Heat Exchangers

TUBE-TO-FIN, LIQUID-TO-AIR HEAT EXCHANGERS



ATS tube-to-fin, liquid-to-air heat exchangers are made with the industry's highest density fins to maximize heat transfer from liquid to air, allowing the liquid to be cooled to lower temperatures than other heat exchangers on the market. The heat exchanger fins and tubes are made of copper to be suitable for a variety of fluids, including water, dielectric fluids, and custom designed heat transfer fluids.

Each of the eight heat exchanger sizes is available with or without a fan. ATS heat exchangers can be used in laser cooling, medical equipment and imaging devices, compressor cooling, semiconductor processing, HVAC, food and beverage processing, and other liquid cooling applications.

GENERAL FEATURES

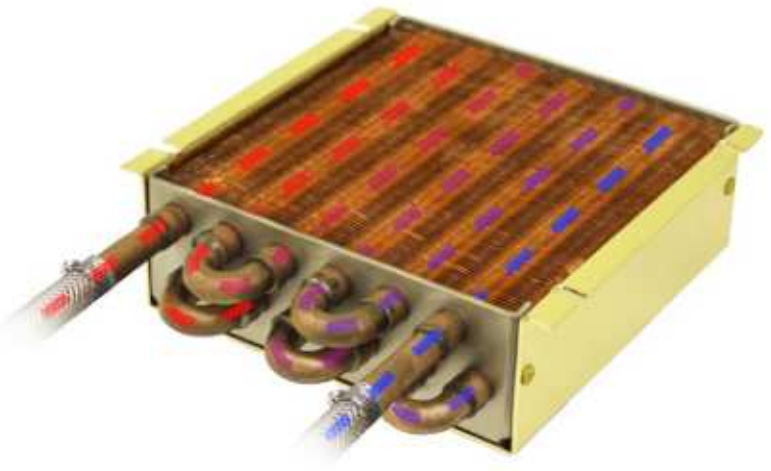
- Length: 3.35" to 21.9"
- Width: 3.35" to 14"
- Height: 1.18" to 2.6"
- Tube diameter: 0.375" and 0.5"
- Copper tubes
- Copper fins
- High-efficiency and high density fin design
- Silver-solder brazed joints
- Internally cleaned and corrosion protected
- Externally coated for corrosion protection
- Can be customized for different fans
- 100% pressure tested

APPLICATIONS

- Automotive
- Aerospace
- Medical
- Laser cooling
- Electronics Cooling
- Compressor Cooling
- Semiconductor Processing
- HVAC



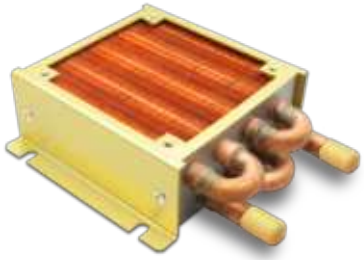
Air is pulled through the heat exchanger when a fan is attached



For further information, please contact Advanced Thermal Solutions, Inc. at **1-781-769-2800** or **www.qats.com**

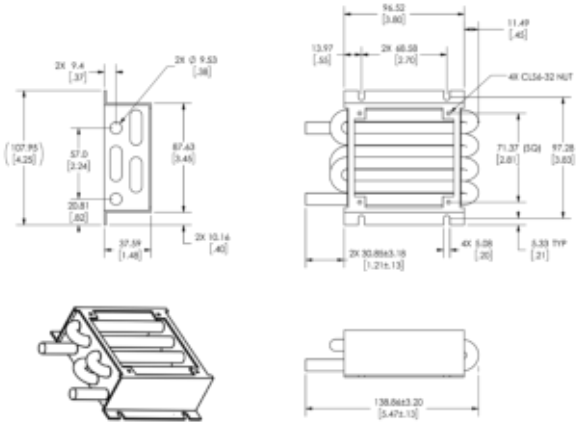
ATS-HE54 SERIES





- Heat transfer capacity up to 10W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)
  3.35” x 3.35” x 1.18” (85.1 x 85.1 x 30 mm)
- Height with fan: 2.68” (68 mm)
- Weight: 400g (0.88 lbs); Weight w/fan: 486g (1.07 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE54-C1-R0	NO FAN	0	N/A
ATS-HE54-C2-R0	12V	1	3.15” (80 mm) Square
ATS-HE54-C3-R0	12V PWM	1	3.15” (80 mm) Square
ATS-HE54-C4-R0	24V	1	3.15” (80 mm) Square
ATS-HE54-C5-R0	24V PWM	1	3.15” (80 mm) Square
ATS-HE54-C6-R0	48V	1	3.15” (80 mm) Square
ATS-HE54-C7-R0	48V PWM	1	3.15” (80 mm) Square



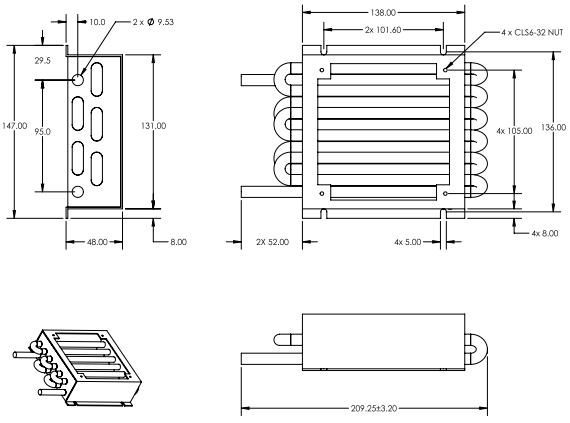
ATS-HE20 SERIES





- Heat transfer capacity up to 22W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)
  5.8” x 5.8” x 1.8” (147.3 x 147.3 x 45.7 mm)
- Height with fan: 3.62” (92 mm)
- Weight: 1077g (2.4 lbs), Weight w/fan: 1411g (3.1 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE20-C1-R0	NO FAN	0	N/A
ATS-HE20-C2-R0	12V	1	4.25” (108 mm) Square
ATS-HE20-C3-R0	12V PWM	1	4.25” (108 mm) Square
ATS-HE20-C4-R0	24V	1	4.25” (108 mm) Square
ATS-HE20-C5-R0	24V PWM	1	4.25” (108 mm) Square
ATS-HE20-C6-R0	48V	1	4.25” (108 mm) Square
ATS-HE20-C7-R0	48V PWM	1	4.25” (108 mm) Square



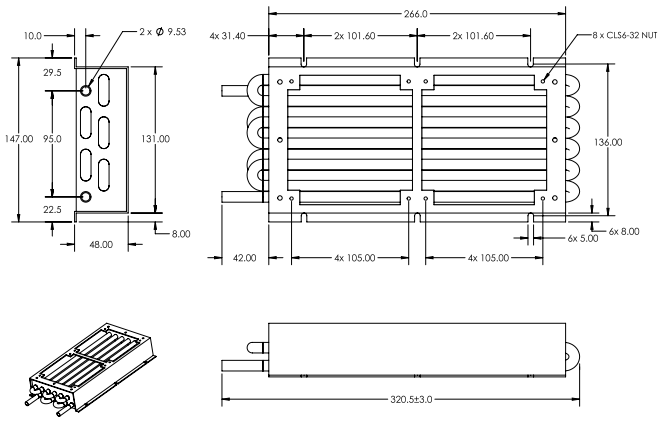
ATS-HE21 SERIES



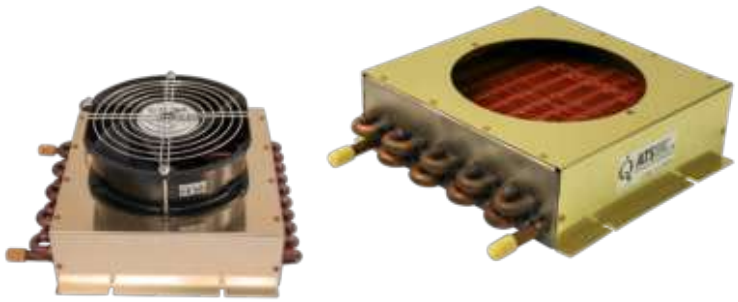
- Heat transfer capacity up to 46W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)

  10.5” x 5.8” x 1.8” (266.7 x 147.3 x 45.7 mm)
- Height with fan: 3.62” (92 mm)
- Weight: 1759g (3.9 lbs); Weight w/fan: 2405g (5.3 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE21-C1-R0	NO FAN	0	N/A
ATS-HE21-C2-R0	12V	2	4.25” (108 mm) Square
ATS-HE21-C3-R0	12V PWM	2	4.25” (108 mm) Square
ATS-HE21-C4-R0	24V	2	4.25” (108 mm) Square
ATS-HE21-C5-R0	24V PWM	2	4.25” (108 mm) Square
ATS-HE21-C6-R0	48V	2	4.25” (108 mm) Square
ATS-HE21-C7-R0	48V PWM	2	4.25” (108 mm) Square



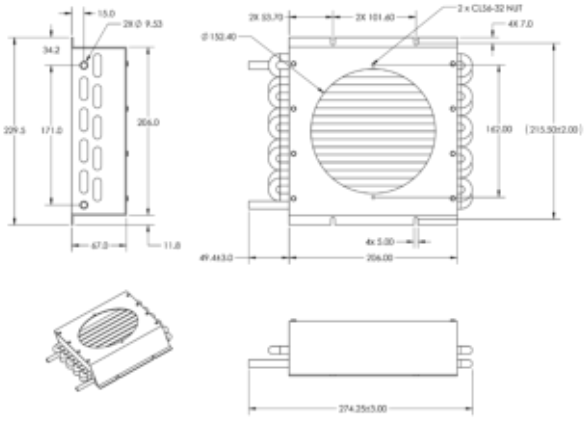
ATS-HE22 SERIES



- Heat transfer capacity up to 64W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)

  9.5” x 9.0” x 2.5” (241.3 x 228.6 x 63.5 mm)
- Height with fan: 4.92” (125 mm)
- Weight: 2211g (4.9 lbs); Weight w/fan: 2854g (6.23 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE22-C1-R0	NO FAN	0	N/A
ATS-HE22-C2-R0	12V	1	6.75” (171.5 mm) Square
ATS-HE22-C3-R0	12V PWM	1	6.75” (171.5 mm) Square
ATS-HE22-C4-R0	24V	1	6.75” (171.5 mm) Square
ATS-HE22-C5-R0	24V PWM	1	6.75” (171.5 mm) Square
ATS-HE22-C6-R0	48V	1	6.75” (171.5 mm) Square
ATS-HE22-C7-R0	48V PWM	1	6.75” (171.5 mm) Square

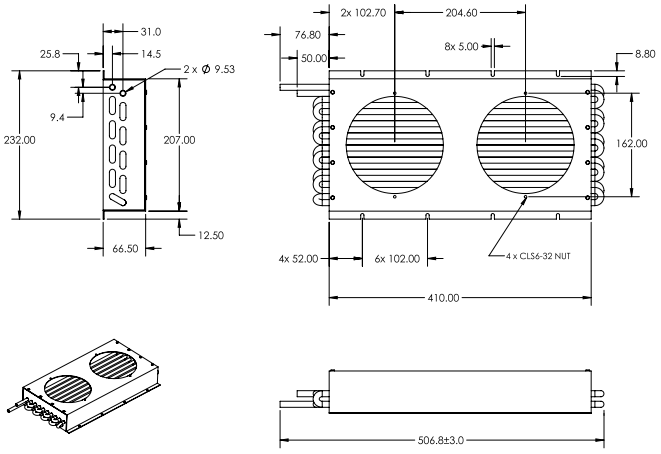


ATS-HE23 SERIES

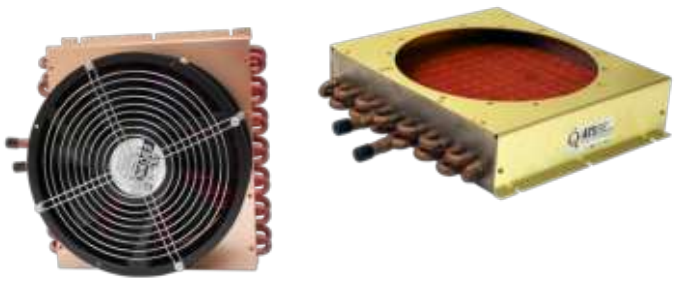


- Heat transfer capacity up to 117W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)
  17.5” x 9.0” x 2.5” (444.5 x 228.6 x 63.5 mm)
- Height with fan: 4.92” (125 mm)
- Weight: 7000g (15.4 lbs); Weight w/fan: 7600g (16.8 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE23-C1-R0	NO FAN	0	N/A
ATS-HE23-C2-R0	12V	2	6.75” (171.5 mm) Square
ATS-HE23-C3-R0	12V PWM	2	6.75” (171.5 mm) Square
ATS-HE23-C4-R0	24V	2	6.75” (171.5 mm) Square
ATS-HE23-C5-R0	24V PWM	2	6.75” (171.5 mm) Square
ATS-HE23-C6-R0	48V	2	6.75” (171.5 mm) Square
ATS-HE23-C7-R0	48V PWM	2	6.75” (171.5 mm) Square

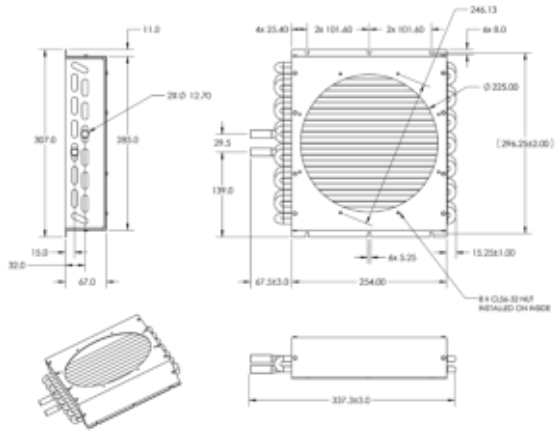


ATS-HE24 SERIES



- Heat transfer capacity up to 97W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)
  11.5” x 12.0” x 2.12” (292.1 x 304.8 x 53.9 mm)
- Height with fan: 6.38” (162 mm)
- Weight: 4018g (8.9 lbs); Weight w/fan: 5791g (12.8 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE24-C1-R0	NO FAN	0	N/A
ATS-HE24-C2-R0	12V	1	10” (254 mm) Square
ATS-HE24-C3-R0	12V PWM	1	10” (254 mm) Square
ATS-HE24-C4-R0	24V	1	10” (254 mm) Square
ATS-HE24-C5-R0	24V PWM	1	10” (254 mm) Square
ATS-HE24-C6-R0	48V	1	10” (254 mm) Square
ATS-HE24-C7-R0	48V PWM	1	10” (254 mm) Square

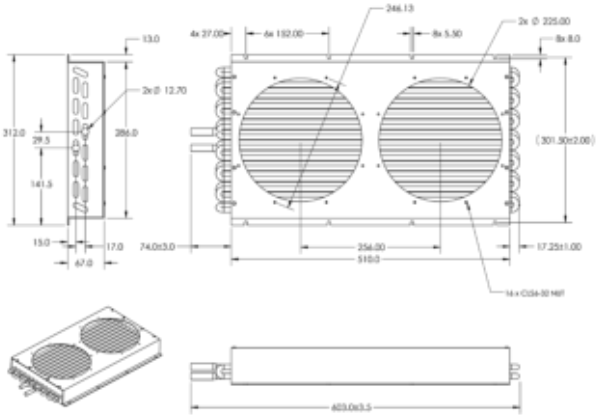


ATS-HE25 SERIES

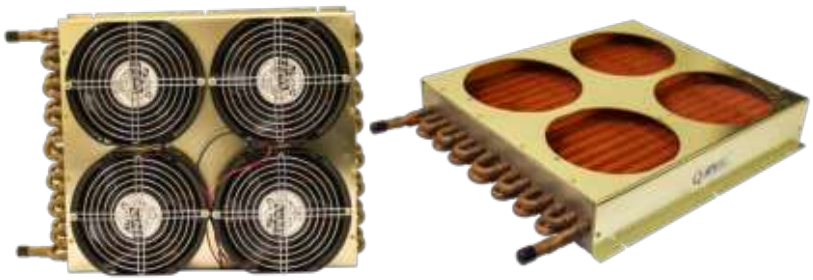


- Heat transfer capacity up to 177W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)
  21.58” x 12.0” x 2.12” (548.1 x 304.8 x 53.9 mm)
- Height with fan: 6.38” (162 mm)
- Weight: 7422g (16.4 lbs); Weight w/fan: 11012g (24.23 lbs)
- Maximum pressure: 100 psi

MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE25-C1-R0	NO FAN	0	N/A
ATS-HE25-C2-R0	12V	2	10” (254 mm) Square
ATS-HE25-C3-R0	12V PWM	2	10” (254 mm) Square
ATS-HE25-C4-R0	24V	2	10” (254 mm) Square
ATS-HE25-C5-R0	24V PWM	2	10” (254 mm) Square
ATS-HE25-C6-R0	48V	2	10” (254 mm) Square
ATS-HE25-C7-R0	48V PWM	2	10” (254 mm) Square

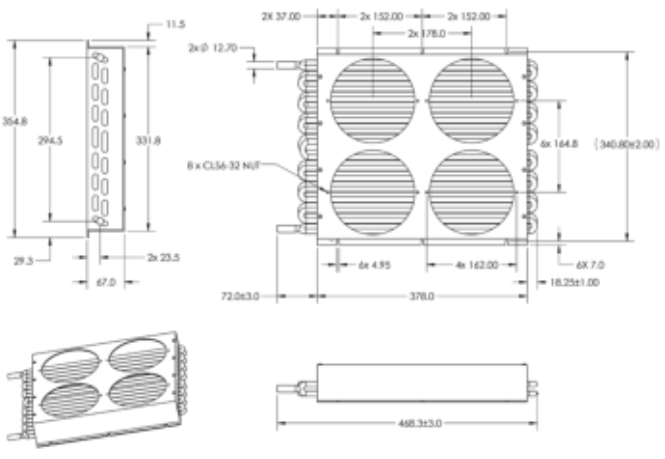


ATS-HE26 SERIES

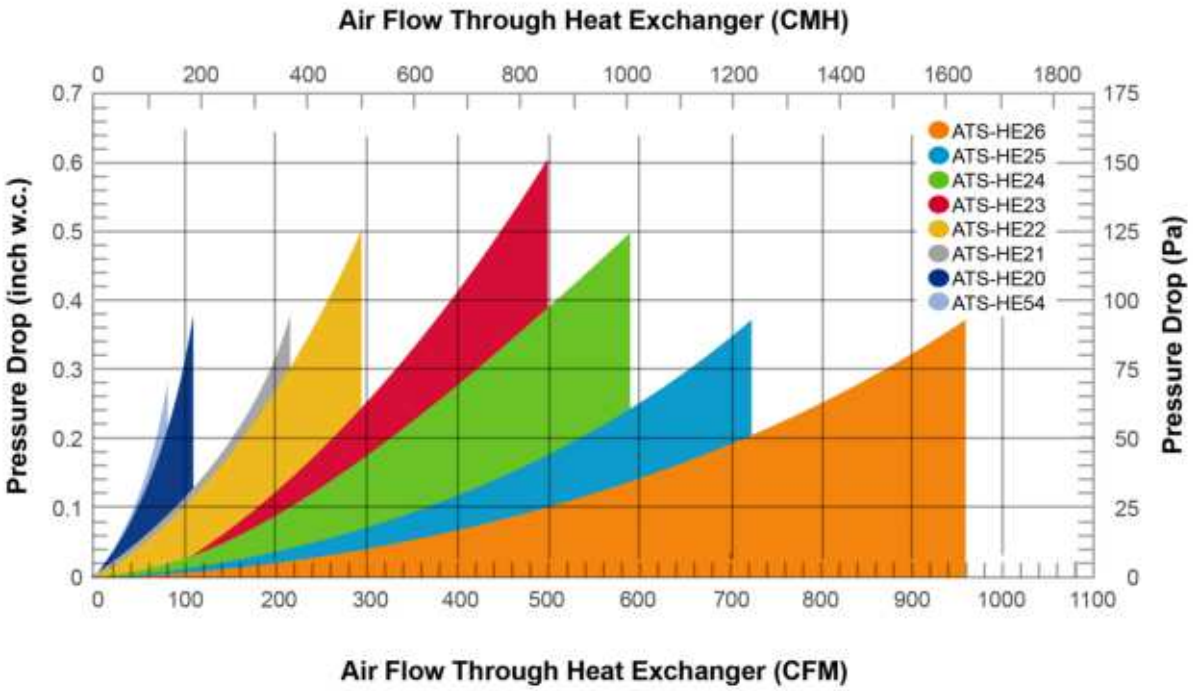


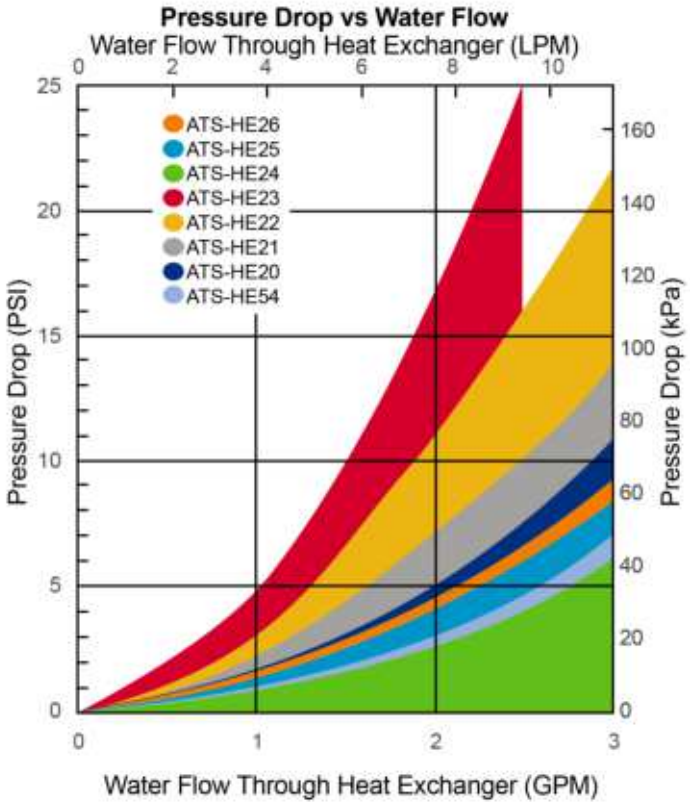
- Heat transfer capacity up to 250W per ΔT =1°C
- ΔT = inlet liquid temperature - inlet air temperature
- Core size dimensions (L x W x H)
  17.52” x 14.0” x 2.63” (445.0 x 355.6 x 66.8 mm)
- Height with fan: 4.92” (125 mm)
- Weight: 4018g (8.9 lbs); Weight w/fan: 5791g (12.8 lbs)
- Maximum pressure: 100 psi

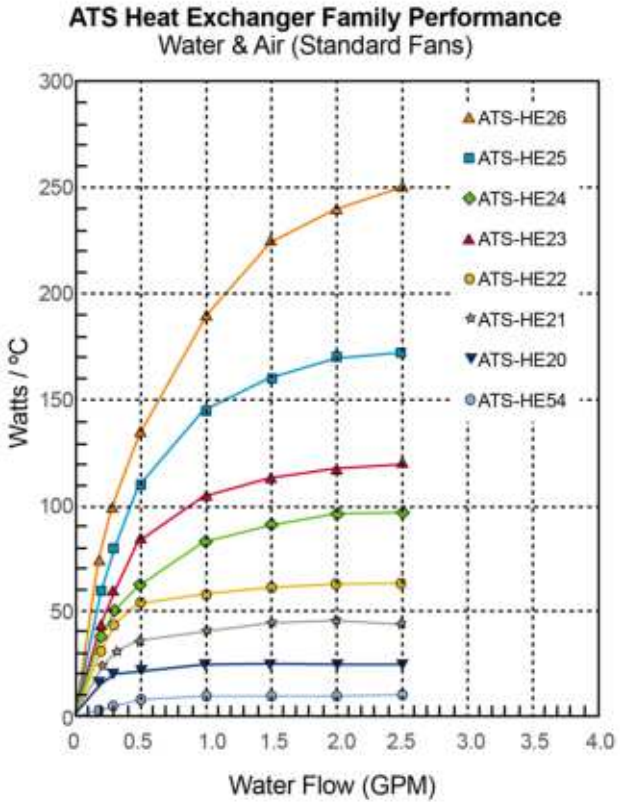
MPN	FAN TYPE	# OF FANS	FAN SIZE (inches / mm)
ATS-HE26-C1-R1	NO FAN	0	N/A
ATS-HE26-C2-R0	12V	4	6.75” (171.5 mm) Square
ATS-HE26-C3-R0	12V PWM	4	6.75” (171.5 mm) Square
ATS-HE26-C4-R0	24V	4	6.75” (171.5 mm) Square
ATS-HE26-C5-R0	24V PWM	4	6.75” (171.5 mm) Square
ATS-HE26-C6-R0	48V	4	6.75” (171.5 mm) Square
ATS-HE26-C7-R0	48V PWM	4	6.75” (171.5 mm) Square



Heat Exchangers (cont'd)







Note: Performance curves are per ΔT = 1°C | ΔT = inlet liquid temperature - inlet air temperature