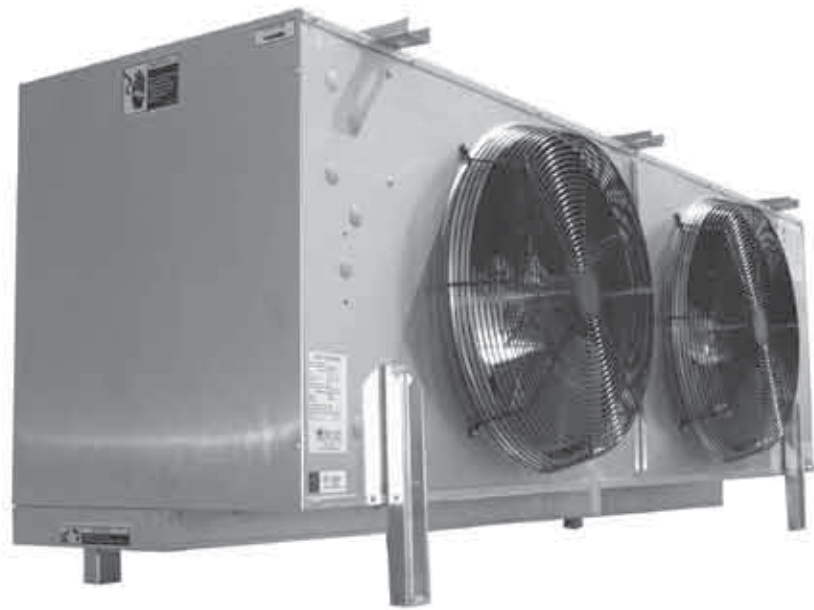




# **A Series**

## **Unit Cooler**



**FACILITY APPLICATIONS FROM -30°F TO +70°F**  
**AIR DEFROST                      ELECTRIC DEFROST**  
**HOT GAS DEFROST**

# Series A

## Features

### Air Defrost

- For cooler applications above +35°F
- 32 models available 15,580 to 170,880 BTUH at a 10° TD.
- Fin spacing at 4, 5, 6, or 8 per inch
- 60 to 70 feet air throw (up to 50% more with optional extended throw nozzle.)

### Electric Defrost / Hot Gas Defrost

- For cooler/freezer applications to -30°F operating room temperature
- 45 models available 10,230 to 130,630 BTUH at a 10° TD.
- Fin spacing at 4, 5, or 6 per inch
- 60 to 70 feet air throw (up to 50% more with optional extended throw nozzle.)
- Insulated drain pan and adjustable defrost termination/fan delay is standard.



## Construction

### Cabinet

Cabinets are made of heavy gauge, rust-proof smooth finish aluminum housing. All hardware is corrosion resistant. Full die-formed venturies minimize noise with maximum air throw. Fan guards are heavy gauge wire basket type coated for corrosion protection.

### Coil

Coils are copper tube, full collared die-formed aluminum plate fin and tube sheets. Tubes are mechanically expanded for maximum heat transfer. Coils are leak tested at 350 psig under water. Solder and flare type distributors have removable nozzles. Each nozzle is sized for the specified refrigerant and temperature range. All coils require external equalized expansion valve. Expansion valve is located within the cabinet. The expansion valve compartment is heated during the defrost cycle on electric defrost models.

### Fans

Fans have heavy-duty aluminum blades with steel hubs, statically and dynamically balanced for smooth operation. They are selected for maximum air throw.

### Motors

Motors are permanently lubricated and suitable for low temperature applications. Motors are heavy duty, high efficiency, full ball bearing and have internal thermal overloads. Fan motors are pre-wired to terminal blocks.

### Refrigerants

All coils are designated for use with many refrigerant types.

### Electric Defrost

Electric Defrost models include pre-wired terminal blocks, low watt density heaters, housed internal to the coil for a rapid and efficient defrost. Lower coil and drain pan heater provides fast and reliable condensate drain. Standard operating control includes an adjustable defrost termination fan delay.

### Mounting

The standard mounting configuration is ceiling hung, but optional floor mounting is available.

Air Defrost Models	CAPACITY								ELECTRICAL DATA					SPECIFICATIONS			
	CFM	FPM **	EVAPORATING TEMPERATURE °F						FAN MOTOR DATA			CONNECTIONS		REFRIG. LBS. R-22 APPROX.	SHIP WGT LBS.		
			+25°	+30°	+35°	+40°	+45°	+50° *	QTY.	HP	AMPS					LIQUID	SUCTION
											230/1	230/3	460/3				
410-126	3,310	623	15,580	16,050	16,580	17,180	17,860	18,640	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	7.3	256
410-169	3,220	606	20,900	21,510	22,230	23,040	23,960	25,000	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	10.9	274
420-253	6,630	624	31,290	32,220	33,280	34,490	35,870	37,430	2	1/4	4.0	2.6	1.3	1/2"	1 3/8"	14.5	390
420-338	6,440	606	41,800	43,050	44,470	46,080	47,920	50,010	2	1/4	4.0	2.6	1.3	1/2"	1 3/8"	21.8	426
430-379	9,940	624	46,870	48,270	49,860	51,670	53,730	56,070	3	1/4	6.0	3.9	1.95	1/2"	1 3/8"	22.8	535
430-507	9,750	612	62,700	64,570	66,700	69,120	71,880	75,010	3	1/4	6.0	3.9	1.95	1/2"	1 3/8"	32.6	588
440-679	12,970	610	83,980	86,480	89,330	92,570	96,260	100,460	4	1/4	8.0	5.2	2.6	1/2"	1 3/8"	43.6	721
440-841	16,120	614	104,010	107,110	110,640	114,650	119,230	124,430	4	1/2	12.0	8.0	4.0	1/2"	1 3/8"	53.6	801
510-140	3,270	616	18,180	18,720	19,340	20,040	20,840	21,750	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	7.3	258
510-185	3,170	597	24,020	24,740	25,550	26,480	27,540	28,740	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	10.9	278
520-281	6,540	616	36,480	37,580	38,820	40,220	41,830	43,650	2	1/4	4.0	2.6	1.3	7/8"	1 3/8"	14.5	394
520-371	6,340	597	48,180	49,620	51,250	53,110	55,230	57,630	2	1/4	4.0	2.6	1.3	1 1/8"	1 5/8"	21.8	435
530-422	9,810	616	54,820	56,450	58,310	60,420	62,830	65,570	3	1/4	6.0	3.9	1.95	1 1/8"	1 5/8"	22.8	544
530-556	9,510	597	72,270	74,420	76,870	79,660	82,840	86,450	3	1/4	6.0	3.9	1.95	1 1/8"	2 1/8"	32.6	601
540-745	12,680	597	96,810	99,700	102,980	106,720	110,970	115,810	4	1/4	8.0	5.2	2.6	1 3/8"	2 1/8"	43.6	738
540-925	15,920	606	120,120	123,700	127,770	132,410	137,690	143,700	4	1/2	12.0	8.0	4.0	1 3/8"	2 1/8"	53.8	913
610-150	3,260	614	20,040	20,630	21,310	22,090	22,970	23,970	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	7.3	261
610-193	3,050	574	25,780	26,550	27,420	28,420	29,550	30,840	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	10.9	282
620-301	6,520	614	40,210	41,400	42,770	44,320	46,090	48,100	2	1/4	4.0	2.6	1.3	7/8"	1 3/8"	14.5	400
620-387	6,100	574	51,690	53,230	54,980	56,980	59,250	61,840	2	1/4	4.0	2.6	1.3	1 1/8"	1 5/8"	21.8	491
630-451	9,780	614	60,240	62,040	64,080	66,400	69,050	72,060	3	1/4	6.0	3.9	2.0	1 1/8"	1 5/8"	22.8	552
630-581	9,150	574	77,610	79,920	82,550	85,540	88,960	92,840	3	1/4	6.0	3.9	2.0	1 1/8"	2 1/8"	32.6	613
640-779	12,200	574	104,050	107,150	110,680	114,700	119,270	124,470	4	1/4	8.0	5.2	2.6	1 3/8"	2 1/8"	43.6	834
640-978	15,536	592	130,630	134,530	138,950	144,000	149,740	156,270	4	1/2	12.0	8.0	4.0	1 3/8"	2 1/8"	53.8	933
810-165	3,160	595	22,450	23,120	23,880	24,740	25,730	26,850	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	7.3	267
810-208	2,950	555	28,300	29,140	30,100	31,190	32,440	33,850	1	1/4	2.0	1.3	.65	1/2"	1 1/8"	10.9	291
820-330	6,320	595	44,890	46,230	47,750	49,490	51,460	53,710	2	1/4	4.0	2.6	1.3	7/8"	1 3/8"	14.5	411
820-417	5,900	555	56,730	58,420	60,340	62,530	65,030	67,860	2	1/4	4.0	2.6	1.3	1 1/8"	1 5/8"	21.8	459
830-495	9,480	595	67,340	69,350	71,630	74,230	77,190	80,560	3	1/4	6.0	3.9	1.95	1 1/8"	1 5/8"	22.8	617
830-626	8,850	555	85,160	87,700	90,590	93,880	97,620	101,880	3	1/4	6.0	3.9	1.95	1 1/8"	2 1/8"	32.6	569
840-839	11,800	555	114,140	117,550	121,410	125,820	130,840	136,540	4	1/4	8.0	5.2	2.6	1 3/8"	2 1/8"	43.6	786
840-1050	15,132	576	142,850	147,110	151,950	157,460	163,740	170,880	4	1/2	12.0	8.0	4.0	1 3/8"	2 1/8"	53.8	883

Capacity based on 10°TD

\* 50° Data for R-22 only.

\*\* We recommend a maximum face velocity of 625 FPM for a wet coil application.

# Series A

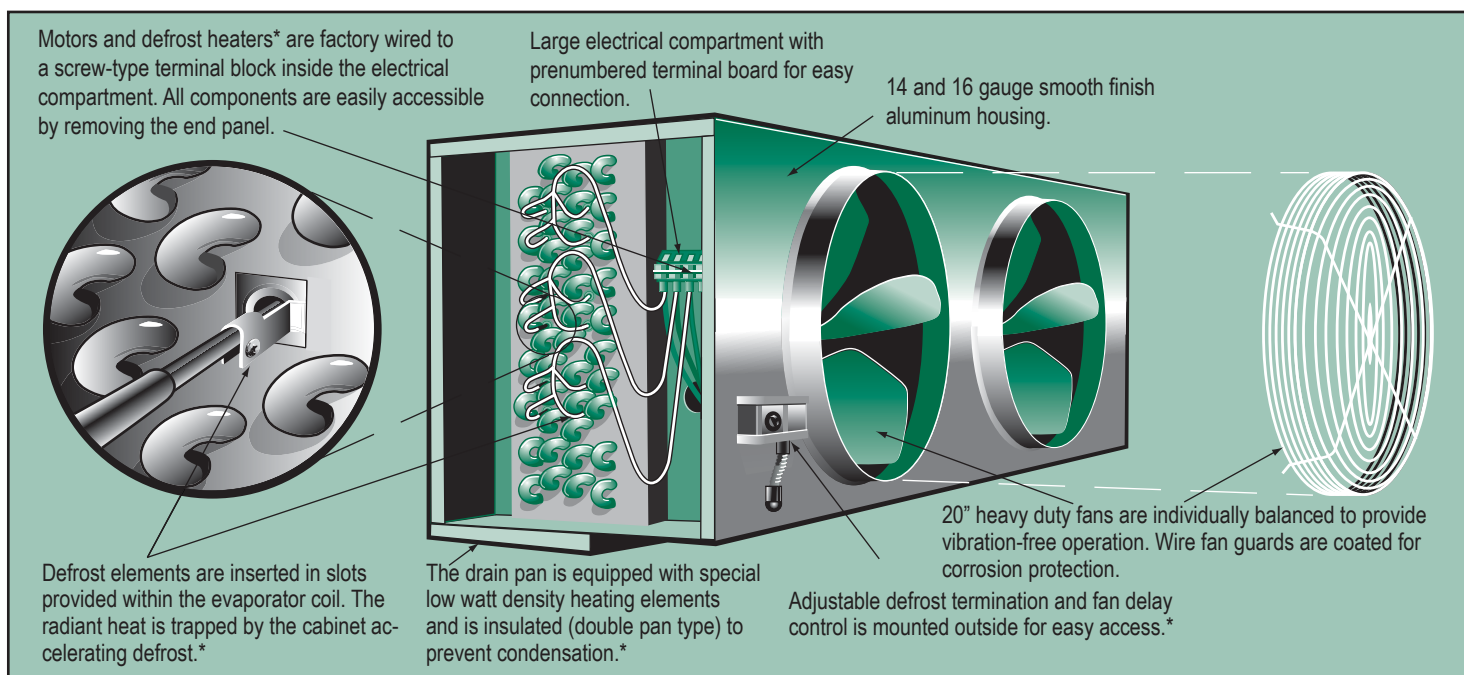
CAPACITY											
Electric Defrost and Hot Gas Defrost Models	CFM	FPM	EVAPORATING TEMPERATURE °F								
			-40°	-30°	-20°	-10°	0°	+10°	+20°	+25°	
410-126	3,310	623	10,230	11,490	12,440	13,190	13,830	14,460	15,170	15,580	
410-137	4,030	759	11,120	12,490	13,530	14,340	15,040	15,720	16,500	16,940	
410-169	3,220	606	13,720	15,410	16,690	17,690	18,550	19,400	20,350	20,900	
410-185	3,810	717	15,020	16,870	18,270	19,370	20,310	21,230	22,280	22,570	
420-253	6,630	624	20,540	23,070	24,980	26,490	27,770	29,040	30,460	31,290	
420-275	8,060	759	22,320	25,070	27,150	28,790	30,190	31,560	33,110	34,010	
420-338	6,440	606	27,440	30,820	33,370	35,380	37,110	38,800	40,700	41,800	
420-371	7,620	717	30,120	38,820	36,630	38,840	40,730	42,580	44,670	45,880	
430-379	9,940	624	30,770	34,550	37,420	39,680	41,610	43,500	45,630	46,870	
430-413	12,090	759	33,530	37,650	40,780	43,230	45,340	47,400	49,730	51,080	
430-507	9,750	612	41,160	46,220	50,060	53,080	55,660	58,190	61,050	62,700	
430-556	11,430	717	45,130	50,690	54,900	58,200	61,040	63,820	66,950	68,760	
440-679	12,970	610	55,120	61,900	67,040	71,080	74,540	77,940	81,760	83,980	
440-745	15,240	717	60,480	67,920	73,560	77,990	81,790	85,510	89,700	92,140	
440-841	16,120	614	68,270	76,670	83,040	88,040	92,330	96,530	101,260	104,010	
510-140	3,270	616	11,930	13,400	14,510	15,390	16,140	16,870	17,700	18,180	
510-153	3,930	740	13,040	14,650	15,860	16,820	17,640	18,440	19,340	19,870	
510-185	3,170	597	15,770	17,710	19,180	20,340	21,330	22,300	23,390	24,020	
510-206	3,784	712	17,560	19,720	21,360	22,640	23,750	24,830	26,040	26,750	
520-281	6,540	616	23,950	26,900	29,130	30,890	32,390	33,870	35,530	36,490	
520-307	7,860	740	26,170	29,390	31,830	33,750	35,390	37,000	38,810	39,870	
520-371	6,340	597	31,620	35,520	38,460	40,780	42,770	44,710	46,900	48,180	
520-413	7,568	712	35,200	39,540	42,820	45,400	47,610	49,770	52,210	53,630	
530-422	9,810	616	35,980	40,410	43,760	46,400	48,660	50,870	53,370	54,820	
530-461	11,790	740	39,290	44,130	47,790	50,670	53,140	55,560	58,280	59,870	
530-556	9,510	597	47,430	53,270	57,700	61,170	64,150	67,070	70,360	72,270	
530-620	11,352	712	52,850	59,350	64,280	68,150	71,470	74,720	78,390	80,510	
540-745	12,680	597	63,540	71,370	77,290	81,950	85,930	89,850	94,250	96,810	
540-830	15,208	716	70,740	79,450	86,050	91,230	95,670	100,030	104,940	107,780	
540-925	15,920	606	78,840	88,550	95,900	101,680	106,630	111,480	116,950	120,120	
610-150	3,260	614	NOT RATED FOR USE IN THIS RANGE			16,000	16,960	17,780	18,590	19,510	20,040
610-164	3,880	730				17,490	18,540	19,440	20,330	21,330	21,910
610-193	3,050	574				20,580	21,820	22,880	23,920	25,100	25,780
610-212	3,760	708				22,610	23,970	25,140	26,280	27,570	28,320
620-301	6,520	614				32,100	34,030	35,690	37,310	39,140	40,210
620-328	7,760	730				34,980	37,080	38,890	40,660	42,650	43,810
620-387	6,100	574				41,270	43,750	45,880	47,970	50,330	51,690
620-424	7,520	708				45,210	47,940	50,270	52,560	55,140	56,630
630-451	9,780	614				48,090	50,990	53,470	55,910	58,650	60,240
630-492	11,640	730				52,470	55,630	58,330	60,990	63,980	65,720
630-581	9,150	574				61,960	65,690	68,890	72,020	75,550	77,610
630-636	11,280	708				67,820	71,910	75,410	78,840	82,710	84,950
640-779	12,200	574				83,070	88,070	92,360	96,570	101,300	104,050
640-852	15,040	708				90,860	96,330	101,020	105,620	110,790	113,800
640-978	15,536	592				104,290	110,570	115,960	121,240	127,180	130,630

ELECTRICAL DATA										SPECIFICATIONS				
Electric Defrost and Hot Gas Defrost Models	FAN MOTOR DATA					DEFROST HEATER DATA*				CONNECTIONS			REFRIG. LBS. R-22 APPROX.	SHIP WEIGHT LBS
	QTY.	HP	AMPS			AMPS <sup>1</sup>			WATTS	LIQUID	SUCTION	HOT GAS**		
			230/1	230/3	460/3	230/1	230/3	460/3						
410-126	1	1/4	2.0	1.3	.65	16.9	10.3	5.2	3,880	1/2"	1 1/8"	5/8"	7.3	256
410-137	1	1/2	3.0	2.0	1.0	16.9	10.3	5.2	3,880	1/2"	1 1/8"	5/8"	7.3	257
410-169	1	1/4	2.0	1.3	.65	21.8	12.9	7.3	5,020	1/2"	1 1/8"	5/8"	10.9	274
410-185	1	1/2	3.0	2.0	1.0	21.8	12.9	7.3	5,020	1/2"	1 1/8"	5/8"	10.9	275
420-253	2	1/4	4.0	2.6	1.3	32.2	19.6	9.8	7,414	1/2"	1 3/8"	5/8"	14.5	390
420-275	2	1/2	6.0	4.0	2.0	32.2	19.6	9.8	7,414	1/2"	1 3/8"	5/8"	14.5	392
420-338	2	1/4	4.0	2.6	1.3	41.8	24.9	14.0	9,622	7/8"	1 5/8"	5/8"	21.8	426
420-371	2	1/2	6.0	4.0	2.0	41.8	24.9	14.0	9,622	7/8"	1 5/8"	5/8"	21.8	429
430-379	3	1/4	6.0	3.9	1.95	47.6	28.9	14.5	10,954	7/8"	1 5/8"	5/8"	22.8	535
430-413	3	1/2	9.0	6.0	3.0	47.6	28.9	14.5	10,954	7/8"	1 5/8"	5/8"	22.8	652
430-507	3	1/4	6.0	3.9	1.95	-	37.0	20.8	14,232	1 3/8"	2 1/8"	7/8"	32.6	588
430-556	3	1/2	9.0	6.0	3.0	-	37.0	20.8	14,232	1 3/8"	2 1/8"	7/8"	32.6	592
440-679	4	1/4	8.0	5.2	2.6	-	47.4	26.6	18,250	1 3/8"	2 1/8"	7/8"	43.6	721
440-745	4	1/2	12.0	8.0	4.0	-	47.4	26.6	18,250	1 3/8"	2 1/8"	7/8"	43.6	726
440-841	4	1/2	12.0	8.0	4.0	-	63.2	31.6	22,450	1 3/8"	2 1/8"	7/8"	53.8	801
510-140	1	1/4	2.0	1.3	.65	16.9	10.3	5.2	3,880	1/2"	1 1/8"	5/8"	7.3	258
510-153	1	1/2	3.0	2.0	1.0	16.9	10.3	5.2	3,880	1/2"	1 1/8"	5/8"	7.3	260
510-185	1	1/4	2.0	1.3	.65	21.8	12.9	7.3	5,020	1/2"	1 1/8"	5/8"	10.9	278
510-206	1	1/2	3.0	2.0	1.0	21.8	12.9	7.3	5,020	1/2"	1 1/8"	5/8"	10.9	279
520-281	2	1/4	4.0	2.6	1.3	32.2	19.6	9.8	7,414	1/2"	1 3/8"	5/8"	14.5	394
520-307	2	1/2	6.0	4.0	2.0	32.2	19.6	9.8	7,414	1/2"	1 3/8"	5/8"	14.5	396
520-371	2	1/4	4.0	2.6	1.3	41.8	24.9	14.0	9,622	7/8"	1 5/8"	5/8"	21.8	435
520-413	2	1/2	6.0	4.0	2.0	41.8	24.9	14.0	9,622	7/8"	1 5/8"	5/8"	21.8	437
530-422	3	1/4	6.0	3.9	1.95	47.6	28.9	14.5	10,954	7/8"	1 5/8"	5/8"	22.8	544
530-461	3	1/2	9.0	6.0	3.0	47.6	28.9	14.5	10,954	7/8"	1 5/8"	5/8"	22.8	547
530-556	3	1/4	6.0	3.9	1.95	-	37.0	20.8	14,232	1 3/8"	2 1/8"	7/8"	32.6	601
530-620	3	1/2	9.0	6.0	3.0	-	37.0	20.8	14,232	1 3/8"	2 1/8"	7/8"	32.6	604
540-745	4	1/4	8.0	5.2	2.6	-	47.4	26.6	18,250	1 3/8"	2 1/8"	7/8"	43.6	738
540-830	4	1/2	12.0	8.0	4.0	-	47.4	26.6	18,250	1 3/8"	2 1/8"	7/8"	43.6	743
540-925	4	1/2	12.0	8.0	4.0	-	63.2	31.6	22,450	1 3/8"	2 1/8"	7/8"	53.8	913
610-150	1	1/4	2.0	1.3	.65	16.9	10.3	5.2	3,380	1/2"	1 1/8"	5/8"	7.3	261
610-164	1	1/2	3.0	2.0	1.0	16.9	10.3	5.2	3,380	1/2"	1 1/8"	5/8"	7.3	263
610-193	1	1/4	2.0	1.3	.65	21.8	12.9	7.3	5,020	1/2"	1 1/8"	5/8"	10.9	282
610-212	1	1/2	3.0	2.0	1.0	21.8	12.9	7.3	5,020	1/2"	1 1/8"	5/8"	10.9	284
620-301	2	1/4	4.0	2.6	1.3	32.2	19.6	9.8	7,414	1/2"	1 3/8"	5/8"	14.5	400
620-328	2	1/2	6.0	4.0	2.0	32.2	19.6	9.8	7,414	1/2"	1 3/8"	5/8"	14.5	400
620-387	2	1/4	4.0	2.6	1.3	41.8	24.9	14.0	9,622	7/8"	1 5/8"	5/8"	21.8	440
620-424	2	1/2	6.0	4.0	2.0	41.8	24.9	14.0	9,622	7/8"	1 5/8"	5/8"	21.8	445
630-451	3	1/4	6.0	3.9	1.95	47.6	28.9	14.5	10,954	7/8"	1 5/8"	5/8"	22.8	552
630-492	3	1/2	9.0	6.0	3.0	47.6	28.9	14.5	10,954	7/8"	1 5/8"	5/8"	22.8	556
630-581	3	1/4	6.0	3.9	1.95	-	37.0	20.8	14,232	1 3/8"	2 1/8"	7/8"	32.6	613
630-636	3	1/2	9.0	6.0	3.0	-	37.0	20.8	14,232	1 3/8"	2 1/8"	7/8"	32.6	617
640-779	4	1/4	8.0	5.2	2.6	-	47.4	26.6	18,250	1 3/8"	2 1/8"	7/8"	43.6	834
640-852	4	1/2	12.0	8.0	4.0	-	47.4	26.6	18,250	1 3/8"	2 1/8"	7/8"	43.6	759
640-978	4	1/2	12.0	8.0	4.0	-	63.2	31.6	22,450	1 3/8"	2 1/8"	7/8"	53.8	933

\* Electric Defrost Models \*\* Hot Gas Defrost Models Note: TXV Bypass - Check valves ship loose as standard.

<sup>1</sup> Value shown is total amps. For units that exceed 48 amps., two power connections are required.

## Serviceability



\* 13/16" dia. unit mounting holes

## Applications

### For use in:

- Large walk-in coolers and freezers
- Distribution facilities
- Dock arrangements
- Storage facilities and many other applications



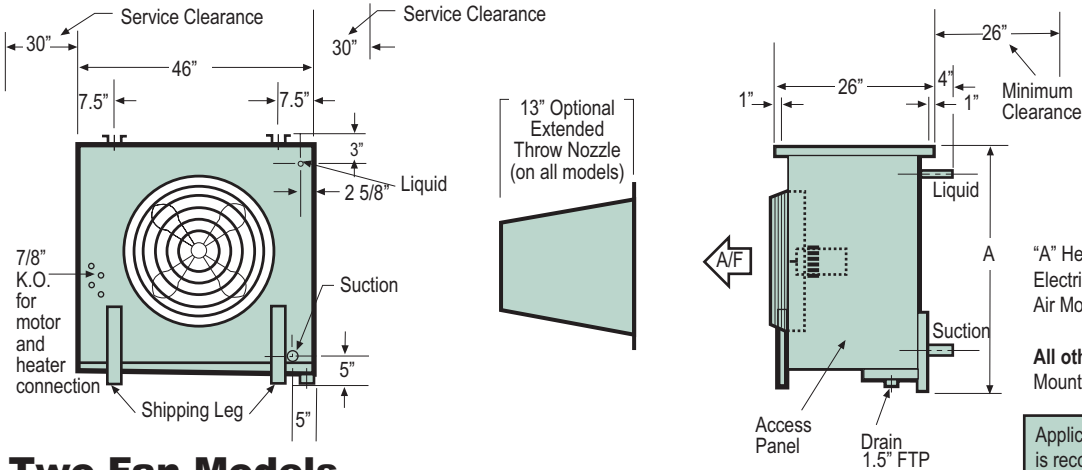
***Century Refrigeration offers a complete line of matching condensing units and glycol chillers.***

## Available Options

- Extended throw nozzles - up to 50% additional throw
- Insulated drain pans on air defrost units
- Low noise fan blades
- Mounted non-fused disconnect switch
- Extra legs for rack mounted applications
- Mounted TXV
- Units circuited for water or glycol solutions
- Stainless steel hardware, fasteners, and/or housings
- Special motor/fan blade combinations for higher external static pressure applications
- Special motor/blade combinations for hazardous duty applications
- Lower operating temperatures available upon request
- Special fin materials available for corrosive atmosphere applications
- ECM motors



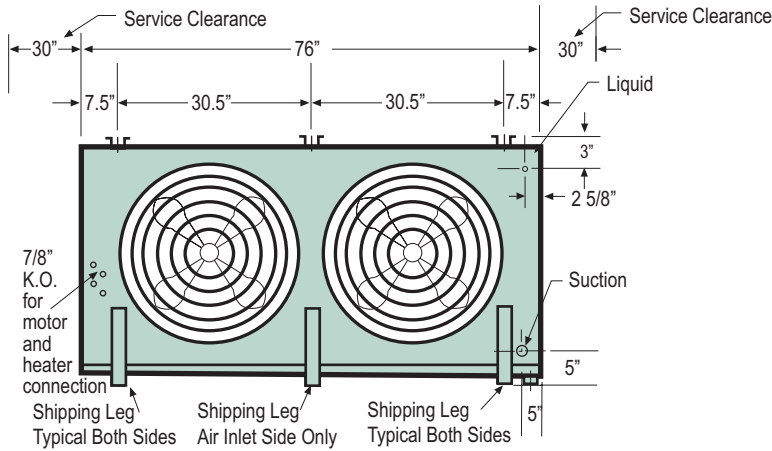
# One Fan Models



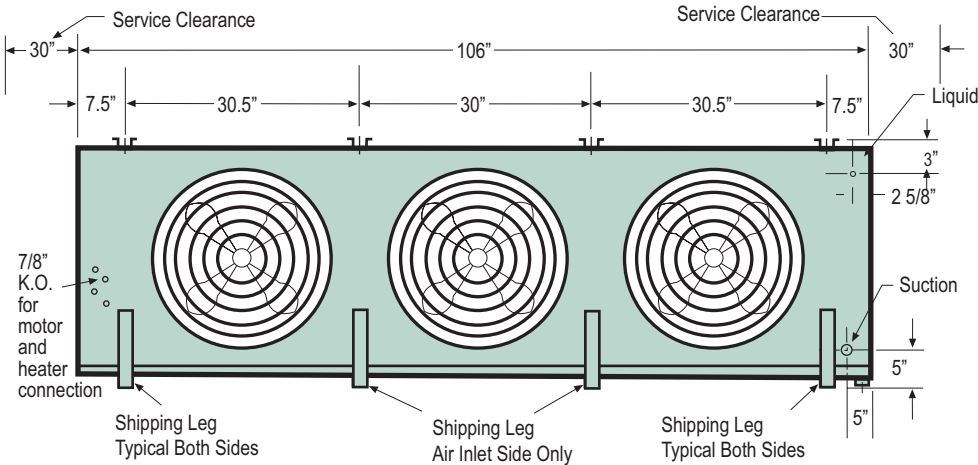
"A" Height Dimension is 36 15/16" on: Hot Gas and Electric Models A440-841, A540-925, A640-978; Air Models A540-925, A640-978, A840-1050.

All others will be 30 15/16".  
Mounting Holes are 13/16" on all models.

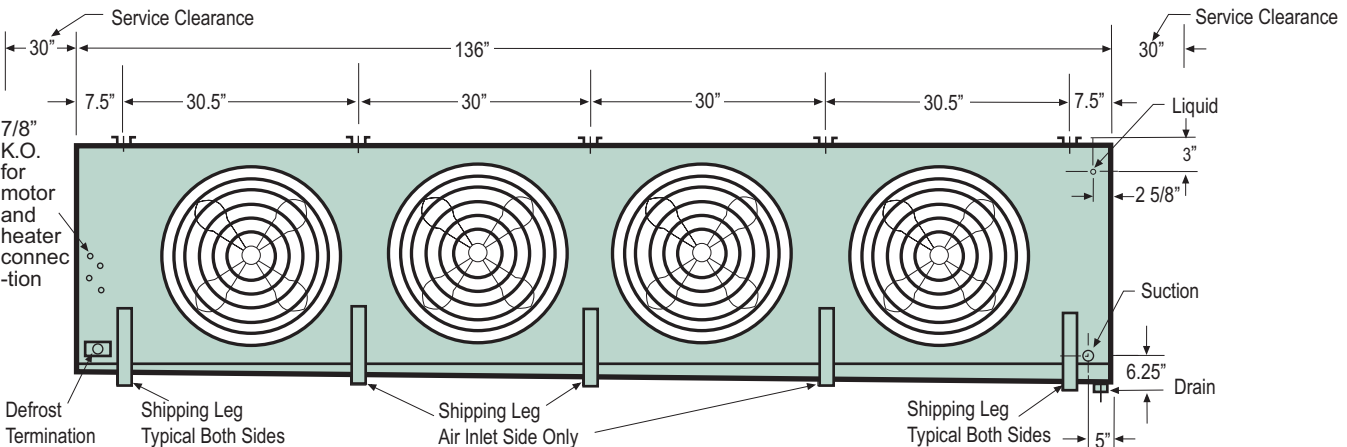
# Two Fan Models



# Three Fan Models



# Four Fan Models



Application of Series A Electric Defrost unit coolers is recommended in medium size coolers and freezers above -30°F operating room temperature.

Application of Series A Air Defrost unit coolers is recommended in medium size coolers above 35°F.

Air throw is 60-70 ft. Locate units 14 inches from walls for best results. support piping adequately with suction line "P" traps at unit. Locate LLS close to TEV. Use externally equalized TEV.

All units shown as left hand.

In Electric Defrost units, condensate drain lines must be adequately heat traced in rooms below freezing.

**MODEL KEY**

A412-126E

Series \_\_\_\_\_

Fins/Inch \_\_\_\_\_

No. Fans \_\_\_\_\_

Refrigerant \_\_\_\_\_

2 - R-22

4 - R-404A

7 - R-507

BTUH 10° TD (00) \_\_\_\_\_

Defrost \_\_\_\_\_

A - Air

E - Electric

G - Hot Gas

**PLEASE SPECIFY**

- Complete Model Number
- Refrigerant
- Room Temperature
- Sat Suction Temperature
- Electrical Characteristics
  - Motors
  - Heaters
  - Control Voltage
- Accessories



**[www.RAE-Corp.com](http://www.RAE-Corp.com)**

P.O. Box 1206 • Pryor, OK 74362 • (918) 825-7222 • FAX (918) 825- 0723