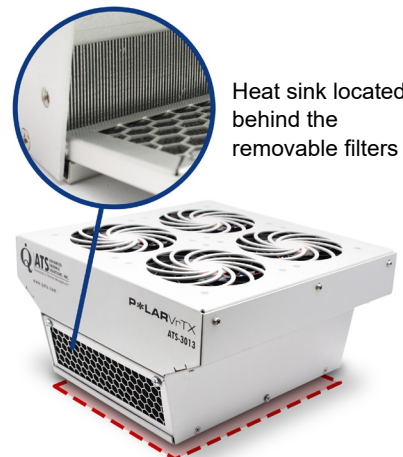
Heat sink located behind the removable filters

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

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ATS-3012

» **Part Number:** ATS-3012

» **Thermal Resistance:** 0.015 °C/W

» **Max TDP:** 13.0 kW ($T_{ambient}$ = 20°C, T_j = 125°C)

   8.1 kW   ($T_{ambient}$ = 20°C, T_j = 85°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
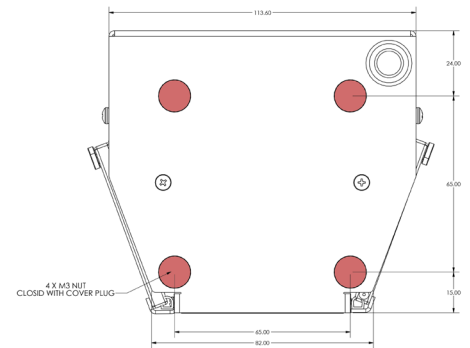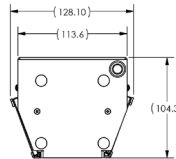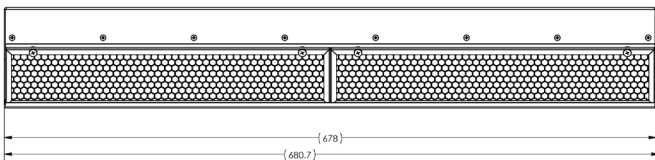
» User can mount the PCB that powers and houses the PWM fan controller on the side of the unit by removing the plugs highlighted in red.
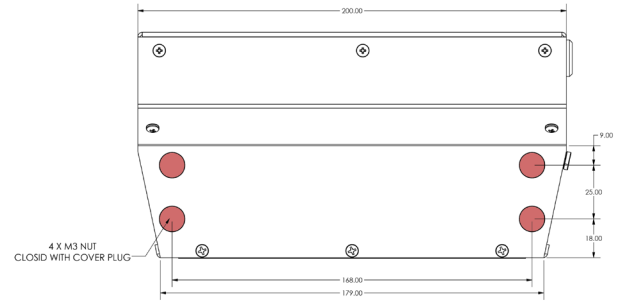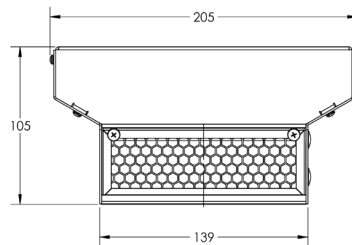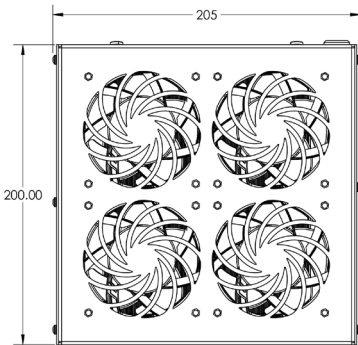
ATS-3012 Impedance and Performance
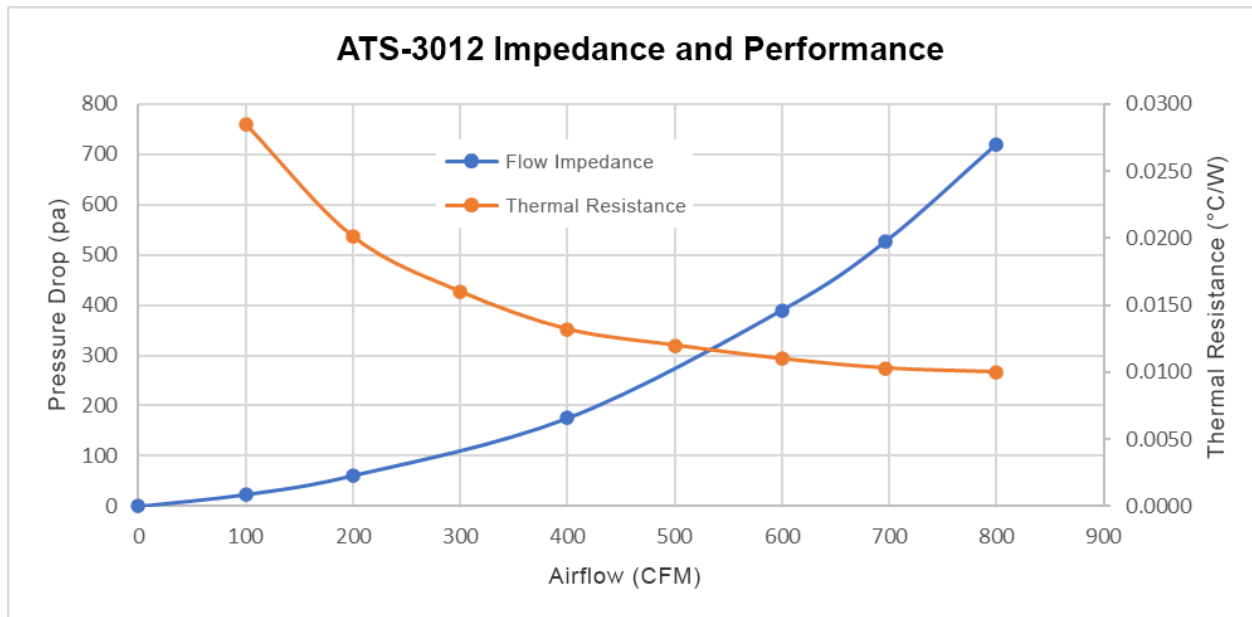
ATS-3013

» **Part Number:** ATS-3013

» **Thermal Resistance:** 0.034 °C/W

» **Max TDP:** 6.2 kW ($T_{ambient}$ = 20°C, T_j = 125°C)

   3.8 kW ($T_{ambient}$ = 20°C, T_j = 85°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.
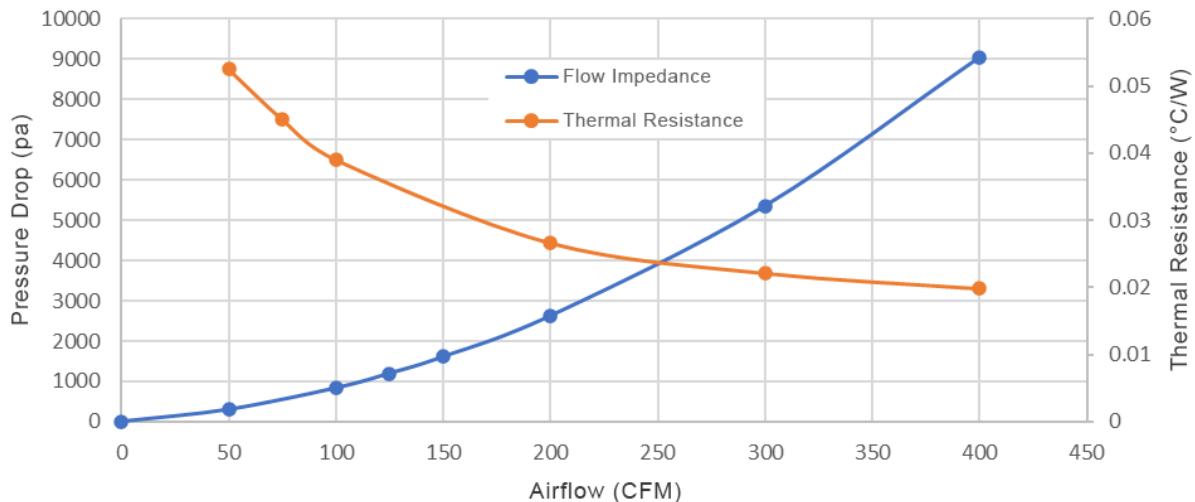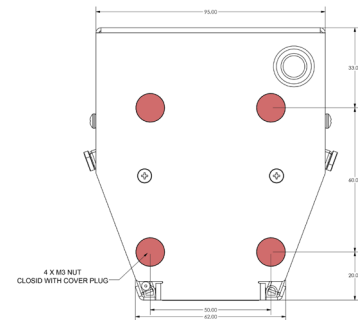
ATS-3014

- » **Part Number:** ATS-3014
- » **Thermal Resistance:** 0.05 °C/W
- » **Max TDP:** 3.9 kW ($T_{ambient}$ = 20°C, T_j = 125°C)
  2.4 kW ($T_{ambient}$ = 20°C, T_j = 85°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.
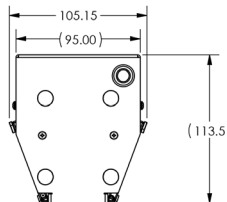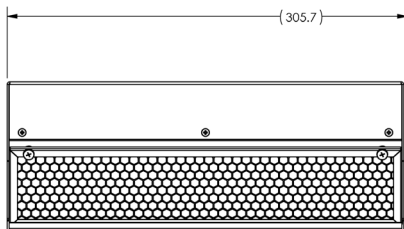

ATS-3014 Impedance and Performance

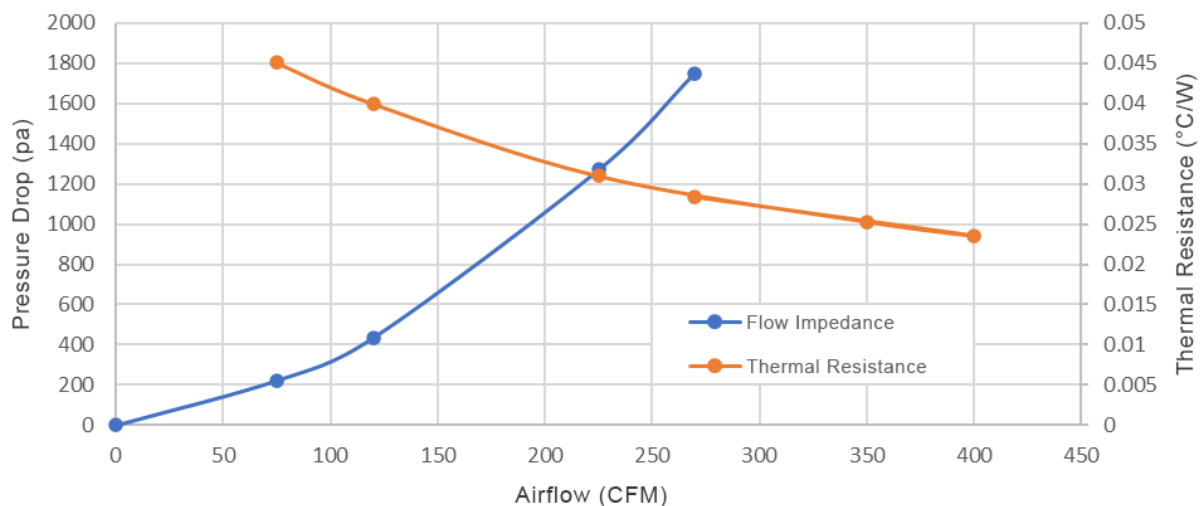# WHY CHOOSE POLARVrTX™ AIR COOLING OVER LIQUID COOLING?

POLARVrTX™

LIQUID LOOP

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**	

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