

## HSA/HSE SERIES



# HEIGHT SAVER UNIT COOLERS

AIR AND ELECTRIC DEFROST MODELS  
5,000 to 27,400 BTUH

SMALL TO MEDIUM WALK-INS  
COOLER & FREEZER APPLICATIONS



## Features

Height Saver unit coolers are designed for use in walk-in coolers and freezers with very low headroom clearance. Units mount flush to the ceiling to provide extra storage room. Height Saver unit coolers feature two-way air flow to provide for even circulation and temperature, hinged drain pan for easy serviceability, and are available in air and electric defrost models.

### SIZES

There are a wide array of sizes available with capacities ranging from 5,000 to 27,400 BTUH at a 10° TD. Three through six fan models are available with air flow spanning a range of 1,200 to 3,270 CFM.

### HOUSING

Rust free heavy gauge textured Aluminum is standard. Optionally available with white enamel coating.

### COIL

The coil is constructed from seamless Copper tubes which are staggered and mechanically expanded into heavy gauge, corrugated, Aluminum fins, assuring maximum heat transfer. Optionally available with Copper or phenolic coated fins (phenolic fins are for air defrost only).

### MOTORS

Standard models feature highly efficient Electronically Commutated (EC) motors PSC motors are also available for 115V/1 or 208/230V/1 requirements. All motors include thermal overload protection.

### FANS

Fan motors and blades can be easily accessed by lowering the hinged drain pan.

### ELECTRICAL

Available for 115V, 208/230V and 460V. All components are factory wired to terminal strips and are UL and cUL listed.

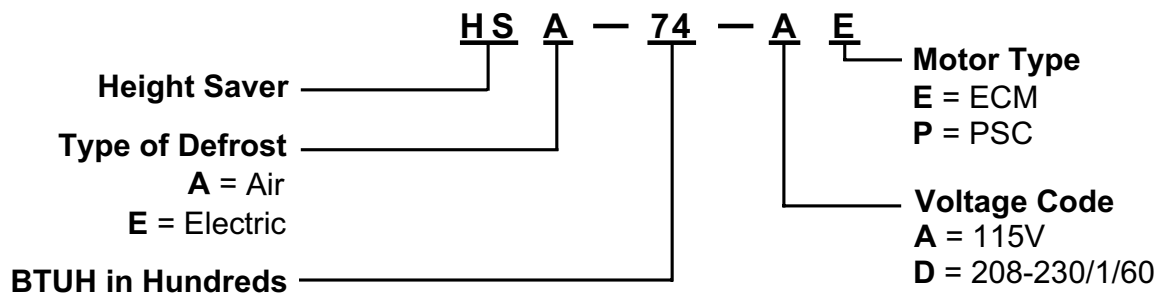
### AIR DEFROST

Air Defrost models (CTA) are designed for use in coolers down to 35°F.

### ELECTRIC DEFROST

Electric Defrost models (CTE) are designed for use in coolers and freezers down to -10°F.

### MODEL NUMBER NOMENCLATURE



## Highlighted Features

- Mounts flush to the ceiling for extra storage room
- Two-way air flow for even air circulation and consistent temperature
- Hinged drain pan for easy access and cleaning
- Quiet operation— ideal for use in rooms with glass display doors

## Optional Features

- Coated fins
- Coated housing (white enamel)
- Insulated drain pan<sup>1</sup>

### Notes

1. Option available for electric defrost models.

### Energy Savings Analysis

Motor Change	Std Motor Power Watts/ Mtr	Change to Motor Power Watts/ Mtr	Reduced Power Watts/ Mtr	Run Time Hrs/ Day	Motor Energy Savings kWh/Yr	Motor Energy Savings \$/Yr	Reduced Box Load MBTU/ Yr	Cond. Unit EER	Cond. Unit Energy Savings kWh/Yr	Cond. Unit Energy Savings \$/Yr	Yearly Saving \$ /Yr	Pay back in Yrs
PSC to EC	51	35	16	22	128	13	438	5.2	84	8	21	3.4

Subtract 6% from total savings for medium temperature air defrost units that run 24 hours per day.  
 16 Watt PSC and ECM (PSC = Permanent Split Capacitor Motor, EC = Electronically Commutated Motor)

### Performance and Electrical Data - Air Defrost Models

	Model Number	BTUH Capacity @ 25°F S.T. & 10°F TD		CFM	No. of Fans	Total Fan Motor Amps - 1 Phase			
		R404A	R407A/ R448A/ R449A/B			EC* Motors		PSC* Motors	
						115V	208-230V	115V	208-230V
8 FPI	HSA-74	7,400	8,300	1,455	3	1.7	0.9	1.5	0.9
	HSA-90	9,000	9,600	1,305	3	1.7	0.9	1.5	0.9
	HSA-100	10,000	10,400	1,200	3	1.7	0.9	1.5	0.9
	HSA-110	11,000	11,900	2,120	4	2.3	1.2	2.0	1.2
	HSA-130	13,000	14,200	1,920	4	2.3	1.2	2.0	1.2
	HSA156	15,600	16,200	1,760	4	2.3	1.2	2.0	1.2
	HSA-164	16,400	17,600	2,320	5	2.9	1.5	2.5	1.5
	HSA-212	21,200	23,100	1,820	4	2.3	1.2	2.0	1.2
6 FPI	HSA-240	24,000	25,200	2,650	5	2.9	1.5	2.5	1.5
	HSA-250	25,000	27,400	2,970	6	3.5	1.7	3.0	1.8
	HSA-65	6,500	7,100	1,560	3	1.7	0.9	1.5	0.9
	HSA-85	8,500	8,900	1,425	3	1.7	0.9	1.5	0.9
	HSA-95	9,500	9,600	1,305	3	1.7	0.9	1.5	0.9
	HSA-103	10,300	10,900	2,160	4	2.3	1.2	2.0	1.2
	HSA-123	12,300	13,300	2,040	4	2.3	1.2	2.0	1.2
	HSA-142	14,200	15,200	1,920	4	2.3	1.2	2.0	1.2
	HSA-159	15,900	17,000	2,360	5	2.9	1.5	2.5	1.5
	HSA-193	19,300	20,700	1,940	4	2.3	1.2	2.0	1.2
HSA-218	21,800	22,700	2,850	5	2.9	1.5	2.5	1.5	
HSA-233	23,300	25,300	3,105	6	3.5	1.7	3.0	1.8	

PSC\* = Permanent Split Capacitor(s) EC\* = Electronically Commutated Motor(s)  
 Standard voltage for HSA models is 115V/1/60 Hz.

## Performance and Electrical Data - Electric Defrost Models

	Model Number	BTUH Capacity @ 25°F S.T. & 10°F TD		BTUH Capacity @ -20°F S.T. & 10°F TD		CFM	No. of Fans	Total Fan Motor Amps - 1 Phase			
		R404A	R407A/ R448A/ R449A/B	R404A	R407A/ R448A/ R449A/B			EC* Motors		PSC* Motors	
								115V	208-230V	115V	208-230V
6 FPI	HSE-55	6,200	–	5000	5,700	1,440	3	1.7	0.9	1.5	0.9
	HSE-63	7,300	7,800	6,300	6,600	1,290	3	1.7	0.9	1.5	0.9
	HSE-71	8,100	8,500	7,100	7,200	1,245	3	1.7	0.9	1.5	0.9
	HSE-79	9,000	9,500	7,900	8,100	2,075	4	2.3	1.2	2.0	1.2
	HSE-91	10,500	11,200	9,100	9,600	1,860	4	2.3	1.2	2.0	1.2
	HSE-103	11,700	12,200	10,300	10,400	1,740	4	2.3	1.2	2.0	1.2
	HSE-125	14,600	15,500	12,500	13,300	2,160	5	2.9	1.5	2.5	1.5
	HSE-143	16,400	17,600	14,300	15,000	1,820	4	2.3	1.2	2.0	1.2
4 FPI	HSE-163	18,700	20,000	16,300	17,100	2,550	5	2.9	1.5	2.5	1.5
	HSE-219	25,500	27,400	21,900	23,400	3,000	6	3.5	1.7	3.0	1.8
	HSE-50	5,600	–	5,000	5,100	1,500	3	1.7	0.9	1.5	0.9
	HSE-60	6,800	7,300	6,000	6,200	1,395	3	1.7	0.9	1.5	0.9
	HSE-66	7,600	8,200	6,600	7,000	1,350	3	1.7	0.9	1.5	0.9
	HSE-74	8,400	8,800	7,400	7,500	2,120	4	2.3	1.2	2.0	1.2
	HSE-86	9,800	10,400	8,600	8,900	1,980	4	2.3	1.2	2.0	1.2
	HSE-94	11,100	11,300	9,400	9,700	1,900	4	2.3	1.2	2.0	1.2
6 FPI	HSE-116	13,500	13,900	11,600	11,800	2,280	5	2.9	1.5	2.5	1.5
	HSE-130	15,000	16,900	13,000	14,400	1,940	4	2.3	1.2	2.0	1.2
	HSE-144	17,000	18,200	14,400	15,500	2,650	5	2.9	1.5	2.5	1.5
	HSE-174	20,200	21,500	17,400	18,400	3,080	6	3.5	1.7	3.0	1.8

	Model Number	Heater Amps - 1 Phase		Heater Watts
		208-230V	460V	
6 FPI	HSE-55	9.0	4.5	2,070
	HSE-63	9.0	4.5	2,070
	HSE-71	9.0	4.5	2,070
	HSE-79	13.0	6.5	2,990
	HSE-91	13.0	6.5	2,990
	HSE-103	13.0	6.5	2,990
	HSE-125	17.0	8.5	3,910
	HSE-143	17.0	8.5	3,910
4 FPI	HSE-163	17.0	8.5	3,910
	HSE-219	17.0	8.5	3,910
	HSE-50	9.0	4.5	2,070
	HSE-60	9.0	4.5	2,070
	HSE-66	9.0	4.5	2,070
	HSE-74	13.0	6.5	2,990
	HSE-86	13.0	6.5	2,990
	HSE-94	13.0	6.5	2,990
6 FPI	HSE-116	17.0	8.5	3,910
	HSE-130	17.0	8.5	3,910
	HSE-144	17.0	8.5	3,910
	HSE-174	17.0	8.5	3,910

– Not available

PSC\* = Permanent Split Capacitor(s)

EC\* = Electronically Commutated Motor(s)

230V/1 motors are suitable for 208V operation.

Standard voltage for HSE models is 208-230V/1/60 Hz.

Distributor Nozzle - Air Defrost Models

Model Number	Part Numbers						Number of Circuits
	R404A			R407A, R448A, R449A/B			
	Distributor @ 100°F & 50°F Liquid	Nozzle @ 100°F Liquid	Nozzle @ 50°F Liquid	Distributor @ 100°F & 50°F Liquid	Nozzle @ 100°F Liquid	Nozzle @ 50°F Liquid	

+25°F Suction Temperature

8 FPI	HSA-74	-	-	-	-	-	-	1
	HSA-90	-	-	-	-	-	-	1
	HSA-100	-	-	-	-	-	-	1
	HSA-110	D260	L, #1	L, #1/3	D260	L, #3/4	L, #1/3	2
	HSA-130	D260	L, #1	L, #1/3	D260	L, #1	L, #1/2	2
	HSA156	D260	L, #1-1/2	L, #1/2	D260	L, #1	L, #1/2	2
	HSA-164	D260	L, #1-1/2	L, #1/2	D260	L, #1-1/2	L, #1/2	2
	HSA-212	D260	L, #2	L, #3/4	D260	L, #1-1/2	L, #3/4	4
6 FPI	HSA-240	D260	L, #2	L, #3/4	D260	L, #2	L, #3/4	4
	HSA-250	D260	L, #2	L, #3/4	D260	L, #2	L, #3/4	4
	HSA-65	-	-	-	-	-	-	1
	HSA-85	-	-	-	-	-	-	1
	HSA-95	-	-	-	-	-	-	1
	HSA-103	D260	L, #1	L, #1/4	D260	L, #3/4	L, #1/3	2
	HSA-123	D260	L, #1	L, #1/3	D260	L, #1	L, #1/3	2
	HSA-142	D260	L, #1-1/2	L, #1/2	D260	L, #1	L, #1/2	2
	HSA-159	D260	L, #1-1/2	L, #1/2	D260	L, #1	L, #1/2	2
	HSA-193	D260	L, #1-1/2	L, #1/2	D260	L, #1-1/2	L, #3/4	4
HSA-218	D260	L, #2	L, #3/4	D260	L, #1-1/2	L, #3/4	4	
HSA-233	D260	L, #2	L, #3/4	D260	L, #2	L, #3/4	4	

Note: The distributor lines are 1/4" tube and 22" long

- Not available

## Distributor Nozzle - Electric Defrost Models

Model Number	Part Numbers						Number of Circuits
	R404A			R407A, R448A, R449A/B			
	Distributor @ 100°F & 50°F Liquid	Nozzle @ 100°F Liquid	Nozzle @ 50°F Liquid	Distributor @ 100°F & 50°F Liquid	Nozzle @ 100°F Liquid	Nozzle @ 50°F Liquid	

**-20°F Suction Temperature**

6 FPI	HSE-55	D260	L, #3/4	L, #1/3	D260	L, #3/4	L, #1/3	2
	HSE-63	D260	L, #1	L, #1/2	D260	L, #3/4	L, #1/3	2
	HSE-71	D260	L, #1	L, #1/2	D260	L, #3/4	L, #1/2	2
	HSE-79	D260	L, #1	L, #1/2	D260	L, #1	L, #1/2	2
	HSE-91	D260	L, #1-1/2	L, #3/4	D260	L, #1	L, #1/2	2
	HSE-103	D260	L, #1-1/2	L, #3/4	D260	L, #1	L, #3/4	2
	HSE-125	D260	L, #2	L, #1	D260	L, #1-1/2	L, #3/4	4
	HSE-143	D260	L, #2	L, #1	D260	L, #1-1/2	L, #1	4
4 FPI	HSE-163	D260	L, #2	L, #1	D260	L, #2	L, #1	4
	HSE-219	D262	L, #3	L, #1-1/2	D262	L, #2-1/2	L, #1-1/2	6
	HSE-50	D260	L, #3/4	L, #1/3	D260	L, #3/4	L, #1/4	2
	HSE-60	D260	L, #3/4	L, #1/2	D260	L, #3/4	L, #1/3	2
	HSE-66	D260	L, #1	L, #1/2	D260	L, #3/4	L, #1/2	2
	HSE-74	D260	L, #1	L, #1/2	D260	L, #3/4	L, #1/2	2
	HSE-86	D260	L, #1-1/2	L, #3/4	D260	L, #1	L, #1/2	2
	HSE-94	D260	L, #1-1/2	L, #3/4	D260	L, #1	L, #3/4	2
4 FPI	HSE-116	D260	L, #1-1/2	L, #3/4	D260	L, #1-1/2	L, #3/4	2
	HSE-130	D260	L, #2	L, #1	D260	L, #1-1/2	L, #1	4
	HSE-144	D260	L, #2	L, #1	D260	L, #2	L, #1	4
	HSE-174	D260	L, #2-1/2	L, #1-1/2	D260	L, #2	L, #1	4

**+25°F Suction Temperature**

6 FPI	HSE-55	D260	L, #1/2	L, #1/6	-	-	-	2
	HSE-63	D260	L, #3/4	L, #1/4	D260	L, #1/2	L, #1/4	2
	HSE-71	D260	L, #3/4	L, #1/4	D260	L, #3/4	L, #1/4	2
	HSE-79	D260	L, #3/4	L, #1/4	D260	L, #3/4	L, #1/4	2
	HSE-91	D260	L, #1	L, #1/3	D260	L, #3/4	L, #1/3	2
	HSE-103	D260	L, #1	L, #1/3	D260	L, #3/4	L, #1/3	2
	HSE-125	D260	L, #1-1/2	L, #1/2	D260	L, #1	L, #1/2	4
	HSE-143	D260	L, #1-1/2	L, #1/2	D260	L, #1-1/2	L, #1/2	4
4 FPI	HSE-163	D260	L, #1-1/2	L, #1/2	D260	L, #1-1/2	L, #3/4	4
	HSE-219	D262	L, #2	L, #3/4	D262	L, #2	L, #3/4	6
	HSE-50	D260	L, #1/2	L, #1/6	-	-	-	2
	HSE-60	D260	L, #3/4	L, #1/4	D260	L, #1/2	L, #1/4	2
	HSE-66	D260	L, #3/4	L, #1/4	D260	L, #3/4	L, #1/4	2
	HSE-74	D260	L, #3/4	L, #1/4	D260	L, #3/4	L, #1/4	2
	HSE-86	D260	L, #3/4	L, #1/4	D260	L, #3/4	L, #1/3	2
	HSE-94	D260	L, #1	L, #1/3	D260	L, #3/4	L, #1/3	2
4 FPI	HSE-116	D260	L, #1	L, #1/3	D260	L, #1	L, #1/2	2
	HSE-130	D260	L, #1-1/2	L, #1/2	D260	L, #1-1/2	L, #1/2	4
	HSE-144	D260	L, #1-1/2	L, #1/2	D260	L, #1-1/2	L, #1/2	4
	HSE-174	D260	L, #2	L, #3/4	D260	L, #1-1/2	L, #3/4	4

Note: The distributor lines are 1/4" tube and 22" long

- Not available

Specifications

Model Number	TXV Type	Refrigerant Connections		Dimensions (Inches)					Approx. Ship Wt. (Lbs.)
		Liquid Line (ODS)	Suction (ODS)	L	W	H	A	B	

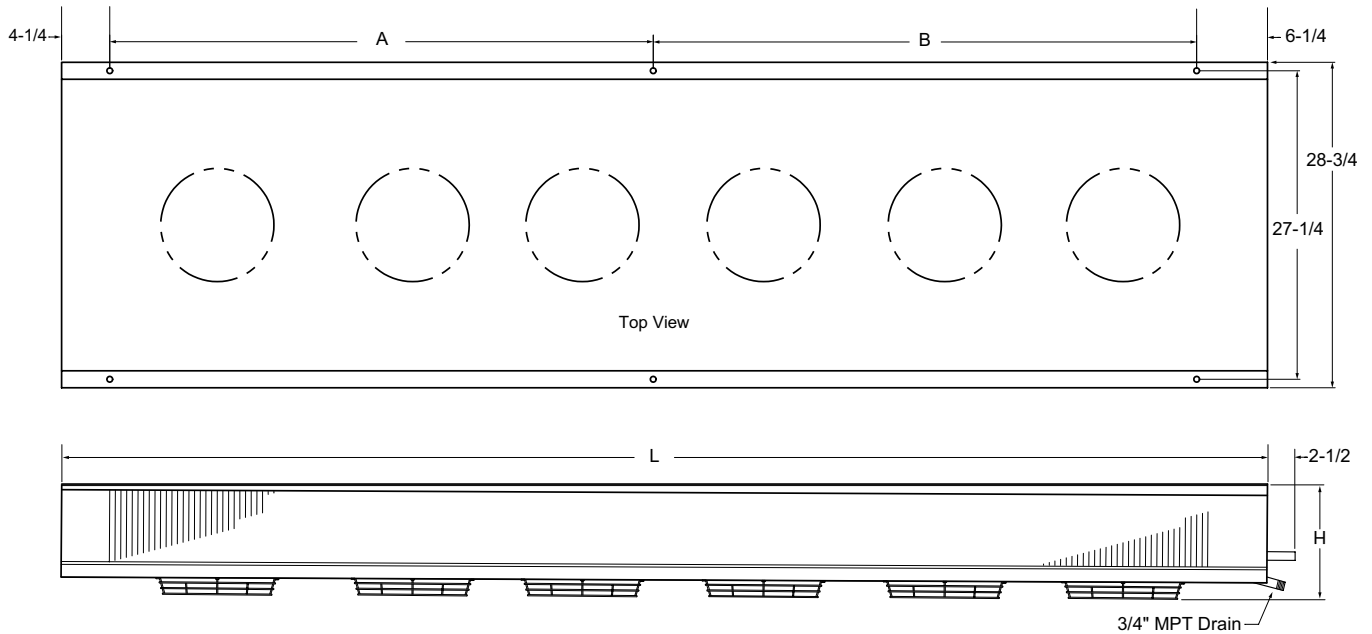
Air Defrost Models

8 FPI	HSA-74	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	95
	HSA-90	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	105
	HSA-100	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	130
	HSA-110	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	150
	HSA-130	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	165
	HSA156	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	95
	HSA-164	EXT	1/2	7/8	106-1/2	28-3/4	9-3/4	48	48	105
	HSA-212	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	130
6 FPI	HSA-240	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	150
	HSA-250	EXT	1/2	1-1/8	106-1/2	28-3/4	11-1/4	48	48	165
	HSA-65	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	90
	HSA-85	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	95
	HSA-95	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	100
	HSA-103	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	120
	HSA-123	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	125
	HSA-142	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	130
4 FPI	HSA-159	EXT	1/2	7/8	106-1/2	28-3/4	9-3/4	48	48	145
	HSA-193	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	150
	HSA-218	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	160
	HSA-233	EXT	1/2	1-1/8	106-1/2	28-3/4	11-1/4	48	48	180

Electric Defrost Models

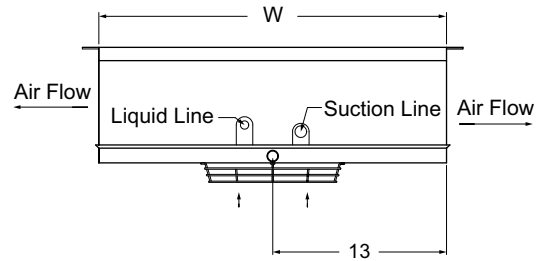
6 FPI	HSE-55	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	95
	HSE-63	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	100
	HSE-71	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	105
	HSE-79	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	125
	HSE-91	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	130
	HSE-103	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	135
	HSE-125	EXT	1/2	7/8	106-1/2	28-3/4	9-3/4	48	48	150
	HSE-143	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	155
4 FPI	HSE-163	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	165
	HSE-219	EXT	1/2	1-1/8	106-1/2	28-3/4	11-1/4	48	48	185
	HSE-50	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	90
	HSE-60	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	95
	HSE-66	EXT	1/2	5/8	58-1/2	28-3/4	9	24	24	100
	HSE-74	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	120
	HSE-86	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	125
	HSE-94	EXT	1/2	7/8	82-1/2	28-3/4	9-3/4	36	36	130
4 FPI	HSE-116	EXT	1/2	7/8	106-1/2	28-3/4	9-3/4	48	48	145
	HSE-130	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	150
	HSE-144	EXT	1/2	7/8	106-1/2	28-3/4	11-1/4	48	48	160
	HSE-174	EXT	1/2	1-1/8	106-1/2	28-3/4	11-1/4	48	48	180

## Physical Dimensions



**Note:**

- Drawing is of a six-fan unit. Measurements noted on the drawing are the same for all units.
- All mounting holes are 3/8" diameter.
- All dimensions are in inches.



*Due to continuing product development, specifications are subject to change without notice.*