



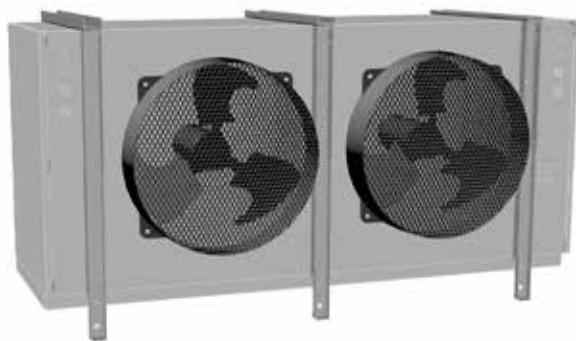
KHP **Generation D & E** High Profile Evaporator

PRODUCT DATA & INSTALLATION

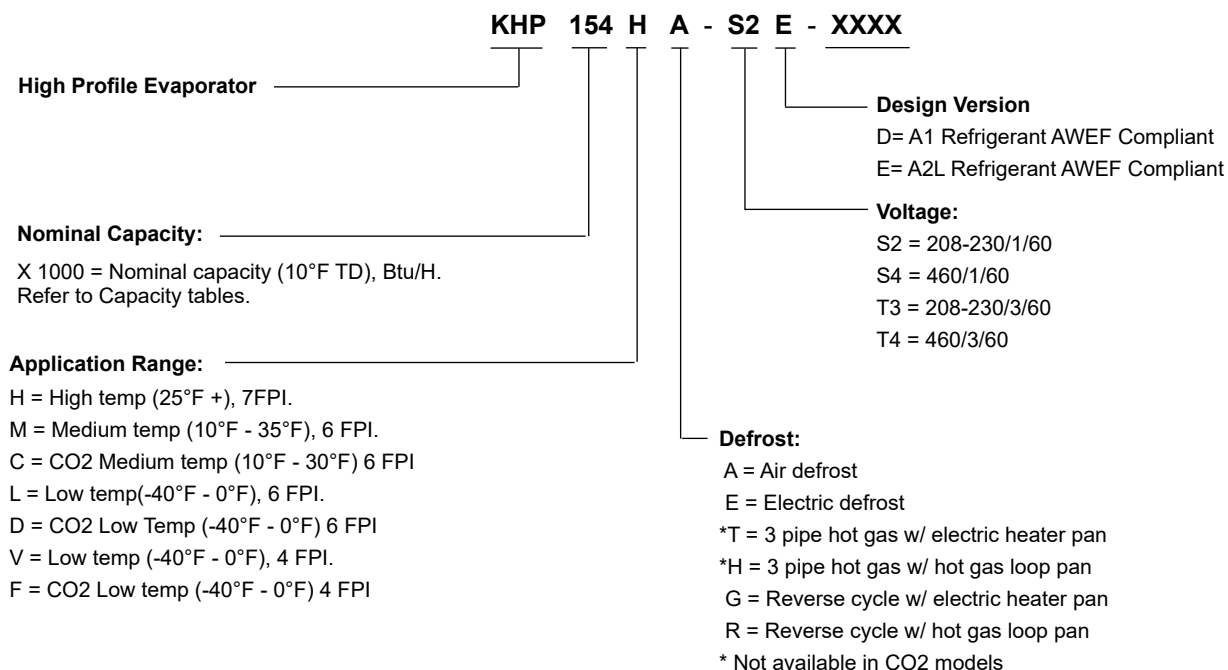
Part # 1111524

Air, Electric, & Hot Gas Defrost

Electrical Power:
208-230/1/60, 208-230/3/60, 460/1/60,
460/3/60



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STANDARD FEATURES

- EC motors with patented SmartSpeed® Technology.
- Compatible with Low GWP Refrigerants (A1 & A2L)
- Totally enclosed high efficiency EC motors
- High efficiency and high strength fan guard
- Hinged access panels
- Internally enhanced tubing
- Ample electrical and header compartments
- Adjustable Fan Delay on medium temp Electric Defrost units
- Fixed fan delay on all low temperature units
- Electronic defrost termination on all electric and hot gas defrost units
- Liquid line solenoid valve wire harness factory installed
- Schrader valve on suction header
- Quiet swept wing fan blade
- 1-1/4" NPT drain fitting
- Unit shipped with Nitrogen holding charge
- Factory-installed distributor nozzle
- CO2 Coils certified for 650 PSI (45 Bar)
- All A2L units will include a Leak Detection system with shipped loose SSOV (Safety Shut Off Valve) and CSOV (Check Shut Off Valve)

AVAILABLE OPTIONS

- ESP+ Intuitive Evaporator Control Technology
- Factory installed expansion valve, solenoid valve and room thermostat
- Hot gas loop pan with hot gas defrost models
- Corrosion protection: alternate fin materials and coatings
- Electronic expansion valve (EEV)
- Transducer for EEV
- Insulated drain pan
- Wire fan guard
- 90 Bar (1300PSI) CO2 models available, Please contact factory
- Transducer schrader and isolation valve
- Additional options available, please contact factory

SELECTION DATA

KHP - HIGH PROFILE EVAPORATORS

R407A - R448A - R449A - R407C High Temperature - 7 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h			Air Flow		Refrig. Charge** R407A	
		20/25°F (-4/-7°C)	15°F (-9°C)	10°F (-12°C)	CFM	L/S	LB.	KG
052H	1	51500	51000	50500	6100	2880	9.2	4.2
060H		60000	59400	58800	5900	2780	12.3	5.6
065H		65000	64400	63700	5600	2640	15.4	7.0
103H	2	103300	102300	101200	12200	5760	17.8	8.1
120H		120000	118800	117600	11800	5570	23.8	10.8
131H		131100	129800	128500	11100	5240	29.0	13.2
155H	3	155200	153600	152100	18300	8640	26.4	12.0
180H		180000	178200	176400	17600	8310	35.2	16.0
196H		195600	193600	191700	16700	7880	44.0	20.0
242H	4	241600	239200	236800	23500	11090	46.7	21.2
263H		263000	260400	257700	22300	10520	58.3	26.5

The capacities were rated based on nominal 10 TD Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

** For R448A/R449A, use conversion factor 0.96

R404A - R507 High Temperature - 7 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h			Air Flow		Refrig. Charge** R404A	
		20/25°F (-4/-7°C)	15°F (-9°C)	10°F (-12°C)	CFM	L/S	LB.	KG
052H	1	41900	41500	41100	6100	2880	8.5	3.9
060H		48700	48200	47700	5900	2780	11.3	5.1
065H		52800	52300	51700	5600	2640	14.2	6.4
103H	2	84000	83200	82300	12200	5760	16.4	7.4
120H		97900	96900	95900	11800	5570	21.9	9.9
131H		106600	105500	104500	11100	5240	26.7	12.1
155H	3	126200	124900	123700	18300	8640	24.3	11.0
180H		146400	144900	143500	17600	8310	32.3	14.7
196H		159000	157400	155800	16700	7880	40.5	18.4
242H	4	196400	194400	192500	23500	11090	42.9	19.5
263H		213800	211700	209500	22300	10520	53.7	24.4

The capacities were rated based on nominal 10 TD Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

R454A - R454C - R455A High Temperature - 7 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h			Air Flow		Refrig. Charge R454A- R455A - R454C	
		20/25°F (-4/-7°C)	15°F (-9°C)	10°F (-12°C)	CFM	L/S	LB.	KG
052H	1	51500	51000	50500	6100	2880	7.1	3.2
060H		60000	59400	58800	5900	2780	9.1	4.1
065H		65000	64400	63700	5600	2640	11.1	5.0
103H	2	103300	102300	101200	12200	5760	13.0	5.9
120H		120000	118800	117600	11800	5570	17.4	7.9
131H		131100	129800	128500	11100	5240	21.3	9.7
155H	3	155200	153600	152100	18300	8640	19.3	8.7
180H		180000	178200	176400	17600	8310	25.1	11.4
196H		195600	193600	191700	16700	7880	31.0	14.0
242H	4	241600	239200	236800	23500	11090	33.4	15.1
263H		263000	260400	257700	22300	10520	41.1	18.6

The capacities were rated based on nominal 10 TD Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

SELECTION DATA

KHP - HIGH PROFILE EVAPORATORS

R407A - R448A - R449A - R407C

Medium Temperature - 6 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h			Air Flow		Refrig. Charge** R407A	
		20/25°F (-4/-7°C)	15°F (-9°C)	10°F (-12°C)	CFM	L/S	LB.	KG
048M	1	47600	47100	46600	6200	2930	9.2	4.2
056M		56300	55700	55200	6000	2830	12.3	5.6
062M		62000	61400	60800	5700	2690	15.0	6.8
095M	2	95300	94300	93400	12400	5850	17.8	8.1
113M		113300	112200	111000	12000	5660	23.8	10.8
125M		124500	123300	122000	11300	5330	29.0	13.2
143M	3	143200	141800	140300	18600	8780	26.4	12.0
168M		168300	166600	164900	18000	8500	35.2	16.0
186M		186200	184300	182500	17000	8020	44.0	20.0
227M	4	227200	224900	222700	23900	11280	46.7	21.2
250M		250000	247500	245000	22700	10710	58.3	26.5

The capacities were rated based on nominal 10 TD Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

** For R448A/R449A, use conversion factor 0.96

R404A - R507

Medium Temperature - 6 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h			Air Flow		Refrig. Charge** R404A	
		20/25°F (-4/-7°C)	15°F (-9°C)	10°F (-12°C)	CFM	L/S	LB.	KG
048M	1	38700	38300	37900	6200	2930	8.5	3.9
056M		45800	45300	44900	6000	2830	11.3	5.1
062M		50400	49900	49400	5700	2690	13.8	6.3
095M	2	77500	76700	76000	12400	5850	16.4	7.4
113M		92100	91200	90300	12000	5660	21.9	9.9
125M		101200	100200	99200	11300	5330	26.7	12.1
143M	3	116400	115200	114100	18600	8780	24.3	11.0
168M		136800	135400	134100	18000	8500	32.3	14.7
186M		151400	149900	148400	17000	8020	40.5	18.4
227M	4	184700	182900	181000	23900	11280	42.9	19.5
250M		203000	201000	198900	22700	10710	53.7	24.4

The capacities were rated based on nominal 10 TD Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

R454A - R454C - R455A

Medium Temperature - 6 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h			Air Flow		Refrig. Charge R454A- R455A - R454C	
		20/25°F (-4/-7°C)	15°F (-9°C)	10°F (-12°C)	CFM	L/S	LB.	KG
048M	1	47600	47100	46600	6200	2930	7.1	3.2
056M		56300	55700	55200	6000	2830	9.1	4.1
062M		62000	61400	60800	5700	2690	11.1	5.0
095M	2	95300	94300	93400	12400	5850	13.0	5.9
113M		113300	112200	111000	12000	5660	17.4	7.9
125M		124500	123300	122000	11300	5330	21.3	9.7
143M	3	143200	141800	140300	18600	8780	19.3	8.7
168M		168300	166600	164900	18000	8500	25.1	11.4
186M		186200	184300	182500	17000	8020	31.0	14.0
227M	4	227200	224900	222700	23900	11280	33.4	15.1
250M		250000	247500	245000	22700	10710	41.1	18.6

The capacities were rated based on nominal 10 TD Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

SELECTION DATA

KHP - HIGH PROFILE EVAPORATORS

R407A - R448A - R449A

Low Temperature - 6 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h					Air Flow		Refrig. Charge** R407A	
		0°F (-18°F)	-10°F (-23°F)	-20°F (-29°F)	-30°F (-34°F)	-40°F (-40°F)	CFM	L/S	LB.	KG
041L	1	43200	42000	40800	37100	34700	6200	2930	9.5	4.3
049L		51700	50300	48800	44400	41500	6000	2830	12.8	5.8
055L		58300	56700	55000	50100	46800	5700	2690	16.4	7.5
083L	2	87700	85200	82700	75300	70300	12400	5850	19.0	8.6
099L		104700	101800	98800	89900	84000	12000	5660	25.4	11.5
110L		116600	113300	110000	100100	93500	11300	5330	31.7	14.4
125L	3	132100	128300	124600	113400	105900	18600	8780	28.2	12.8
149L		157600	153200	148700	135300	126400	18000	8500	37.6	17.1
165L		174900	170000	165000	150200	140300	17000	8020	47.0	21.4
188L	4	199300	193600	188000	171100	159800	23900	11280	49.9	22.7
211L		223700	217300	211000	192000	179400	22700	10710	62.4	28.3

The capacities were rated based on nominal 10 TD. Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.
** For R448A/R449A, use conversion factor 0.96

R404A - R507

Low Temperature - 6 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h					Air Flow		Refrig. Charge** R404A	
		0°F (-18°F)	-10°F (-23°F)	-20°F (-29°F)	-30°F (-34°F)	-40°F (-40°F)	CFM	L/S	LB.	KG
041L	1	35200	34200	33200	30200	28200	6200	2930	8.7	4.0
049L		42100	40900	39700	36100	33700	6000	2830	11.7	5.3
055L		47400	46000	44700	40700	38000	5700	2690	15.1	6.9
083L	2	71200	69200	67200	61200	57100	12400	5850	17.5	8.0
099L		85100	82700	80300	73100	68300	12000	5660	23.3	10.6
110L		94400	91800	89100	81100	75700	11300	5330	29.2	13.3
125L	3	107400	104300	101300	92200	86100	18600	8780	25.9	11.8
149L		128200	124500	120900	110000	102800	18000	8500	34.6	15.7
165L		142100	138100	134100	122000	114000	17000	8020	43.2	19.6
188L	4	162000	157400	152800	139000	129900	23900	11280	45.9	20.9
211L		182000	176900	171700	156200	145900	22700	10710	57.4	26.1

The capacities were rated based on nominal 10 TD. Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

R454A - R454C - R455A

Low Temperature - 6 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h					Air Flow		Refrig. Charge** R454A - R454C - R455A	
		0°F (-18°F)	-10°F (-23°F)	-20°F (-29°F)	-30°F (-34°F)	-40°F (-40°F)	CFM	L/S	LB.	KG
041L	1	43200	42000	40800	37100	34700	6200	2930	7.0	3.1
049L		51700	50300	48800	44400	41500	6000	2830	9.3	4.2
055L		58300	56700	55000	50100	46800	5700	2690	11.2	5.1
083L	2	87700	85200	82700	75300	70300	12400	5850	13.0	5.9
099L		104700	101800	98800	89900	84000	12000	5660	16.7	7.6
110L		116600	113300	110000	100100	93500	11300	5330	21.0	9.5
125L	3	132100	128300	124600	113400	105900	18600	8780	19.2	8.6
149L		157600	153200	148700	135300	126400	18000	8500	24.6	11.2
165L		174900	170000	165000	150200	140300	17000	8020	30.3	13.7
188L	4	199300	193600	188000	171100	159800	23900	11280	32.7	14.8
211L		223700	217300	211000	192000	179400	22700	10710	40.1	18.2

The capacities were rated based on nominal 10 TD. Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

SELECTION DATA

KHP - HIGH PROFILE EVAPORATORS

R407A - R448A - R449A Low Temperature - 4 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h					Air Flow		Refrig. Charge** R407A	
		0°F (-18°F)	-10°F (-23°F)	-20°F (-29°F)	-30°F (-34°F)	-40°F (-40°F)	CFM	L/S	LB.	KG
035V	1	37400	36400	35300	32100	30000	6400	3020	9.5	4.3
043V		45700	44400	43100	39200	36600	6200	2930	12.8	5.8
049V		51600	50200	48700	44300	41400	5900	2780	16.4	7.5
071V	2	75500	73300	71200	64800	60500	12800	6040	19.0	8.6
087V		92000	89400	86800	79000	73800	12400	5850	25.4	11.5
098V		103700	100700	97800	89000	83100	11800	5570	31.7	14.4
107V	3	113700	110500	107300	97600	91200	19200	9060	28.2	12.8
130V		138300	134400	130500	118800	110900	18600	8780	37.6	17.1
147V		155900	151500	147100	133900	125000	17600	8310	47.0	21.4
168V	4	178400	173300	168300	153200	143100	24800	11700	49.9	22.7
190V		201400	195700	190000	172900	161500	23500	11090	62.4	28.3

The capacities were rated based on nominal 10 TD. Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.
** For R448A/R449A, use conversion factor 0.96

R404A - R507 Low Temperature - 4 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h					Air Flow		Refrig. Charge** R404A	
		0°F (-18°F)	-10°F (-23°F)	-20°F (-29°F)	-30°F (-34°F)	-40°F (-40°F)	CFM	L/S	LB.	KG
035V	1	30400	29600	28700	26100	24400	6400	3020	8.7	4.0
043V		37100	36100	35000	31900	29800	6200	2930	11.7	5.3
049V		42000	40800	39600	36000	33700	5900	2780	15.1	6.9
071V	2	61400	59600	57900	52700	49200	12800	6040	17.5	8.0
087V		74800	72700	70600	64200	60000	12400	5850	23.3	10.6
098V		84300	81900	79500	72300	67600	11800	5570	29.2	13.3
107V	3	92400	89800	87200	79400	74100	19200	9060	25.9	11.8
130V		112500	109300	106100	96600	90200	18600	8780	34.6	15.7
147V		126800	123200	119600	108800	101700	17600	8310	43.2	19.6
168V	4	145000	140900	136800	124500	116300	24800	11700	45.9	20.9
190V		163800	159100	154500	140600	131300	23500	11090	57.4	26.1

The capacities were rated based on nominal 10 TD. Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

R454A - R454C - R455A Low Temperature - 4 FPI Models

Model KHP	Qty. Fans	Evaporator Temperature Selection Capacity BTU/h					Air Flow		Refrig. Charge** R454A - R454C - R455A	
		0°F (-18°F)	-10°F (-23°F)	-20°F (-29°F)	-30°F (-34°F)	-40°F (-40°F)	CFM	L/S	LB.	KG
035V	1	37400	36400	35300	32100	30000	6400	3020	6.9	3.1
043V		45700	44400	43100	39200	36600	6200	2930	9.3	4.2
049V		51600	50200	48700	44300	41400	5900	2780	11.2	5.1
071V	2	75500	73300	71200	64800	60500	12800	6040	13.0	5.9
087V		92000	89400	86800	79000	73800	12400	5850	16.7	7.6
098V		103700	100700	97800	89000	83100	11800	5570	21.0	9.5
107V	3	113700	110500	107300	97600	91200	19200	9060	19.1	8.6
130V		138300	134400	130500	118800	110900	18600	8780	24.6	11.2
147V		155900	151500	147100	133900	125000	17600	8310	30.3	13.7
168V	4	178400	173300	168300	153200	143100	24800	11700	32.7	14.8
190V		201400	195700	190000	172900	161500	23500	11090	40.1	18.2

The capacities were rated based on nominal 10 TD. Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.

208-230/1/60: Air Defrost

Model KHP	FPI	FAN MOTORS					
		Qty.	208-230/1/60 (2 SPD ECM - STD)				
			HP	FLA Total	Watts	MCA (A)	MOP (A)
052HA-S2D	7	1	1	5.0	560	15.0	20
060HA-S2D		1	1	5.0	560	15.0	20
065HA-S2D		1	1	5.0	560	15.0	20
103HA-S2D		2	1	10.0	1120	15.0	20
120HA-S2D		2	1	10.0	1120	15.0	20
131HA-S2D		2	1	10.0	1120	15.0	20
155HA-S2D		3	1	15.0	1680	20.0	25
180HA-S2D		3	1	15.0	1680	20.0	25
196HA-S2D		3	1	15.0	1680	20.0	25
242HA-S2D		4	1	20.0	2240	25.0	30
263HA-S2D		4	1	20.0	2240	25.0	30

460/1/60: Air Defrost

Model KHP	FPI	FAN MOTORS					
		Qty.	460/1/60 (2 SPD ECM - STD)				
			HP	FLA Total	Watts	MCA (A)	MOP (A)
052HA-S4D	7	1	1	2.5	520	15.0	20
060HA-S4D		1	1	2.5	520	15.0	20
065HA-S4D		1	1	2.5	520	15.0	20
103HA-S4D		2	1	5.0	1040	15.0	20
120HA-S4D		2	1	5.0	1040	15.0	20
131HA-S4D		2	1	5.0	1040	15.0	20
155HA-S4D		3	1	7.5	1560	15.0	20
180HA-S4D		3	1	7.5	1560	15.0	20
196HA-S4D		3	1	7.5	1560	15.0	20
242HA-S4D		4	1	10.0	2080	15.0	20
263HA-S4D		4	1	10.0	2080	15.0	20

208-230/3/60: Electric Defrost Models

Model KHP	FPI	FAN MOTORS						DEFROST HEATERS									
		Qty.	STANDARD SMARTSPEED [®] EC Motors					208-230/1/60 (CIRCUIT #1)				208-230/3/60 (CIRCUIT #2)			208-230/3/60 (CIRCUIT #3)		
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)	Total Amps	MCA (A)	MOP (A)	Total Amps	MCA (A)	MOP (A)
048ME-T3D	6	1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
056ME-T3D		1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
062ME-T3D		1	1	5.0	560	15.0	20	12600	33.2	41.5	45	-	-	-	-	-	-
095ME-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-
113ME-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-
125ME-T3D		2	1	10.0	1120	15.0	20	24500	32.4	40.5	45	32.4	40.5	45	-	-	-
143ME-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-
168ME-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-
186ME-T3D		3	1	15.0	1680	20.0	25	35000	46.3	57.9	60	46.3	57.9	60	-	-	-
227ME-T3D		4	1	20.0	2240	25.0	30	31850	42.9	53.6	60	42.9	53.6	60	-	-	-
250ME-T3D		4	1	20.0	2240	25.0	30	45500	43.1	53.9	60	43.1	53.9	60	34.3	42.9	45
041LE-T3D		6	1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-
049LE-T3D	1		1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
055LE-T3D	1		1	5.0	560	15.0	20	12600	33.2	41.5	45	-	-	-	-	-	-
083LE-T3D	2		1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-
099LE-T3D	2		1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-
110LE-T3D	2		1	10.0	1120	15.0	20	24500	32.4	40.5	45	32.4	40.5	45	-	-	-
125LE-T3D	3		1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-
149LE-T3D	3		1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-
165LE-T3D	3		1	15.0	1680	20.0	25	35000	46.3	57.9	60	46.3	57.9	60	-	-	-
188LE-T3D	4		1	20.0	2240	25.0	30	31850	42.9	53.6	60	42.9	53.6	60	-	-	-
211LE-T3D	4		1	20.0	2240	25.0	30	45500	43.1	53.9	60	43.1	53.9	60	34.3	42.9	45
035VE-T3D	4		1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-
043VE-T3D		1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
049VE-T3D		1	1	5.0	560	15.0	20	12600	33.2	41.5	45	-	-	-	-	-	-
071VE-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-
087VE-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-
098VE-T3D		2	1	10.0	1120	15.0	20	24500	32.4	40.5	45	32.4	40.5	45	-	-	-
107VE-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-
130VE-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-
147VE-T3D		3	1	15.0	1680	20.0	25	35000	46.3	57.9	60	46.3	57.9	60	-	-	-
168VE-T3D		4	1	20.0	2240	25.0	30	31850	43.1	53.9	60	43.1	53.9	60	-	-	-
190VE-T3D		4	1	20.0	2240	25.0	30	45500	43.1	53.9	60	43.1	53.9	60	34.3	42.9	45

460/3/60: Electric Defrost Models

Model KHP	FPI	FAN MOTORS					DEFROST HEATERS							
		Qty.	STANDARD SMARTSPEED [™] EC Motors					460/3/60 (CIRCUIT #1)				460/3/60 (CIRCUIT #2)		
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)	Total Amps	MCA (A)	MOP (A)
048ME-T4D	6	1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
056ME-T4D		1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
062ME-T4D		1	1	2.5	520	15.0	20	12600	16.6	20.8	25	-	-	-
095ME-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
113ME-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
125ME-T4D		2	1	5.0	1040	15.0	20	24500	32.4	40.5	45	-	-	-
143ME-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
168ME-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
186ME-T4D		3	1	7.5	1560	15.0	20	35000	46.3	57.9	60	-	-	-
227ME-T4D		4	1	10.0	2080	15.0	20	31850	43.1	53.9	60	-	-	-
250ME-T4D		4	1	10.0	2080	15.0	20	45500	30.1	37.7	40	30.1	37.7	40
041LE-T4D		6	1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-
049LE-T4D	1		1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
055LE-T4D	1		1	2.5	520	15.0	20	12600	16.6	20.8	25	-	-	-
083LE-T4D	2		1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
099LE-T4D	2		1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
110LE-T4D	2		1	5.0	1040	15.0	20	24500	32.4	40.5	45	-	-	-
125LE-T4D	3		1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
149LE-T4D	3		1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
165LE-T4D	3		1	7.5	1560	15.0	20	35000	46.3	57.9	60	-	-	-
188LE-T4D	4		1	10.0	2080	15.0	20	31850	43.1	53.9	60	-	-	-
211LE-T4D	4		1	10.0	2080	15.0	20	45500	30.1	37.7	40	30.1	37.7	40
035VE-T4D	4	1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
043VE-T4D		1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
049VE-T4D		1	1	2.5	520	15.0	20	12600	16.6	20.8	25	-	-	-
071VE-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
087VE-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
098VE-T4D		2	1	5.0	1040	15.0	20	24500	32.4	40.5	45	-	-	-
107VE-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
130VE-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
147VE-T4D		3	1	7.5	1560	15.0	20	35000	46.3	57.9	60	-	-	-
168VE-T4D		4	1	10.0	2080	15.0	20	31850	43.1	53.9	60	-	-	-
190VE-T4D		4	1	10.0	2080	15.0	20	45500	30.1	37.7	40	30.1	37.7	40

208-230/3/60: Hot Gas Defrost w/ Electric Drain Pan Heaters

Model KHP	FPI	FAN MOTORS						DRAIN PAN HEATERS			
		Qty.	STANDARD SMARTSPEED [®] EC Motors					208-230/3/60			
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)
048M#-T3D	6	1	1	5.0	560	15.0	20	3780	9.5	11.9	15
056M#-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15
062M#-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15
095M#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
113M#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
125M#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
143M#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
168M#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
186M#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
227M#-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45
250M#-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45
041L#-T3D	4	1	1	5.0	560	15.0	20	3780	9.5	11.9	15
049L#-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15
055L#-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15
083L#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
099L#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
110L#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
125L#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
149L#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
165L#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
188L#-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45
211L#-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45
035V#-T3D	4	1	1	5.0	560	15.0	20	3780	9.5	11.9	15
043V#-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15
049V#-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15
071V#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
087V#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
098V#-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25
107V#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
130V#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
147V#-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35
168V#-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45
190V#-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45

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460/3/60: Hot Gas Defrost w/ Electric Drain Pan Heaters

Model KHP	FPI	FAN MOTORS						DRAIN PAN HEATERS			
		Qty.	STANDARD SMARTSPEED EC Motors					208-230/3/60			
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)
048M#-T4D	6	1	1	2.5	520	15.0	20	3780	4.7	5.9	15
056M#-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
062M#-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
095M#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
113M#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
125M#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
143M#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
168M#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
186M#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
227M#-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25
250M#-T4D	4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	
041L#-T4D	4	1	1	2.5	520	15.0	20	3780	4.7	5.9	15
049L#-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
055L#-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
083L#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
099L#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
110L#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
125L#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
149L#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
165L#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
188L#-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25
211L#-T4D	4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	
035V#-T4D	4	1	1	2.5	520	15.0	20	3780	4.7	5.9	15
043V#-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
049V#-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
071V#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
087V#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
098V#-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15
107V#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
130V#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
147V#-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20
168V#-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25
190V#-T4D	4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	

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ELECTRICAL DATA

KHP - HIGH PROFILE EVAPORATORS

208-230/1/60:

Hot Gas Defrost w/ Loop in Drain Pan

Model KHP	FPI	FAN MOTORS						
		Qty.	208-230/1/60 (2 SPD ECM - STD)					
			HP	FLA Total	Watts	MCA (A)	MOP (A)	
048M*-S2D	6	1	1	5.0	560	15.0	20	
056M*-S2D		1	1	5.0	560	15.0	20	
062M*-S2D		1	1	5.0	560	15.0	20	
095M*-S2D		2	1	10.0	1120	15.0	20	
113M*-S2D		2	1	10.0	1120	15.0	20	
125M*-S2D		2	1	10.0	1120	15.0	20	
143M*-S2D		3	1	15.0	1680	20.0	25	
168M*-S2D		3	1	15.0	1680	20.0	25	
186M*-S2D		3	1	15.0	1680	20.0	25	
227M*-S2D		4	1	20.0	2240	25.0	30	
250M*-S2D		4	1	20.0	2240	25.0	30	
041L*-S2D		6	1	1	5.0	560	15.0	20
049L*-S2D			1	1	5.0	560	15.0	20
055L*-S2D			1	1	5.0	560	15.0	20
083L*-S2D	2		1	10.0	1120	15.0	20	
099L*-S2D	2		1	10.0	1120	15.0	20	
110L*-S2D	2		1	10.0	1120	15.0	20	
125L*-S2D	3		1	15.0	1680	20.0	25	
149L*-S2D	3		1	15.0	1680	20.0	25	
165L*-S2D	3		1	15.0	1680	20.0	25	
188L*-S2D	4		1	20.0	2240	25.0	30	
211L*-S2D	4		1	20.0	2240	25.0	30	
035V*-S2D	4	1	1	5.0	560	15.0	20	
043V*-S2D		1	1	5.0	560	15.0	20	
049V*-S2D		1	1	5.0	560	15.0	20	
071V*-S2D		2	1	10.0	1120	15.0	20	
087V*-S2D		2	1	10.0	1120	15.0	20	
098V*-S2D		2	1	10.0	1120	15.0	20	
107V*-S2D		3	1	15.0	1680	20.0	25	
130V*-S2D		3	1	15.0	1680	20.0	25	
147V*-S2D		3	1	15.0	1680	20.0	25	
168V*-S2D		4	1	20.0	2240	25.0	30	
190V*-S2D	4	1	20.0	2240	25.0	30		

460/1/60:

Hot Gas Defrost w/ Loop in Drain Pan

Model KHP	FPI	FAN MOTORS						
		Qty.	208-230/1/60 (2 SPD ECM - STD)					
			HP	FLA Total	Watts	MCA (A)	MOP (A)	
048M*-S4D	6	1	1	2.5	520	15.0	20	
056M*-S4D		1	1	2.5	520	15.0	20	
062M*-S4D		1	1	2.5	520	15.0	20	
095M*-S4D		2	1	5.0	1040	15.0	20	
113M*-S4D		2	1	5.0	1040	15.0	20	
125M*-S4D		2	1	5.0	1040	15.0	20	
143M*-S4D		3	1	7.5	1560	15.0	20	
168M*-S4D		3	1	7.5	1560	15.0	20	
186M*-S4D		3	1	7.5	1560	15.0	20	
227M*-S4D		4	1	10.0	2080	15.0	20	
250M*-S4D		4	1	10.0	2080	15.0	20	
041L*-S4D		6	1	1	2.5	520	15.0	20
049L*-S4D			1	1	2.5	520	15.0	20
055L*-S4D			1	1	2.5	520	15.0	20
083L*-S4D	2		1	5.0	1040	15.0	20	
099L*-S4D	2		1	5.0	1040	15.0	20	
110L*-S4D	2		1	5.0	1040	15.0	20	
125L*-S4D	3		1	7.5	1560	15.0	20	
149L*-S4D	3		1	7.5	1560	15.0	20	
165L*-S4D	3		1	7.5	1560	15.0	20	
188L*-S4D	4		1	10.0	2080	15.0	20	
211L*-S4D	4		1	10.0	2080	15.0	20	
035V*-S4D	4	1	1	2.5	520	15.0	20	
043V*-S4D		1	1	2.5	520	15.0	20	
049V*-S4D		1	1	2.5	520	15.0	20	
071V*-S4D		2	1	5.0	1040	15.0	20	
087V*-S4D		2	1	5.0	1040	15.0	20	
098V*-S4D		2	1	5.0	1040	15.0	20	
107V*-S4D		3	1	7.5	1560	15.0	20	
130V*-S4D		3	1	7.5	1560	15.0	20	
147V*-S4D		3	1	7.5	1560	15.0	20	
168V*-S4D		4	1	10.0	2080	15.0	20	
190V*-S4D	4	1	10.0	2080	15.0	20		

*= H or R. Refer to nonmenclature for details.

208 - 230/3/60: Air Defrost w/ ESP

Model KHP	FPI	ESP+ CIRCUIT	
		208-230/3/60	
		MCA (A)	MOP (A)
052HA-T3*	7	15.0	20
060HA-T3*		15.0	20
065HA-T3*		15.0	20
103HA-T3*		15.0	20
120HA-T3*		15.0	20
131HA-T3*		15.0	20
155HA-T3*		20.0	25
180HA-T3*		20.0	25
196HA-T3*		20.0	25
242HA-T3*		25.0	30
263HA-T3*		25.0	30

* = D or E Generation

460/3/60: Air Defrost w/ ESP

Model KHP	FPI	ESP+ CIRCUIT	
		460/3/60	
		MCA (A)	MOP (A)
052HA-T4*	7	15.0	20
060HA-T4*		15.0	20
065HA-T4*		15.0	20
103HA-T4*		15.0	20
120HA-T4*		15.0	20
131HA-T4*		15.0	20
155HA-T4*		15.0	20
180HA-T4*		15.0	20
196HA-T4*		15.0	20
242HA-T4*		15.0	20
263HA-T4*		15.0	20

* = D or E Generation

208-230/3/60:

Electrical Defrost w/ ESP 

Model KHP	FPI	ESP+ CIRCUIT	
		208-230/3/60	
		MCA (A)	MOP (A)
048ME-T3*	6	29.6	30
056ME-T3*		29.6	30
062ME-T3*		41.5	45
095ME-T3*		57.7	60
113ME-T3*		57.7	60
125ME-T3*		81.0	90
143ME-T3*		83.0	90
168ME-T3*		83.0	90
186ME-T3*		115.8	125
227ME-T3*		107.2	125
250ME-T3*		150.7	175
041LE-T3*		6	29.6
049LE-T3*	29.6		30
055LE-T3*	41.5		45
083LE-T3*	57.7		60
099LE-T3*	57.7		60
110LE-T3*	81.0		90
125LE-T3*	83.0		90
149LE-T3*	83.0		90
165LE-T3*	115.8		125
188LE-T3*	107.2		125
211LE-T3*	150.7		175
035VE-T3*	4		29.6
043VE-T3*		29.6	30
049VE-T3*		41.5	45
071VE-T3*		57.7	60
087VE-T3*		57.7	60
098VE-T3*		81.0	90
107VE-T3*		83.0	90
130VE-T3*		83.0	90
147VE-T3*		115.8	125
168VE-T3*		107.8	125
190VE-T3*		150.7	175

* = D or E Generation

460/3/60:

Electrical Defrost w/ ESP 

Model KHP	FPI	ESP+ CIRCUIT	
		460/3/60	
		MCA (A)	MOP (A)
048ME-T4*	6	14.9	15
056ME-T4*		14.9	15
062ME-T4*		20.8	25
095ME-T4*		28.9	30.0
113ME-T4*		28.9	30.0
125ME-T4*		40.5	45.0
143ME-T4*		41.5	45.0
168ME-T4*		41.5	45.0
186ME-T4*		57.9	60.0
227ME-T4*		53.9	60.0
250ME-T4*		75.4	80.0
041LE-T4*		6	14.9
049LE-T4*	14.9		15
055LE-T4*	20.8		25
083LE-T4*	28.9		30.0
099LE-T4*	28.9		30.0
110LE-T4*	40.5		45.0
125LE-T4*	41.5		45.0
149LE-T4*	41.5		45.0
165LE-T4*	57.9		60.0
188LE-T4*	53.9		60.0
211LE-T4*	75.4		80.0
035VE-T4*	4		14.9
043VE-T4*		14.9	15
049VE-T4*		20.8	25
071VE-T4*		28.9	30.0
087VE-T4*		28.9	30.0
098VE-T4*		40.5	45.0
107VE-T4*		41.5	45.0
130VE-T4*		41.5	45.0
147VE-T4*		57.9	60.0
168VE-T4*		53.9	60.0
190VE-T4*		75.4	80.0

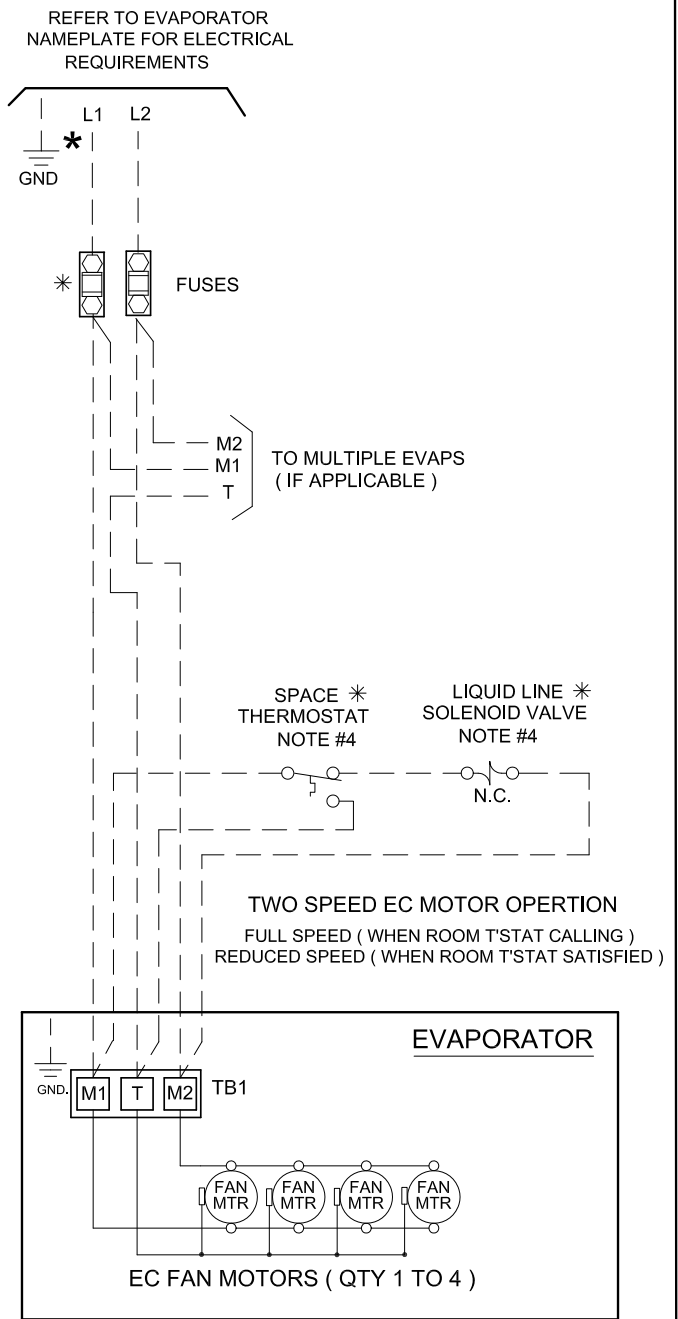
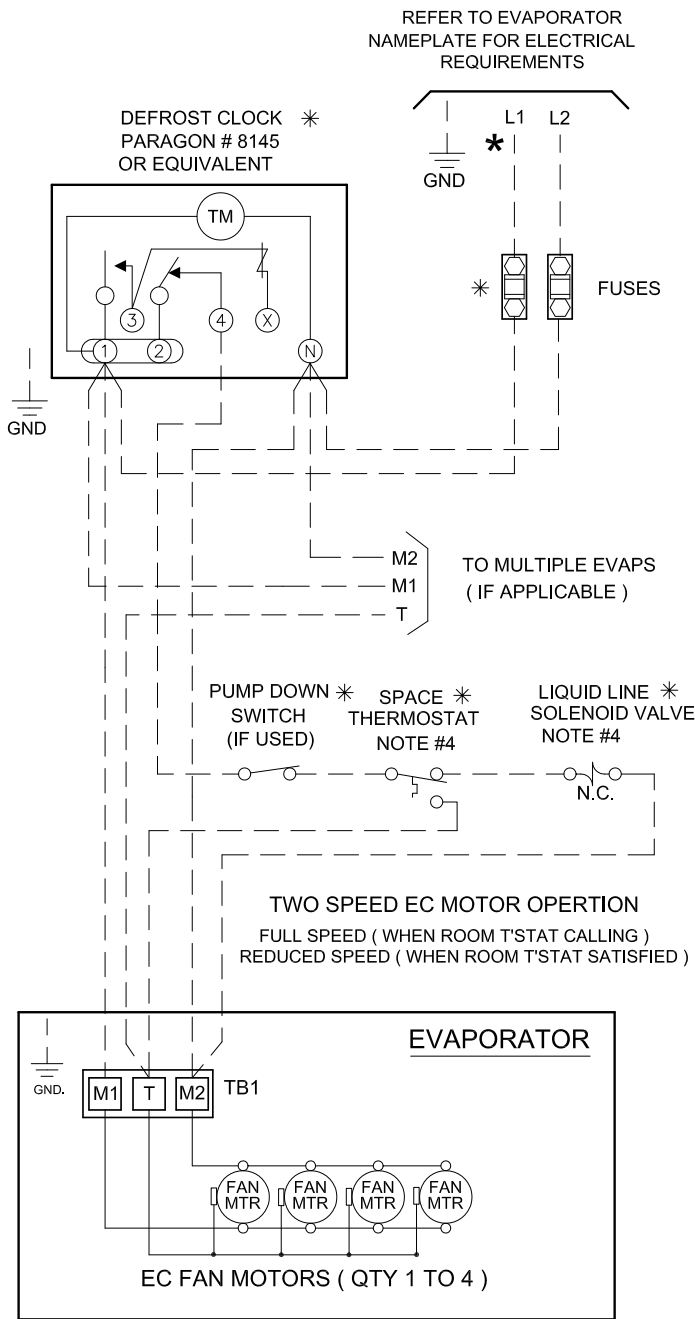
* = D or E Generation

208-230V/1/60: Air Defrost Models

TYPICAL UNIT COOLER WIRING DIAGRAM - AIR DEFROST 208-230V/1/60

WITH DEFROST TIME CLOCK

WITHOUT DEFROST TIME CLOCK



NOTES

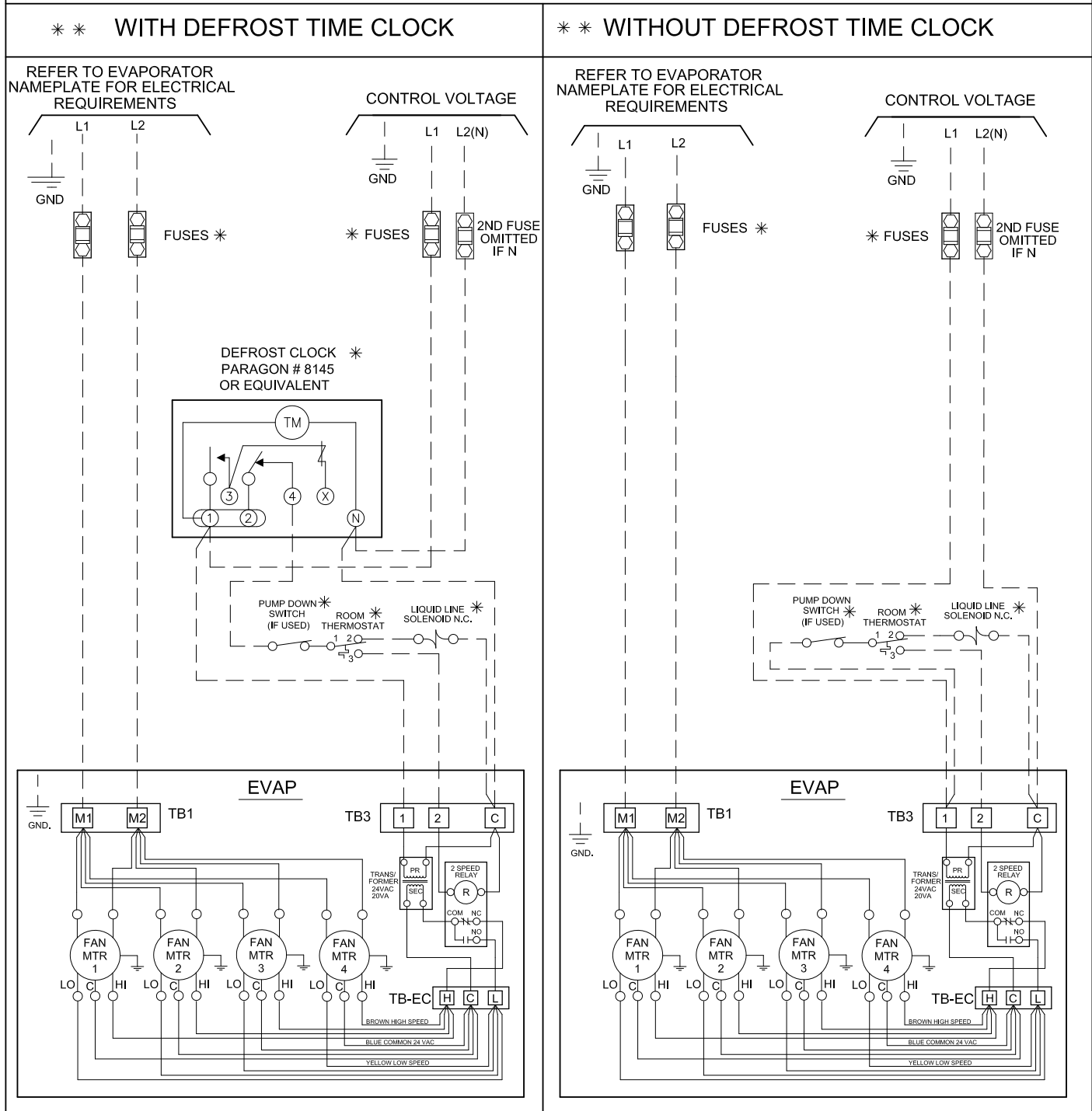
HP-D-AD-230-LITERATURE.DWG

- * COMPONENTS BY OTHERS
- * * ALL FIELD WIRING TO BE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.
- FACTORY WIRING
- - WIRING BY OTHERS
- * SMARTSPEED WIRING NOTE

FOR SMARTSPEED OPERATION BOTH CONTROL VOLTAGE POWER AND FAN MOTOR POWER MUST ORIGINATE FROM THE SAME SOURCE

460/1/60: Air Defrost Models

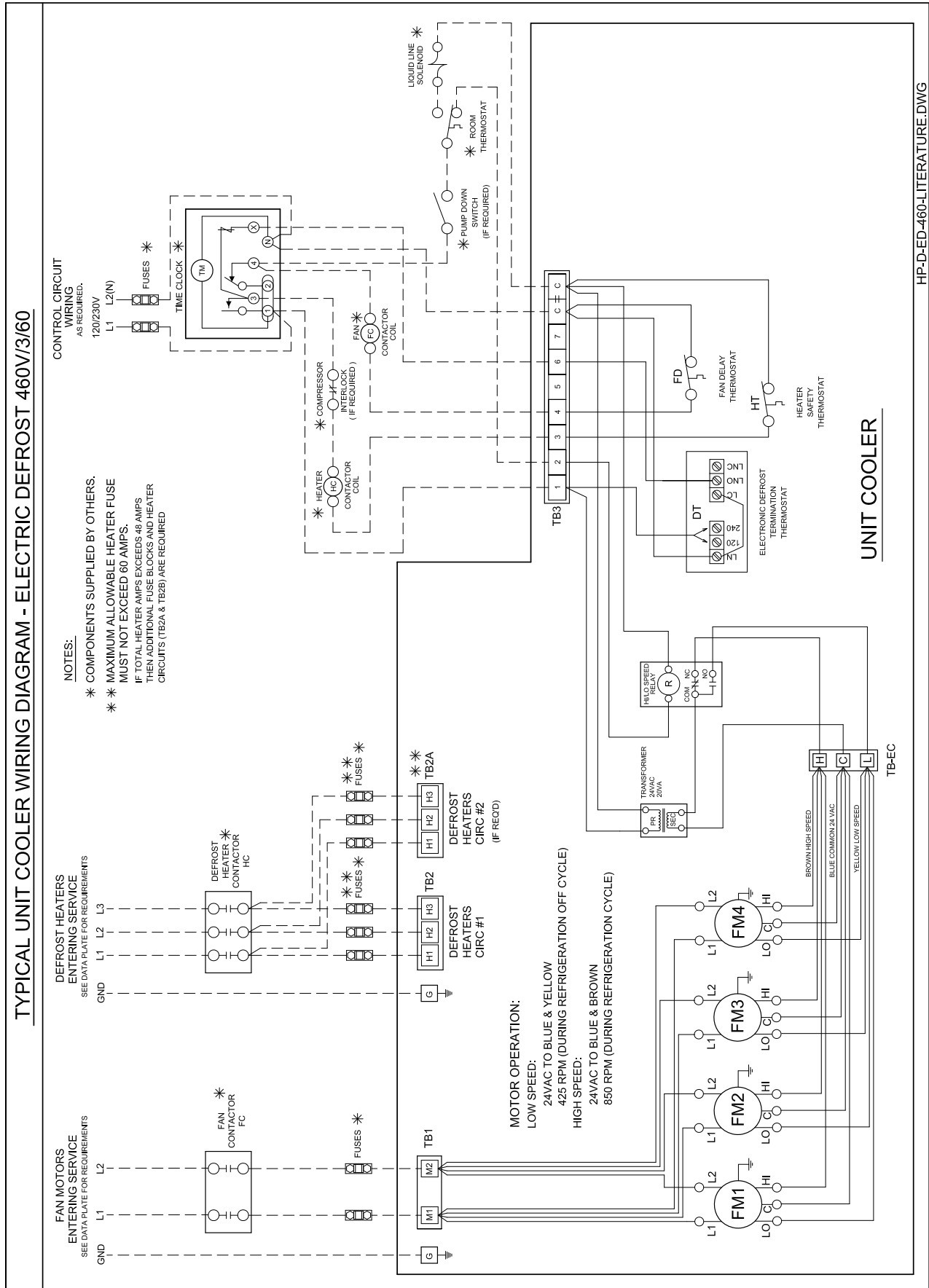
TYPICAL UNIT COOLER WIRING DIAGRAM - AIR DEFROST 460V/1/60



NOTES

- * COMPONENTS BY OTHERS
 - ** ALL FIELD WIRING TO BE IN COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.
 - FACTORY WIRING
 - - WIRING BY OTHERS
- SMARTSPEED (TWO SPEED) EC MOTOR OPERATION
 - FULL SPEED (DURING REFRIGERATION ON CYCLE)
 - REDUCED SPEED (DURING REFRIGERATION OFF CYCLE)

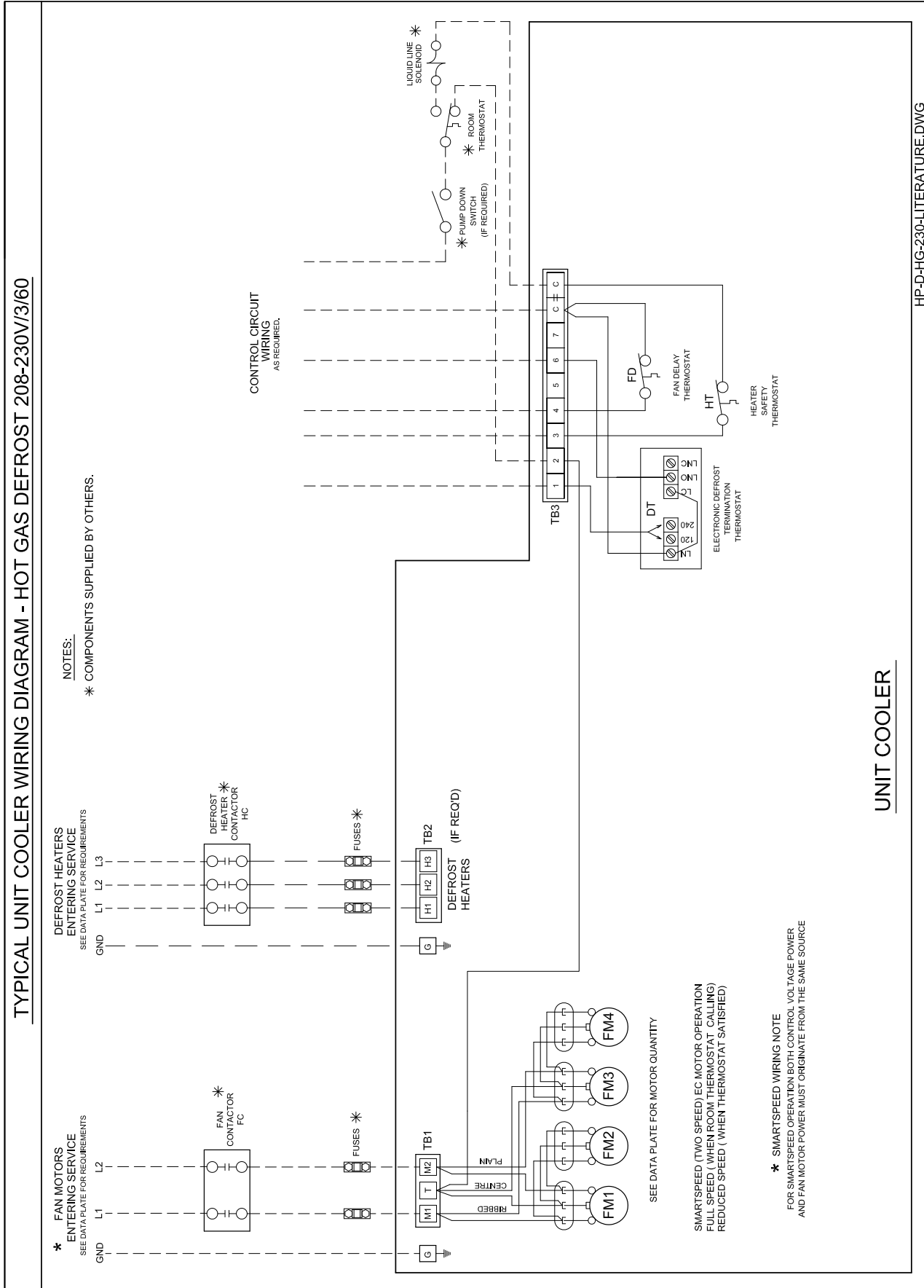
460/1/60, 460/3/60: Electric Defrost Models



HP-D-ED-460-LITERATURE.DWG

208-230/1/60: Hot Gas Defrost Models

TYPICAL UNIT COOLER WIRING DIAGRAM - HOT GAS DEFROST 208-230V/3/60



ESP+ INTUITIVE EVAPORATOR CONTROL TECHNOLOGY

What is ESP+?

KeepRite Refrigeration's ESP+ intuitive evaporator control technology is designed to replace traditional electro-mechanical refrigeration controls typically used on medium and low temperature applications. By combining award winning adaptive technology along with an electronic expansion valve, KeepRite Refrigeration continues to be The Right Choice For The Refrigeration Professional.

Installing an evaporator utilizing the ESP+ intuitive evaporator control technology is simple. Two pipes, two wires and you're done. No interconnecting control wiring between the evaporator and the condensing unit is required.

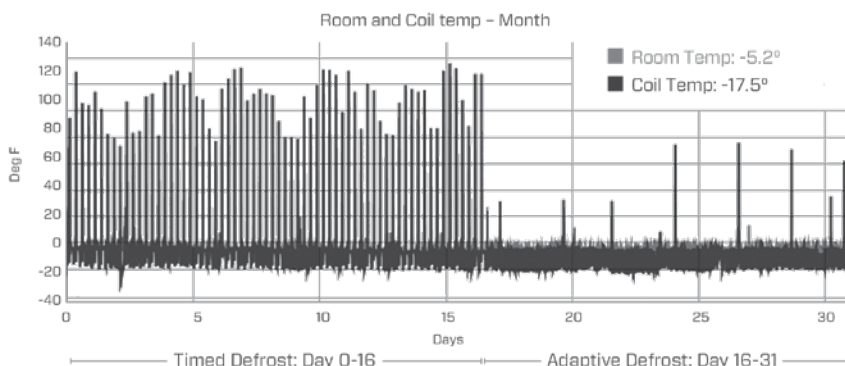
- Quick, simple installation
- Improved evaporator performance by minimizing excessive frost on the evaporator
 - Eliminates ice build up on surfaces and product
 - Energy savings through evaporator fan management
- Energy savings with reduction in the number of defrost cycles
 - Defrost heater management
- Improved system diagnostics and service through advanced alarm notification text/email
 - Remote monitoring & system control
 - User friendly interface
 - Precise temperature control for prolonged product shelf life
 - Improved product integrity with less potential for spoilage
 - Downloadable data provides system history for prior 30 days
- Remotely view and change system parameters and alarm settings
 - Manually control system
 - Easily troubleshoot issues
- Refrigerant Leak Mitigation Strategy Included for A2L units

ESP+ controls:

- Box Temperature - Superheat - Liquid Line Solenoid
- Defrost Initiation - Defrost Termination - Fan Motors
- Defrost Heater (Electric Defrost Models)

Plus - User can access operating data directly from the system interface

15-20% System Energy Savings over a Properly Commissioned System!



86% Fewer Defrost Cycles*

- Enhanced system performance
- Energy Savings
- Improved product integrity

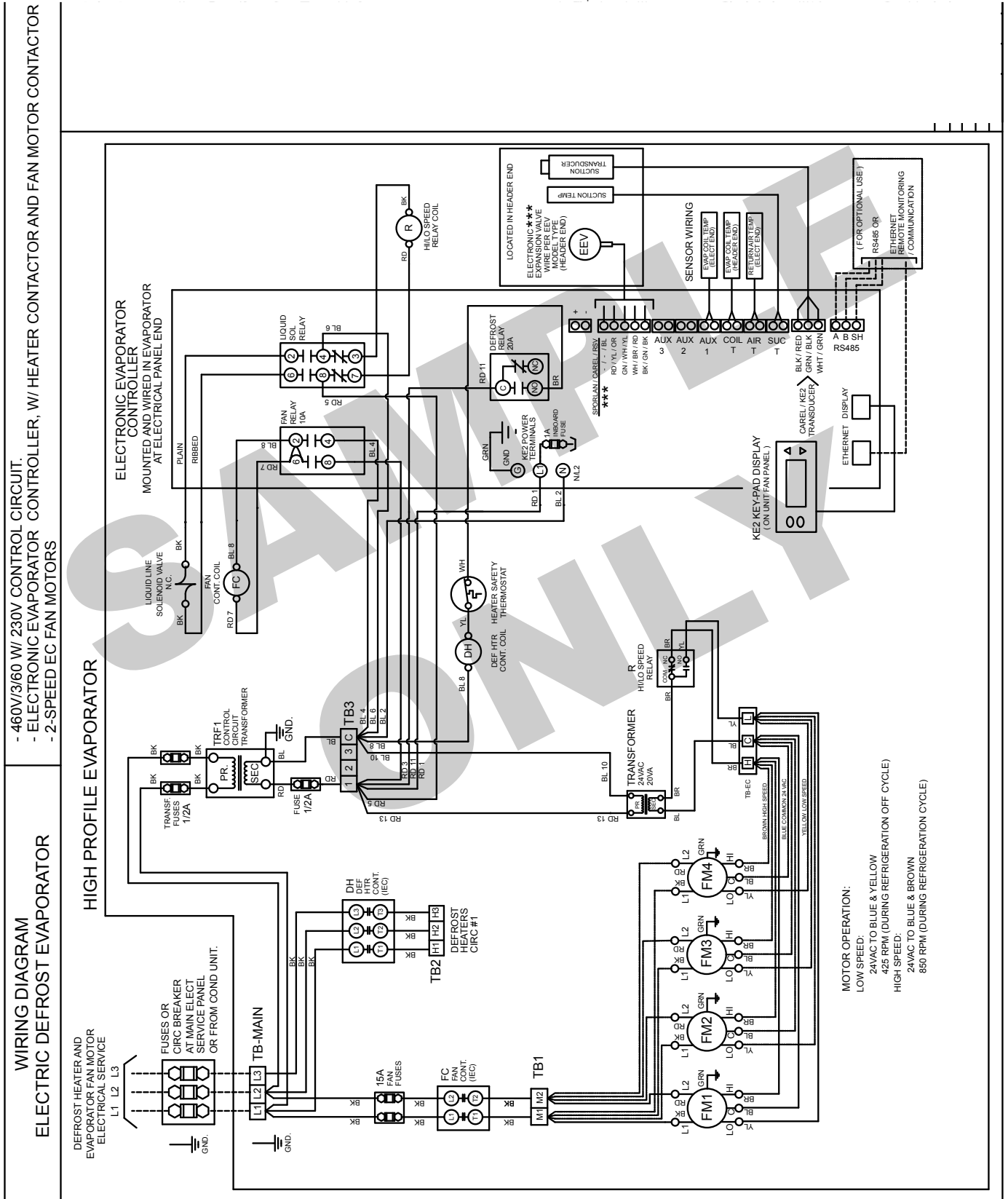
* Data may vary depending on application

Visit www.k-rp.com/esp for details

460/3/60: Electric Defrost Models with ESP + Evap. Fan + Defrost Heater Contactor

SAMPLE ONLY:

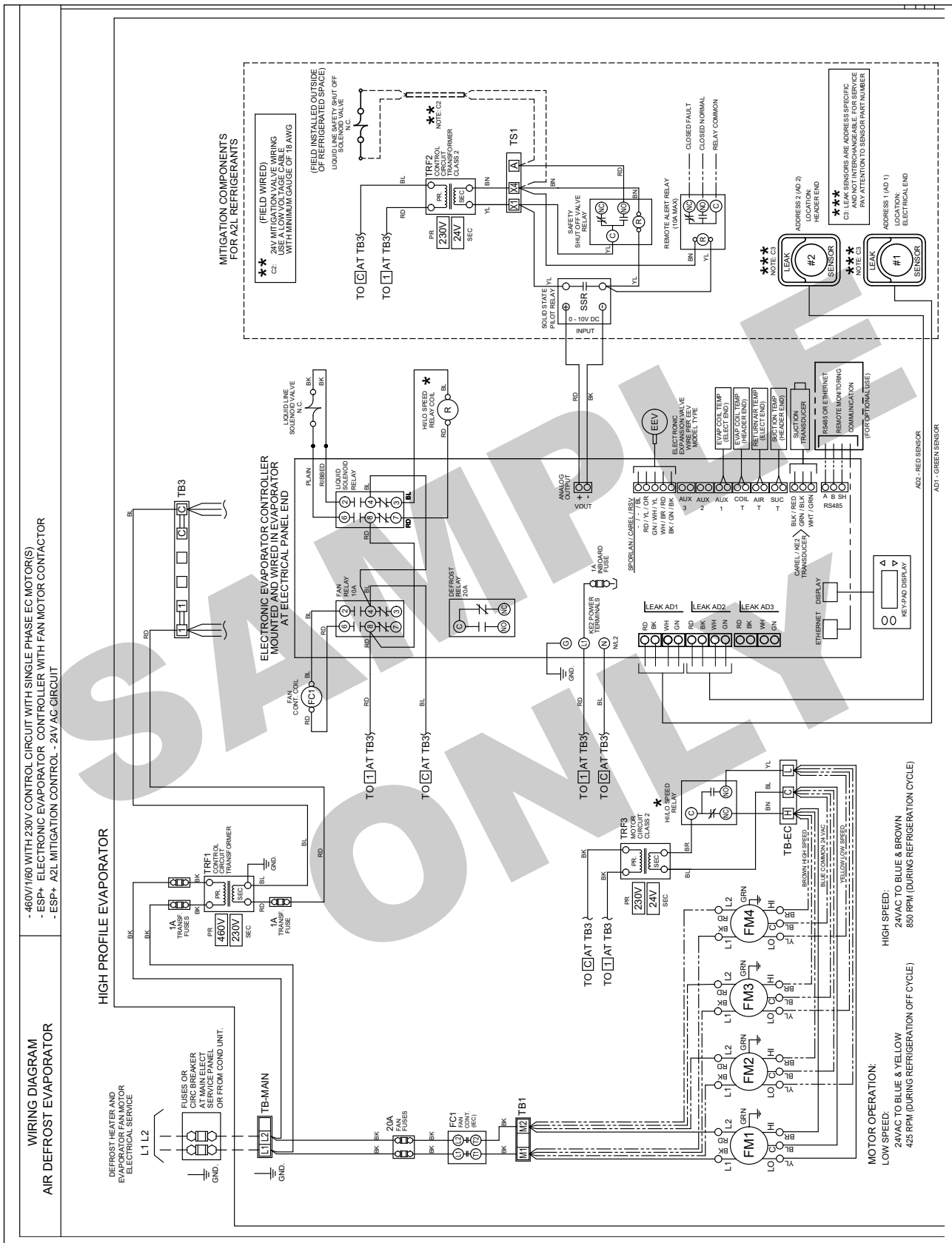
Refer to Product Data and Installation for details specific to your unit



208-230/1/60: Air Defrost Models with ESP and A2L Mitigation

SAMPLE ONLY:

Refer to Product Data and Installation for details specific to your unit



Annual Walk-In Energy Factor Ratings - Medium Temperature

If a numerical value is listed in the table below, the following statement applies to that corresponding model:

" This refrigeration system is designed and certified for use in walk-in cooler applications."

Model KHP	R404A / R507	R448A / R449A	R407C / R407A	R454A	R454C	R455A
052H	9.00	9.00	9.00	9.00	9.00	9.00
060H	9.00	9.00	9.00	9.00	9.00	9.00
065H	9.00	9.00	9.00	9.00	9.00	9.00
103H	9.00	9.00	9.00	9.00	9.00	9.00
120H	9.00	9.00	9.00	9.00	9.00	9.00
131H	9.00	9.00	9.00	9.00	9.00	9.00
155H	9.00	9.00	9.00	9.00	9.00	9.00
180H	9.00	9.00	9.00	9.00	9.00	9.00
196H	9.00	9.00	9.00	9.00	9.00	9.00
242H	9.00	9.00	9.00	9.00	9.00	9.00
263H	9.00	9.00	9.00	9.00	9.00	9.00
048M	9.00	9.00	9.00	9.00	9.00	9.00
056M	9.00	9.00	9.00	9.00	9.00	9.00
062M	9.00	9.00	9.00	9.00	9.00	9.00
095M	9.00	9.00	9.00	9.00	9.00	9.00
113M	9.00	9.00	9.00	9.00	9.00	9.00
125M	9.00	9.00	9.00	9.00	9.00	9.00
143M	9.00	9.00	9.00	9.00	9.00	9.00
168M	9.00	9.00	9.00	9.00	9.00	9.00
186M	9.00	9.00	9.00	9.00	9.00	9.00
227M	9.00	9.00	9.00	9.00	9.00	9.00
250M	9.00	9.00	9.00	9.00	9.00	9.00

Annual Walk-In Energy Factor Ratings - Low Temperature

If a numerical value is listed in the table below, the following statement applies to that corresponding model:

" This refrigeration system is designed and certified for use in walk-in freezer applications."

Model KHP	R404A / R507	R448A / R449A	R407C / R407A	R454A	R454C	R455A
041L	4.15	4.15	4.15	4.15	4.15	4.15
049L	4.15	4.15	4.15	4.15	4.15	4.15
055L	4.15	4.15	4.15	4.15	4.15	4.15
083L	4.15	4.15	4.15	4.15	4.15	4.15
099L	4.15	4.15	4.15	4.15	4.15	4.15
110L	4.15	4.15	4.15	4.15	4.15	4.15
125L	4.15	4.15	4.15	4.15	4.15	4.15
149L	4.15	4.15	4.15	4.15	4.15	4.15
165L	4.15	4.15	4.15	4.15	4.15	4.15
188L	4.15	4.15	4.15	4.15	4.15	4.15
211L	4.15	4.15	4.15	4.15	4.15	4.15
035V	4.15	4.15	4.15	4.15	4.15	4.15
043V	4.15	4.15	4.15	4.15	4.15	4.15
049V	4.15	4.15	4.15	4.15	4.15	4.15
071V	4.15	4.15	4.15	4.15	4.15	4.15
087V	4.15	4.15	4.15	4.15	4.15	4.15
098V	4.15	4.15	4.15	4.15	4.15	4.15
107V	4.15	4.15	4.15	4.15	4.15	4.15
130V	4.15	4.15	4.15	4.15	4.15	4.15
147V	4.15	4.15	4.15	4.15	4.15	4.15
168V	4.15	4.15	4.15	4.15	4.15	4.15
190V	4.15	4.15	4.15	4.15	4.15	4.15

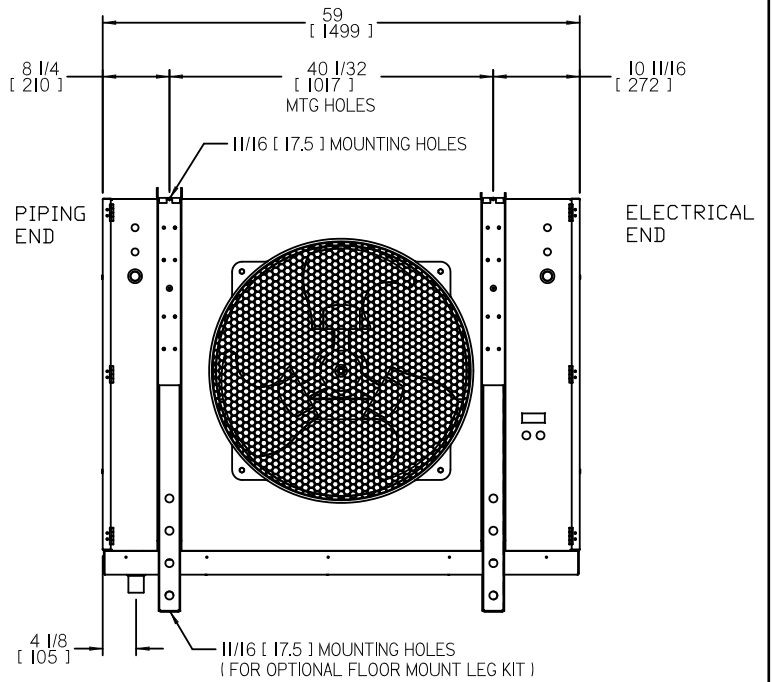
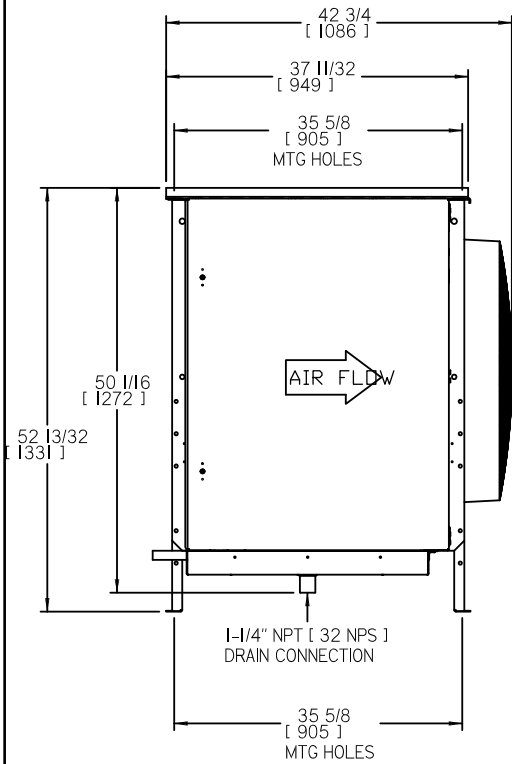
Sound Data dBa @ 10 ft.

D & E GEN			
1 FAN	2 FAN	3 Fan	4 Fan
65	67	68.5	69.5

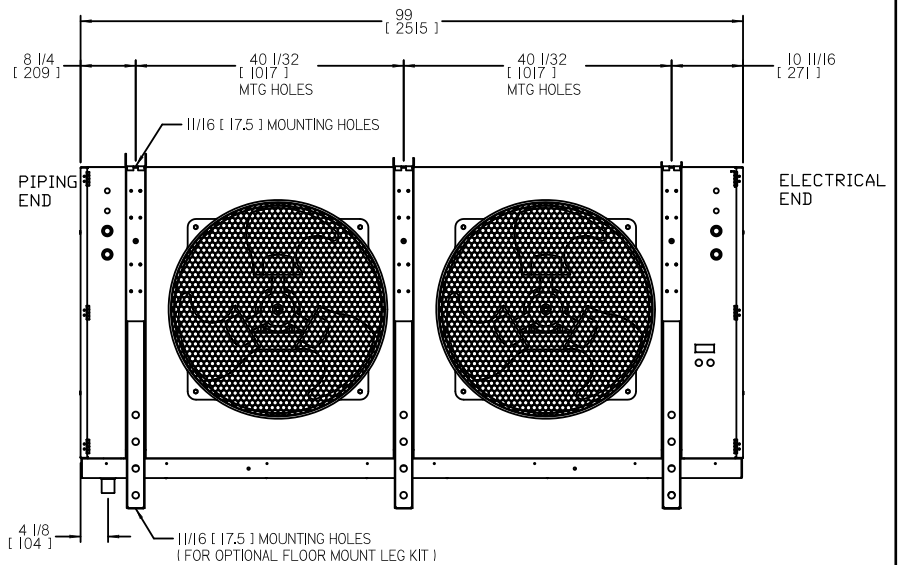
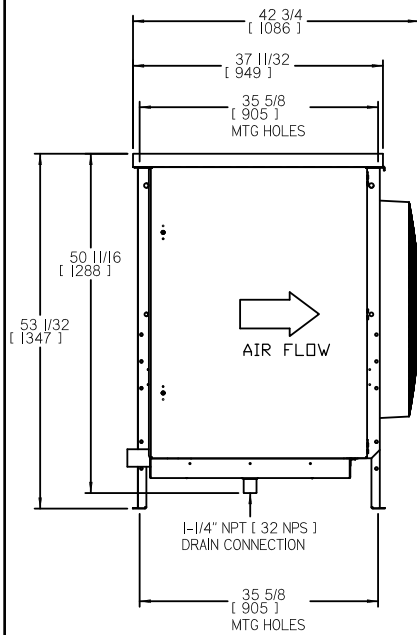
* Data is typical of "free field" conditions. Factors such as reflecting walls, background noise and installation may have significant influence on data.

** Data above is for reference only **

1 Fan Model



2 Fan Model

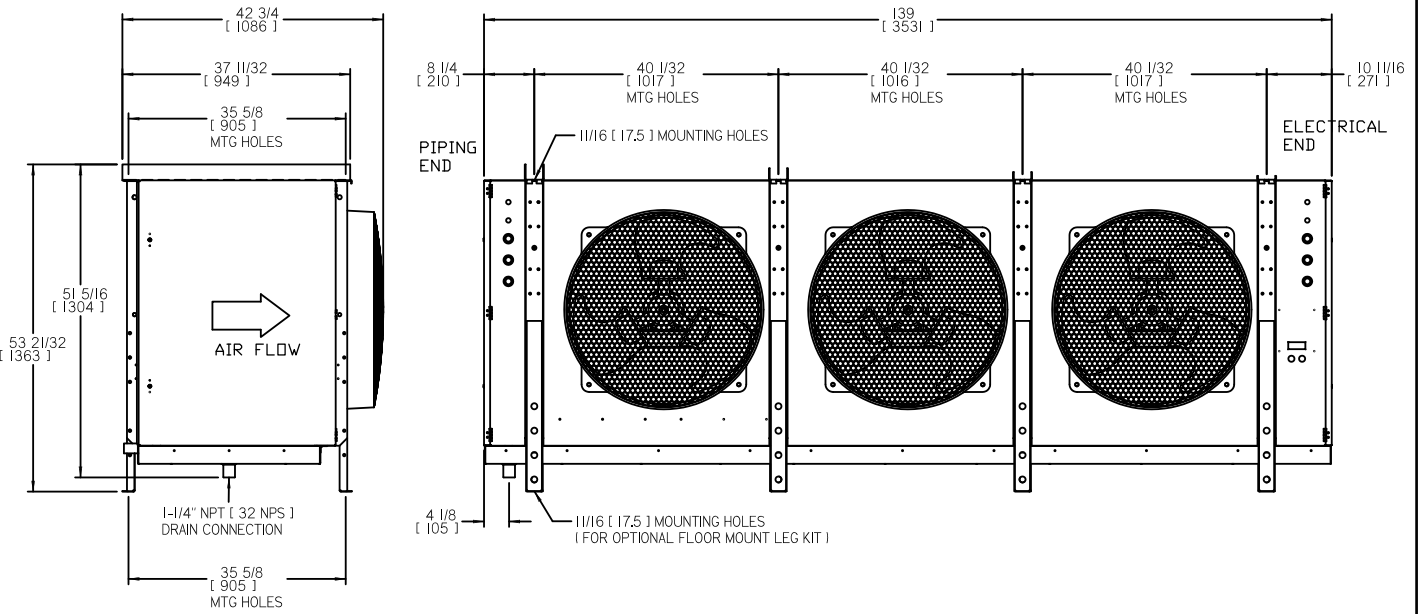


ALL MODELS AIR THROW:

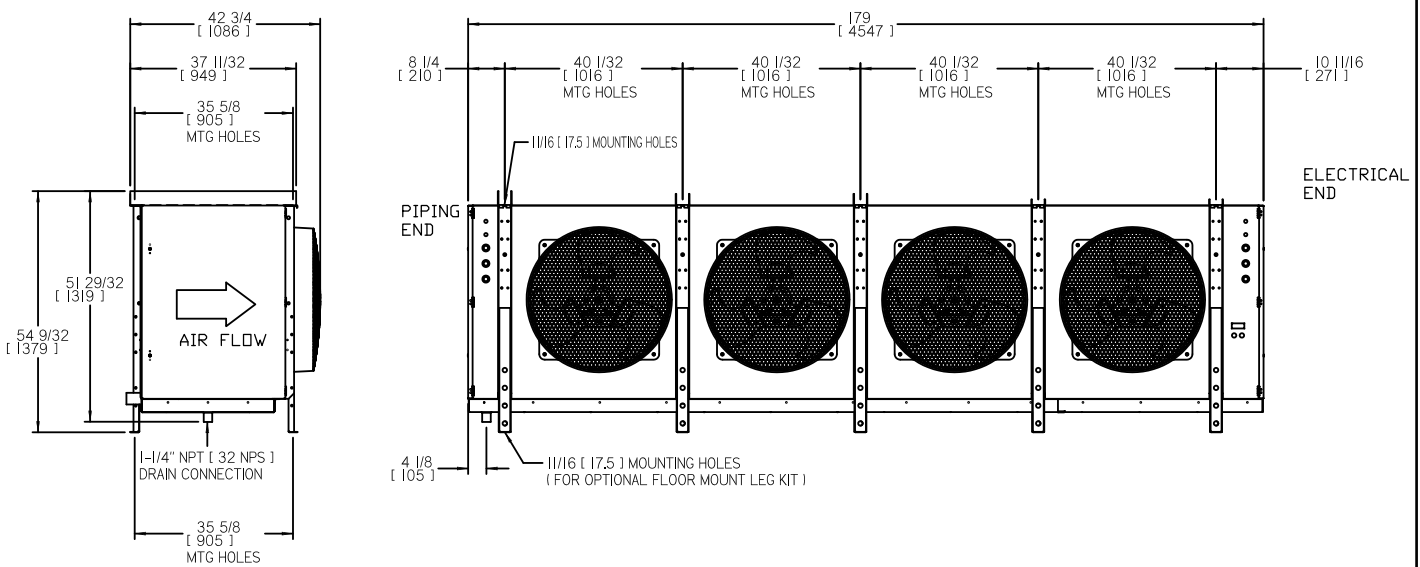
Standard high efficiency fan guard approximately 150 ft (45.7 Metres) in open space.

Optional wire fan guard approximately 100 ft (30.5 Metres) in open space.

3 Fan Model



4 Fan Model



ALL MODELS AIR THROW:

Standard high efficiency fan guard approximately 150 ft (45.7 Metres) in open space.

Optional wire fan guard approximately 100 ft (30.5 Metres) in open space.

High Temperature Air Defrost

Model KHP	No. of Fans	Suction Connection (ID) Sweat	Distributor Inlet Size (OD) Sweat
052H	1	1-3/8	1 1/8
060H		1-3/8	1 1/8
065H		1-3/8	1 1/8
103H	2	1-5/8	1 3/8
120H		2-1/8	1 3/8
131H		2-1/8	1 3/8
155H	3	2-1/8	1 5/8
180H		2-1/8	1 5/8
196H		2-1/8	1 5/8
242H	4	2-5/8	1 5/8
263H		2-5/8	1 5/8

Medium Temperature Air and Electric Defrost

Model KHP	No. of Fans	Suction Connection (ID) Sweat	Distributor Inlet Size (OD) Sweat
048M#	1	1-3/8	1 1/8
056M#		1-3/8	1 1/8
062M#		1-3/8	1 1/8
095M#	2	1-5/8	1 3/8
113M#		2-1/8	1 3/8
125M#		2-1/8	1 3/8
143M#	3	2-1/8	1 5/8
168M#		2-1/8	1 5/8
186M#		2-1/8	1 5/8
227M#	4	2-5/8	1 5/8
250M#		2-5/8	1 5/8

= A or E. Refer to Nomenclature for details

Low Temperature Electric Defrost

Model KHP	No. of Fans	Suction Connection (ID) Sweat	Distributor Inlet Size (OD) Sweat
041LE	1	1-5/8	1 1/8
049LE		2-1/8	1 1/8
055LE		2-1/8	1 3/8
083LE	2	2-1/8	1 3/8
099LE		2-1/8	1 3/8
110LE		2-5/8	1 5/8
125LE	3	2-5/8	1 5/8
149LE		2-5/8	1 5/8
165LE		2-5/8	1 5/8
188LE	4	3-1/8	1 5/8
211LE		3-1/8	1 5/8
035VE		1	1-5/8
043VE	2-1/8		1 1/8
049VE	2-1/8		1 3/8
071VE	2	2-1/8	1 3/8
087VE		2-1/8	1 3/8
098VE		2-5/8	1 5/8
107VE	3	2-5/8	1 5/8
130VE		2-5/8	1 5/8
147VE		2-5/8	1 5/8
168VE	4	3-1/8	1 5/8
190VE		3-1/8	1 5/8

Hot Gas Defrost

Model KHP	No. of Fans	Suction Connection (ID) Sweat	REVERSE CYCLE / 3 PIPE DEFOST		Hot Gas Drain Pan Loop Connection (OD) Sweat
			Distributor Inlet Size (OD) Sweat	Side Port Connection (OD) Sweat	
048M^	1	1-3/8	1 1/8	7/8	1-3/8
056M^		39450	1 1/8	7/8	1-3/8
062M^		1-3/8	1 1/8	7/8	1-3/8
095M^	2	1-5/8	1 3/8	1-1/8	1-3/8
113M^		2-1/8	1 3/8	1-1/8	1-3/8
125M^		2-1/8	1 3/8	1-1/8	1-3/8
143M^	3	2-1/8	1 5/8	1-3/8	1-5/8
168M^		2-1/8	1 5/8	1-3/8	1-5/8
186M^		2-1/8	1 5/8	1-3/8	1-5/8
227M^	4	2-5/8	1 5/8	1-5/8	1-5/8
250M^		2-5/8	1 5/8	1-5/8	1-5/8
041L^	1	1-5/8	1 1/8	7/8	1-3/8
049L^		2-1/8	1 1/8	7/8	1-3/8
055L^		2-1/8	1 3/8	7/8	1-3/8
083L^	2	2-1/8	1 3/8	1-1/8	1-3/8
099L^		2-1/8	1 3/8	1-1/8	1-3/8
110L^		2-5/8	1 5/8	1-1/8	1-3/8
125L^	3	2-5/8	1 5/8	1-3/8	1-5/8
149L^		2-5/8	1 5/8	1-3/8	1-5/8
165L^		2-5/8	1 5/8	1-3/8	1-5/8
188L^	4	3-1/8	1 5/8	1-5/8	1-5/8
211L^		3-1/8	1 5/8	1-5/8	1-5/8
035V^	1	1-5/8	1 1/8	7/8	1-3/8
043V^		2-1/8	1 1/8	7/8	1-3/8
049V^		2-1/8	1 3/8	7/8	1-3/8
071V^	2	2-1/8	1 3/8	1-1/8	1-3/8
087V^		2-1/8	1 3/8	1-1/8	1-3/8
098V^		2-5/8	1 5/8	1-1/8	1-3/8
107V^	3	2-5/8	1 5/8	1-3/8	1-5/8
130V^		2-5/8	1 5/8	1-3/8	1-5/8
147V^		2-5/8	1 5/8	1-3/8	1-5/8
168V^	4	3-1/8	1 5/8	1-5/8	1-5/8
190V^		3-1/8	1 5/8	1-5/8	1-5/8

^ = T, H, G, or R. Refer to Nomenclature for details

Air Defrost

Model KHP	Shipping Weight	
	LB.	kg.
052HA	348	158
060HA	371	168
065HA	394	179
103HA	603	274
120HA	649	294
131HA	695	315
155HA	859	390
180HA	928	421
196HA	996	452
242HA	1206	547
263HA	1297	589

Electric Defrost

Model KHP	Shipping Weight	
	LB.	kg.
048ME	343	156
056ME	364	165
062ME	386	175
095ME	594	270
113ME	637	289
125ME	679	308
143ME	845	383
168ME	909	412
186ME	973	441
227ME	1181	536
250ME	1266	574
041LE	343	156
049LE	364	165
055LE	386	175
083LE	594	270
099LE	637	289
110LE	679	308
125LE	845	383
149LE	909	412
165LE	973	441
188LE	1181	536
211LE	1266	574
035VE	334	151
043VE	352	160
049VE	370	168
071VE	576	261
087VE	612	278
098VE	648	294
107VE	576	261
130VE	872	395
147VE	926	420
168VE	1132	513
190VE	1204	546

Hot Gas Defrost

WITH HOT GAS LOOP				WITH ELECTRIC HEATER PAN			
Model KHP	Shipping Weight			Model KHP	Shipping Weight		
	LB.	kg.	LB.		kg.		
048MH	048MR	365	166	048MG	048MT	346	157
056MH	056MR	387	175	056MG	056MT	368	167
062MH	062MR	408	185	062MG	062MT	389	176
095MH	095MR	631	286	095MG	095MT	601	272
113MH	113MR	674	306	113MG	113MT	643	292
125MH	125MR	716	325	125MG	125MT	686	311
143MH	143MR	919	417	143MG	143MT	855	388
168MH	168MR	983	446	168MG	168MT	919	417
186MH	186MR	1047	475	186MG	186MT	982	446
227MH	227MR	1287	584	227MG	227MT	1194	542
250MH	250MR	1372	623	250MG	250MT	1279	580
041LH	041LR	365	166	041LG	041LT	346	157
049LH	049LR	387	175	049LG	049LT	368	167
055LH	055LR	408	185	055LG	055LT	389	176
083LH	083LR	631	286	083LG	083LT	601	272
099LH	099LR	674	306	099LG	099LT	643	292
110LH	110LR	716	325	110LG	110LT	686	311
125LH	125LR	919	417	125LG	125LT	855	388
149LH	149LR	983	446	149LG	149LT	919	417
165LH	165LR	1047	475	165LG	165LT	982	446
188LH	188LR	1287	584	188LG	188LT	1194	542
211LH	211LR	1372	623	211LG	211LT	1279	580
035VH	035VR	356	162	035VG	035VT	356	162
043VH	043VR	374	170	043VG	043VT	374	170
049VH	049VR	393	178	049VG	049VT	393	178
071VH	071VR	613	278	071VG	071VT	613	278
087VH	087VR	649	294	087VG	087VT	649	294
098VH	098VR	685	311	098VG	098VT	685	311
107VH	107VR	650	295	107VG	107VT	650	295
130VH	130VR	946	429	130VG	130VT	946	429
147VH	147VR	1001	454	147VG	147VT	1001	454
168VH	168VR	1238	561	168VG	168VT	1238	561
190VH	190VR	1310	594	190VG	190VT	1310	594

High Temperature 7 FPI

Model KHP	All Refrigerants
052H	E5
060H	E6
065H	E6
103H	C12
120H	C15
131H	C15
155H	A17
180H	A20
196H	A20
242H	A25
263H	A30

Medium Temperature 6 FPI

Model KHP	All Refrigerants
048M	E5
056M	E6
062M	E6
095M	C12
113M	C15
125M	C15
143M	A17
168M	A20
186M	A20
227M	A25
250M	A30

Low Temperature 6 FPI

Model KHP	All Refrigerants
041L	E8
049L	E10
055L	E12
083L	C17
099L	C20
110L	A25
125L	A30
149L	A35
165L	A35
188L	A40
211L	A50

Low Temperature 4 FPI

Model KHP	All Refrigerants
035V	E6
043V	E8
049V	E10
071V	C15
087V	C17
098V	A20
107V	A20
130V	A25
147V	A30
168V	A35
190V	A40

Models with ESP 

High Temperature 6 FPI

Model KHP	FACTORY INSTALLED NOZZLE	FACTORY INSTALLED ELECTRONIC EXPANSION VALVE	FACTORY INSTALLED LIQUID LINE SOLENOID VALVE	FOR E-GEN A2L UNITS	
				FACTORY SUPPLIED SAFETY SOLENOID VALVE	FACTORY SUPPLIED SAFETY CHECK VALVE
052H	E5	E3V45	B9	SSOV10	CSOV11
060H	E6	E3V45	B9	SSOV10	CSOV11
065H	E6	E3V45	B9	SSOV10	CSOV11
103H	C12	E3V55	B10	SSOV19	CSOV13
120H	C15	E3V55	B14	SSOV19	CSOV17
131H	C15	E3V55	B14	SSOV19	CSOV17
155H	A17	E3V65	B14	SSOV19	CSOV17
180H	A20	E3V65	B19	SSOV19	CSOV17
196H	A20	E3V65	B19	SSOV19	CSOV17
242H	A25	E3V65	B19	SSOV25	CSOV21
263H	A30	E3V65	B25	SSOV25	CSOV21

*** Insert defrost type. See nomenclature for details

Medium Temperature Air or Electric Defrost

Model KHP	FACTORY INSTALLED NOZZLE	FACTORY INSTALLED ELECTRONIC EXPANSION VALVE	FACTORY INSTALLED LIQUID LINE SOLENOID VALVE	FOR E-GEN A2L UNITS	
				FACTORY SUPPLIED SAFETY SOLENOID VALVE	FACTORY SUPPLIED SAFETY CHECK VALVE
048M	E5	E3V45	B9	SSOV10	CSOV11
056M	E6	E3V45	B9	SSOV10	CSOV11
062M	E6	E3V45	B9	SSOV10	CSOV11
095M	C12	E3V55	B10	SSOV19	CSOV13
113M	C15	E3V55	B14	SSOV19	CSOV17
125M	C15	E3V55	B14	SSOV19	CSOV17
143M	A17	E3V65	B14	SSOV19	CSOV17
168M	A20	E3V65	B19	SSOV19	CSOV17
186M	A20	E3V65	B19	SSOV19	CSOV17
227M	A25	E3V65	B19	SSOV25	CSOV21
250M	A30	E3V65	B25	SSOV25	CSOV21

Models with ESP 

Low Temperature Electric Defrost

Model KHP	FACTORY INSTALLED NOZZLE	FACTORY INSTALLED ELECTRONIC EXPANSION VALVE	FACTORY INSTALLED LIQUID LINE SOLENOID VALVE	FOR E-GEN A2L UNITS	
				FACTORY SUPPLIED SAFETY SOLENOID VALVE	FACTORY SUPPLIED SAFETY CHECK VALVE
041L	E8	E3V45	B6	SSOV10	CSOV13
049L	E10	E3V45	B9	SSOV10	CSOV17
055L	E12	E3V45	B9	SSOV10	CSOV17
083L	C17	E3V55	B10	SSOV19	CSOV17
099L	C20	E3V55	B14	SSOV19	CSOV17
110L	A25	E3V55	B14	SSOV19	CSOV21
125L	A30	E3V65	B14	SSOV19	CSOV21
149L	A35	E3V65	B19	SSOV19	CSOV21
165L	A35	E3V65	B19	SSOV19	CSOV21
188L	A40	E3V65	B19	SSOV25	CSOV25
211L	A50	E3V65	B19	SSOV25	CSOV25
035V	E6	E3V45	B6	SSOV10	CSOV13
043V	E8	E3V45	B9	SSOV10	CSOV17
049V	E10	E3V45	B9	SSOV10	CSOV17
071V	C15	E3V55	B10	SSOV19	CSOV17
087V	C17	E3V55	B10	SSOV19	CSOV17
098V	A20	E3V55	B14	SSOV19	CSOV21
107V	A20	E3V65	B14	SSOV19	CSOV21
130V	A25	E3V65	B14	SSOV19	CSOV21
147V	A30	E3V65	B19	SSOV19	CSOV21
168V	A35	E3V65	B19	SSOV25	CSOV25
190V	A40	E3V65	B19	SSOV25	CSOV25

CO₂ MODELS

Capacity Data

Medium Temperature - 6 FPI Models

Model KHP	Qty Fans	Evaporator Temperature Selection Capacity BTU/H			Air Flow		Refrig. Charge CO ₂	
		20/25°F	15°F	10°F	CFM	L/S	LB.	KG
		(-4/-7°C)	(-9°C)	(-12°C)				
048C	1	38700	38300	37900	6200	2930	6.9	3.1
056C		45800	45300	44900	6000	2830	9.2	4.2
062C		50400	49900	49400	5700	2690	11.4	5.2
095C	2	77500	76700	76000	12400	5850	13.2	6
113C		92100	91200	90300	12000	5660	17.7	8
125C		101200	100200	99200	11300	5330	22.1	10
143C	3	116400	115200	114100	18600	8780	19.6	8.9
168C		136800	135400	134100	18000	8500	26.2	11.9
186C		151400	149900	148400	17000	8020	32.7	14.9
227C	4	184700	182900	181000	23900	11280	34.7	15.7
250C		203000	201000	198900	22700	10710	43.4	19.7

MEDIUM TEMP

Capacities are rated based on nominal 10°F TD, 34-38°F Liquid Temperature Maximum Suction Temperature 30°F (Liquid temperature must be higher than the lowest suction temperature)
 Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use the formula: Capacity = Rated capacity ÷ 10 x TD.
 Nozzle Selections for Medium Temperature DX application are based on 34-38°F Liquid temperature and 25F suction temperature at 10F TD.

Low Temperature - 6 FPI Models

Model KHP	Qty Fans	Evaporator Temperature Selection Capacity BTU/H					Air Flow		Refrig. Charge CO ₂	
		0°F	-10°F	-20°F	-30°F	-40°F	CFM	L/S	LB.	KG
		(-18°C)	(-23°C)	(-29°C)	(-34°C)	(-40°C)				
041D	1	35200	34200	33200	30200	28200	6200	2930	7.8	3.5
049D		42100	40900	39700	36100	33700	6000	2830	10.4	4.7
055D		47400	46000	44700	40700	38000	5700	2690	12.9	5.9
083D	2	71200	69200	67200	61200	57100	12400	5850	15	6.8
099D		85100	82700	80300	73100	68300	12000	5660	20	9.1
110D		94400	91800	89100	81100	75700	11300	5330	25	11.3
125D	3	107400	104300	101300	92200	86100	18600	8780	22.2	10.1
149D		128200	124500	120900	110000	102800	18000	8500	28.8	13.1
165D		142100	138100	134100	122000	114000	17000	8020	37	16.8
188D	4	162000	157400	152800	139000	129900	23900	11280	38.2	17.3
211D		182000	176900	171700	156200	145900	22700	10710	49.1	22.3

Low Temperature - 4 FPI Models

Model KHP	Qty Fans	Evaporator Temperature Selection Capacity BTU/H					Air Flow		Refrig. Charge CO ₂	
		0°F	-10°F	-20°F	-30°F	-40°F	CFM	L/S	LB.	KG
		(-18°C)	(-23°C)	(-29°C)	(-34°C)	(-40°C)				
035F	1	30400	29600	28700	26100	24400	6400	3020	7.8	3.5
043F		37100	36100	35000	31900	29800	6200	2930	10.4	4.7
049F		42000	40800	39600	36000	33700	5900	2780	12.9	5.9
071F	2	61400	59600	57900	52700	49200	12800	6040	15	6.8
087F		74800	72700	70600	64200	60000	12400	5850	20	9.1
098F		84300	81900	79500	72300	67600	11800	5570	25	11.3
107F	3	92400	89800	87200	79400	74100	19200	9060	22.2	10.1
130F		112500	109300	106100	96600	90200	18600	8780	28.8	13.1
147F		126800	123200	119600	108800	101700	17600	8310	37	16.8
168F	4	145000	140900	136800	124500	116300	24800	11700	38.2	17.3
190F		163800	159100	154500	140600	131300	23500	11090	49.1	22.3

LOW TEMP

Capacities are rated based on nominal 10°F TD, 34-38°F Liquid Temperature
 Capacities at other TD within a range of 8 to 15 °F (4.4 to 8.3°C) are directly proportional to TD, or use formula: Capacity = Rated capacity ÷ 10 x TD.
 Nozzle Selections for Low Temperature DX application are based on 34-38°F Liquid temperature and -20F suction temperature at 10F TD

208-230/1/60: Air Defrost

Model KHP	FPI	FAN MOTORS					
		Qty.	STANDARD SMARTSPEED [®] EC Motors				
			HP	FLA Total	Watts	MCA (A)	MOP (A)
048CA-S2D	6	1	1	5.0	560	15.0	20
056CA-S2D		1	1	5.0	560	15.0	20
062CA-S2D		1	1	5.0	560	15.0	20
095CA-S2D		2	1	10.0	1120	15.0	20
113CA-S2D		2	1	10.0	1120	15.0	20
125CA-S2D		2	1	10.0	1120	15.0	20
143CA-S2D		3	1	15.0	1680	20.0	25
168CA-S2D		3	1	15.0	1680	20.0	25
186CA-S2D		3	1	15.0	1680	20.0	25
227CA-S2D		4	1	20.0	2240	25.0	30

460/1/60: Air Defrost

Model KHP	FPI	FAN MOTORS					
		Qty.	STANDARD SMARTSPEED [®] EC Motors				
			HP	FLA Total	Watts	MCA (A)	MOP (A)
048CA-S4D	6	1	1	2.5	520	15.0	20
056CA-S4D		1	1	2.5	520	15.0	20
062CA-S4D		1	1	2.5	520	15.0	20
095CA-S4D		2	1	5.0	1040	15.0	20
113CA-S4D		2	1	5.0	1040	15.0	20
125CA-S4D		2	1	5.0	1040	15.0	20
143CA-S4D		3	1	7.5	1560	15.0	20
168CA-S4D		3	1	7.5	1560	15.0	20
186CA-S4D		3	1	7.5	1560	15.0	20
227CA-S4D		4	1	10.0	2080	15.0	20
250CA-S4D	4	1	10.0	2080	15.0	20	

208-230/3/60: Electric Defrost

Model KHP	FPI	FAN MOTORS						DEFROST HEATERS										
		Qty.	208-230/1/60 (2 SPD ECM - STD)					208-230/3/60 (CIRCUIT #1)				208-230/3/60 (CIRCUIT #2)			208-230/3/60 (CIRCUIT #3)			
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)	Total Amps	MCA (A)	MOP (A)	Total Amps	MCA (A)	MOP (A)	
048CE-T3D	6	1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-	
056CE-T3D		1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-	
062CE-T3D		1	1	5.0	560	15.0	20	12600	33.2	41.5	45	-	-	-	-	-	-	
095CE-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-	
113CE-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-	
125CE-T3D		2	1	10.0	1120	15.0	20	24500	32.4	40.5	45	32.4	40.5	45	-	-	-	
143CE-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-	
168CE-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-	
186CE-T3D		3	1	15.0	1680	20.0	25	35000	46.3	57.9	60	46.3	57.9	60	-	-	-	
227CE-T3D		4	1	20.0	2240	25.0	30	31850	42.9	53.6	60	42.9	53.6	60	-	-	-	
250CE-T3D		4	1	20.0	2240	25.0	30	45500	43.1	53.9	60	43.1	53.9	60	34.3	42.9	45	
041DE-T3D		6	1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
049DE-T3D			1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
055DE-T3D			1	1	5.0	560	15.0	20	12600	33.2	41.5	45	-	-	-	-	-	-
083DE-T3D	2		1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-	
099DE-T3D	2		1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-	
110DE-T3D	2		1	10.0	1120	15.0	20	24500	32.4	40.5	45	32.4	40.5	45	-	-	-	
125DE-T3D	3		1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-	
149DE-T3D	3		1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-	
165DE-T3D	3		1	15.0	1680	20.0	25	35000	46.3	57.9	60	46.3	57.9	60	-	-	-	
188DE-T3D	4		1	20.0	2240	25.0	30	31850	42.9	53.6	60	42.9	53.6	60	-	-	-	
211DE-T3D	4		1	20.0	2240	25.0	30	45500	43.1	53.9	60	43.1	53.9	60	34.3	42.9	45	
035FE-T3D	4		1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
043FE-T3D			1	1	5.0	560	15.0	20	8820	23.7	29.6	30	-	-	-	-	-	-
049FE-T3D			1	1	5.0	560	15.0	20	12600	33.2	41.5	45	-	-	-	-	-	-
071FE-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-	
087FE-T3D		2	1	10.0	1120	15.0	20	17150	46.2	57.7	60	-	-	-	-	-	-	
098FE-T3D		2	1	10.0	1120	15.0	20	24500	32.4	40.5	45	32.4	40.5	45	-	-	-	
107FE-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-	
130FE-T3D		3	1	15.0	1680	20.0	25	24500	33.2	41.5	45	33.2	41.5	45	-	-	-	
147FE-T3D		3	1	15.0	1680	20.0	25	35000	46.3	57.9	60	46.3	57.9	60	-	-	-	
168FE-T3D		4	1	20.0	2240	25.0	30	31850	43.1	53.9	60	43.1	53.9	60	-	-	-	
190FE-T3D		4	1	20.0	2240	25.0	30	45500	43.1	53.9	60	43.1	53.9	60	34.3	42.9	45	

460/3/60: Electric Defrost

Model KHP	FPI	FAN MOTORS					DEFROST HEATERS							
		Qty.	460/1/60 (2 SPD ECM - STD)					460/3/60 (CIRCUIT #1)				460/3/60 (CIRCUIT #2)		
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)	Total Amps	MCA (A)	MOP (A)
048CE-T4D	6	1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
056CE-T4D		1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
062CE-T4D		1	1	2.5	520	15.0	20	12600	16.6	20.8	25	-	-	-
095CE-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
113CE-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
125CE-T4D		2	1	5.0	1040	15.0	20	24500	32.4	40.5	45	-	-	-
143CE-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
168CE-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
186CE-T4D		3	1	7.5	1560	15.0	20	35000	46.3	57.9	60	-	-	-
227CE-T4D		4	1	10.0	2080	15.0	20	31850	43.1	53.9	60	-	-	-
250CE-T4D		4	1	10.0	2080	15.0	20	45500	30.1	37.7	40	30.1	37.7	40
041DE-T4D		6	1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-
049DE-T4D	1		1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
055DE-T4D	1		1	2.5	520	15.0	20	12600	16.6	20.8	25	-	-	-
083DE-T4D	2		1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
099DE-T4D	2		1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
110DE-T4D	2		1	5.0	1040	15.0	20	24500	32.4	40.5	45	-	-	-
125DE-T4D	3		1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
149DE-T4D	3		1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
165DE-T4D	3		1	7.5	1560	15.0	20	35000	46.3	57.9	60	-	-	-
188DE-T4D	4		1	10.0	2080	15.0	20	31850	43.1	53.9	60	-	-	-
211DE-T4D	4		1	10.0	2080	15.0	20	45500	30.1	37.7	40	30.1	37.7	40
035FE-T4D	4		1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-
043FE-T4D		1	1	2.5	520	15.0	20	8820	11.9	14.9	15	-	-	-
049FE-T4D		1	1	2.5	520	15.0	20	12600	16.6	20.8	25	-	-	-
071FE-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
087FE-T4D		2	1	5.0	1040	15.0	20	17150	23.1	28.9	30	-	-	-
098FE-T4D		2	1	5.0	1040	15.0	20	24500	32.4	40.5	45	-	-	-
107FE-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
130FE-T4D		3	1	7.5	1560	15.0	20	24500	33.2	41.5	45	-	-	-
147FE-T4D		3	1	7.5	1560	15.0	20	35000	46.3	57.9	60	-	-	-
168FE-T4D		4	1	10.0	2080	15.0	20	31850	43.1	53.9	60	-	-	-
190FE-T4D		4	1	10.0	2080	15.0	20	45500	30.1	37.7	40	30.1	37.7	40

208-230/1/60:

Hot Gas Defrost w/ Loop In Drain Pan

Model KHP	FPI	FAN MOTORS						
		Qty.	208-230460/1/60 (2 SPD ECM - STD)					
			HP	FLA Total	Watts	MCA (A)	MOP (A)	
048CR-S2D	6	1	1	5.0	560	15.0	20	
056CR-S2D		1	1	5.0	560	15.0	20	
062CR-S2D		1	1	5.0	560	15.0	20	
095CR-S2D		2	1	10.0	1120	15.0	20	
113CR-S2D		2	1	10.0	1120	15.0	20	
125CR-S2D		2	1	10.0	1120	15.0	20	
143CR-S2D		3	1	15.0	1680	20.0	25	
168CR-S2D		3	1	15.0	1680	20.0	25	
186CR-S2D		3	1	15.0	1680	20.0	25	
227CR-S2D		4	1	20.0	2240	25.0	30	
250CR-S2D		4	1	20.0	2240	25.0	30	
041DR-S2D		6	1	1	5.0	560	15.0	20
049DR-S2D			1	1	5.0	560	15.0	20
055DR-S2D			1	1	5.0	560	15.0	20
083DR-S2D	2		1	10.0	1120	15.0	20	
099DR-S2D	2		1	10.0	1120	15.0	20	
110DR-S2D	2		1	10.0	1120	15.0	20	
125DR-S2D	3		1	15.0	1680	20.0	25	
149DR-S2D	3		1	15.0	1680	20.0	25	
165DR-S2D	3		1	15.0	1680	20.0	25	
188DR-S2D	4		1	20.0	2240	25.0	30	
211DR-S2D	4	1	20.0	2240	25.0	30		
035FR-S2D	4	1	1	5.0	560	15.0	20	
043FR-S2D		1	1	5.0	560	15.0	20	
049FR-S2D		1	1	5.0	560	15.0	20	
071FR-S2D		2	1	10.0	1120	15.0	20	
087FR-S2D		2	1	10.0	1120	15.0	20	
098FR-S2D		2	1	10.0	1120	15.0	20	
107FR-S2D		3	1	15.0	1680	20.0	25	
130FR-S2D		3	1	15.0	1680	20.0	25	
147FR-S2D		3	1	15.0	1680	20.0	25	
168FR-S2D		4	1	20.0	2240	25.0	30	
190FR-S2D	4	1	20.0	2240	25.0	30		

208-230/3/60:

Hot Gas Defrost w/ Electric Drain Pan Heaters

Model KHP	FPI	FAN MOTORS					DRAIN PAN HEATERS					
		Qty.	208-230/1/60 (2 SPD ECM - STD)					208-230/3/60 (2 SPD ECM - STD)				
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)	
048CG-T3D	6	1	1	5.0	560	15.0	20	3780	9.5	11.9	15	
056CG-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15	
062CG-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15	
095CG-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25	
113CG-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25	
125CG-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25	
143CG-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35	
168CG-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35	
186CG-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35	
227CG-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45	
250CG-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45	
041DG-T3D		6	1	1	5.0	560	15.0	20	3780	9.5	11.9	15
049DG-T3D			1	1	5.0	560	15.0	20	3780	9.5	11.9	15
055DG-T3D			1	1	5.0	560	15.0	20	3780	9.5	11.9	15
083DG-T3D	2		1	10.0	1120	15.0	20	7350	18.5	23.1	25	
099DG-T3D	2		1	10.0	1120	15.0	20	7350	18.5	23.1	25	
110DG-T3D	2		1	10.0	1120	15.0	20	7350	18.5	23.1	25	
125DG-T3D	3		1	15.0	1680	20.0	25	10500	26.4	33.0	35	
149DG-T3D	3		1	15.0	1680	20.0	25	10500	26.4	33.0	35	
165DG-T3D	3		1	15.0	1680	20.0	25	10500	26.4	33.0	35	
188DG-T3D	4		1	20.0	2240	25.0	30	13650	34.3	42.8	45	
211DG-T3D	4	1	20.0	2240	25.0	30	13650	34.3	42.8	45		
035FG-T3D	4	1	1	5.0	560	15.0	20	3780	9.5	11.9	15	
043FG-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15	
049FG-T3D		1	1	5.0	560	15.0	20	3780	9.5	11.9	15	
071FG-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25	
087FG-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25	
098FG-T3D		2	1	10.0	1120	15.0	20	7350	18.5	23.1	25	
107FG-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35	
130FG-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35	
147FG-T3D		3	1	15.0	1680	20.0	25	10500	26.4	33.0	35	
168FG-T3D		4	1	20.0	2240	25.0	30	13650	34.3	42.8	45	
190FG-T3D	4	1	20.0	2240	25.0	30	13650	34.3	42.8	45		

460/1/60:

Hot Gas Defrost w/ Loop In Drain Pan

Model KHP	FPI	FAN MOTORS						
		Qty.	460/1/60 (2 SPD ECM - STD)					
			HP	FLA Total	Watts	MCA (A)	MOP (A)	
048CR-S4D	6	1	1	2.5	520	15.0	20	
056CR-S4D		1	1	2.5	520	15.0	20	
062CR-S4D		1	1	2.5	520	15.0	20	
095CR-S4D		2	1	5.0	1040	15.0	20	
113CR-S4D		2	1	5.0	1040	15.0	20	
125CR-S4D		2	1	5.0	1040	15.0	20	
143CR-S4D		3	1	7.5	1560	15.0	20	
168CR-S4D		3	1	7.5	1560	15.0	20	
186CR-S4D		3	1	7.5	1560	15.0	20	
227CR-S4D		4	1	10.0	2080	15.0	20	
250CR-S4D		4	1	10.0	2080	15.0	20	
041DR-S4D		6	1	1	2.5	520	15.0	20
049DR-S4D			1	1	2.5	520	15.0	20
055DR-S4D			1	1	2.5	520	15.0	20
083DR-S4D	2		1	5.0	1040	15.0	20	
099DR-S4D	2		1	5.0	1040	15.0	20	
110DR-S4D	2		1	5.0	1040	15.0	20	
125DR-S4D	3		1	7.5	1560	15.0	20	
149DR-S4D	3		1	7.5	1560	15.0	20	
165DR-S4D	3		1	7.5	1560	15.0	20	
188DR-S4D	4		1	10.0	2080	15.0	20	
211DR-S4D	4		1	10.0	2080	15.0	20	
035FR-S4D	4		1	1	2.5	520	15.0	20
043FR-S4D			1	1	2.5	520	15.0	20
049FR-S4D			1	1	2.5	520	15.0	20
071FR-S4D		2	1	5.0	1040	15.0	20	
087FR-S4D		2	1	5.0	1040	15.0	20	
098FR-S4D		2	1	5.0	1040	15.0	20	
107FR-S4D		3	1	7.5	1560	15.0	20	
130FR-S4D		3	1	7.5	1560	15.0	20	
147FR-S4D		3	1	7.5	1560	15.0	20	
168FR-S4D		4	1	10.0	2080	15.0	20	
190FR-S4D		4	1	10.0	2080	15.0	20	

460/3/60:

Hot Gas Defrost w/ Electric Drain Pan Heaters

Model KHP	FPI	Qty.	FAN MOTORS					DRAIN PAN HEATERS				
			460/1/60 (2 SPD ECM - STD)					460/3/60 (2 SPD ECM - STD)				
			HP	FLA Total	Watts	MCA (A)	MOP (A)	Total Watts	Total Amps	MCA (A)	MOP (A)	
048CG-T4D	6	1	1	2.5	520	15.0	20	3780	4.7	5.9	15	
056CG-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15	
062CG-T4D		1	1	2.5	520	15.0	20	3780	4.7	5.9	15	
095CG-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15	
113CG-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15	
125CG-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15	
143CG-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20	
168CG-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20	
186CG-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20	
227CG-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	
250CG-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	
041DG-T4D		6	1	1	2.5	520	15.0	20	3780	4.7	5.9	15
049DG-T4D			1	1	2.5	520	15.0	20	3780	4.7	5.9	15
055DG-T4D			1	1	2.5	520	15.0	20	3780	4.7	5.9	15
083DG-T4D	2		1	5.0	1040	15.0	20	7350	9.2	11.5	15	
099DG-T4D	2		1	5.0	1040	15.0	20	7350	9.2	11.5	15	
110DG-T4D	2		1	5.0	1040	15.0	20	7350	9.2	11.5	15	
125DG-T4D	3		1	7.5	1560	15.0	20	10500	13.2	16.5	20	
149DG-T4D	3		1	7.5	1560	15.0	20	10500	13.2	16.5	20	
165DG-T4D	3		1	7.5	1560	15.0	20	10500	13.2	16.5	20	
188DG-T4D	4		1	10.0	2080	15.0	20	13650	17.2	21.5	25	
211DG-T4D	4		1	10.0	2080	15.0	20	13650	17.2	21.5	25	
035FG-T4D	4		1	1	2.5	520	15.0	20	3780	4.7	5.9	15
043FG-T4D			1	1	2.5	520	15.0	20	3780	4.7	5.9	15
049FG-T4D			1	1	2.5	520	15.0	20	3780	4.7	5.9	15
071FG-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15	
087FG-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15	
098FG-T4D		2	1	5.0	1040	15.0	20	7350	9.2	11.5	15	
107FG-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20	
130FG-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20	
147FG-T4D		3	1	7.5	1560	15.0	20	10500	13.2	16.5	20	
168FG-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	
190FG-T4D		4	1	10.0	2080	15.0	20	13650	17.2	21.5	25	

Annual Walk-In Energy Factor Ratings - High/Medium Temperature

If a numerical value is listed in the table below, the following statement applies to that corresponding model: " This refrigeration system is designed and certified for use in walk-in cooler applications."

Model KHP	CO2
048C	9.00
056C	9.00
062C	9.00
095C	9.00
113C	9.00
125C	9.00
143C	9.00
168C	9.00
186C	9.00
227C	9.00
250C	9.00

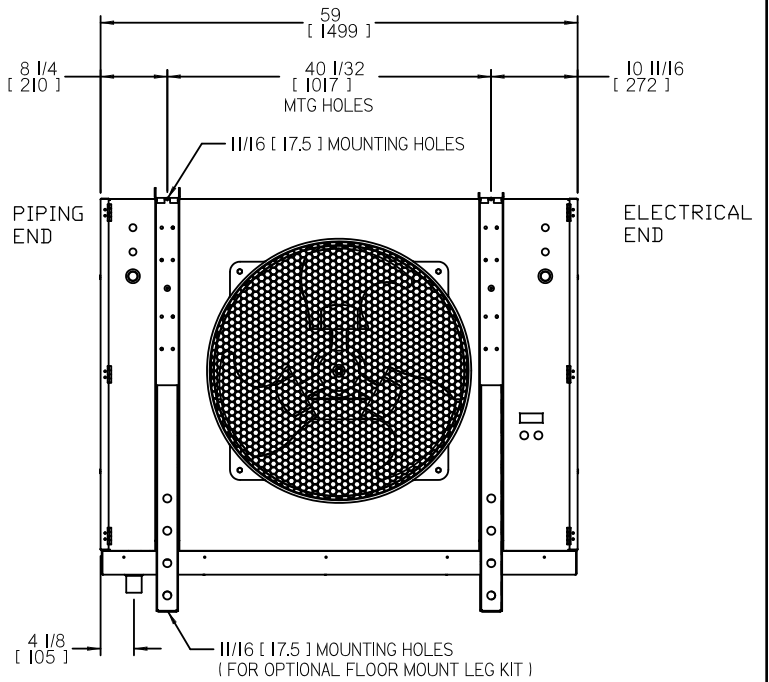
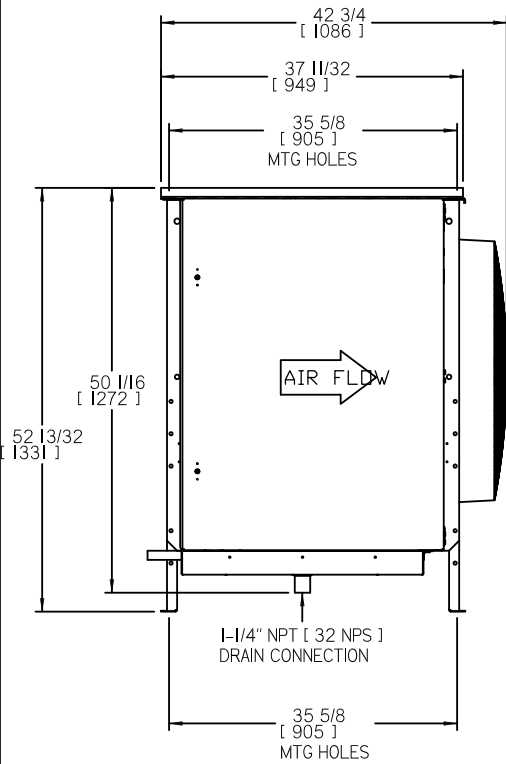
Annual Walk-In Energy Factor Ratings - Low Temperature

If a numerical value is listed in the table below, the following statement applies to that corresponding model: " This refrigeration system is designed and certified for use in walk-in freezer applications."

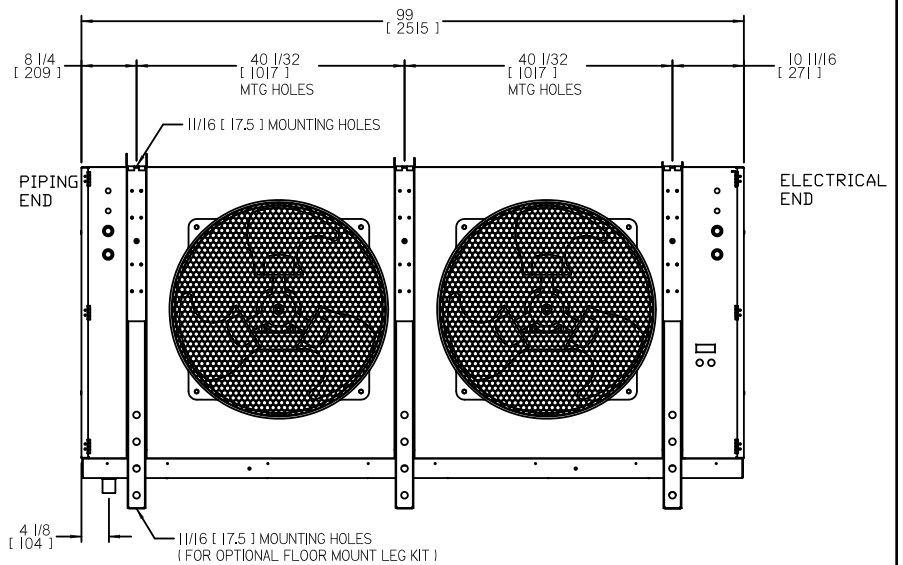
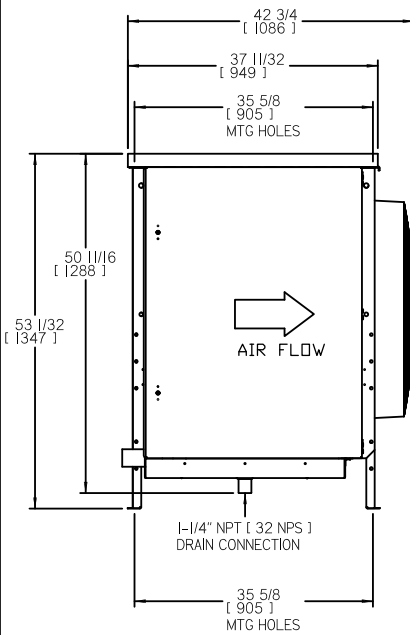
Model KHP	CO2
041D	4.15
049D	4.15
055D	4.15
083D	4.15
099D	4.15
110D	4.15
125D	4.15
149D	4.15
165D	4.15
188D	4.15
211D	4.15

Model KHP	CO2
035F	4.15
043F	4.15
049F	4.15
071F	4.15
087F	4.15
098F	4.15
107F	4.15
130F	4.15
147F	4.15
168F	4.15
190F	4.15

1 Fan Model



2 Fan Model

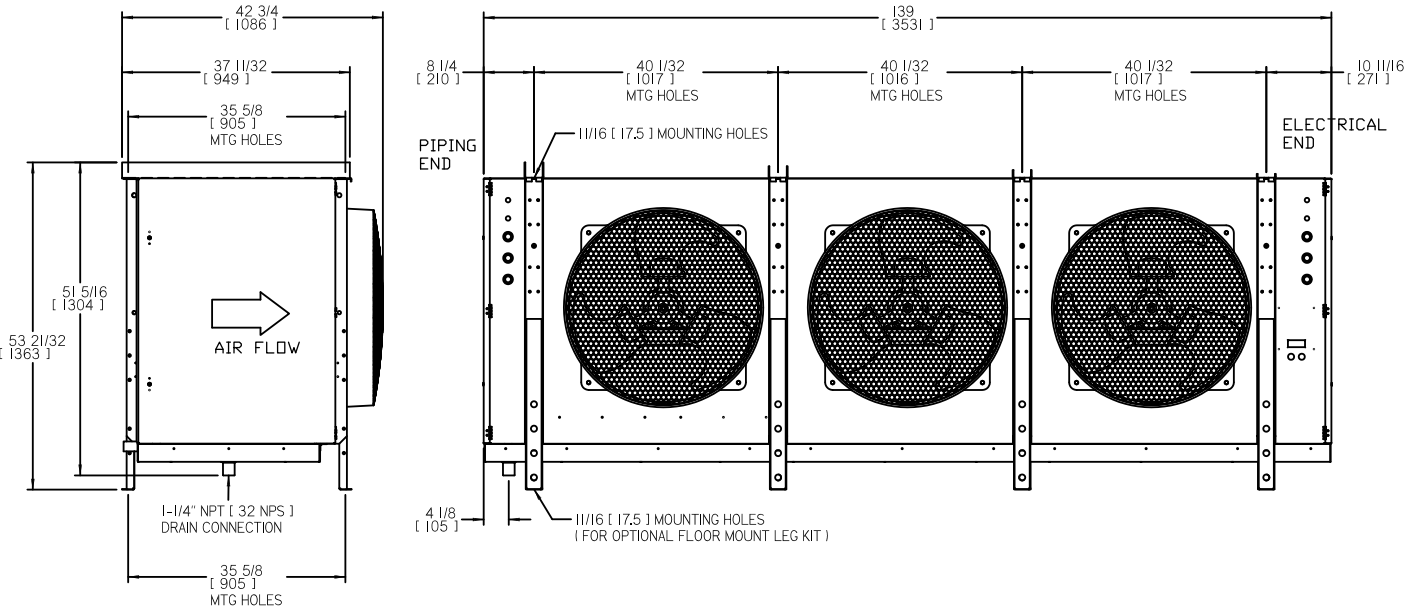


ALL MODELS AIR THROW:

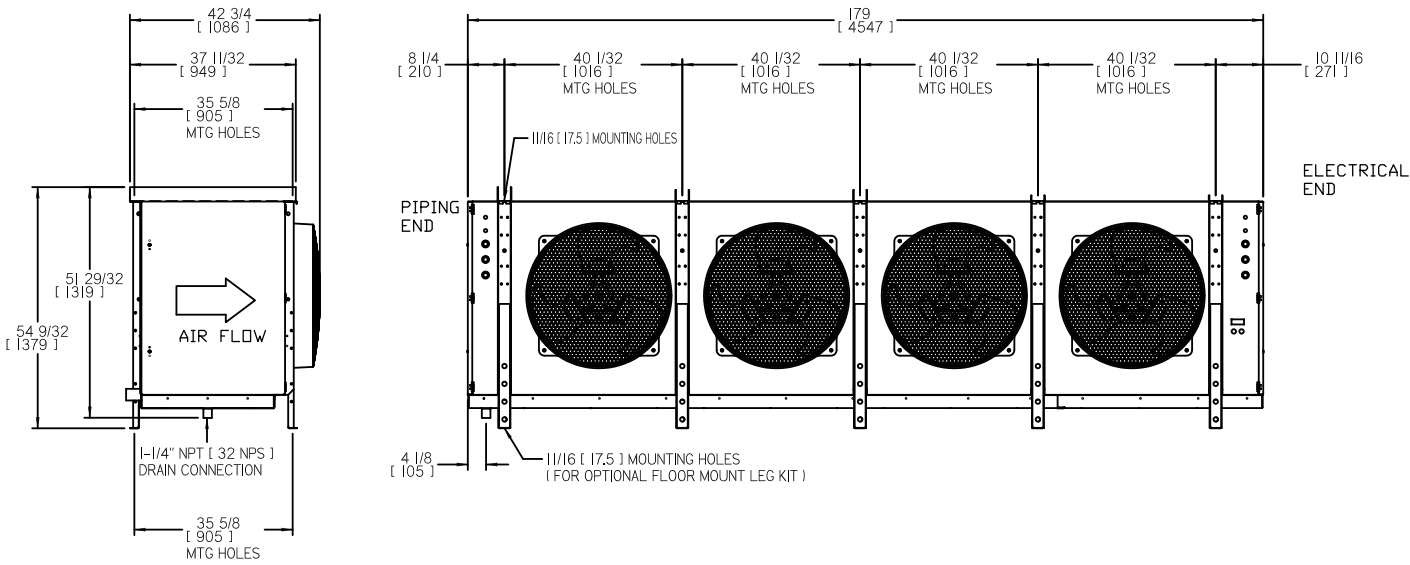
Standard high efficiency fan guard approximately 150 ft (45.7 Metres) in open space.

Optional wire fan guard approximately 100 ft (30.5 Metres) in open space.

3 Fan Model



4 Fan Model



ALL MODELS AIR THROW:
Standard high efficiency fan guard approximately 150 ft (45.7 Metres) in open space.
Optional wire fan guard approximately 100 ft (30.5 Metres) in open space.

Medium Temperature Air and Electric Defrost Models

Model KHP	No. of Fans	Suction Connection (ID) Sweat	Distributor Inlet Size (OD) Sweat	Liquid Line (OD) Sweat
048C#	1	5/8	5/8	1/2
056C#		5/8	5/8	1/2
062C#		5/8	5/8	1/2
095C#	2	7/8	7/8	5/8
113C#		7/8	7/8	5/8
125C#		7/8	7/8	5/8
143C#	3	7/8	1 1/8	7/8
168C#		7/8	1 1/8	7/8
186C#		7/8	1 1/8	7/8
227C#	4	1 1/8	1 3/8	7/8
250C#		1 1/8	1 3/8	7/8

= A or E. Refer to Nomenclature for details

Low Temperature Electric Defrost Models

Model KHP	No. of Fans	Suction Connection (ID) Sweat	Distributor Inlet Size (OD) Sweat	Liquid Line (OD) Sweat
041DE	1	5/8	5/8	1/2
049DE		5/8	5/8	1/2
055DE		5/8	5/8	1/2
083DE	2	7/8	7/8	5/8
099DE		7/8	7/8	5/8
110DE		7/8	7/8	5/8
125DE	3	1 1/8	1 1/8	7/8
149DE		1 1/8	1 1/8	7/8
165DE		1 1/8	1 1/8	7/8
188DE	4	1 1/8	1 3/8	7/8
211DE		1 1/8	1 3/8	7/8
035FE	1	5/8	5/8	1/2
043FE		5/8	5/8	1/2
049FE		5/8	5/8	1/2
071FE	2	7/8	7/8	5/8
087FE		7/8	7/8	5/8
098FE		7/8	7/8	5/8
107FE	3	1 1/8	1 1/8	7/8
130FE		1 1/8	1 1/8	7/8
147FE		1 1/8	1 1/8	7/8
168FE	4	1 1/8	1 3/8	7/8
190FE		1 1/8	1 3/8	7/8

Hot Gas Defrost Models

Model KHP	No. of Fans	Suction Connection (ID) Sweat	REVERSE CYCLE DEFROST		Side Port Connection (OD) Sweat	Hot Gas Drain Pan Loop Connection (OD) Sweat
			Distributor Inlet Size (OD) Sweat	Liquid line (OD) Sweat		
048C [^]	1	5/8	5/8	1/2	1/2	5/8
056C [^]		5/8	5/8	1/2	1/2	5/8
062C [^]		5/8	5/8	1/2	1/2	5/8
095C [^]	2	7/8	7/8	5/8	1/2	7/8
113C [^]		7/8	7/8	5/8	1/2	7/8
125C [^]		7/8	7/8	5/8	1/2	7/8
143C [^]	3	7/8	1 1/8	7/8	5/8	1 1/8
168C [^]		7/8	1 1/8	7/8	5/8	1 1/8
186C [^]		7/8	1 1/8	7/8	5/8	1 1/8
227C [^]	4	1 1/8	1 3/8	7/8	7/8	1 1/8
250C [^]		1 1/8	1 3/8	7/8	7/8	1 1/8
041D [^]	1	5/8	5/8	1/2	1/2	5/8
049D [^]		5/8	5/8	1/2	1/2	5/8
055D [^]		5/8	5/8	1/2	1/2	5/8
083D [^]	2	7/8	7/8	5/8	1/2	7/8
099D [^]		7/8	7/8	5/8	1/2	7/8
110D [^]		7/8	7/8	5/8	1/2	7/8
125D [^]	3	1 1/8	1 1/8	7/8	5/8	1 1/8
149D [^]		1 1/8	1 1/8	7/8	5/8	1 1/8
165D [^]		1 1/8	1 1/8	7/8	5/8	1 1/8
188D [^]	4	1 1/8	1 3/8	7/8	7/8	1 1/8
211D [^]		1 1/8	1 3/8	7/8	7/8	1 1/8
035F [^]	1	5/8	5/8	1/2	1/2	5/8
043F [^]		5/8	5/8	1/2	1/2	5/8
049F [^]		5/8	5/8	1/2	1/2	5/8
071F [^]	2	7/8	7/8	5/8	1/2	7/8
087F [^]		7/8	7/8	5/8	1/2	7/8
098F [^]		7/8	7/8	5/8	1/2	7/8
107F [^]	3	1 1/8	1 1/8	7/8	5/8	1 1/8
130F [^]		1 1/8	1 1/8	7/8	5/8	1 1/8
147F [^]		1 1/8	1 1/8	7/8	5/8	1 1/8
168F [^]	4	1 1/8	1 3/8	7/8	7/8	1 1/8
190F [^]		1 1/8	1 3/8	7/8	7/8	1 1/8

[^] =G, or R. Refer to Nomenclature for details

Air Defrost

Model KHP	Shipping Weight	
	LB.	kg.
048CA	348	158
056CA	371	168
062CA	394	179
095CA	603	274
113CA	649	294
125CA	695	315
143CA	859	390
168CA	928	421
186CA	996	452
227CA	1206	547
250CA	1297	589

Electric Defrost

Model KHP	Shipping Weight	
	LB.	kg.
048CE	343	156
056CE	364	165
062CE	386	175
095CE	594	270
113CE	637	289
125CE	679	308
143CE	845	383
168CE	909	412
186CE	973	441
227CE	1181	536
250CE	1266	574
041DE	343	156
049DE	364	165
055DE	386	175
083DE	594	270
099DE	637	289
110DE	679	308
125DE	845	383
149DE	909	412
165DE	973	441
188DE	1181	536
211DE	1266	574
035FE	334	151
043FE	352	160
049FE	370	168
071FE	576	261
087FE	612	278
098FE	648	294
107FE	576	261
130FE	872	395
147FE	926	420
168FE	1132	513
190FE	1204	546

Hot Gas Defrost

WITH HOT GAS LOOP			WITH ELECTRIC HEATER PAN		
Model KHP	Shipping Weight		Model KHP	Shipping Weight	
	LB.	kg.		LB.	kg.
048CR	365	166	048CG	346	157
056CR	387	175	056CG	368	167
062CR	408	185	062CG	389	176
095CR	631	286	095CG	601	272
113CR	674	306	113CG	643	292
125CR	716	325	125CG	686	311
143CR	919	417	143CG	855	388
168CR	983	446	168CG	919	417
186CR	1047	475	186CG	982	446
227CR	1287	584	227CG	1194	542
250CR	1372	623	250CG	1279	580
041DR	365	166	041DG	346	157
049DR	387	175	049DG	368	167
055DR	408	185	055DG	389	176
083DR	631	286	083DG	601	272
099DR	674	306	099DG	643	292
110DR	716	325	110DG	686	311
125DR	919	417	125DG	855	388
149DR	983	446	149DG	919	417
165DR	1047	475	165DG	982	446
188DR	1287	584	188DG	1194	542
211DR	1372	623	211DG	1279	580
035FR	356	162	035FG	356	162
043FR	374	170	043FG	374	170
049FR	393	178	049FG	393	178
071FR	613	278	071FG	613	278
087FR	649	294	087FG	649	294
098FR	685	311	098FG	685	311
107FR	650	295	107FG	650	295
130FR	946	429	130FG	946	429
147FR	1001	454	147FG	1001	454
168FR	1238	561	168FG	1238	561
190FR	1310	594	190FG	1310	594

INSTALLATION

The installation and start-up of evaporators should only be performed by qualified refrigeration mechanics. This equipment should be installed in accordance with all applicable codes, ordinances and local by-laws.

INSPECTION

Inspect all equipment before unpacking for visible signs of damage or loss. Check shipping list against material received to ensure shipment is complete.

IMPORTANT: Remember, you, the consignee, must make any claim necessary against the transportation company. Shipping damage or missing parts, when discovered at the outset, will prevent later unnecessary and costly delays.

If damage or loss during transport is evident, make claim to carrier, as this will be their responsibility, not the manufacturer's.

Should carton be damaged, but damage to equipment is not obvious, a claim should be filed for "concealed damage" with the carrier.

IMPORTANT: The electrical characteristics of the unit should be checked at this time to make sure they correspond to those ordered and to electrical power available at the job site.

Save all shipping papers, tags and instruction sheets for reference by installer and owner.

APPLICATION

LP evaporators are designed for walker-in cooler and freezer applications used with wide range of refrigerants. For room temperatures above 35°F (2 °C) AND evaporating temperatures above 26°F (-3 °C), positive defrosting means (with electric or hot gas) may not be required, otherwise, electric defrost or hot gas defrost models should be used. Electric defrost models come with defrost termination and fan delay as standard to control the defrost cycle termination and fan delay, while defrost initiation means (e.g. defrost timer) is not included.

The coil must not be exposed to any abnormal atmospheric or acidic environments. This may result in corrosion to the cabinet and possible coil failure (leaks). (Consult manufacturer for optional baked on phenolic protective coatings).

LOCATION

The unit location in the room should be selected to ensure uniform air distribution throughout the entire space to be refrigerated. Be sure that the product does not obstruct the free circulation of air. Allow a minimum of 24" clearance at each end. Do not locate evaporators over doors. Consideration should be given to the coil location in order to minimize the piping run length to the condensing unit and floor drain.

EXPANSION VALVE (TXV) SELECTION

All units require the use of an externally equalized expansion valve. (A 1/4" (6 mm) O.D. equalizer line has been provided on the coil) TX valves should not be selected strictly by their nominal ton rating. (This rating is based at a specific pressure differential and entering liquid temperature). Since applications will differ it is suggested the following selection procedure be followed.

1. Determine actual evaporator capacity. The nominal rating is based at 10°F T.D. (5 .6°C) (Entering Air Temp. minus Evap. Temp.) Note that a higher/lower operating T.D.will increase / decrease this capacity rating by their direct ratio within a range of 8 to 12°F (4 .4 to 8.3°C) T.D.
2. Determine the pressure drop across the valve by subtracting the evaporating pressure and distributor pressure drop from the high side liquid pressure. The distributor pressure drop is typically in the range of 20 to 35 psig (1.4 to 2.4 bar) depending on the type of refrigerant and operating conditions.
3. Estimate entering liquid temperature. Temperatures lower than 100°F (38 °C) increase valve capacity ratings. Refer to valve manufacturer's specs for details.
4. Select valve from the valve manufacturer selection charts for the appropriate refrigerant, evaporating temp and pressure drop.

For best performance, the outlet of the expansion valve should be installed directly to the distributor body. If this is not possible, a straight tube up to 12 inches may be used for the connection.

Locate the expansion valve bulb on a horizontal length of suction line preferably 3 to 6 inches from the suction header. Locate the bulb at 4 or 8 clock position and insulate with a waterproof type of insulation. Clamp the bulb to ensure 100% contact of the bulb with the suction line.

Ensure appropriate nozzle has been installed in the distributor before installing valve. After following the manufacturer's installation instructions and after the room has reached the desired temperature the valve superheat should be checked. This will confirm that the evaporator is operating properly and performing to maximum efficiency. The superheat should be around 6 (3.3 °C) to 8°F (4.4 °C) for a 10 to 12°F T.D (5.6 to 6.7 °C). Too high or low a super heat will result in unsatisfactory system performance and possible compressor problems.

NOZZLE INSTALLATION

The nozzle for all models has been factory installed. For other applications, refer to nozzle manufacturer's selection guide. To replace a nozzle, the nozzle retainer clip (in distributor) must be removed before inserting nozzle. Re-install clip ensuring nozzle is properly in place. A small nozzle can be drilled larger using the drill size listed in table. Ensure the hole must be accurately centered and smooth. A lathe is preferred for the drilling.

MOUNTING

Refer to dimensional drawing for recommended mounting arrangements. Ensure adequate clearance is provided behind the coil as well as each end. The evaporators may be mounted flush with ceiling with bolts, or hanging down with rod hangers. When using rod hangers, allow adequate space between the top of the unit and the ceiling for cleaning to comply with NSF Standard 7.

Ensure that the ceiling is level since the drain pan has been sloped for drainage during the defrost cycle.

DRAIN LINE

The drain line should be run from the drain connection, sloping at least 1" (25 mm) per foot and should have the size at least as large as the drain connection. A trap in a warm area outside the room must be provided to allow proper draining through the tubing. Connection should be made to proper drainage facilities that comply with local regulations.

To prevent freeze-up when the temperature of the refrigerated space is 35°F (2 °C) or lower, the drain line should be heated along its run inside the cold room. The heated drain line should be insulated. It is recommended that the heater be energized at all times. A heat input of 20 watts per foot in a 28°F (-2°C) room and 30 watts per foot for -20°F (-29°C) rooms, is satisfactory. Drain line heaters are not required for constant room temperature above 35°F (2°C).

Always trap evaporator drain line individually to prevent vapor migration.

Ensure that the drain line has sufficient slope for proper drainage (prevention of ice build up/blockage in pan).

PIPING

Refrigeration grade piping must be used for all field refrigeration piping. Refrigerant line sizes are important and may not be the same size as the coil connections. Consult ASHRAE handbook or other similar reference book for proper line sizing.

Refrigerant piping and control system should be designed to prevent possible liquid slugging (from oil or refrigerant) of the compressors on start-up after the defrost cycle. Also, it should prevent oil logging and minimize refrigerant pressure drop.

Hot gas models, refer to pages 59 - 60 for recommended piping.

WIRING

Wire system in accordance with governing standards and local codes. Refer to data and wiring diagrams on throughout this publication for typical wiring arrangement. Electrical wiring is to be sized in accordance with minimum circuit ampacity rating (MCA). Size fuses used must not exceed the Maximum Fuse Size ratings.

For ease of identifying the proper wiring terminal, unit wiring is color coded and terminal block connections are identified.

When fan delay thermostats (combination fan delay and defrost termination) are installed, on start-up, the fans do not operate until the coil temperature is reduced to approximately 25°F (-4°C). It is normal for the fans to cycle a few times until the room temperature is brought down. At higher evaporating temperatures this control

may not close and therefore should either be by-passed temporarily or replaced with an adjustable type. (set for a higher temperature cut-in point).

MAINTENANCE

The unit should be periodically inspected for any dirt or ice build-up on the fin surface and cleaned if necessary with a soft whisk or brush. Also ensure coils inner (and outer) drain pans do not have any ice build-up from improper defrost operation. When replacing heater elements first remove heater retainer brackets and heater clips.

SYSTEM CHECK

Before Start-Up:

1. All wiring should be in accordance with local codes.
2. Refrigerant lines should be properly sized.
3. All systems preferably include a liquid line solenoid valve at immediately up stream of the expansion valve.
4. Thorough evacuation and dehydration has been performed.
5. The suction, discharge, and receiver service valves must be open.
6. The system preferably include a liquid line filter drier moisture indicator and suction filter.
7. Pour enough water into the drain pan to allow a good check on drainage and seal the trap.

After Start-Up:

1. Check the oil level to be sure the oil charge is correct.
2. On initial start up the fans do not start until coil temperature is pulled down to approximately 25°F (-4 °C) on the coil. Also, it is normal for the fan to cycle a few times until the room temperature is pulled down.
3. If necessary, temporarily by-pass fan delay control (to run fans until room temp is lowered).
4. Be sure that the expansion valve is properly set to provide the correct amount of superheat.
5. After the box temperature is close to reaching the desired temperature, the evaporator superheat must be checked and adjustment made if necessary. In general, evaporators running with a TD of 10°F (5.6 °C) should have a superheat reading of 6° to 8°F (3.3 °C to 4.4 °C). For evaporators with another T.D., the general rule is that the superheat should be around 60 to 80% of T.D.
6. Heavy moisture loads are usually encountered when starting the system for the first time. This may cause a rapid build-up of frost on the evaporator. During the initial pull down, we suggest that the frost build-up be watched and defrosted manually as required.
7. Observe that the system goes through at least one complete DEFROST CYCLE.



Visit
www.k-rp.com/esp
 for Quick Start Guide, Operation Manual, etc

WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
 The appliance shall be stored or in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
 Do not pierce or burn.
 Be aware that refrigerants may not contain an odor.

MISE EN GARDE

Ne pas utiliser de moyens autres que ceux recommandés par le fabricant pour accélérer le processus de dégivrage ou pour nettoyer l'appareil.
 L'appareil doit être entreposé dans un local ne contenant pas de sources d'inflammation permanentes (flammes nues, appareil à gaz ou dispositif de chauffage électrique en fonctionnement, par exemple).
 Ne pas percer ou brûler.
 Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.

This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

This appliance may be installed at an elevation above 6500 ft (2000 m). At higher altitudes, electronic expansion valve controllers may read artificially low superheat due to gauge pressure sensors. Follow the controller manufacturing instructions to calibrate the suction pressure sensor for high altitudes.

Appliance shall be installed in areas not accessible to the general public or at least at a level not less than 99.5" (2.5m).

The evaporator must be wired to a disconnect that breaks all ungrounded conductors. Note that the evaporator may be supplied with a factory installed disconnect.

The evaporator must be connected to a condensing unit designed for the same type of refrigerant.

Additional Installation, Service, and Decommissioning requirements for units charged with A2L refrigerants

GENERAL A2L EQUIPMENT SERVICE REQUIREMENTS

Walk-in cooler or freezer split systems utilizing A2L flammable refrigerants have special requirements for installation, service, and decommissioning. **WARNING:** To reduce flammability hazards, installation and service may only be performed by qualified service personnel who have been licensed by their local and national authorities to perform work on refrigeration systems. Personnel must be trained on how to service equipment utilizing flammable refrigerant, and how to mitigate the hazards. Installation and service may only be performed as recommended by the manufacturer. When making repairs, only service parts recommended by the manufacturer may be used.

When installing, servicing, or decommissioning this equipment, procedures must be used to minimize the risk of flammable gas or vapor being present while the work is being performed. The area must be checked with an appropriate refrigerant detector prior to and during work to ensure that the technician is aware of potentially flammable atmospheres. Refrigerant detection equipment must be designed and sold for use with A2L refrigerants.

A2L EQUIPMENT SERVICE PROCEDURE

All maintenance staff and others working in the local area must be instructed on the nature of the work being performed.

Ensure that no ignition sources are present in the area, including other appliances or cigarette smoking. Prior to work taking place, the area around the equipment shall be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed. A dry chemical or CO2 fire extinguisher must be present when any hot work is performed.

Ensure that the area is adequately ventilated before opening the refrigeration system or conducting any hot work. Ventilation must continue for the duration of the work. The ventilation should safely disperse any released refrigerant to the outside atmosphere.

BEFORE STARTING WORK

- Verify that the markings on the equipment are legible.
- Check that refrigerant containing components and tubing are not excessively corroded or installed in a way that they may become corroded.
- Verify that the releasable charge is appropriate for the room size.
- Test the function of electrical systems, and repair if defective.
- Discharge capacitors in a safe manner to prevent sparking.

DURING WORK

- No live electrical components and wiring are exposed during charging, recovering, or purging the system.
- Check for continuity of ground bonding.
- Ensure that wires and cables are not subject to wear, corrosion, excess pressure vibration, or sharp edges.
- Do not attempt to repair any sealed electrical component or intrinsically safe component; these must be replaced.

LEAK DETECTION

When a leak in the refrigerant system is suspected, ensure that all open flames are extinguished. Only a chlorine-free leak detection fluid, or an electronic leak detector designed and sold for use with A2L refrigerants may be used. NEVER USE AN OPEN FLAME TO FIND REFRIGERANT LEAK SOURCES.

If brazing is required to repair a leak, all refrigerant must be recovered from the system or isolated by means of a shutoff valve. The system or the isolated portion of the system must be purged with an inert gas. Ensure that the purging fluid outlet discharges into a well-ventilated area away from any sources of ignition.

SAFETY ISOLATION VALVES FOR FLAMMABLE REFRIGERANT

Walk-in cooler or freezer split systems utilizing A2L flammable refrigerant must be equipped with safety isolation valves to limit the releasable charge in the event of a leak. These safety isolation valves may be either factory installed in the condensing unit or field installed. Both a liquid line solenoid valve and a suction line check valve are required. Additionally, a discharge line solenoid valve is required for external hot gas bypass or hot gas defrost systems. All safety isolation valves must be installed outside of the walk-in box.

Before proceeding with field installation of refrigerant tubing, verify if the system is equipped with safety isolation valves factory installed in the condensing unit or if they are field installed. Field installed valves must be located outside of the walk-in box.

Field installed safety isolation valves shall be Sporlan SSOV series for liquid and discharge and Sporlan CSOV for suction. Valves must be protected from overheating during installation. Solenoid valves shall be installed to avoid hydraulic shock.

Additional information for applying mitigation valves, including systems with multiple evaporators per condensing unit may be found at the end of this manual.

FIELD INSTALLED SAFETY SHUTOFF VALVES

The evaporator may be configured with safety shutoff valves for field installation outside of the walk-in box. A check valve is provided for the suction line and a solenoid is provided for the liquid line. If the evaporator is configured with an external hot gas bypass or a hot gas defrost system, a hot gas solenoid is also provided. If the system is configured with reverse cycle defrost, an additional solenoid and check valve are provided for reverse cycle operation.

In the case of multiple evaporators installed in a common refrigeration circuit, each line must be routed outside the walk-in box before being piped together. Safety shutoff valves are provided with each evaporator, which must be installed in the line between the evaporator and the tee.

The solenoid valves are provided with 24VAC coils. The solenoid coils are wired to the terminal strip in the evaporator with 18 AWG class 2 cable or equivalent. All valves and coils are shipped in the end compartment near the refrigerant line connections.

Field installed safety isolation valves should be installed as close to the walk-in box as possible. Ensure that the valves are oriented in the correct flow direction. See drawings for details.

SAFETY SHUTOFF VALVES FACTORY INSTALLED IN CONDENSING UNIT

The evaporator may be configured to be connected to a condensing unit with factory installed safety shutoff valves. The 24VAC solenoid coil in the condensing unit must be connected to the terminal strip in the evaporator with 18AWG class 2 cable or equivalent.

MINIMUM WALK-IN BOX AREA



Walk-in cooler or freezer split systems utilizing A2L flammable refrigerant are subject to minimum walk-in box floor area to limit the hazard of a refrigerant leak. This minimum room area depends on the size of the evaporator, as well as the length and diameter of the field installed refrigerant tubing between the evaporator and the safety isolation valves. Follow the instructions below to ensure compliance:

- Measure the distance along the planned tubing route from the outlet of the evaporator to the inlet of the liquid line safety isolation valve.
- Determine the diameter of the liquid and suction lines to be used.
- Measure the internal length and width of the walk-in box. Multiply the length x width to determine the area.
- Find the row with the evaporator model number in the table below. Under the MAXIMUM LINE LENGTH heading, pick the column which is greater than the length of the measured tubing route. Verify that the MINIMUM ROOM AREA value is less than the calculated walk-in box area.
- If the MINIMUM ROOM AREA value is greater than the calculated walk-in box area, or for tubing runs longer than what is shown in the table, contact the factory for guidance.

Example:

A KHP120H evaporator is to be installed in a walk-in cooler.

The length from the outlet of the evaporator to the safety isolation valve is 35 ft (10.6 m). Standard 7/8" (22.2 mm) liquid line and 2 1/8" (53.9 mm) suction line diameters are used

The internal dimensions of the walk-in box are 25 ft (7.6 m) wide and 20 ft (6.09 m) long. The calculated area is 25 ft x 20 ft = 500 ft² (7.6 m x 6.09 m = 46.2 m²).

The KHP120H is shown in the fifth row down. The 50 ft (15.2 m) column shows a minimum room area of 384 ft² (117 M²). This is less than the calculated room area, so the installation is compliant. NOTE: If there are multiple evaporators serving the same walk-in box, each evaporator is connected to its own set field-installed safety shutoff valves. Calculate the releasable charge of each evaporator and use the largest releasable charge to evaluate walk-in box area. Do not add the releasable charges together when evaluating walk-in box area.

MODEL KHP	LIQUID LINE OD (in)	SUCTION LINE OD (in)	MAXIMUM LINE LENGTH				
			(10 ft)	(25 ft)	(50 ft)	(100 ft)	
			MINIMUM ROOM AREA (ft ²)				
REFRIGERANT = R454A, R454C, R455A	KHP052H	5/8	1 3/8	104	129	172	257
	KHP060H	5/8	1 3/8	128	154	196	281
	HP065H	5/8	1 3/8	153	178	220	305
	KHP103H	7/8	1 5/8	192	242	324	488
	KHP120H	7/8	2 1/8	247	299	384	555*
	KHP131H	7/8	2 1/8	295	346	432	603*
	KHP155H	7/8	2 1/8	270	321	407	578*
	KHP180H	7/8	2 1/8	341	392	477	648*
	KHP196H	1 1/8	2 1/8	434	518*	658*	937*
	KHP242H	1 1/8	2 5/8	466	552*	696*	984*
	KHP263H	1 1/8	2 5/8	560*	646*	790*	1078*
	KHP048M	5/8	1 3/8	104	129	172	257
	KHP056M	5/8	1 3/8	128	154	196	281
	KHP062M	5/8	1 3/8	153	178	220	305
	KHP095M	7/8	1 5/8	192	242	324	488
	KHP113M	7/8	2 1/8	247	299	384	555*
	KHP125M	7/8	2 1/8	295	346	432	603*
	HP143M	7/8	2 1/8	270	321	407	578*
	KHP168M	7/8	2 1/8	341	392	477	648*
	KHP186M	1 1/8	2 1/8	434	518*	658*	937*
	KHP227M	1 1/8	2 5/8	466	552*	696*	984*
	KHP250M	1 1/8	2 5/8	560*	646*	790*	1078*
	KHP041L	5/8	1 5/8	102	126	167	250
	KHP049L	5/8	2 1/8	131	156	199	285
	KHP055L	5/8	2 1/8	154	180	223	308
	KHP083L	7/8	2 1/8	191	240	321	484
	KHP099L	7/8	2 1/8	237	285	367	529*
	KHP110L	7/8	2 5/8	290	340	423	590*
	KHP125L	7/8	2 5/8	266	316	399	566*
	KHP149L	7/8	2 5/8	334	384	467	634*
	KHP165L	1 1/8	2 5/8	424	507	644*	919*
	KHP188L	1 1/8	3 1/8	455	539*	679*	959*
	KHP211L	1 1/8	3 1/8	545*	629*	769*	1048*
	KHP035V	5/8	1 5/8	102	126	167	250
	KHP043V	5/8	2 1/8	131	156	199	285
	KHP049V	5/8	2 1/8	154	180	223	308
	KHP071V	7/8	2 1/8	191	240	321	484
	KHP087V	7/8	2 1/8	237	285	367	529*
	KHP098V	7/8	2 5/8	290	340	423	590*
	KHP107V	7/8	2 5/8	266	316	399	566*
KHP130V	7/8	2 5/8	334	384	467	6334*	
KHP147V	1 1/8	2 5/8	424	507	644*	919*	
KHP168V	1 1/8	3 1/8	455	539*	679*	959*	
KHP190V	1 1/8	3 1/8	545*	629*	769*	1048*	

* Ventilation is required for this application. Ventilation requirements can change by reducing line run or changing to multiple evaporators. Call factory for assistance

	MODEL KHP	LIQUID LINE OD (in)	SUCTION LINE OD (in)	MAXIMUM LINE LENGTH			
				3m	7.6m	15.2m	30.5m
				MINIMUM ROOM AREA (m ²)			
REFRIGERANT = R454A, R454C, R455A	KHP052H	16	35	10	12	16	24
	KHP060H	16	35	12	14	18	26
	KHP065H	16	35	14	17	20	28
	KHP103H	22	41	18	22	30	45
	KHP120H	22	54	23	28	36	52*
	KHP131H	22	54	27	32	40	56*
	KHP155H	22	54	25	30	38	54*
	KHP180H	22	54	32	36	44	60*
	KHP196H	29	54	40	48*	61*	87*
	KHP242H	29	67	43	51*	65*	91*
	KHP263H	29	67	528	60*	73*	100*
	KHP048M	16	35	10	12	16	24
	KHP056M	16	35	12	14	18	26
	KHP062M	16	35	14	17	20	28
	KHP095M	22	41	18	22	30	45
	KHP113M	22	54	23	28	36	52?
	KHP125M	22	54	27	32	40	56*
	KHP143M	22	54	25	30	38	54*
	KHP168M	22	54	32	36	44	60*
	KHP186M	29	54	40	48*	61*	87*
	KHP227M	29	67	43	51*	65*	91*
	KHP250M	29	67	52*	60*	73*	100*
	KHP041L	16	41	9	12	16	23
	KHP049L	16	54	12	15	19	26
	KHP055L	16	54	14	17	21	29
	KHP083L	22	54	18	22	30	45
	KHP099L	22	54	22	27	34	49*
	KHP110L	22	67	27	32	39	55*
	KHP125L	22	67	25	29	37	53*
	KHP149L	22	67	31	36	43	59*
	KHP165L	29	67	39	47	60*	85*
	KHP188L	29	79	42	50*	63*	89*
	KHP211L	29	79	51*	58*	71*	97*
KHP035V	16	41	9	12	16	23	
KHP043V	16	54	12	15	19	26	
KHP049V	16	54	14	17	21	29	
KHP071V	22	54	18	22	30	45	
KHP087V	22	54	22	27	34	49*	
KHP098V	22	67	27	32	39	55*	
KHP107V	22	67	25	29	37	53*	
KHP130V	22	67	31	36	43	59*	
KHP147V	29	67	39	47	60*	85*	
KHP168V	29	79	42	50*	63*	89*	
KHP190V	29	79	51*	58*	71*	97*	

* Ventilation is required for this application. Ventilation requirements can change by reducing line run or changing to multiple evaporators. Call factory for assistance

REFRIGERANT TUBING INSTALLATION

Refrigerant piping must be installed in accordance with ANSI/ASHRAE 15 and any other applicable local or national codes.

- All equipment, refrigerant tubing, fittings, and protection devices must be securely mounted and protected from physical damage and other adverse environmental effects such as water collecting and freezing, corrosion, and the accumulation of dirt and debris. Tubing inside the walk-in box or routed through other unventilated spaces must be additionally protected from accidental damage when product or furniture is installed or moved
- All tubing joints must be accessible for inspection prior to being covered or enclosed.
- The routing of tubing must be as direct as possible, and the length of tubing kept to a minimum.
- Use only copper tubing. Flexible connections are not allowed. All field connections must be brazed.
- Provisions shall be made for expansion and contraction of long runs of tubing.
- Tubing shall be installed to minimize damaging effects of hydraulic shock.
- Tubing shall be constrained to prevent excess vibration or pulsation
- Insulation shall be suitable for the material being insulated.
- All installed tubing must be pressure tested to 450 PSIG with an inert gas and held for a minimum of 1 hour with no decrease in pressure. The test gauge must have a minimum resolution of 20 PSIG.
- If the pressure test is successful, the refrigerant piping must be evacuated below 500 microns. After isolating the vacuum pump, the system pressure must remain below 1000 microns for 30 minutes. See "Deep Vacuum Method" in the condensing unit installation manual for more details.

CHARGING

After installation of field refrigerant tubing, the system must be charged by weight of refrigerant. See the condensing unit installation manual for charging instructions weight for each condensing unit model.

During charging:

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders must be kept in an appropriate position according to the instructions.
- Ensure that the system is earthed prior to charging the system with refrigerant.
- Extreme care shall be taken not to overfill the system.
- After charging, write the refrigerant number and weight in the blank space on the data label of the condensing unit.

After charging, all brazed tubing joints made indoors shall be tested with a refrigerant detector. The detector must have a sensitivity of 0.2 oz/year (5 g/year) or better under a pressure of at least 150 PSIG. No leak shall be detected.

The system must be leak-free before the system is commissioned or recommissioned after repair. See section "REFRIGERANT TUBING INSTALLATION" for additional details on required leak checks.

REFRIGERANT LEAK MITIGATION SYSTEM

Evaporators designed for A2L refrigerants are equipped with a leak mitigation system to minimize the hazard of refrigerant leaks. The leak mitigation system includes factory installed refrigerant leak sensors, and mitigation controller to initiate mitigation actions in the event of a leak. Mitigation actions include activating fans for circulation, deactivating electric defrost heaters and closing safety isolation valves.

Ventilation of the walk-in box should not be used. Do not connect the evaporator to any ductwork.

Safety isolation solenoid valves must be field wired to the mitigation controller in the evaporator. See unit wiring diagram for additional details.

The mitigation system does not require any periodic maintenance. To test the operation of the mitigation system, disconnect one of the refrigerant leak sensors and verify that the safety isolation solenoid valves close, evaporator fans are energized, and defrost heaters are de-energized.

If a replacement refrigerant leak detector or controller is required, only manufacturer-approved components may be used. Replacement sensors must be installed in the same location as the sensors that were removed.

REFRIGERANT RECOVERY

Local and national regulations must be followed for recovery, transportation, and disposal of A2L refrigerant. It is essential that best practices are followed to minimize the risk of fire

- All recovery cylinders, recovery machines, vacuum pumps, and other refrigeration tools must be designed for use with A2L refrigerants and must be in good working order, with instruction manuals available for reference.
- Cylinders must be labeled with the refrigerant they contain.
- Ensure that the pressure and rating of the recovery cylinders are appropriate for the refrigerant being recovered. Any pressure relief or overfill prevention devices must be in good working order.
- A calibrated refrigerant scale must be used to measure the weight of the recovered refrigerant to prevent overfilling.

- Do not fill cylinders more than 80% full.
- Recovery cylinders must be of appropriate volume to contain the refrigerant to be recovered. Multiple recovery cylinders should be available if required.
- Empty cylinders must be evacuated prior to filling.
- Do not mix refrigerants. Recovery machines must be purged before changing refrigerants.
- All service hose connections must be equipped with a means to limit the release of refrigerant such as anti-blowback fittings or service valves.

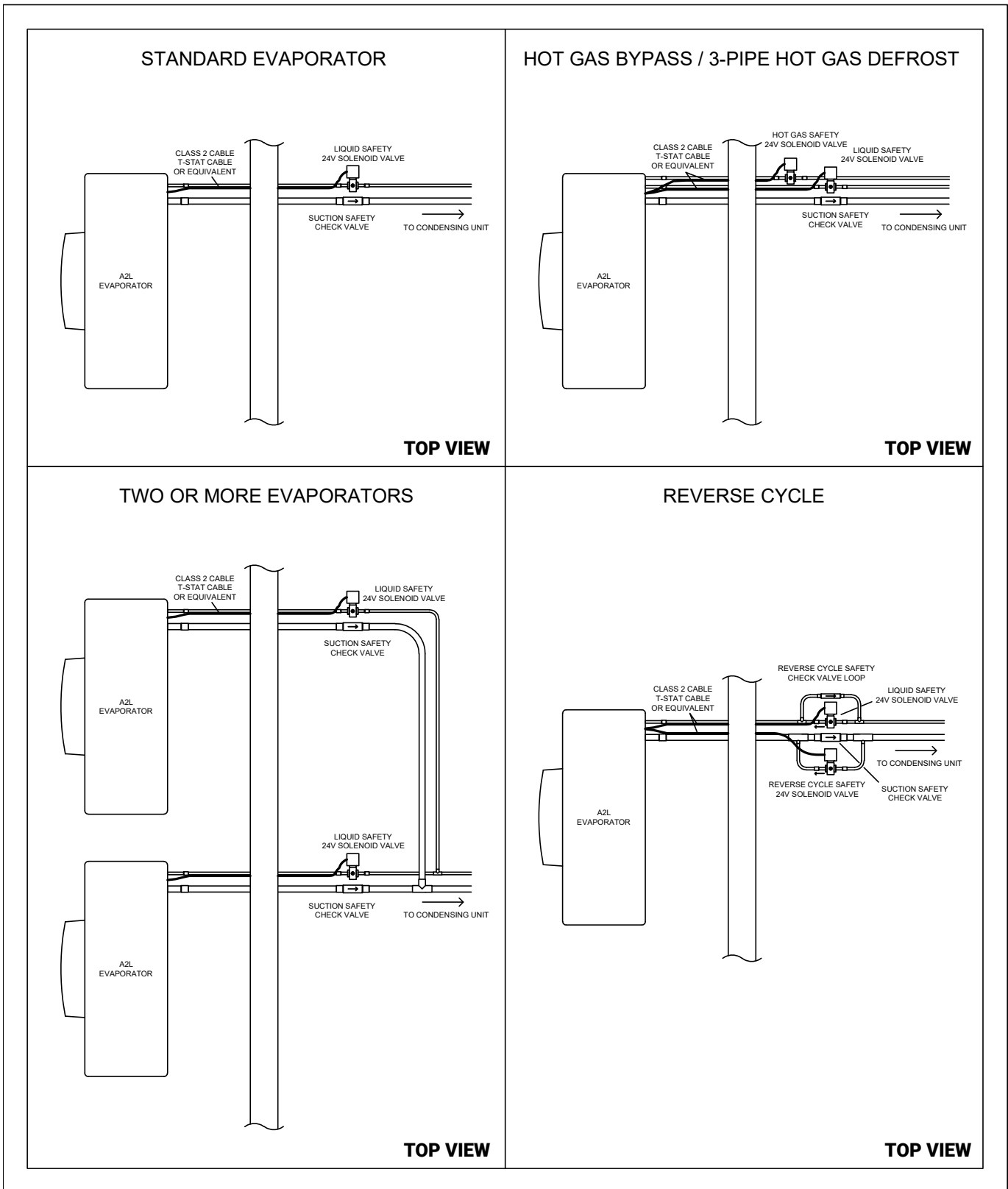
After completing all safety checks, safely remove refrigerant according to local and national regulations:

- Recover refrigerant into an appropriate recovery cylinder.
- After achieving the required recovery level, pressurize the system with inert gas to 450 PSIG.
- Safely release the inert gas, ensuring that there are no sources of ignition near the venting outlet.
- If a compressor or compressor oil is going to be removed, the system must be evacuated to ensure that no refrigerant remains dissolved in the oil.
- The system may now be opened by cutting or brazing.

DECOMMISSIONING

When the system reaches the end of its life, it must be decommissioned. The equipment must be electrically isolated, and all refrigerant must be recovered by competent personnel in accordance with all local and national regulations. See section "REFRIGERANT RECOVERY" for additional details.

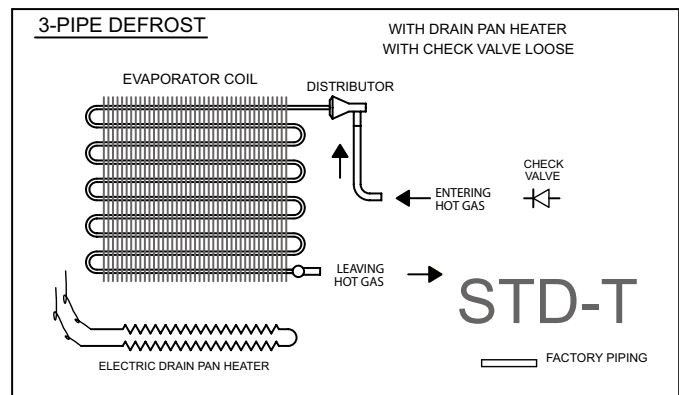
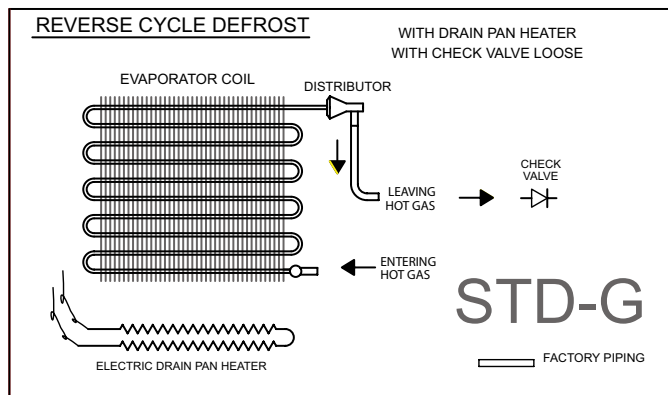
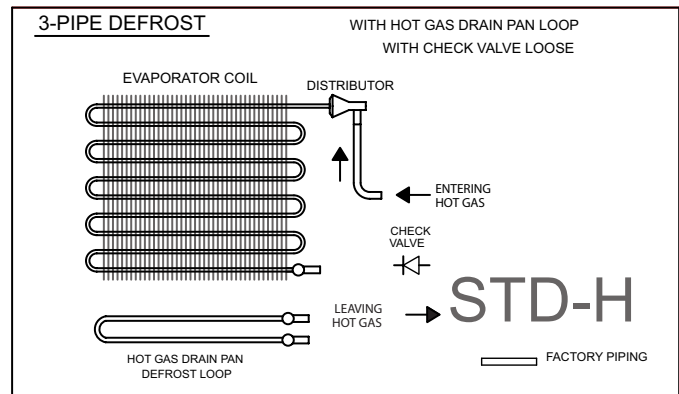
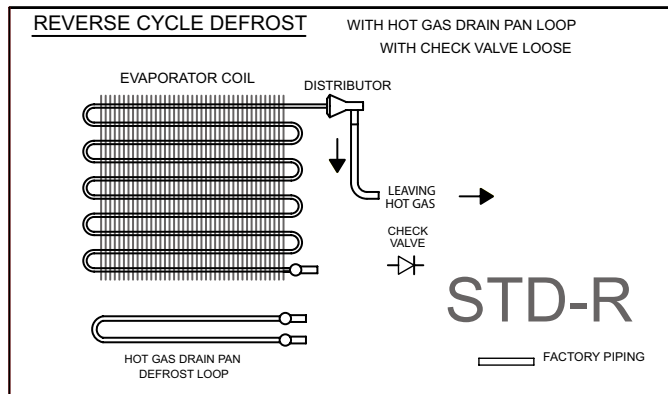
The equipment shall be labeled as "DECOMMISSIONED" and marked with the date and signature of the person recovering the refrigerant. The equipment is now ready for disposal.



Follow valve manufacturer mounting instructions.

* Safety Shut-off valve installation in accordance to valve manufacturer requirements.

Standard Configurations - Refer to Nomenclature for details

Standard Offering: All Models

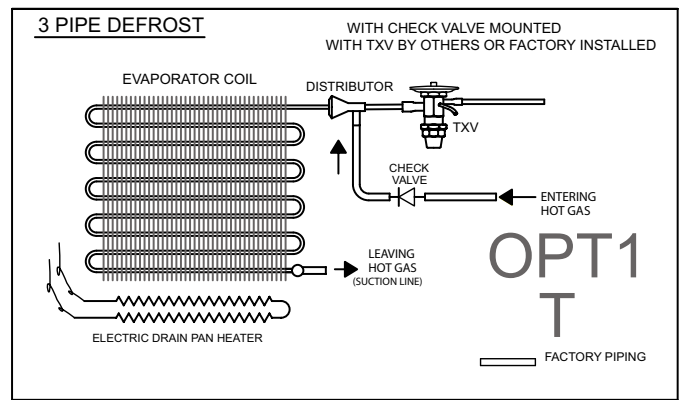
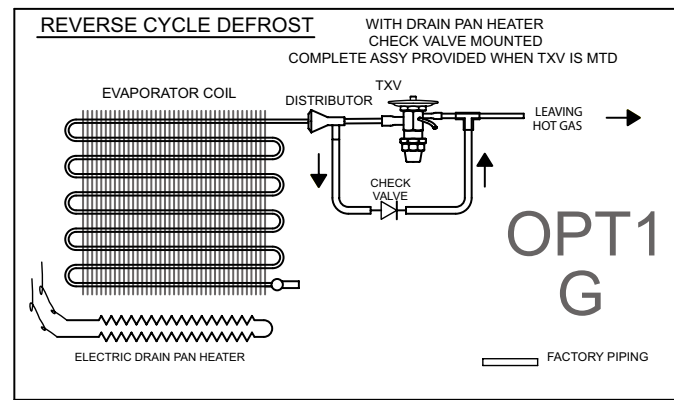
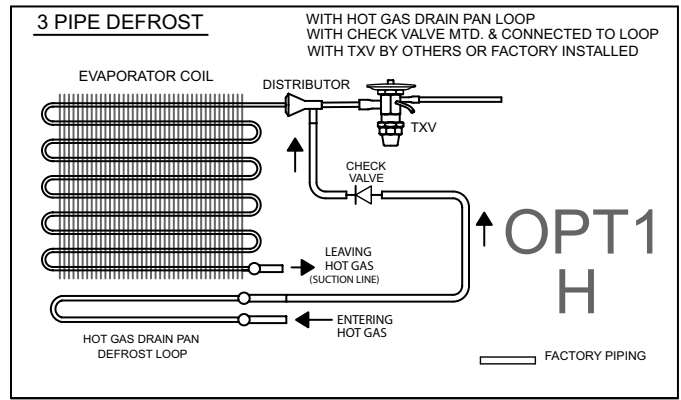
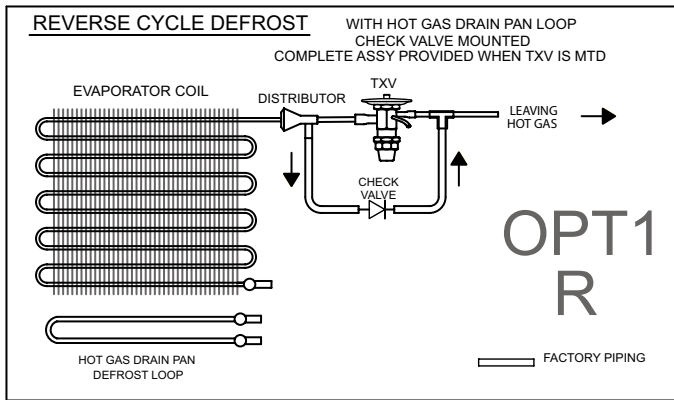
Check Valve is included with the coil shipped loose as it is a must have component for system operation.

Check Valve & TXV - See next page (OPT 1)

When a TXV is ordered with a HG defrost coil: Its only option will be **Factory Installed**. The bypass check valve will be **factory installed** as well as part of the same option.

- **Reverse Cycle Pan Heater (G Models)** when ordered with TXV & Check Valve:
 - o TXV, Check Valve and bypass Tee are factory installed
- **Reverse Cycle Pan Loop (R Models)** when ordered with TXV & Check Valve:
 - o TXV, Check Valve and bypass Tee are factory installed
- **3-Pipe Pan Heater (T Models)** when ordered with TXV & Check Valve:
 - o TXV and Check Valve are factory installed
- **3-Pipe Pan Loop (H Models)** when ordered with TXV & Check Valve:
 - o TXV and Check Valve are factory installed

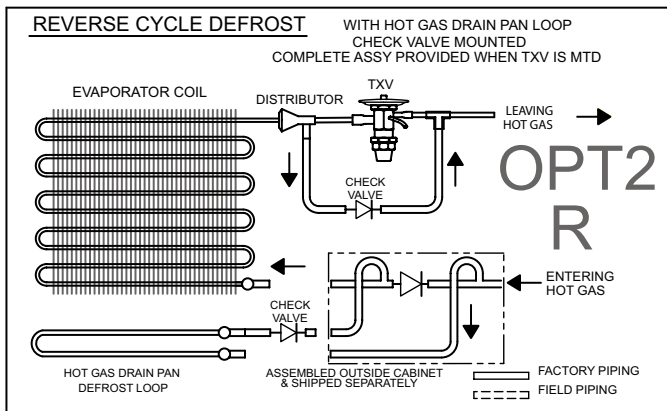
Optional Configurations - Refer to Nomenclature for details



Drain pan Loop Kit - See below (OPT 2)

Drain pan loop kit is an assembly that is fully assembled and shipped loose for field installation outside the cabinet. Two check valves are included, depending on the model size, one or both are factory installed.

- **Reverse Cycle Pan Loop (R Models)** when ordered with TXV & Check Valve:
 - o Suction line piping shipped as a pre-piped assembly for field installation



Solenoid Valve

Solenoid valves are available as a shipped loose item due to limited space inside the cabinet

Models with standard SMARTSPEED™ EC Motors

Medium Temperature, 6 FPI

TEMP	# of Fans	Model KHP	Voltage	1 X EVAPORATOR		2 X EVAPORATOR	
				Defrost Kit	Fuse Package	Defrost Kit	Fuse Package
ME - MEDIUM TEMPERATURE	1	KHP048ME-T3*	208-230/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP056ME-T3*	208-230/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP062ME-T3*	208-230/3/60	*FK-16	FP-024	*FK-28	FP-016
	2	KHP095ME-T3*	208-230/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP113ME-T3*	208-230/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP125ME-T3*	208-230/3/60	*FK-52	FP-158	*FK-55	FP-172
	3	KHP143ME-T3*	208-230/3/60	*FK-52	FP-159	*FK-56	FP-173
		KHP168ME-T3*	208-230/3/60	*FK-52	FP-159	*FK-56	FP-173
		KHP186ME-T3*	208-230/3/60	*FK-50	FP-160	*FK-54	FP-174
	4	KHP227ME-T3*	208-230/3/60	*FK-50	FP-161	NOT AVAIL	NOT AVAIL
		KHP250ME-T3*	208-230/3/60	*FK-51	FP-162	NOT AVAIL	NOT AVAIL
	1	KHP048ME-T4*	460/3/60	*FK-14	FP-110	*FK-18	FP-121
		KHP056ME-T4*	460/3/60	*FK-14	FP-110	*FK-18	FP-121
		KHP062ME-T4*	460/3/60	*FK-14	FP-112	*FK-18	FP-123
	2	KHP095ME-T4*	460/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP113ME-T4*	460/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP125ME-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
	3	KHP143ME-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
		KHP168ME-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
		KHP186ME-T4*	460/3/60	*FK-49	FP-157	*FK-53	FP-166
	4	KHP227ME-T4*	460/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP250ME-T4*	460/3/60	*FK-52	FP-165	*FK-55	FP-171

Low Temperature, 6 FPI

TEMP	# of Fans	Model KHP	Voltage	1 X EVAPORATOR		2 X EVAPORATOR	
				Defrost Kit	Fuse Package	Defrost Kit	Fuse Package
LE - LOW TEMPERATURE	1	KHP041LE-T3*	208-230/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP049LE-T3*	208-230/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP055LE-T3*	208-230/3/60	*FK-16	FP-024	*FK-28	FP-016
	2	KHP083LE-T3*	208-230/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP099LE-T3*	208-230/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP110LE-T3*	208-230/3/60	*FK-52	FP-158	*FK-55	FP-172
	3	KHP125LE-T3*	208-230/3/60	*FK-52	FP-159	*FK-56	FP-173
		KHP149LE-T3*	208-230/3/60	*FK-52	FP-159	*FK-56	FP-173
		KHP165LE-T3*	208-230/3/60	*FK-50	FP-160	*FK-54	FP-174
	4	KHP188LE-T3*	208-230/3/60	*FK-50	FP-161	NOT AVAIL	NOT AVAIL
		KHP211LE-T3*	208-230/3/60	*FK-51	FP-162	NOT AVAIL	NOT AVAIL
	1	KHP041LE-T4*	460/3/60	*FK-14	FP-110	*FK-18	FP-121
		KHP049LE-T4*	460/3/60	*FK-14	FP-110	*FK-18	FP-121
		KHP055LE-T4*	460/3/60	*FK-14	FP-112	*FK-18	FP-123
	2	KHP083LE-T4*	460/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP099LE-T4*	460/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP110LE-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
	3	KHP125LE-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
		KHP149LE-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
		KHP165LE-T4*	460/3/60	*FK-49	FP-157	*FK-53	FP-166
	4	KHP188LE-T4*	460/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP211LE-T4*	460/3/60	*FK-52	FP-165	*FK-55	FP-171

Models with standard SMARTSPEED™ EC Motors (cont'd)

Low Temperature, 4 FPI

TEMP	# of Fans	Model KHP	Voltage	1 X EVAPORATOR		2 X EVAPORATOR	
				Defrost Kit	Fuse Package	Defrost Kit	Fuse Package
VE - VERY LOW TEMPERATURE	1	KHP035VE-T3*	208-230/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP043VE-T3*	208-230/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP049VE-T3*	208-230/3/60	*FK-16	FP-024	*FK-28	FP-016
	2	KHP071VE-T3*	208-230/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP087VE-T3*	208-230/3/60	*FK-49	FP-157	*FK-53	FP-166
		KHP098VE-T3*	208-230/3/60	*FK-52	FP-158	*FK-55	FP-172
	3	KHP107VE-T3*	208-230/3/60	*FK-52	FP-159	*FK-56	FP-173
		KHP130VE-T3*	208-230/3/60	*FK-52	FP-159	*FK-56	FP-173
		KHP147VE-T3*	208-230/3/60	*FK-50	FP-160	*FK-54	FP-174
	4	KHP168VE-T3*	208-230/3/60	*FK-50	FP-161	NOT AVAIL	NOT AVAIL
		KHP190VE-T3*	208-230/3/60	*FK-51	FP-162	NOT AVAIL	NOT AVAIL
	1	KHP035VE-T4*	460/3/60	*FK-14	FP-110	*FK-18	FP-121
		KHP043VE-T4*	460/3/60	*FK-14	FP-110	*FK-18	FP-121
		KHP049VE-T4*	460/3/60	*FK-14	FP-112	*FK-18	FP-123
	2	KHP071VE-T4*	460/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP087VE-T4*	460/3/60	*FK-14	FP-113	*FK-23	FP-124
		KHP098VE-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
	3	KHP107VE-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
		KHP130VE-T4*	460/3/60	*FK-16	FP-024	*FK-28	FP-016
		KHP147VE-T4*	460/3/60	*FK-49	FP-157	*FK-53	FP-166
	4	KHP168VE-T4*	460/3/60	*FK-49	FP-157	*FK-53	FP-166
KHP190VE-T4*		460/3/60	*FK-52	FP-165	*FK-55	FP-171	

Defrost Kits

Number of Evaps	Kit Part Number	Description
1	DFK-01	Time Clock, HtrCont - 1x 40A (3P), FB 1x 30A (1P)
1	DFK-02	Time Clock, HtrCont - 1x 40A (3P), FB 1x 30A (2P)
1	DFK-03	Time Clock, HtrCont - 1x 40A (3P), FB 1x 30A (3P)
1	DFK-04	Time Clock, HtrCont - 1x 40A (3P), FB 1x 60A (2P)
2	DFK-05	Time Clock, HtrCont - 1x 40A (3P), FB 2x 30A (1P)
2	DFK-06	Time Clock, HtrCont - 1x 40A (3P), FB 2x 30A (2P)
2	DFK-07	Time Clock, HtrCont - 1x 40A (3P), FB 2x 30A (3P)
2	DFK-08	Time Clock, HtrCont - 1x 50A (3P), FB 2x 60A (2P)
2	DFK-09	Time Clock, HtrCont - 1x 50A (3P), FB 2x 30A (2P)
1	DFK-10	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P)
1	DFK-11	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P)
2	DFK-12	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 4x 30A (2P)
2	DFK-13	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 4x 30A (3P)
1	DFK-14	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 30A (3P)
1	DFK-15	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 60A (2P)
1	DFK-16	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 60A (3P)
1	DFK-17	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 1x 60A (3P)
2	DFK-18	Time Clock, HtrCont - 1x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 30A (3P)
2	DFK-19	Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 4x 30A (2P)
2	DFK-20	Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 4x 30A (3P)
1	DFK-21	Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 1x 60A (2P)
1	DFK-22	Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 1x 60A (3P)
2	DFK-23	Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 30A (3P)
2	DFK-24	Time Clock, HtrCont - 1x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 2x 60A (3P)
1	DFK-25	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (2P), FB 2x 60A (2P)
1	DFK-26	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 2x 60A (3P)
2	DFK-27	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 60A (2P)
2	DFK-28	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 60A (3P)
2	DFK-29	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 2x 60A (3P)
2	DFK-30	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 50A (3P), FB 2x 30A (2P), FB 2x 60A (3P)
1	DFK-31	Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 1x 30A (3P), FB 2x 60A (3P)
2	DFK-32	Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 2x 60A (2P)
2	DFK-33	Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 2x 60A (3P)
2	DFK-34	Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (2P), FB 4x 60A (2P)
2	DFK-35	Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 4x 60A (3P)
2	DFK-36	Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 50A (3P), FB 2x 30A (2P), FB 4x 60A (2P)
2	DFK-37	Time Clock, HtrCont - 4x 40A (3P), FanCont - 1x 50A (3P), FB 2x 30A (3P), FB 4x 60A (3P)
2	DFK-38	Time Clock, HtrCont - 4x 50A (3P), FanCont - 1x 50A (3P), FB 2x 30A (3P), FB 4x 60A (3P)
1	DFK-39	Time Clock, HtrCont1 - 1x 40A (3P), HtrCont2 - 2x 50A (3P), FanCont - 1x 40A (3P), FB 4x 60A (3P)
1	DFK-41	Time Clock, HtrCont - 1x 40A (3P), FB 4x 30A (3P)
2	DFK-42	Time Clock, HtrCont - 2x 40A (3P), FanCont - 1x 40A (3P), FB 3x 60A (3P)
2	DFK-43	Time Clock, HtrCont - 3x 40A (3P), FanCont - 1x 40A (3P), FB 4x 60A (3P)
2	DFK-44	Time Clock, HtrCont - 3x 40A (3P), FanCont - 1x 50A (3P), FB 4x 60A (3P)
2	DFK-45	Time Clock, HtrCont - 2x 50A (3P), FanCont - 1x 40A (3P), FB 3x 60A (3P)
2	DFK-46	Time Clock, HtrCont - 3x 50A (3P), FanCont - 1x 50A (3P), FB 4x 60A (3P)
2	DFK-47	Time Clock, HtrCont - 3x 50A (3P), FanCont - 1x 50A (3P), FB 4x 60A (3P)
2	DFK-48	Time Clock, HtrCont - 4x 50A (3P), FanCont - 1x 40A (3P), FB 2x 30A (3P), FB 4x 60A (3P)

NOTE: HtrCont = Heater Contactor, FanCont = Fan Contactor, FB = Fuse Block, (1P), (2P), (3P) = Number of Poles

Fuse Packages

Part #	Description
FP-001	FUSES (1) 15AMP
FP-002	FUSES (1) 20AMP
FP-003	FUSES (1) 25AMP
FP-004	FUSES (2) 15AMP
FP-006	FUSES (2) 20AMP
FP-007	FUSES (2) 25AMP
FP-008	FUSES (4) 15AMP
FP-010	FUSES (4) 25AMP
FP-012	FUSES (2) 35AMP
FP-013	FUSES (3) 15AMP
FP-014	FUSES (3) 20AMP
FP-015	FUSES (4) 20AMP
FP-016	FUSES (4) 20AMP (6) 45AMP
FP-017	FUSES (4) 35AMP
FP-018	FUSES (6) 15AMP
FP-019	FUSES (6) 20AMP
FP-020	FUSES (2) 30AMP
FP-021	FUSES (4) 30AMP
FP-022	FUSES (8) 15AMP
FP-023	FUSES (2) 25AMP (3) 50AMP
FP-024	FUSES (2) 20AMP (3) 45AMP
FP-025	FUSES (6) 20AMP (6) 60AMP
FP-026	FUSES (6) 15AMP (12) 40AMP
FP-027	FUSES (6) 15AMP (6) 40AMP
FP-028	FUSES (6) 20AMP (12) 40AMP
FP-029	FUSES (6) 15AMP (6) 50AMP
FP-030	FUSES (6) 15AMP (6) 45AMP
FP-031	FUSES (6) 15AMP (6) 35AMP
FP-032	FUSES (6) 15AMP (6) 30AMP
FP-033	FUSES (6) 25AMP (12) 50AMP
FP-034	FUSES (6) 20AMP (12) 35AMP
FP-035	FUSES (4) 25AMP (6) 50AMP
FP-036	FUSES (6) 25AMP (12) 60AMP
FP-037	FUSES (6) 20AMP (12) 60AMP
FP-038	FUSES (6) 20AMP (12) 50AMP
FP-039	FUSES (6) 20AMP (12) 45AMP
FP-040	FUSES (6) 15AMP (12) 45AMP
FP-041	FUSES (5) 15AMP
FP-042	FUSES (10) 15AMP
FP-043	FUSES (3) 25AMP (6) 60AMP
FP-044	FUSES (3) 20AMP (6) 60AMP
FP-045	FUSES (3) 20AMP (6) 50AMP
FP-046	FUSES (3) 25AMP (6) 45AMP
FP-047	FUSES (3) 15AMP (6) 45AMP
FP-048	FUSES (4) 15AMP (4) 45AMP
FP-049	FUSES (4) 15AMP (4) 40AMP
FP-050	FUSES (3) 15AMP (3) 60AMP
FP-051	FUSES (4) 20AMP (6) 50AMP
FP-052	FUSES (4) 15AMP (6) 45AMP
FP-053	FUSES (4) 15AMP (6) 30AMP
FP-054	FUSES (3) 15AMP (6) 35AMP
FP-055	FUSES (2) 15AMP (2) 45AMP
FP-056	FUSES (2) 15AMP (2) 40AMP
FP-057	FUSES (2) 20AMP (3) 50AMP
FP-058	FUSES (2) 15AMP (3) 45AMP
FP-059	FUSES (2) 15AMP (3) 30AMP
FP-060	FUSES (2) 15AMP (2) 35AMP
FP-061	FUSES (2) 15AMP (2) 50AMP
FP-062	FUSES (2) 15AMP (2) 60AMP
FP-063	FUSES (2) 15AMP (3) 25AMP
FP-064	FUSES (2) 15AMP (3) 35AMP
FP-065	FUSES (2) 15AMP (3) 40AMP
FP-066	FUSES (2) 15AMP (3) 20AMP
FP-067	FUSES (4) 15AMP (4) 35AMP
FP-068	FUSES (4) 15AMP (4) 50AMP
FP-069	FUSES (4) 15AMP (4) 60AMP
FP-070	FUSES (4) 15AMP (6) 25AMP
FP-071	FUSES (4) 15AMP (6) 35AMP
FP-072	FUSES (4) 15AMP (6) 40AMP
FP-073	FUSES (4) 15AMP (6) 20AMP
FP-074	FUSES (3) 20AMP (3) 60AMP
FP-075	FUSES (3) 20AMP (6) 35AMP

Part #	Description
FP-076	FUSES (3) 25AMP (6) 50AMP
FP-077	FUSES (3) 35AMP (9) 45AMP
FP-078	FUSES (3) 15AMP (3) 35AMP
FP-079	FUSES (3) 15AMP (3) 45AMP
FP-080	FUSES (3) 15AMP (3) 50AMP
FP-081	FUSES (3) 20AMP (6) 40AMP
FP-082	FUSES (3) 15AMP (3) 40AMP
FP-083	FUSES (3) 15AMP (6) 40AMP
FP-084	FUSES (6) 15AMP (6) 60AMP
FP-085	FUSES (6) 15AMP (12) 35AMP
FP-086	FUSES (3) 35AMP (3) 45AMP (6) 60AMP
FP-087	FUSES (4) 20AMP (4) 40AMP (4) 50AMP
FP-088	FUSES (4) 15AMP (4) 35AMP (4) 40AMP
FP-089	FUSES (2) 20AMP (2) 40AMP (2) 50AMP
FP-090	FUSES (2) 15AMP (2) 35AMP (2) 40AMP
FP-092	FUSES (2) 25AMP (2) 40AMP (2) 50AMP
FP-093	FUSES (4) 20AMP (4) 35AMP (4) 40AMP
FP-094	FUSES (6) 15AMP (6) 25AMP
FP-095	FUSES (3) 15AMP (3) 25AMP
FP-096	FUSES (3) 15AMP (3) 30AMP
FP-097	FUSES (4) 15AMP (4) 30AMP
FP-098	FUSES (4) 15AMP (4) 25AMP
FP-099	FUSES (4) 15AMP (4) 20AMP
FP-100	FUSES (2) 15AMP (2) 20AMP
FP-101	FUSES (2) 15AMP (2) 25AMP
FP-102	FUSES (2) 15AMP (2) 30AMP
FP-103	FUSES (4) 25AMP (4) 40AMP (4) 50AMP
FP-105	FUSES (2) 20AMP (2) 30AMP
FP-106	FUSES (2) 20AMP (2) 35AMP
FP-107	FUSES (2) 20AMP (2) 50AMP
FP-108	FUSES (2) 20AMP (2) 60AMP
FP-109	FUSES (2) 20AMP (2) 35AMP (2) 40AMP
FP-110	FUSES (2) 20AMP (3) 15AMP
FP-111	FUSES (5) 20AMP
FP-112	FUSES (2) 20AMP (3) 25AMP
FP-113	FUSES (2) 20AMP (3) 30AMP
FP-114	FUSES (2) 20AMP (3) 35AMP
FP-115	FUSES (2) 20AMP (3) 40AMP
FP-116	FUSES (8) 20AMP
FP-117	FUSES (4) 20AMP (4) 35AMP
FP-118	FUSES (4) 20AMP (4) 30AMP
FP-119	FUSES (4) 20AMP (4) 50AMP
FP-120	FUSES (4) 20AMP (4) 60AMP
FP-121	FUSES (4) 20AMP (6) 15AMP
FP-122	FUSES (10) 20AMP
FP-123	FUSES (4) 20AMP (6) 25AMP
FP-124	FUSES (4) 20AMP (6) 30AMP
FP-125	FUSES (4) 20AMP (6) 35AMP
FP-126	FUSES (4) 20AMP (6) 40AMP
FP-127	FUSES (2) 20AMP (2) 45AMP
FP-128	FUSES (2) 20AMP (2) 25AMP
FP-129	FUSES (2) 20AMP (2) 40AMP
FP-130	FUSES (3) 20AMP (3) 50AMP
FP-131	FUSES (4) 20AMP (4) 25AMP
FP-132	FUSES (4) 20AMP (4) 40AMP
FP-133	FUSES (4) 20AMP (4) 45AMP
FP-134	FUSES (3) 25AMP (6) 35AMP
FP-135	FUSES (3) 25AMP (6) 45AMP
FP-136	FUSES (3) 30AMP (6) 35AMP
FP-137	FUSES (3) 30AMP (6) 45AMP
FP-138	FUSES (3) 30AMP (3) 60AMP
FP-139	FUSES (3) 40AMP (6) 50AMP
FP-140	FUSES (3) 40AMP (6) 60AMP
FP-141	FUSES (3) 45AMP (3) 50AMP (6) 60 AMP
FP-142	FUSES (9) 45AMP (3) 50AMP

NOTE:
 FUSES 30AMP and Below - Class CC Type,
 FUSES 35AMP and Above - Class J Type

**For info on matched
 KeepRite Refrigeration
 condensing units,
 visit www.k-rp.com/cu**

**Defrost Kit &
 Fuse Package
 Online Selection Tool:
www.k-rp.com/dfk**

NOTES:

NOTES:

NOTES:

PROJECT INFORMATION**KHP - HIGH PROFILE EVAPORATORS**

System	
Model Number	Date of Start-Up
Serial Number	Service Contractor
Refrigerant	Phone
Electrical Supply	E-mail

 <p>PRODUCT SUPPORT</p>	<p><i>web:</i> www.k-rp.com/khp <i>email:</i> evaps@k-rp.com <i>call:</i> 1-844-893-3222 x520</p>
 <p>TROUBLESHOOTING</p>	<p><i>email:</i> troubleshooting@k-rp.com <i>call:</i> 1-844-893-3222 x529</p>
 <p>SERVICE PARTS</p>	<p><i>web:</i> www.k-rp.com/parts <i>email:</i> parts@k-rp.com <i>call:</i> 1-844-893-3222 x504</p>
 <p>WARRANTY</p>	<p><i>web:</i> www.k-rp.com/warranty <i>email:</i> warranty@k-rp.com <i>call:</i> 1-844-893-3222 x507</p>
 <p>ORDERS</p>	<p><i>email:</i> orders@k-rp.com <i>call:</i> 1-844-893-3222 x501</p>
 <p>SHIPPING</p>	<p><i>email:</i> shipping@k-rp.com <i>call:</i> 1-844-893-3222 x503</p>

HOW CAN WE HELP YOU? visit www.k-rp.com/contact

Service Parts List Label To Be Attached *HERE*



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