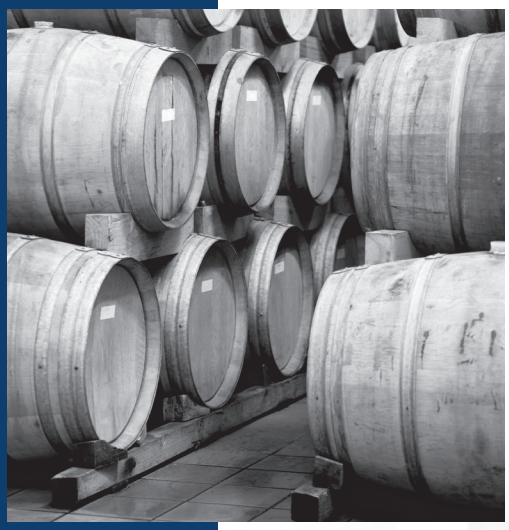
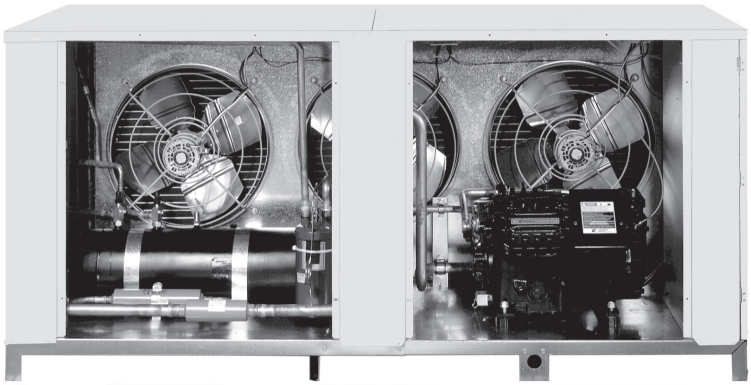


CH-HADTB
March 2007
(Replaces CH-B-48D, 10/04)

CHANDLER
REFRIGERATION



Horizontal Air Discharge Outdoor Discus® Condensing Unit

Technical Guide

Model HDH, HDHS • 20-40 HP

Standard & Optional Features

HDH Outdoor Discus® Condensing Units, Horizontal Air Discharge

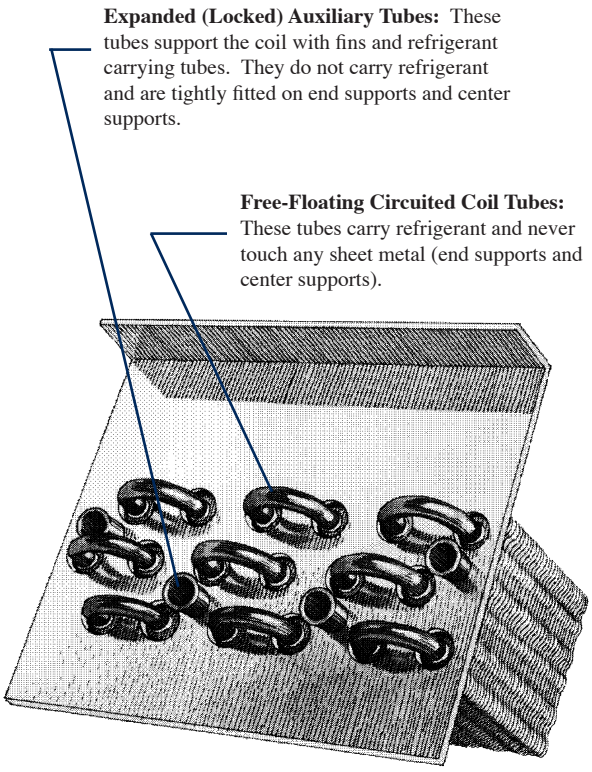
Leak Resistant Design

The HDH Outdoor Discus® Condensing Unit features a new leak resistant design which includes:

- The Floating Tube™ condenser coil design. Refrigerant carrying copper tubes do not contact any metal support tubes. Instead, the coil is constructed with expanded anchor tubes which support the coil construction and do not carry refrigerant. The coil design eliminates one of the major causes of leaks in refrigeration systems
- Limited five-year warranty against condenser tube sheet and center support leaks
- Designed for use with R-404A or R-507
- R-22 models available for all temperature applications
- Polyol Ester Oil charge on all units
- Pre-bent copper tubes minimize braze joints on internal piping
- All sweat type connections, no flare joints to leak
- Fixed high pressure switch eliminates capillary tube. Adjustable low pressure control comed with braided hose
- Sentronic™ electronic oil safety control
- Service Mate™ module to assist troubleshooting

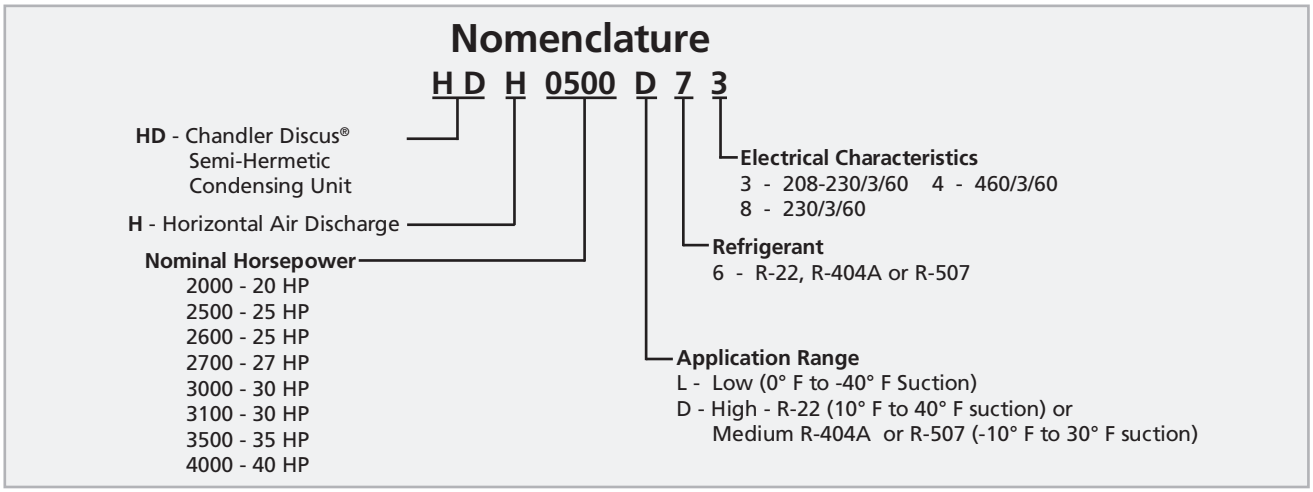
Standard Features

- High efficiency Copeland Discus® compressors with POE oil
- Spring mounted compressor with suction and discharge vibration eliminators
- Crankcase heater sleeve isolates the heater from direct contact with the oil
- Thermally protected permanently lubricated PSC condenser fan motors (all units have several motors)
- Two valve adjustable head pressure control
- Separate subcooling circuit in condenser for added capacity and vapor free liquid
- Receivers are sized for sufficient pumpdown capacity with inlet and outlet service valves
- Pressure relief valve on receiver
- Sealed liquid line filter drier and sight glass
- Service Mate™ diagnostic module on Beacon II™ units
- Electrical controls including compressor contactor and optional defrost control are located in easily accessible control box with a hinged cover
- Pumpdown switch
- Cabinet is constructed from pre-painted G90 steel
- Convenient access panels for easy servicing to internal components



Factory-Installed Optional Features

- Replaceable core liquid filter/drier
- Liquid line solenoid valve
- Sealed suction filter
- Replaceable core suction filter
- Suction accumulator
- Oil separator with discharge line check valve
- Air defrost timer
- Electric defrost kits, including timer, evaporative fan contractor with fusing, defrost heater contactor(s), lockout relay and terminal strip
- Fusing for heater loads
- Heated and insulated receiver with time delay relay
- Fused disconnect switch
- Condenser fan cycling
- Compressor unloading
- Demand cooling on low temperature R-22 models
- Coated condenser coils for protection against corrosion in harsh environments
- Beacon II™ Control System
- Alternative compressors (contact factory)



Now available with Beacon II™

Beacon II™ is the next generation of Chandler's patented, preassembled, factory installed refrigeration system featuring an integrated microcomputer-based electronic control board. The Beacon II™ system comes completely factory installed, wired and tested saving you time and money.

Beacon II™ offers:

- Complete factory installation, wiring and testing which saves time and money
- Simple field electrical connections and 24 volt wiring between condensing and evaporator units
- Preset factory superheat allowing the system to run more efficiently and reducing future adjustments
- Monitors and controls box temperature, evaporator superheat, condenser fan cycling, system status and defrost from outside the box
- Monitor and make system changes remotely via modem and exclusive Beacon II™ Smart II software
- Data logging capabilities with Smart Controller

Beacon II™ Smart Controller

The Beacon II™ Smart Controller is an optional system monitoring and programming control device. It allows for adjustments to be made at the push of a button from a conveniently mounted location. The Beacon II™ Smart Controller also allows you to monitor and make changes to the refrigeration system via modem connection from anywhere in the world. The Beacon II™ has been updated to allow the user to make even more precise adjustments than the first phase of the Beacon II™ Smart Controller. One Smart Controller can program and control up to four separate condensing units with up to four evaporators on each system. That's more control in your hands!

Beacon II™ Smart II Software

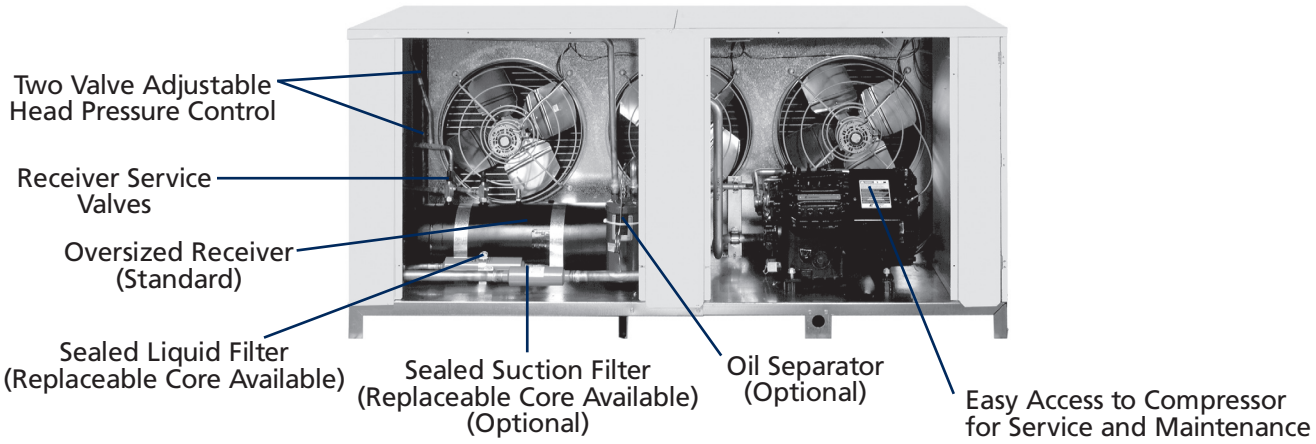
Beacon II™ Smart II Software makes it easy to adjust and monitor one or more refrigeration systems as well as capture minute by minute system conditions. This Windows-based software allows you to connect to the Beacon II™ Smart Controller from anywhere in the world to monitor the systems, make adjustments and log minute by minute system conditions. This data logging capability is critical in the food service industry.

Beacon II™ Smart Defrost

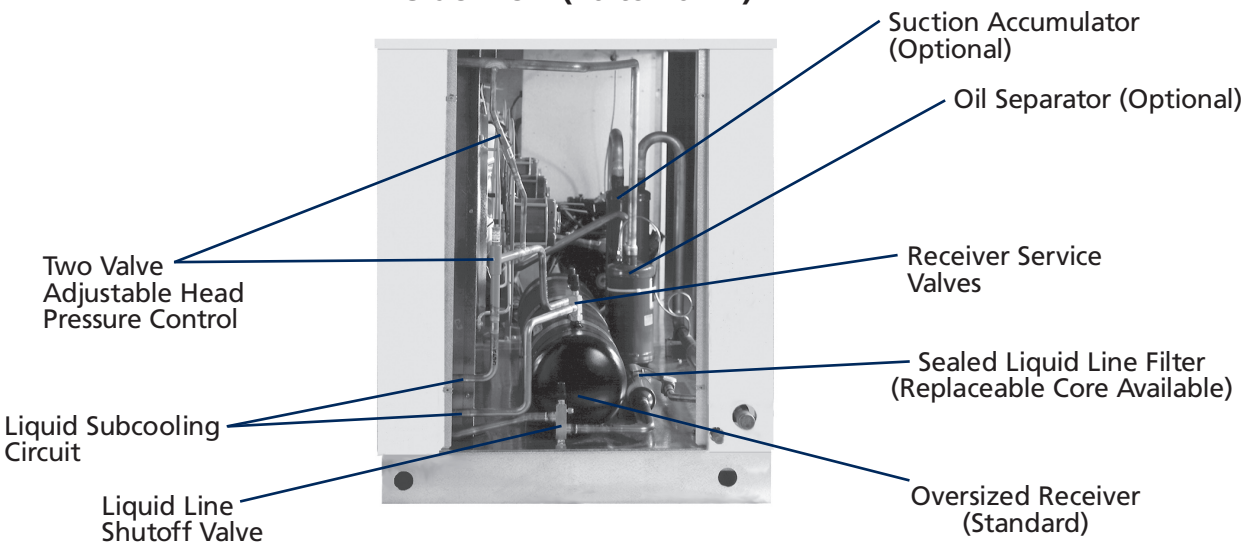
Beacon II™ Smart Defrost, available only on the Beacon II™ Smart Controller, enables the Beacon II™ system to sense frost accumulation and initiate defrost only when it is necessary. Using the Beacon II™ Smart Controller, you preset defrost times. At each scheduled defrost time, Smart Defrost checks system performance to see if a defrost is necessary. If not, it simply does not defrost, waiting until the next scheduled defrost time.

Features & Options

Front View (20 to 40 HP)
(shown with front grill removed)



Side View (20 to 40 HP)



Performance

Model Number	Compressor Model	Capacity BTUH @ 95°F Ambient / KCAL/H @ 35°C Ambient — Evaporator Temperature °F / °C											
		40°F/4.4°C		35°F/-1.7°C		30°F/-1.1°C		25°F/-3.9°C		20°F/-6.7°C		15°F/-9.4°C		10°F/-12.2°C	
		BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H
Medium Temperature R-22															
HDH2000D6	4DA3R18ME	192,250	48,447	175,180	44,145	159,520	40,199	143,470	36,154	128,950	32,495	115,490	29,103	103,320	26,037
HDH2500D6	4DH3R22ME	247,640	62,405	228,520	57,587	209,570	52,812	190,910	48,109	172,660	43,510	115,350	39,148	138,240	34,836
HDH2600D6	4DH3R22ME	257,980	65,011	237,390	59,822	217,110	54,712	197,260	49,710	177,940	44,841	159,590	40,217	141,670	35,701
HDH3000D6	4DJ3R28ME	292,440	73,695	269,910	68,017	247,540	62,380	225,520	56,831	204,020	51,413	183,670	46,285	163,760	41,268
HDH3500D6	6DH3R35ME	362,560	91,365	334,660	84,334	307,260	77,430	280,600	70,711	255,060	64,275	230,670	58,129	207,850	52,378
HDH4000D6	6DJ3R40ME	409,570	103,212	381,640	96,173	351,010	88,455	322,590	81,293	295,020	74,345	268,640	67,697	243,400	61,337

Model Number	Compressor Model	Capacity BTUH @ 95°F Ambient / KCAL/H @ 35°C Ambient — Evaporator Temperature °F / °C											
		30°F/-1.1°C		25°F/-3.9°C		20°F/-6.7°C		15°F/-9.4°C		10°F/-12.2°C		0°F/-17.8°C		-10°F/-23.3°C	
		BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H	BTUH	KCAL/H
Medium Temperature R-404A or R-507															
HDH2000D6	4DA3R18ME	161,760	40,764	148,750	37,485	137,170	34,567	124,400	31,349	112,590	28,373	90,350	22,769	71,130	17,925
HDH2500D6	4DH3R22ME	207,520	52,295	191,910	48,361	175,830	44,309	159,720	40,249	144,820	36,495	118,170	29,779	96,910	24,421
HDH2600D6	4DH3R22ME	218,290	55,009	200,370	50,493	182,980	46,111	166,100	41,857	150,190	37,848	121,950	30,731	99,290	25,021
HDH3000D6	4DJ3R28ME	249,490	62,871	231,280	58,283	213,640	53,837	194,710	49,067	176,740	44,538	142,560	35,925	112,080	28,244
HDH3500D6	6DH3R35ME	N/A	N/A	281,570	70,956	260,600	65,671	239,390	60,326	217,310	54,762	176,610	44,506	139,540	35,164
HDH4000D6	6DJ3R40ME	N/A	N/A	325,470	82,018	301,520	75,983	276,060	69,567	252,510	63,633	207,470	52,282	166,890	42,056
Model Number	**Compressor Model**	**0°F/-17.8°C**		**-10°F/-23.3°C**		**-15°F/-26.1°C**		**-20°F/-28.9°C**		**-25°F/-31.7°C**		**-30°F/-34.4°C**		**-40°F/-40°C**	
		BTUH	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**
Low Temperature R-404A or R-507															
HDH2700L6	6DL3F93KE	162,540	40,960	134,870	33,987	120,360	30,331	107,210	27,017	94,180	23,733	81,930	20,646	60,570	15,264
HDH3000L6	6DT3F11KE	176,540	44,488	146,440	36,903	132,070	33,282	117,350	29,572	103,290	26,029	90,150	22,718	67,600	17,035
HDH3100L6	6DT3F11KE	185,920	46,852	153,480	38,677	136,800	34,474	121,600	30,643	106,770	26,906	93,020	23,441	69,570	17,532
Model Number	**Compressor Model**	**0°F/-17.8°C**		**-10°F/-23.3°C**		**-15°F/-26.1°C**		**-20°F/-28.9°C**		**-25°F/-31.7°C**		**-30°F/-34.4°C**		**-40°F/-40°C**	
		BTUH	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**	**BTUH**	**KCAL/H**
Low Temperature R-22															
HDH2700L6	6DL3F93KE	148,740	37,480	118,280	29,810	104,150	26,250	90,920	22,910	78,450	19,770	66,490	16,750	N/A	N/A
HDH3000L6	6DT3F11KE	172,070	43,360	137,350	34,610	121,000	30,490	105,680	26,630	91,430	23,040	78,870	19,880	56,530	14,240
HDH3100L6	6DT3F11KE	178,630	45,010	141,520	35,660	124,500	31,370	108,630	27,380	93,820	23,640	79,860	20,130	57,640	14,530

Specifications/Electrical Data

Specifications

Model Numbers	Compressor		Connections		Receiver (90% Full)		Approx. Shipping Weight lbs / kg
	Model	HP	Liquid in / cm	Suction in / cm	R-22 lbs / kg	R-404A lbs / kg	
HDH2000D6	4DA3R18ME	20	7/8 2.22	1-5/8 4.13	144 65.5	125 56.8	1,475 669.0
HDH2500M6	4DH3R22ME	25	1-1/8 2.86	2-1/8 5.40	144 65.5	125 56.8	1,550 703.1
HDH2600D6	4DH3R22ME	25	1-1/8 2.86	2-1/8 5.40	219 99.6	190 86.4	1,800 816.5
HDH3000D6	4DJ3R28ME	30	1-1/8 2.86	2-1/8 5.40	219 99.6	190 86.4	1,810 820.9
HDH3500D6	6DH3R35ME	35	1-1/8 2.86	2-1/8 5.40	219 99.6	190 86.4	1,930 875.4
HDH4000D6	6DJ3R40ME	40	1-1/8 2.86	2-1/8 5.40	219 99.6	190 86.4	1,980 898.1
HDH2700L6	6DL3F93KE	27	1-1/8 2.86	2-1/8 5.40	144 65.5	125 56.8	1,550 703.0
HDH3000L6	6DT3F11ME	30	1-1/8 2.86	2-1/8 5.40	144 65.5	125 56.8	1,550 703.0
HDH3100L6	6DT3F11ME	30	1-1/8 2.86	2-1/8 5.40	219 99.6	190 86.4	1,890 857.3

Electrical Data

Medium/High Temperature Units

Model Number	Compressor	Voltage Supply	Compressor		Condenser Fan Motor			Beacon II™ or Air Defrost		Electric Defrost Units				Reduced Amp Elec. Def. Units †			
												Unit Cooler Amps				Unit Cooler Amps	
			RLA	LRA	Qty.	HP	FLA	MCA	MOP	MCA	MOP	Fan Motors	Defrost Heaters	MCA	MOP	Fan Motors	Defrost Heaters
HDH2000D63	4DA3R18ME	208-230/3/60	66.0	308	3	3/4	13.2	87.9	125	117.9	175	30.0	90.0	107.9	150	20	70
HDH2000D64	4DA3R18ME	460/3/60	33.0	154	3	3/4	6.6	43.9	70	58.9	80	15.0	50.0	58.9	80	15	40
HDH2500D63	4DH3R22ME	208-230/3/60	82.2	428	3	3/4	13.2	105.3	175	135.3	200	30.0	90.0	125.3	175	20	70
HDH2500D64	4DH3R22ME	460/3/60	41.1	214	3	3/4	6.6	52.7	90	67.7	100	15.0	50.0	67.7	100	15	40
HDH2600D63	4DH3R22ME	208-230/3/60	82.2	428	4	3/4	17.6	109.7	175	139.7	200	30.0	90.0	129.7	200	20	70
HDH2600D64	4DH3R22ME	460/3/60	41.1	214	4	3/4	8.8	54.9	90	69.9	100	15.0	50.0	69.9	100	15	40
HDH3000D63	4DJ3R28ME	208-230/3/60	94.0	470	4	3/4	17.6	123.0	200	163.0	225	40.0	120.0	153.0	225	30	90
HDH3000D64	4DJ3R28ME	460/3/60	47.0	235	4	3/4	8.8	61.5	100	76.5	110	15.0	70.0	76.5	110	15	50
HDH3500D63	6DH3R35ME	208-230/3/60	107.0	565	4	3/4	17.6	137.8	225	177.8	250	40.0	120.0	167.8	250	30	90
HDH3500D64	6DH3R35ME	460/3/60	53.5	283	4	3/4	8.8	68.9	110	83.9	125	15.0	80.0	83.9	125	15	50
HDH4000D68	6DJ3R40ME	230/3/60	142.0	594	4	3/4	17.6	176.3	300	216.3	300	40.0	150.0	216.3	300	40	120
HDH4000D64	6DJ3R40ME	460/3/60	71.0	297	4	3/4	8.8	88.1	150	103.1	150	15.0	80.0	103.1	150	15	50

MCA = Minimum Circuit Ampacity
MOP = Maximum Overcurrent Protection
†Reduced nameplate amperage must be requested at time of order

Electrical Data (cont.)

Low Temperature Units

Model Number	Compressor	Voltage Supply	Compressor		Condenser Fan Motor			Beacon II™ or Air Defrost		Electric Defrost Units				Reduced Amp Elec. Def. Units †			
												Unit Cooler Amps				Unit Cooler Amps	
			RLA	LRA	Qty.	HP	FLA	MCA	MOP	MCA	MOP	Fan Motors	Defrost Heaters	MCA	MOP	Fan Motors	Defrost Heaters
HDH2700L63	6DL3F93KE	208-230/3/60	80.0	450	3	3/4	13.2	103.7	175	133.7	200	30.0	90.0	123.7	175	20	70
HDH2700L64	6DL3F93KE	460/3/60	40.4	225	3	3/4	6.6	51.9	80	66.9	100	15.0	50.0	66.9	100	15	40
HDH3000L63	6DT3F11ME	208-230/3/60	95.6	470	3	3/4	13.2	120.4	200	150.4	225	30.0	90.0	123.7	175	20	70
HDH3000L64	6DT3F11ME	460/3/60	47.8	235	3	3/4	6.6	60.2	100	75.2	110	15.0	50.0	75.2	110	15	40
HDH3100L63	6DT3F11ME	208-230/3/60	95.6	470	4	3/4	17.6	124.8	200	154.8	225	30.0	90.0	144.8	225	20	70
HDH3100L64	6DT3F11ME	460/3/60	47.8	235	4	3/4	8.8	62.4	100	77.4	110	15.0	50.0	77.4	110	15	40

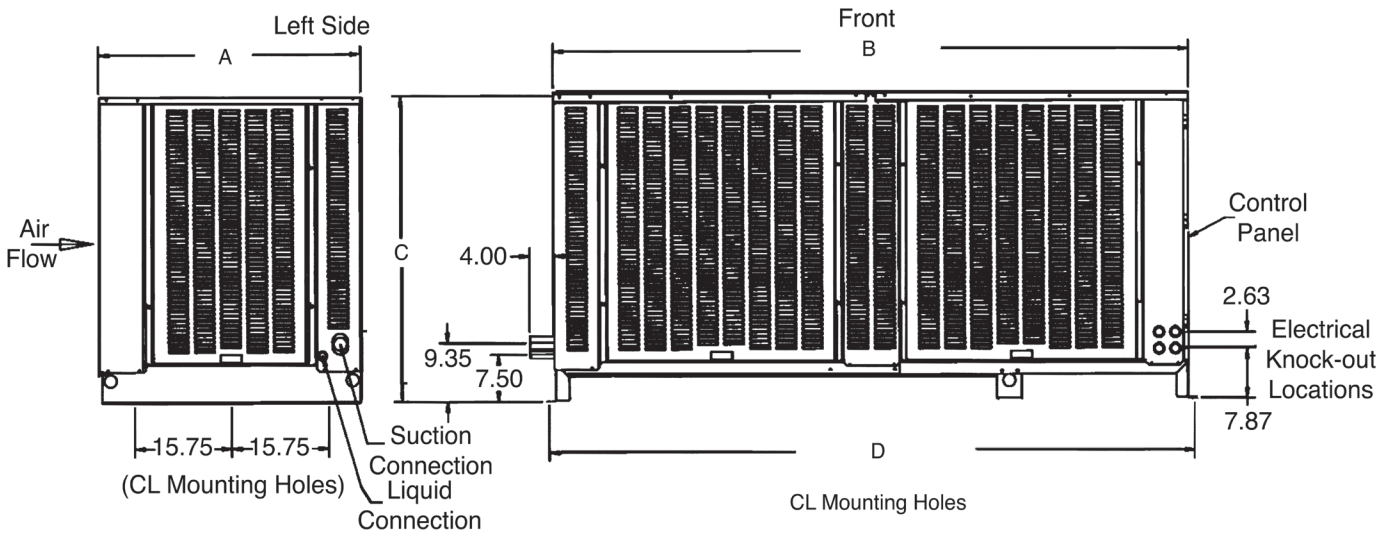
MCA = Minimum Circuit Ampacity
MOP = Maximum Overcurrent Protection
†Reduced nameplate amperage must be requested at time of order

Condensing Units with Remote Loads Using Two Defrost Heater Contractors

Model Number	Compressor	Voltage Supply	Compressor		Condenser Fan Motor			Beacon II™ or Air Defrost		Electric Defrost Units				Reduced Amp Elec. Def. Units †			
												Unit Cooler Amps				Unit Cooler Amps	
			RLA	LRA	Qty.	HP	FLA	MCA	MOP	MCA	MOP	Fan Motors	Defrost Heaters	MCA	MOP	Fan Motors	Defrost Heaters
HDH2000D63	4DA3R18ME	208-230/3/60	66.0	308	3	3/4	13.2	87.9	125	117.9	175	30.0	90.0	107.9	150	20	70
HDH2000D64	4DA3R18ME	460/3/60	33.0	154	3	3/4	6.6	43.9	70	58.9	80	15.0	50.0	58.9	80	15	40
HDH2500D63	4DH3R22ME	208-230/3/60	82.2	428	3	3/4	13.2	105.3	175	135.3	200	30.0	90.0	125.3	175	20	70
HDH2500D64	4DH3R22ME	460/3/60	41.1	214	3	3/4	6.6	52.7	90	67.7	100	15.0	50.0	67.7	100	15	40
HDH2600D63	4DH3R22ME	208-230/3/60	82.2	428	4	3/4	17.6	109.7	175	139.7	200	30.0	90.0	129.7	200	20	70
HDH2600D64	4DH3R22ME	460/3/60	41.1	214	4	3/4	8.8	54.9	90	69.9	100	15.0	50.0	69.9	100	15	40
HDH3000D63	4DJ3R28ME	208-230/3/60	94.0	470	4	3/4	17.6	123.0	200	163.0	225	40.0	120.0	153.0	225	30	90
HDH3000D64	4DJ3R28ME	460/3/60	47.0	235	4	3/4	8.8	61.5	100	76.5	110	15.0	70.0	76.5	110	15	50
HDH3500D63	6DH3R35ME	208-230/3/60	107.0	565	4	3/4	17.6	137.8	225	177.8	250	40.0	120.0	167.8	250	30	90
HDH3500D64	6DH3R35ME	460/3/60	53.5	283	4	3/4	8.8	68.9	110	83.9	125	15.0	80.0	83.9	125	15	50
HDH4000D68	6DJ3R40ME	230/3/60	142.0	594	4	3/4	17.6	176.3	300	216.3	300	40.0	150.0	216.3	300	40	120
HDH4000D64	6DJ3R40ME	460/3/60	71.0	297	4	3/4	8.8	88.1	150	103.1	150	15.0	80.0	103.1	150	15	50
HDH2700L63	6DL3F93KE	208-230/3/60	80.8	450	3	3/4	13.2	103.7	175	133.7	200	30.0	90.0	123.7	175	20	70
HDH2700L64	6DL3F93KE	460/3/60	40.4	225	3	3/4	6.6	51.9	80	66.9	100	15.0	50.0	66.9	100	15	40
HDH3000L63	6DT3F11ME	208-230/3/60	95.6	470	3	3/4	13.2	120.4	200	150.4	225	30.0	90.0	140.4	225	20	70
HDH3000L64	6DT3F11ME	460/3/60	47.8	235	3	3/4	6.6	60.2	100	75.2	110	15.0	50.0	75.2	110	15	40
HDH3100L63	6DT3F11ME	208-230/3/60	95.6	470	4	3/4	17.6	124.8	200	154.8	225	30.0	90.0	144.8	225	20	70
HDH3100L64	6DT3F11ME	460/3/60	47.8	235	4	3/4	8.8	62.4	100	77.4	110	15.0	50.0	77.4	110	15	40

MCA = Minimum Circuit Ampacity
MOP = Maximum Overcurrent Protection
†Reduced nameplate amperage must be requested at time of order

Dimensional Diagrams



20 TO 40 HP

Model Number	Dimensions								
	A In/Cm		B In/Cm		C In/Cm		D In/Cm		No. Fans
HDH2000D6	42-1/4	107.00	102-1/2	260.00	48-3/4	124.00	104-3/16	265.00	3
HDH2500D6	42-1/4	107.00	102-1/2	260.00	48-3/4	124.00	104-3/16	265.00	3
HDH2600D6	42-1/4	107.00	132-1/2	337.00	48-3/4	124.00	134-3/16	341.00	4
HDH3000D6	42-1/4	107.00	132-1/2	337.00	48-3/4	124.00	134-3/16	341.00	4
HDH3500D6	42-1/4	107.00	132-1/2	337.00	48-3/4	124.00	134-3/16	341.00	4
HDH4000D6	42-1/4	107.00	132-1/2	337.00	48-3/4	124.00	134-3/16	341.00	4
HDH2700L6	42-1/4	107.00	102-1/2	260.00	48-3/4	124.00	104-3/16	265.00	3
HDH3000L6	42-1/4	107.00	102-1/2	260.00	48-3/4	124.00	104-3/16	265.00	3
HDH3100L6	42-1/4	107.00	132-1/2	337.00	48-3/4	124.00	134-3/16	341.00	4

Visit our website at **www.chandlerref.com** for technical literature online.

Since product improvement is a continuing effort,
we reserve the right to make changes in specifications without notice.

CHANDLER REFRIGERATION

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