



# KIRBY® HEAVY DUTY Evaporators

Field proven quality,  
performance and  
endurance



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**KIRBY**  
A BEIJER REF Company

# HEAVY DUTY Evaporators

## Introduction and Overview

Designed specifically for semi-industrial and large commercial applications where optimum cold air flow is paramount, the enhanced Kirby® Heavy Duty Evaporator range delivers economical choice, ease of installation, quality, reliability and powerful performance.

Kirby®'s legendary toughness and dependability in critical applications means that you can be confident in achieving desired operating conditions through varied applications. All models are now wired ex-factory for express installation.

## Features & Benefits

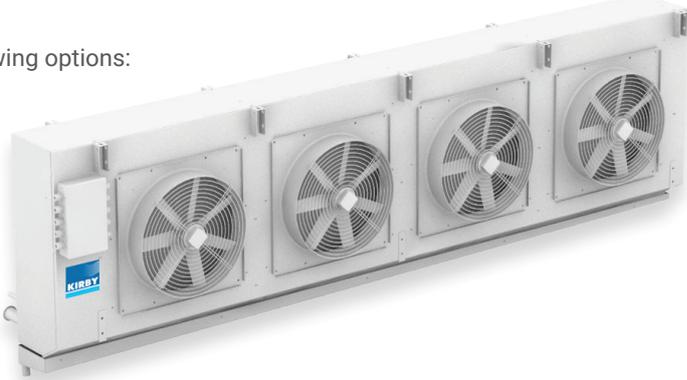
The Kirby® Heavy Duty Evaporator offers:

- Simplified installation including factory wiring on all models for fans and heaters (excludes controls)
- High airflow from robust fan assemblies ensures efficient pull down and air throw
- Positive electric defrost standard inclusion for all models (includes medium temperature units)
- Reversible drain tray
- A supporting spare parts range accessible 24/7 through the Kirby® wholesale network
- HFC and Glycol options available

## Optional Enhancements

Kirby® Heavy Duty Evaporators can be configured with the following options:

- Unique circuiting to suit glycol, water, split circuit and special operating conditions
- Water defrost (medium temperature models only)
- Koil Kote coil protection
- Expansion valves fitted



## Kirby® Heavy Duty Evaporators – Nomenclature

<b>KHD</b>	<b>C/F</b>	<b>E</b>	<b>103</b>
<b>Usage Application</b>		<b>Model Reference</b>	
C	Medium temperature	103	
F	Low temperature		
<b>Manufacturer Brand</b>		<b>Grooved Tube</b>	
KHD	Kirby	E	Enhanced
	Heavy Duty		

# HEAVY DUTY EVAPORATORS

## Medium Temperature Performance Data

Fan motor and heater wiring as standard (excludes controls)

PRODUCT NUMBER	CAPACITY W @ 6KTD				AIR		FAN QTY	MOTORS (MAX)		DEFROST HEATERS***		REFRIGERANT CHARGE**	
	R134a	R507	R404A	R407F	FLOW (L/S)*	THROW (M)		415V 3 PHASE		415V 3 PHASE		R134a	R404A
								WATTS	AMPS	WATTS	AMPS		
KHDCE103	9482	10986	11210	11473	1920	20	1	600	1.15	5250	8.5	14.4	12.8
KHDCE136	12627	13798	14080	15279	3960	22	2	1200	2.30	8700	14.6	14.4	12.9
KHDCE161	15030	16925	17270	18187	3920	22	2	1200	2.30	8700	14.6	18.9	16.8
KHDCE188	17502	19698	20100	21178	3880	22	2	1200	2.30	8700	14.6	23.6	21.0
KHDCE214	19944	22579	23040	24132	3840	22	2	1200	2.30	8700	14.6	28.5	25.4
KHDCE263	25769	29263	29860	31180	5820	24	3	1800	3.45	13600	23.3	34.7	31.0
KHDCE316	28867	33594	34280	34929	5770	24	3	1800	3.45	13600	23.3	41.3	36.8
KHDCE366	34005	38122	38900	41147	7770	25	4	2400	4.60	15320	28.2	43.3	38.6
KHDCE430	37794	42904	43780	45731	7690	25	4	2400	4.60	15320	28.2	51.2	45.7
KHDCE538	46862	52900	53980	56703	9610	26	5	3000	5.75	18280	33.6	61.3	54.7

### PERFORMANCE RATING BASIS KHDCE

CAPACITY – Performance calculations are intended as a guide only and actual capacity is subject to specific application conditions and the operating environment. Capacities are based on +2°C air on temperature, and 6KTD. KTD is defined as "air on temperature - leaving refrigerant saturation temperature".

\* Air flow – Rated at standard air conditions (101.35kpa atmospheric pressure).

\*\* Refrigerant charge - Calculated at 80% liquid and 20% vapour including header at -4°C SST and 6KTD.

\*\*\* Mandatory 2 wire Heater Safety Switch factory fitted as standard.

To assist you in determining the most appropriate selection for your application, please refer to your local Kirby® representative.

# HEAVY DUTY EVAPORATORS

## Low Temperature Performance Data

Fan motor and heater wiring as standard (excludes controls)

PRODUCT NUMBER	CAPACITY W @ 6KTD			AIR		FAN QTY	MOTORS (MAX)		DEFROST HEATERS***		REFRIGERANT CHARGE**
	R507	R404A	R407F	FLOW (L/S)*	THROW (M)		415V 3 PHASE		415V 3 PHASE		R404A
							WATTS	AMPS	WATTS	AMPS	
KHDFE086	9435	9160	10534	1920	18	1	600	1.15	5250	8.5	13.5
KHDFE088	10290	9990	11489	3960	20	2	1200	2.30	8700	14.6	17.0
KHDFE117	13730	13330	15330	3920	20	2	1200	2.30	8700	14.6	17.7
KHDFE151	16583	16100	18515	3880	20	2	1200	2.30	8700	14.6	21.9
KHDFE173	18890	18340	21091	3840	20	2	1200	2.30	8700	14.6	26.9
KHDFE212	24133	23430	26945	5820	22	3	1800	3.45	13600	23.3	32.8
KHDFE252	27563	26760	30774	5770	22	3	1800	3.45	13600	23.3	39.0
KHDFE286	30282	29400	33810	7770	23	4	2400	4.60	15320	28.2	40.8
KHDFE320	34845	33830	38905	7690	23	4	2400	4.60	15320	28.2	48.3
KHDFE380	39686	38530	44310	9610	24	5	3000	5.75	18280	33.6	74.0

### PERFORMANCE RATING BASIS KHDFE

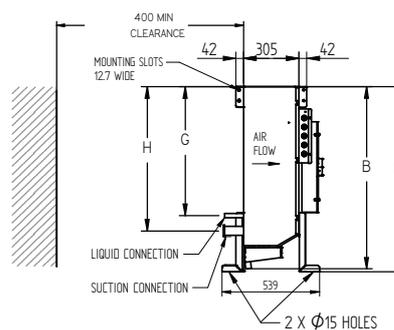
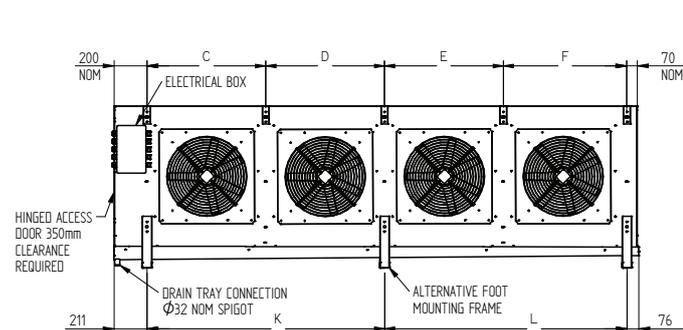
CAPACITY – Performance calculations are intended as a guide only and actual capacity is subject to specific application conditions and the operating environment. Capacities are based on -18°C air on temperature, and 6KTD. KTD is defined as "air on temperature - leaving refrigerant saturation temperature".

\* Air flow – Rated at standard air conditions (101.35kpa atmospheric pressure)

\*\* Refrigerant charge - Calculated at 80% liquid and 20% vapour including header at -4°C SST and 6KTD.

\*\*\* Mandatory 2 wire Heater Safety Switch factory fitted as standard.

To assist you in determining the most appropriate selection for your application, please refer to your local Kirby® representative.



NOTE 1: USE SUITABLE MOUNTING HARDWARE

# HEAVY DUTY EVAPORATORS

## Dimensional Data

MED TEMP. PRODUCT NUMBER	LOW TEMP. PRODUCT NUMBER	DIMENSIONS (MILLIMETRES)											
		OVERALL LENGTH	B (OVERALL)	C (CENTRES)	D (CENTRES)	E (CENTRES)	F (CENTRES)	G	H	K (CENTRES)	L (CENTRES)	M (FLOOR MOUNT)	NETT WEIGHT (KG)
KHDCE103	KHDFE086	1265	890	980	-	-	-	600	685	N/A	N/A	905	90
KHDCE136	KHDFE088	2215	890	950	980	-	-	600	685	1930	N/A	905	130
KHDCE161	KHDFE117	2215	890	950	980	-	-	600	685	1930	N/A	905	140
KHDCE188	KHDFE151	2215	890	950	980	-	-	600	685	1930	N/A	905	155
KHDCE214	KHDFE173	2215	890	950	980	-	-	600	685	1930	N/A	905	165
KHDCE263	KHDFE212	3165	890	950	950	980	-	600	685	950	1930	905	215
KHDCE316	KHDFE252	3165	890	950	950	980	-	600	685	950	1930	905	240
KHDCE366	KHDFE286	3315	1015	750	750	750	780	715	800	1500	1530	1035	285
KHDCE430	KHDFE320	3315	1015	750	750	750	780	715	800	1500	1530	1035	305
KHDCE538	KHDFE380	4065	1015	750	750	750	780	715	800	1500	2280	1035	370

# HEAVY DUTY EVAPORATORS

## Sound Data

SOUND POWER RATINGS DB RE 1 PICO WATT AT CENTRE FREQUENCY HZ											
MODEL	FAN SPD	63	125	250	500	1000	2000	4000	8000	LWA	LPA (3M)
1 FAN	HIGH	64	81	81	78	79	76	70	60	83	65.5
2 FAN	HIGH	66	83	83	81	82	78	73	62	86	68.5
3 FAN	HIGH	67	85	85	82	83	80	77	64	88	70.5
4 FAN	HIGH	69	86	86	84	85	81	78	65	89	71.5
5 FAN	HIGH	70	87	87	85	86	82	79	66	90	72.5

Sound Pressure Level (dBA) @ 3m distance calculated in Free Field condition (Location 1)

### SOUND POWER

Tests were done with a Sound Pressure meter in accordance with the methods of AS1217.7-1985 (Survey Method). Tests were conducted at 20°C ambient temp with only the fan(s) running & no refrigerant flow. Actual results may vary due to refrigerant flow noise & other factors. Sound pressure level at 3m distance from the unit can be estimated using various deductions depending on the location of the unit in the room.

UNIT LOCATIONS	LOCATION 1	LOCATION 2	LOCATION 3	LOCATION 4
LW - LP (DB(A)) (3M)	20.0	17.5	14.5	11.5

Location 1: Unit located with no hard surfaces to reflect the sound (Free Field)  
 Location 2: Unit located with 1 hard surface to reflect the sound.  
 Location 3: Unit located with 2 hard surfaces to reflect the sound.

Location 4: Unit located with 3 hard surfaces to reflect the sound.  
 LwA = Sound Power (A-weighted) LpA = Sound Pressure (A-weighted)  
 Important: All data is approximate, and to be used only as a guide.

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