



ADVANCED COOLING TECHNOLOGIES

The Thermal Management Experts | www.1-ACT.com

SEALED ENCLOSURE COOLING



ABOVE-AMBIENT AND SUB-AMBIENT COOLERS

HSC SERIES

HEAT SINK COOLER
HEAT EXCHANGER



ECONOMIC

Part Number	Cooling Capacity Watts/°C
ACT-HSC-22:	22.0
ACT-HSC-45:	45.0
ACT-HSC-68:	68.0

PAGES 3-4

HPC SERIES

HEAT PIPE COOLER
HEAT EXCHANGER



COMPACT

Part Number	Cooling Capacity Watts/°C
ACT-HPC-15:	15.0
ACT-HPC-40:	40.0
ACT-HPC-50:	50.0
ACT-HPC-80:	80.0

PAGES 5-6

TEC SERIES

THERMOELECTRIC COOLER
AIR CONDITIONER



ENVIRONMENTALLY FRIENDLY

Part Number	Cooling Capacity Watts/°C
ACT-TEC-90:	300
ACT-TEC-300:	1,000

PAGES 7-8

VCC SERIES

VAPOR COMPRESSION
COOLER AIR CONDITIONER



HIGH POWER

Part Number	Cooling Capacity Watts/°C
ACT-VCC-1000-DC:	1000
ACT-VCC-2000-AC:	2,000
ACT-VCC-3000-DC:	3,000
ACT-VCC-5000-AC:	5,000

PAGES 9-12



ONLINE SELECTION TOOL

This tool was designed by our engineering team to help you quickly and easily select the appropriate cooler for your application.



ONLINE ORDERING

Get your units fast with our convenient and easy to use online ordering platform.

ACT-HSC SERIES HEAT SINK COOLERS

The Heat Sink Cooler (HSC) series are passive sealed enclosure coolers consisting of two high performance, aluminum finned heat sinks bonded to the opposite sides of a common mounting plate.

- Highest performance versus cost ratio on the market
- “Thin profile,” *i.e., only 3.70” intrusion into the enclosure*
- Easy to install
- Few penetrations by cover fasteners, mounting fasteners and external fan wires create optimal seal
- Dual axial ball bearing fans provide years of maintenance free operation
- 1-Year Warranty *see ACT's Terms and Conditions*

Patent Pending



HSC-22



HSC-45



HSC-68

Part Number	Thermal Conductance Watts/°C	Thermal Capacity Watts @ 20°C ΔT	Weight*** lbs (kg)	Height	Width	Depth
ACT-HSC-22**	22.0	440	17 (7.7)	12.00" 304.8mm	12.00" 304.8mm	7.88" 200.1mm
ACT-HSC-45	45.0	900	35 (15.8)	21.75" 552.5mm	12.00" 304.8mm	7.88" 200.1mm
ACT-HSC-68	68.0	1,360	51 (23.1)	31.38" 796.9mm	12.00" 304.8mm	7.88" 200.1mm

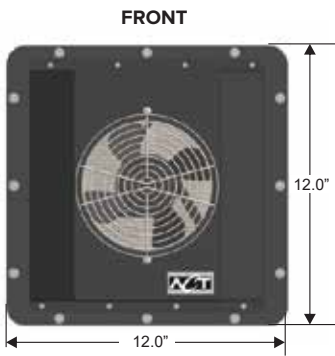
* Depth is total depth; insertion depth = 3.70" into the cabinet. See solid model for full dimension details
 ** Shows dimensions for DC model in NEMA 3R, 4, 4X versions; check the solid model for other variants.
 *** Approximate weight for powder-coated aluminum shown, contact ACT for NEMA 4X weights

ACT-HSC SERIES FEATURES AND OPTIONS

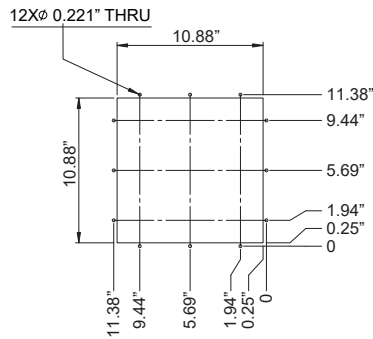
Environment	Indoor or Outdoor Use
Electrical Configuration	115VAC, 230VAC, 12VDC, 24VDC and 48VDC <ul style="list-style-type: none"> • AC units arrive with 6ft. long 3-pronged plug • DC units arrive with bare 6 ft. long lead wires
UL Listing & UL Recognition	The 115VAC units received a UL listing mark. All other voltage options are UL Rated/UL Recognized
NEMA Options	12, 3R, 4 and 4X, UL50E Certified
Fans	UL Listed 6.0" dual ball bearing type axial fans (dry & wet locations)
Mounting Plate	Aircraft quality 6061 aluminum
HSC Housing	Powder coated aluminum, Optional: 316 stainless steel
Mounting Options	Top, side, front, or back
Operating Temperature	Range: -10°C to +70°C (14°F to 158°F)
Expected Fan Life	>100,000 Hours at 25°C (77°F)

ACT-HSC DIMENSIONS AND INSTALLATION

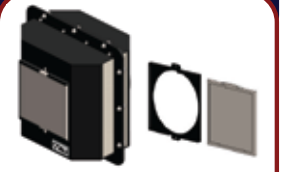
ACT-HSC-22



ACT-HSC-22 ENCLOSURE CUTOUT TEMPLATE

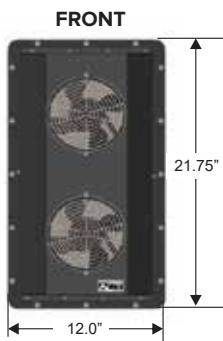


OPTIONAL ACCESSORIES

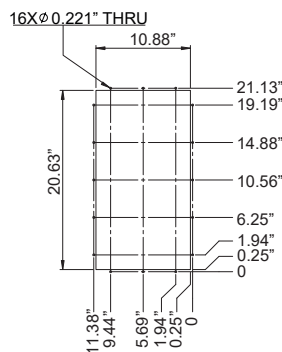


Filter Kit Options for Added Reliability

ACT-HSC-45

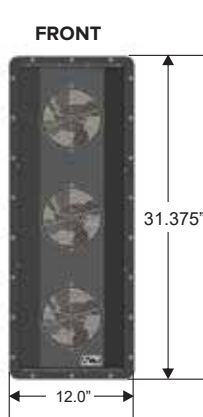


ACT-HSC-45 ENCLOSURE CUTOUT TEMPLATE

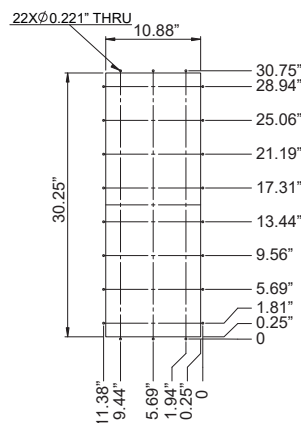


Full Range of HSC Replacement Fans

ACT-HSC-68



ACT-HSC-68 ENCLOSURE CUTOUT TEMPLATE



NEMA 3R Rain Hood Option



NEMA 3R Rain Hood Version

Available for all ACT-HSC versions

Rain guards; removable filters (only needed for excessively dirty environments, i.e. desert or coal mines)

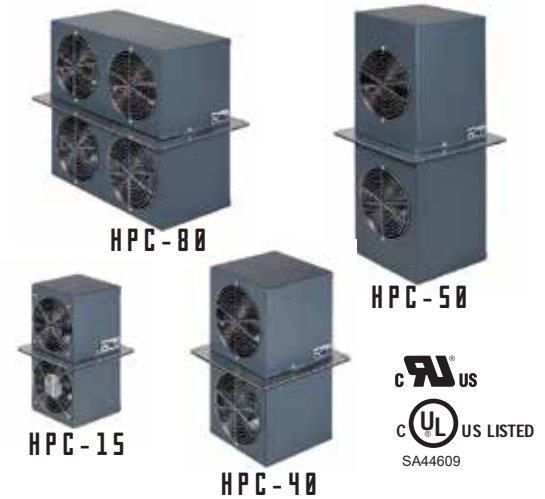
MAXIMUM CURRENT DRAW BY MODEL

		MODEL		
NEMA Rating	Voltage	ACT-HSC-22	ACT-HSC-45	ACT-HSC-68
		Maximum Operation Current in Amps	Maximum Operation Current in Amps	Maximum Operation Current in Amps
4X, 4, 3R (12)	12VDC	3.60 (3.90)	7.20 (7.80)	10.80 (11.70)
4X, 4, 3R (12)	24VDC	3.44 (1.66)	3.28 (3.32)	4.92 (4.98)
4X, 3R (12)	48VDC	0.88 (0.92)	1.76 (1.84)	2.64 (2.76)
4X, 4, 3R, 12	115VAC	0.72	1.44	2.16
4X, 4, 3R, 12	230VAC	0.38	0.76	1.14

ACT-HPC SERIES HEAT PIPE COOLER

The Heat Pipe Cooler (HPC) series are passive sealed enclosure coolers consisting of a heat pipe heat exchanger core with advanced fin features for enhanced heat transfer performance

- Optimized for high performance/volume ratios.
 - Best performance when installed vertically through the top wall (roof) of the enclosure
 - Performance may decrease slightly when installed horizontally through a side wall of the enclosure (Contact ACT for details)
- Easy to install
- Smaller opening footprint on the enclosure wall than the HSC-series
- Dual axial ball bearing fans provide years of maintenance free operation
- 1-Year Warranty (See ACT's Terms and Conditions)



Part Number	Thermal Conductance Watts/ °C	Thermal Capacity Watts @ 20 °C ΔT	Weight* lbs (kg)	Height	Width	Depth	Insertion Depth	Mounting Plate
ACT-HPC-15	15.0	300	7 (3.2)	11.30" 287.0mm	5.43" 137.9mm	5.36" 136.1mm	5.63" 143.0mm	6.75" x 6.75" 171.5mm x 171.5mm
ACT-HPC-40	40.0	800	17 (7.72)	15.00" 381.0mm	7.93" 201.4mm	7.90" 200.7mm	7.47" 189.7mm	10.0" x 10.0" 254.0mm x 254.0mm
ACT-HPC-50	50.0	1,000	27 (12.2)	22.00" 558.8mm	7.93" 201.4mm	7.90" 200.7mm	10.97" 278.6mm	10.0" x 10.0" 254.0mm x 254.0mm
ACT-HPC-80	80.0	1,600	37 (16.8)	15.00" 381.0mm	15.43" 391.9mm	7.90" 200.7mm	7.47" 189.7mm	10.0" x 17.5" 254.0mm x 444.5mm

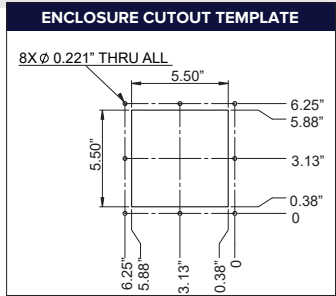
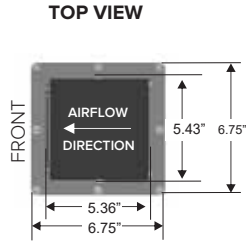
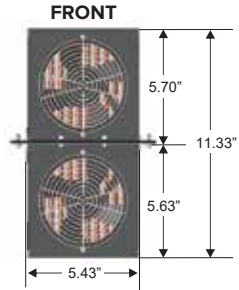
* Approximate weight for powder-coated aluminum shown, contact ACT for NEMA 4X weights

ACT-HPC SERIES FEATURES AND OPTIONS

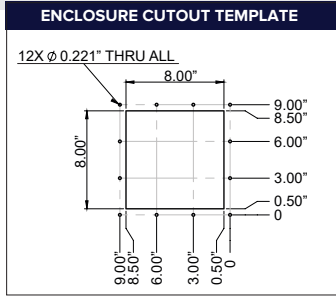
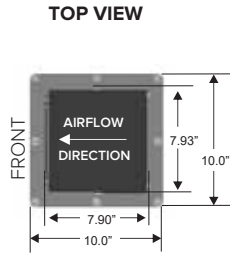
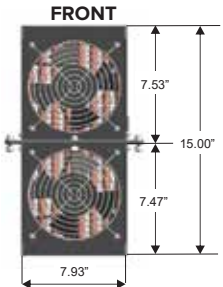
Environment	Indoor or Outdoor Use
Electrical Configuration	115VAC, 230VAC, 12VDC, 24VDC and 48VDC • AC units arrive with 6ft. long 3-pronged plug • DC units arrive with bare 6 ft. long lead wires
UL Listing & UL Recognition	The 115VAC units received a UL listing mark All other versions are UL Rated/UL Recognized.
NEMA Options	12, 3R, 4 and 4X, UL50E Certified
Fans	UL Listed 4.0" and 6.0" dual ball bearing type axial fans (dry & wet locations)
Mounting Plate	304 stainless steel
HPC Housing	Powder coated aluminum, Optional: 316 stainless steel
Mounting Options	Top (best performance); side, front or back (derated performance)
Operating Temperature	Range -10°C to +70°C (14°F to 150°F)
Expected Fan Life	>100,000 Hours at +25°C (77°F)

ACT-HPC SERIES HEAT PIPE COOLERS

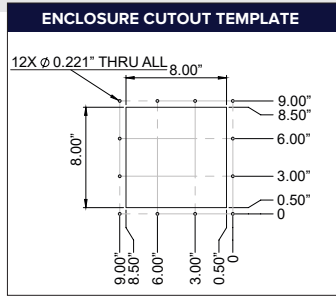
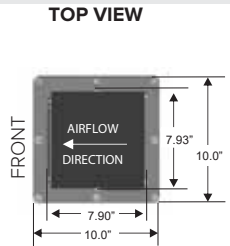
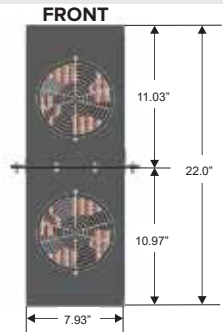
ACT-HPC-15



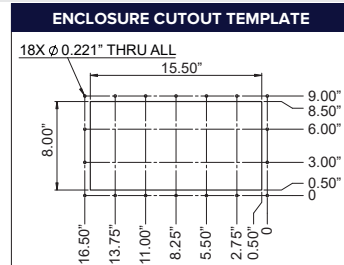
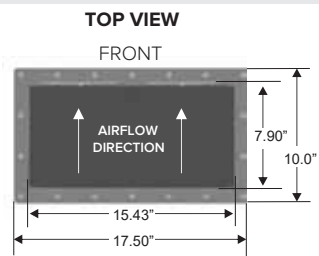
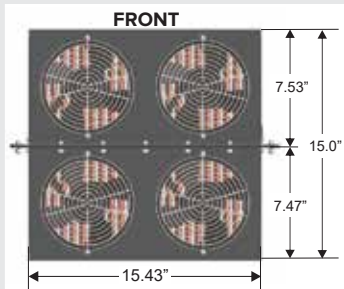
ACT-HPC-40



ACT-HPC-50



ACT-HPC-80



OPTIONAL ACCESSORIES

Filter Kit Options for Added Reliability

Full Range of HPC Replacement Fans

NEMA 3R Rain Hood Option
Available for all ACT-HPC versions

Wedge to Provide Tilt

Rain guards; removable filters (only needed for excessively dirty environments, i.e. desert or coal mines)

MAXIMUM CURRENT DRAW BY MODEL

		MODEL			
NEMA Rating	Voltage	ACT-HPC-15	ACT-HPC-40	ACT-HPC-50	ACT-HPC-80
		Maximum Operation Current in Amps	Maximum Operation Current in Amps	Maximum Operation Current in Amps	Maximum Operation Current in Amps
4, 4X, 3R (12)	12VDC	1.80	3.60 (3.90)	3.60 (3.90)	7.20 (7.80)
4, 4X, 3R (12)	24VDC	0.92	1.64 (1.66)	1.64 (1.66)	3.28 (3.32)
4, 4X, 3R (12)	48VDC	0.52	0.88 (0.92)	0.88 (0.92)	1.76 (1.84)
4, 4X, 3R, 12	115VAC	0.60	0.72	0.72	1.44
4, 4X, 3R, 12	230VAC	0.28	0.38	0.38	0.76

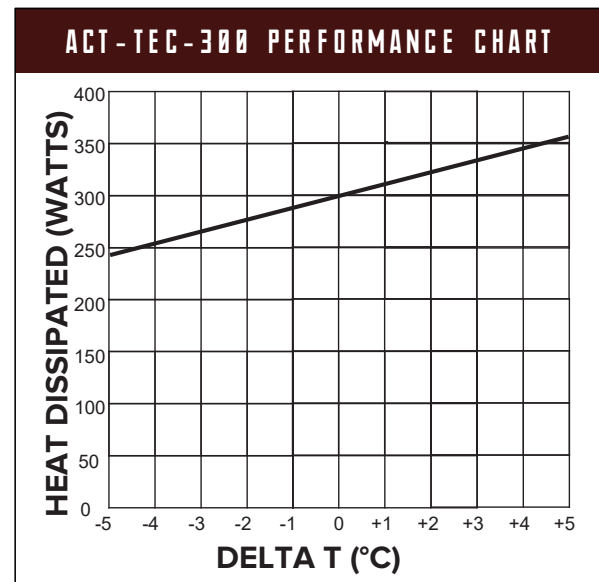
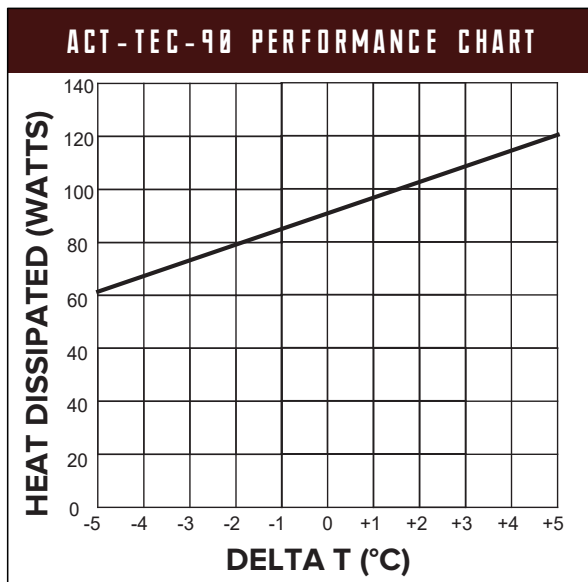
ACT-TEC SERIES THERMOELECTRIC COOLERS

The Thermoelectric Coolers (TEC) series are compact solid state air conditioners. These designs use peltier cooling which can provide efficient and reliable long term operation for low power applications. ACT-TEC's meet industrial requirements for operation twenty four hours a day, seven days per week. With no refrigerant, minimal maintenance expected over a long life.

- Reliable: No compressors, refrigerants or pumps
- Powder coated aluminum construction
- Units are configured for cooling mode, an additional heating mode is available upon request.
- Operating voltages of 24VDC, 115VAC, and 230VAC
- Built-in temperature control with adjustable thermostat
- Low vibration, long life dual ball bearing fans; with over 100,000 hours of continuous operation.
- Wash-down spray-down applications
- 1-Year Warranty *see ACT's Terms and Conditions*



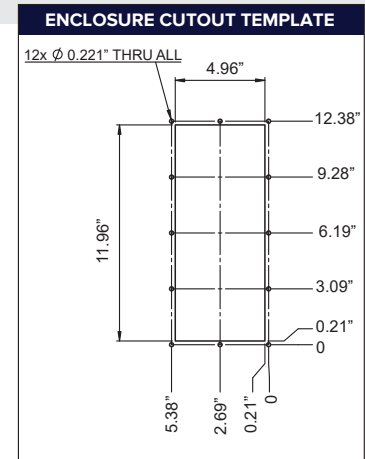
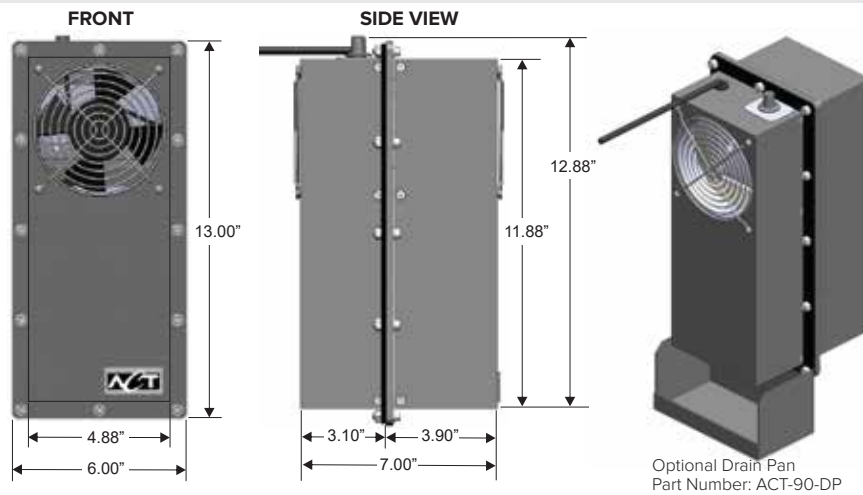
Part Number	Cooling Capacity Watts/BTU's At 0°C ΔT	Operating Voltage Ranges	Weight lbs (kg)	Height	Width	Depth**	Insertion Depth	Mounting Plate
ACT-TEC-90	90/300	24VDC, 115VAC, 230VAC	13 (5.9)	11.88" 301.8mm	4.88" 124.0mm	7.00" 177.8mm	3.10" 78.7mm	13.00" x 6.00" 330.2mm x 152.4mm
ACT-TEC-300	300/1,000	24VDC, 115VAC, 230VAC	50 (22.7)	18.88" 479.6mm	12.50" 317.50mm	8.0" 203.2mm	3.25" 82.6mm	20.00" x 13.75" 508.0mm x 349.3mm



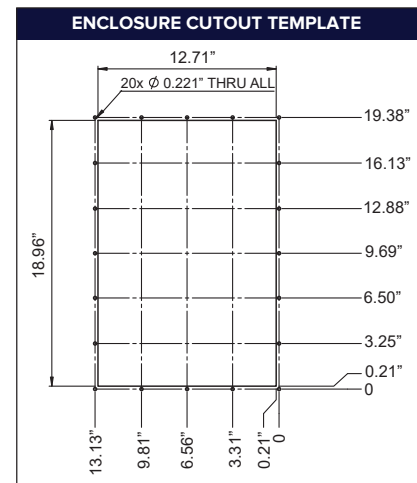
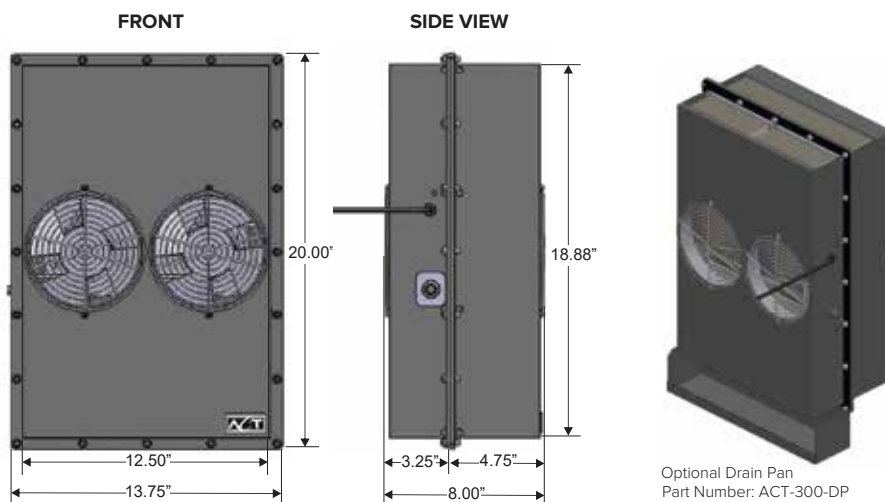
Note: Delta T is the temperature difference between the inside enclosure temperature to the outside enclosure temperature

ACT-TEC DIMENSIONS AND INSTALLATION

ACT-TEC-90



ACT-TEC-300



ACT-TEC SERIES FEATURES AND OPTIONS

Operating Temperature Range	-10°C to 50°C, higher/ranges available on request
NEMA Rating	NEMA 4
Mounting Plate	Powder coated aluminum: RAL 7043
TEC Housing	Powder coated aluminum: RAL 7043
Mounting Options	Side mounted standard, flush mounting optional versions
Weight	ACT-TEC-90 = 13 lbs. and ACT-TEC-300 = 50 lbs.
Accessories	(Optional) Condensate drip pan

Note: ACT-TEC standard units are configured for cooling mode. An additional heating mode and other operating temperatures or voltages are available upon request.

ACT - VCC SERIES VAPOR COMPRESSION COOLERS

The Vapor Compression Cooler series offer an industry-leading combination of performance and efficiency. With indoor air temperature control and a IP55 seal, these Air Conditioners can be integrated into harsh environments and still provide a cool and clean operating space for your electronics. With their plug-and-play design and readily available inventory, you can quickly and easily integrate ACT's Air Conditioners into your electronics cabinet

- Harsh Environment Capability (IP55)
- Plug-and-play capability which ensures fast and effective set-up.
- A flanged design is incorporated for convenient through-wall (or cabinet door) mounting
- 1-Year Warranty (see ACT's Terms and Conditions) with an expected 10 year lifetime



ACT-VCC-1000

ACT-VCC-3000

Part Number	Cooling Capacity @35C/35C	Voltage(type)	Weight: lbs (kg)	Height	Width	Depth
ACT-VCC-1000-DC	1000W	48V (DC)	46 (21)	31.22" 793mm	15.00" 381mm	6.89" 175mm
ACT-VCC-2000-AC	2000W	220-240V (AC)	71 (32)	29.33" 745mm	17.52" 445mm	7.87" 200mm
ACT-VCC-3000-DC	3000W	48V (DC)	104 (47)	45.30" 1150mm	19.09" 485mm	8.86" 225mm
ACT-VCC-5000-AC	5000W	220-240V (AC)	154 (70)	51.18" 1300mm	23.62" 600mm	11.81" 300mm

ACT - VCC SERIES FEATURES AND OPTIONS

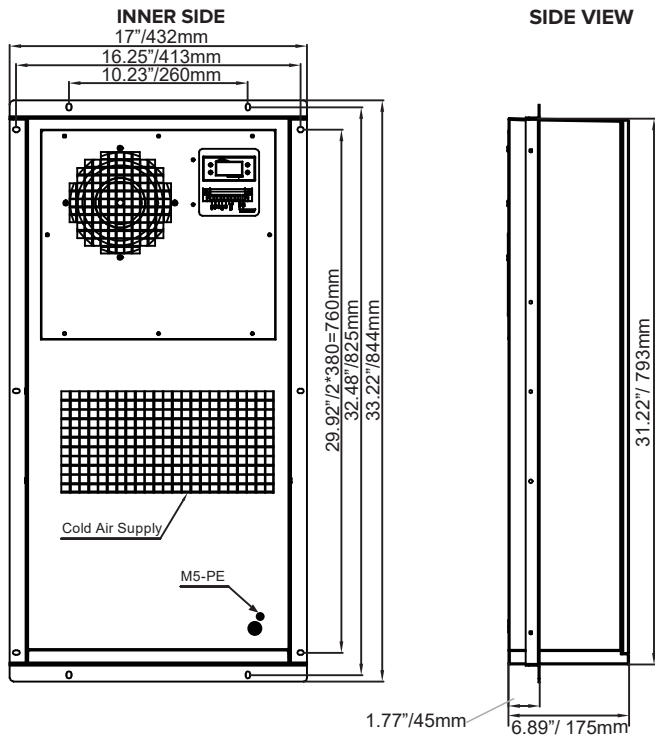
Environment	Indoor or Outdoor Use
Electrical Configuration	220-240VAC and -48VDC (all units arrive with bare lead wires)
Seal Rating	IP55
VCC Housing	Powder coated aluminum: Dark Grey 6061
Mounting Options	Designed for door mounting, but can mount to the side or back walls if accessible
Operating Temperature Range	-15°C to +55°C (5°F to 131°F)
Display	LED
Refrigerant	R134a

*DC units are wired for Negative 48 Volt connection.

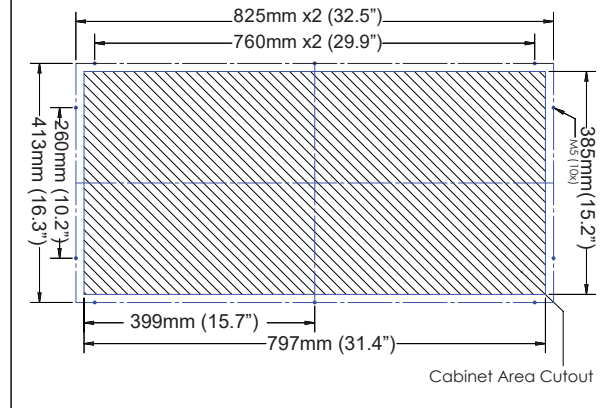
** Insertion Depth: all models extend 1.77"/45mm into the enclosure

ACT-VCC-SERIES DIMENSIONS & INSTALLATION

ACT-VCC-1000-DC

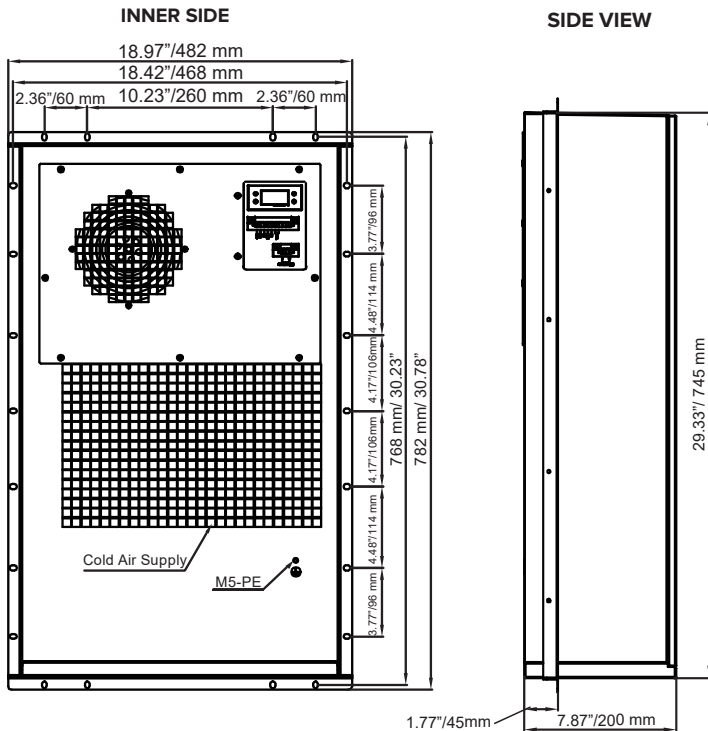


ACT-VCC-1000 CUTOUT TEMPLATE

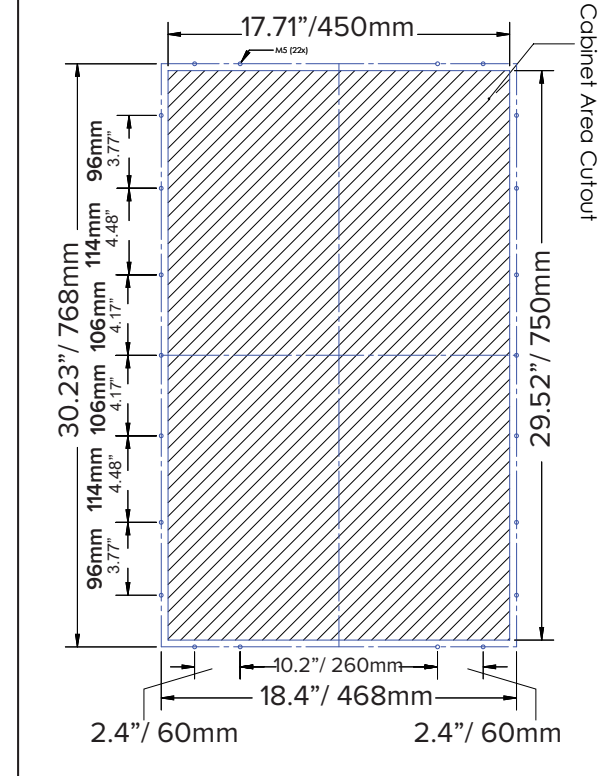


CLICK TO VIEW CUT SHEET
 *SEE PAGE 12 FOR PERFORMANCE DATA

ACT-VCC-2000-AC



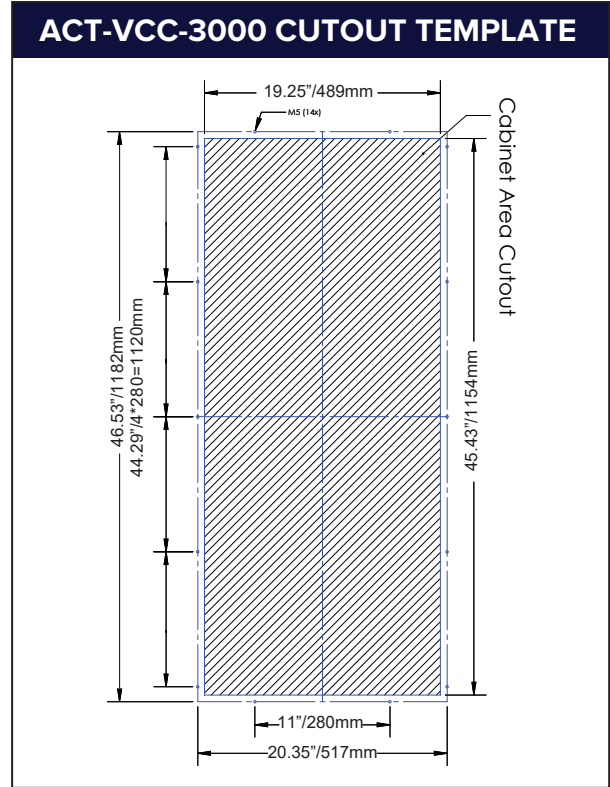
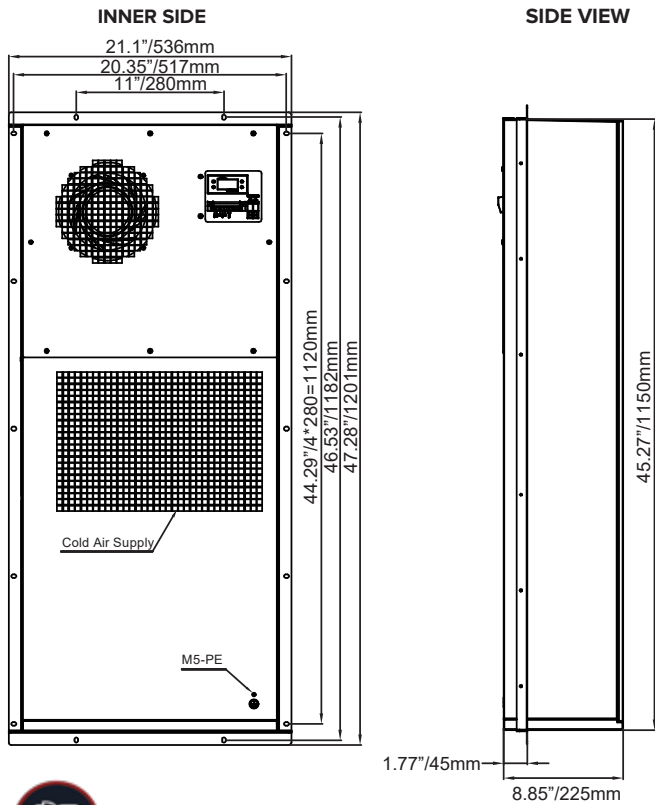
ACT-VCC-2000 CUTOUT TEMPLATE



CLICK TO VIEW CUT SHEET
 *SEE PAGE 12 FOR PERFORMANCE DATA

ACT-VCC-SERIES DIMENSIONS & INSTALLATION

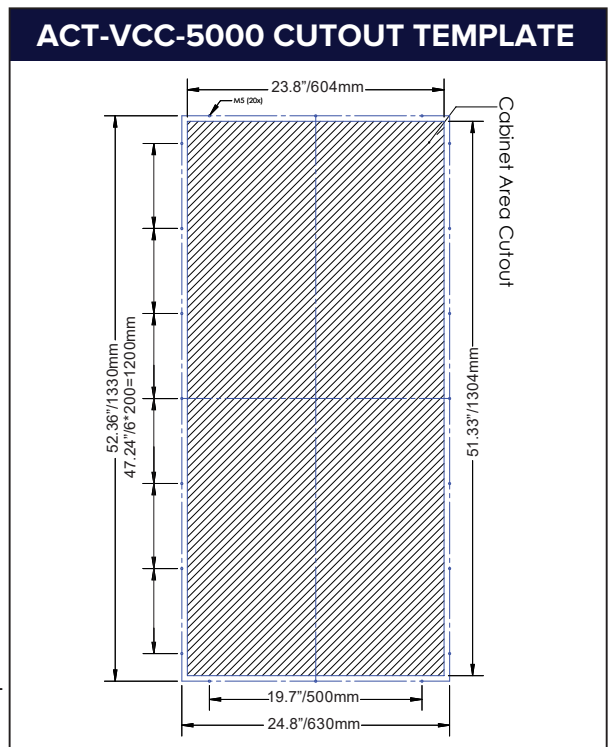
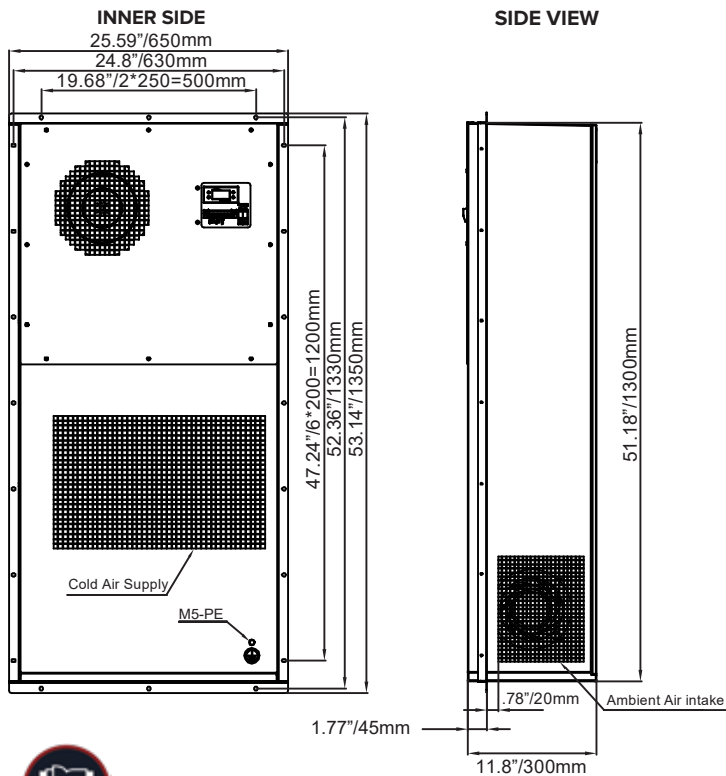
ACT-VCC-3000-DC



CLICK TO VIEW CUT SHEET

*SEE PAGE 12 FOR PERFORMANCE DATA

ACT-VCC-5000-AC

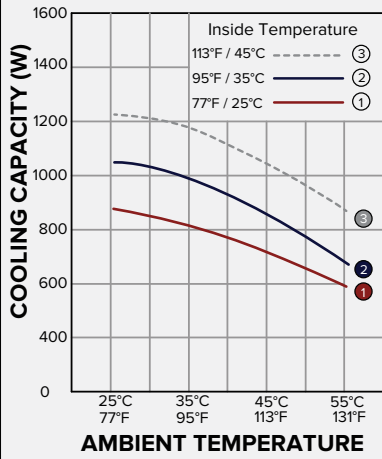


CLICK TO VIEW CUT SHEET

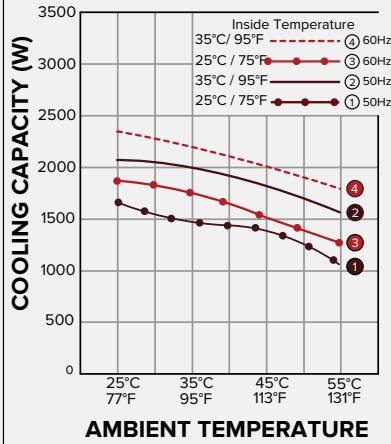
*SEE PAGE 12 FOR PERFORMANCE DATA

ACT-VCC-SERIES PERFORMANCE DATA

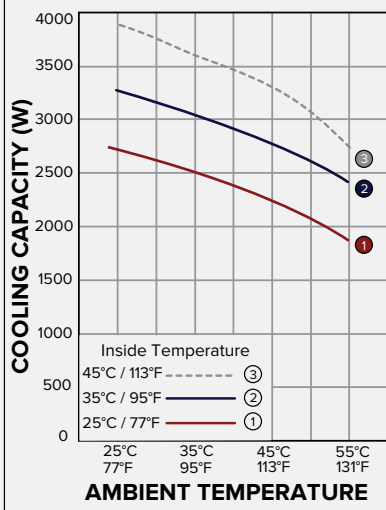
ACT-VCC-1000-DC



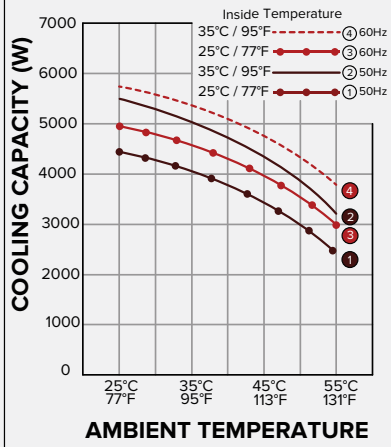
ACT-VCC-2000-AC



ACT-VCC-3000-DC



ACT-VCC-5000-AC



Custom color match available with additional lead time.

QUESTIONS?

CALL: 717-295-6061

EMAIL: ECSALES@1-ACT.COM

IDEAL APPLICATIONS



QUESTIONS?

CALL: 717-295-6061

EMAIL: ECSALES@1-ACT.COM

Files available for download online:

- STEP files
- DXF files
- Install Manuals



ADVANCED COOLING TECHNOLOGIES

1046 New Holland Avenue
Lancaster, PA 17601, USA

1-act.com/markets/enclosure-cooling

MARKETS

Avionics/Aircraft
Electronics Cooling
Enclosure Cooling
Energy
HVAC Energy Recovery
Materials Process
Medical
Military
Photonics
Power Electronics
Spacecraft Thermal Control
Temperature Calibration & Control
Transportation

PRODUCTS

Heat Pipes for Thermal Management
Pumped Two-Phase Cooling (P2P)
Phase Change Material (PCM) Heat Sinks
Spacecraft Thermal Control
Sealed Enclosure Coolers
HVAC Heat Pipe Heat Exchangers
Loop Thermosyphon
ICE-Lok™ (Isothermal Card Edge wedgelock)
Liquid Cold Plates
Furnace Liners and Blackbody Cavities
Thermal and Mechanical Systems

RESEARCH & DEVELOPMENT

THERMAL TECHNICAL SERVICES

ISO 9001 & AS9100 Certified | ITAR Registered

www.1-ACT.com