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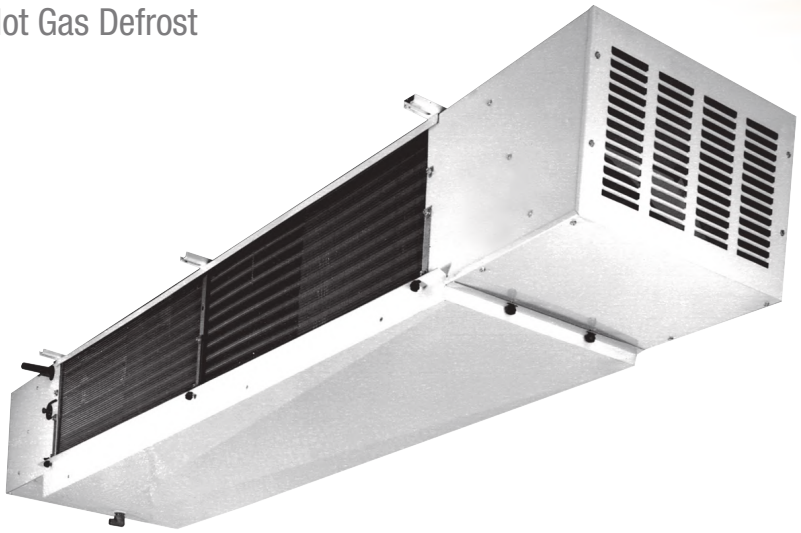
HEATCRAFT™
Worldwide Refrigeration

Low Flow Unit Coolers

Technical Guide

Models LAH | Air Defrost
LAL | Electric Defrost
LAG | Hot Gas Defrost



CHANDLER
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Table of Contents

Choose the most energy-efficient motor available for evaporators.

The EC motor is an energy efficient option on Chandler Low Flow Unit Coolers. Available on all new equipment or as an easy-to-install, drop-in replacement aftermarket part from InterLink™ Commercial Refrigeration Parts. Because they are a drop-in replacement for existing shaded pole and PSC motors, installation is quick and easy. It's a high impact, quick payback solution for reducing costs and achieving green initiatives without replacing the entire system.

EC motors by InterLink are up to 75% energy efficient - that's a 51-59% increase over shaded pole motors and a 30-35% increase over permanent-split capacitor (PSC) motors. With all of this added efficiency, you can count on more energy savings and lower operational costs while taking a step in the right direction toward conserving our planet's resources.

Nomenclature

LA	070	A	E
Model Series	Capacity	Electrical Code	Design Revision
LA = Chandler Low Flow, air defrost	# BTUH x 100 (R-404A)	A = 115/1/60	
LAL = Chandler Low Flow, electric defrost		B = 208-230/1/60	
LAG = Chandler Low Flow, hot gas defrost		AH = 115/1/60 (PSC)	
		BH = 208-230/1/60 (PSC)	
		MH = 460/1/60 (PSC)	
		AE = 115/1/60 (EC)	
		BE = 208-230/1/60 (EC)	

Features & Benefits

Low Flow unit coolers are ideal for meat storage and preparation rooms, floral coolers, dough retarding and many other applications requiring low air velocities and low sound levels. With low velocity unit coolers, high humidities can be maintained to prevent product drying and weight loss. These units are ideal for any type of workroom where human comfort is important.

Cabinet

- Rust-free, all-aluminum white case with louvered intake grille for attractive appearance
- Statically and dynamically balanced fans are designed for quiet air movement
- All factory installed electrical components are wired to a terminal board in the junction box making field wiring quick and easy
- Inlet connection allows for external mounting of TXV

Coil

- Sweat-type cooling coil connections reduce the potential for leaks
- Nickel-steel alloy heaters provide a positive defrost and have long life
- Electric defrost coils have a hermetically sealed defrost termination thermostat that does not require adjustment. Hot gas defrost units come with an adjustable defrost termination thermostat
- Cross-fin cooling coils with corrugated aluminum fins spaced 6 FPI & 3/8" OD staggered copper tubes provide optimum heat transfer and reduce the amount of refrigerant required
- Generous coil surface helps to maintain steady room temperature and minimize product shrinkage
- Access port on the suction connection allows superheat to be easily and accurately set

Drain Pan

- Hot gas models use inner drain pans with low-wattage electric heaters. This eliminates the braze joints and tubing associated with hot gas drain pan loops
- All models use inner drain pans to reduce sweating

Motors

- Motors are factory-wired to unit junction box for fast installation
- Thermal overload protected motors are resiliently mounted inside the unit to assure minimum noise level
- High efficiency PSC motors are optional on sizes 070 through 165. PSC motors are standard on sizes 189 through 266
- EC Motors (optional) available factory-installed or as a drop-in replacement through InterLink™ Commercial Refrigeration Parts in 115/1/60 and 208-230/1/60

Options

- Units available with copper fins. Air defrost units also available with polyester coated fins or various coil coatings options

Model LAH/LAL/LAG Air/Electric/Hot Gas Defrost | 60 Hz

Model	Capacity								Fan Data		
	R-404A				R-407A/C/F, R-448A/R-449A						
	10°F TD 25°F SST	6°C TD -4°C SST	15°F TD 25°F SST	8°C TD -4°C SST	10°F TD 25°F SST	6°C TD -4°C SST	15°F TD 25°F SST	8°C TD -4°C SST	No.	CFM	m^3h
	BTUH	Watts	BTUH	Watts	BTUH	Watts	BTUH	Watts			
LA*070	7,000	2,050	10,500	3,075	8,400	2,462	9,660	1,960	2	1,200	2,040
LA*090	8,700	2,550	13,050	3,822	10,440	2,460	12,006	2,830	2	1,200	2,040
LA*120	11,800	3,460	17,700	5,183	14,160	4,150	16,284	4,772	2	1,300	2,210
LA*130	12,500	3,660	18,750	5,490	15,000	4,190	16,440	4,820	2	1,300	2,210
LA*160	15,000	4,390	22,500	6,590	18,000	5,100	19,960	5,850	2	1,900	3,230
LA*170	16,500	4,830	24,750	7,250	19,800	6,120	24,010	7,040	2	1,900	3,230
LA*190	18,900	5,540	28,350	8,300	22,680	7,020	27,530	8,070	2	2,400	4,080
LA*220	22,500	6,590	33,750	9,890	27,000	9,340	36,640	10,740	2	2,700	4,590
LA*270	26,600	7,790	39,900	11,690	30,856	11,760	46,140	13,520	2	3,200	5,440

Model LAH/LAL/LAG Air/Electric/Hot Gas Defrost | 50 Hz

Model	Capacity								Fan Data		
	R-404A				R-407A/C/F, R-448A/R-449A						
	10°F TD 25°F SST	6°C TD -4°C SST	15°F TD 25°F SST	8°C TD -4°C SST	10°F TD 25°F SST	6°C TD -4°C SST	15°F TD 25°F SST	8°C TD -4°C SST	No.	CFM	m^3h
	BTUH	Watts	BTUH	Watts	BTUH	Watts	BTUH	Watts			
LA*070	6,650	1,950	9,980	2,920	7,980	2,340	9,180	1,860	2	1,085	1,846
LA*090	8,270	2,420	12,400	3,630	9,920	2,340	11,410	2,690	2	1,085	1,846
LA*120	11,210	3,290	16,820	4,920	13,450	3,940	15,470	4,530	2	1,176	1,999
LA*130	11,880	3,480	17,810	5,220	14,250	3,980	15,620	4,580	2	1,176	1,999
LA*160	14,250	4,170	21,380	6,260	17,100	4,850	18,960	5,560	2	1,719	2,922
LA*170	15,680	4,590	23,510	6,890	18,810	5,810	22,810	6,690	2	1,719	2,922
LA*190	17,960	5,260	26,930	7,890	21,550	6,670	26,150	7,670	2	2,171	3,691
LA*220	21,380	6,260	32,060	9,400	25,650	8,870	34,810	10,200	2	2,443	4,153
LA*270	25,270	7,400	37,910	11,110	29,310	11,170	43,830	12,840	2	2,895	4,922

LAH = Air Defrost
LAL = Electric Defrost
LAG = Hot Gas Defrost

Model LAH Air Defrost

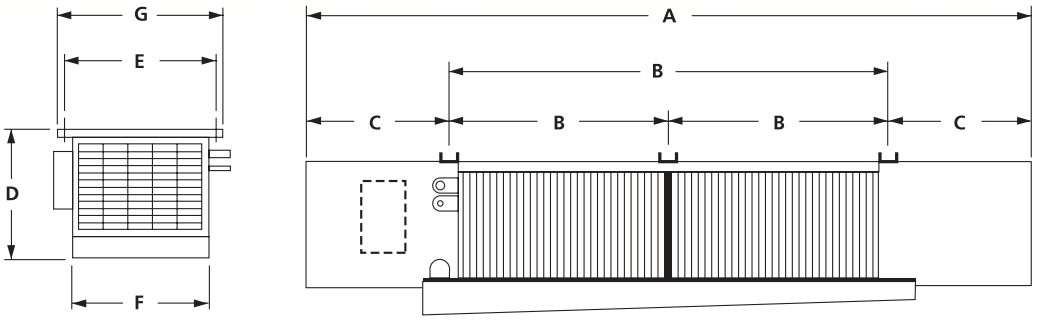
Model	Shaded Pole Motor				PSC Motor						EC Motor			
	115/1		208-230/1		115/1		208-230/1		460/1		115/1		208-230/1	
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts
LAH070	3.6	232	2.4	244	1.64	160	1.0	196	–	–	1.8	57	1.0	59
LAH090	3.6	232	2.4	244	1.64	160	1.0	196	–	–	1.8	57	1.0	59
LAH120	3.6	232	2.4	244	1.64	160	1.0	196	–	–	1.8	57	1.0	59
LAH130	3.6	232	2.4	244	1.64	160	1.0	196	–	–	1.8	57	1.0	59
LAH160	3.6	232	2.4	244	1.64	160	1.0	196	–	–	1.8	57	1.0	59
LAH170	3.6	232	2.4	244	1.64	160	1.0	196	–	–	1.8	57	1.0	59
LAH190	–	–	–	–	2.80	230	1.40	230	0.8	288	5.5	316	2.8	290
LAH220	–	–	–	–	2.80	230	1.40	230	0.8	288	5.5	316	2.8	290
LAH270	–	–	–	–	2.80	230	1.40	230	0.8	288	5.5	316	2.8	290

Model LAL Electric Defrost

Model	Shaded Pole Motor		PSC Motor				EC Motor		Defrost Heaters		
	208-230/1		208-230/1		460/1		208-230/1		Watts	208-230/1	460/1
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		Total Amps	
LAL070	2.4	244	1.0	196	–	–	1.0	59	2,650	11.5	–
LAL090	2.4	244	1.0	196	–	–	1.0	59	2,650	11.5	–
LAL120	2.4	244	1.0	196	–	–	1.0	59	3,850	16.7	–
LAL130	2.4	244	1.0	196	–	–	1.0	59	3,850	16.7	–
LAL160	2.4	244	1.0	196	–	–	1.0	59	3,850	16.7	–
LAL170	2.4	244	1.0	196	–	–	1.0	59	3,850	16.7	–
LAL190	–	–	1.40	230	0.8	288	2.8	290	4,770	20.7	10.4
LAL220	–	–	1.40	230	0.8	288	2.8	290	5,700	24.8	12.4
LAL270	–	–	1.40	230	0.8	288	2.8	290	5,700	24.8	12.4

Model LAG Hot Gas Defrost

Model	Shaded Pole Motor				PSC Motor						EC Motor				Drain Pan Heaters			
	115/1		208-230/1		115/1		208-230/1		460/1		115/1		208-230/1		Watts	115/1	208-230/1	460/1
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		Total Amps		
LAG070	3.6	232	2.4	244	1.64	196	1.0	196	–	–	1.8	57	1.0	59	660	5.8	2.9	–
LAG090	3.6	232	2.4	244	1.64	196	1.0	196	–	–	1.8	57	1.0	59	660	5.8	2.9	–
LAG120	3.6	232	2.4	244	1.64	196	1.0	196	–	–	1.8	57	1.0	59	960	8.4	4.2	–
LAG130	3.6	232	2.4	244	1.64	196	1.0	196	–	–	1.8	57	1.0	59	960	8.4	4.2	–
LAG160	3.6	232	2.4	244	1.64	196	1.0	196	–	–	1.8	57	1.0	59	960	8.4	4.2	–
LAG170	3.6	232	2.4	244	1.64	196	1.0	196	–	–	1.8	57	1.0	59	960	8.4	4.2	–
LAG190	–	–	–	–	2.80	230	1.4	230	.08	288	5.5	316	2.8	290	1,190	10.4	5.2	2.6
LAG220	–	–	–	–	2.80	230	1.4	230	.08	288	5.5	316	2.8	290	1,426	12.4	6.2	3.1
LAG270	–	–	–	–	2.80	230	1.4	230	.08	288	5.5	316	2.8	290	1,426	12.4	6.2	3.1



LAH = Air Defrost
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Dimensional Data For All Models

Model	Dimensions													
	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
LA*070	83	2108	49	1245	17	432	14	356	22	559	19-1/2	495	23-1/4	591
LA*090	83	2108	49	1245	17	432	14	356	22	559	19-1/2	495	23-1/4	591
LA*120	111	2819	38-1/2	978	17	432	14-1/2	368	22	559	19-1/2	495	23-1/4	591
LA*130	111	2819	38-1/2	978	17	432	14-1/2	368	22	559	19-1/2	495	23-1/4	591
LA*160	114	2896	38-1/2	978	18-1/2	470	16	406	22	559	19-1/2	495	23-1/4	591
LA*170	114	2896	38-1/2	978	18-1/2	470	16	406	22	559	19-1/2	495	23-1/4	591
LA*190	134	3404	48-1/2	1232	18-1/2	470	16-1/2	419	22	559	19-1/2	495	23-1/4	591
LA*220	153	3886	58	1473	18-1/2	470	16-1/2	419	22	559	19-1/2	495	23-1/4	591
LA*270	158	4013	58	1473	21	533	20	508	27	689	24-1/2	622	28-1/4	718

Replacement Parts

InterLINK
Commercial Refrigeration Parts

Right source. Right parts. Right now.

InterLink™ is your link to a complete line of dependable and certified commercial refrigeration parts, accessories and innovative electronic controls for all Chandler equipment. At InterLink, we provide our wholesalers with a comprehensive selection of product solutions and innovative technologies for the installed customer base. And every product is built to ensure the same high performance standards with which all Heatcraft Refrigeration Products (HRP) brands are built — backed by a dedicated team to serve every customer need, delivering at the best lead times in the industry.

Dependable. Versatile. Courteous.

Finally, one simple source for all your replacement needs from a name you can trust.

For parts, please contact (800) 686-7278 or visit www.heatcraftrpd.com.

Part #	Description
4267W	LAG Defrost Termination / Fan Delay Thermostat
22592801	Terminal Strip
28906601	Defrost Termination / Fan Delay Thermostat
2697490	Drain Fitting: Adapter
269151011	Drain Fitting: Locknut
5469	Drain Fitting: Washer
26914901	Drain Fitting

Model	Fan Blade (2) Req'd	Motor Mount (2) Req'd	Drain Pan	Defrost Heater (2) Req'd	Filters
LA*070	22900601	2316597	4040170	2470063	89900801
LA*090	22900601	2316597	4040170	2470063	89900801
LA*120	22900601	2316597	4040171	2470130	89900801
LA*130	22900601	2316597	4040171	2470130	89900801
LA*160	22900701	2316598	4040171	2470130	89900802
LA*170	22900701	2316598	4040171	2470130	89900802
LA*190	2291240	4000111	4040172	2470160	89900802
LA*220	2291240	4000111	4040174	2470200	89900802
LA*270	2291624	4000112	4040173	2470200	89900803

Motors

Model	Part #						
	115V SP (2) Req'd	230V SP (2) Req'd	115V PSC (2) Req'd	230V PSC (2) Req'd	460V PSC (2) Req'd	115V EC (2) Req'd	230V EC (2) Req'd
LA*070	25300101	25300201	25302601	25302501	–	25317801	25317701
LA*090	25300101	25300201	25302601	25302501	–	25317801	25317701
LA*120	25300101	25300201	25302601	25302501	–	25317801	25317701
LA*130	25300101	25300201	25302601	25302501	–	25317801	25317701
LA*160	25300101	25300201	25302601	25302501	–	25317801	25317701
LA*170	25300101	25300201	25302601	25302501	–	25317801	25317701
LA*190	–	–	2530688	2530689	25305001	25317601	25317501
LA*220	–	–	2530688	2530689	25305001	25317601	25317501
LA*270	–	–	2530688	2530689	25305001	25317601	25317501

Model LAH/LAL/LAG Air/Electric/Hot Gas Defrost

Model	Connections OD (in.)			Approx. Net Weight	
	Inlet†	Suction	Hot Gas	lbs.	kg
LA*070	1/2	7/8	1/2	178	81
LA*090	1/2	7/8	1/2	189	86
LA*120	1/2	7/8	1/2	262	119
LA*130	1/2	7/8	1/2	264	120
LA*160	1/2	1-1/8	1/2	280	127
LA*170	1/2	1-1/8	1/2	285	129
LA*190	1/2	1-1/8	1/2	298	135
LA*220	1/2	1-1/8	1/2	366	166
LA*270	1/2	1-3/8	5/8	405	184

LAH = Air Defrost
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† *7/8" inlet on hot gas defrost models*

Standard Nozzle Selection

Model LAH/LAL/LAG Air/Electric/Hot Gas Defrost

Model		Distributor Type		No. of Circuits	R404A, R507A Nozzle	R407A, R407F, R407C Nozzle	R448A R449A Nozzle	R22 Nozzle*
		OD	Length					
LAH/LAL/LAG	LA*070	3/16	18	3	L-1/3	L-1/3	L-1/2	L-1/4
	LA*090	3/16	18	4	L-1/2	L-1/2	L-3/4	L-1/3
	LA*120	3/16	18	6	L-3/4	L-3/4	L-1	L-1/2
	LA*130	3/16	24	12	E-1	E-1	E-1-1/2	E-3/4
	LA*160	3/16	24	10	E-1	E-1	E-1-1/2	E-3/4
	LA*170	3/16	24	12	E-1-1/2	E-1-1/2	E-2	E-1
	LA*190	3/16	24	12	E-1-1/2	E-1-1/2	E-2	E-1
	LA*220	3/16	24	20	C-2	C-2	C-2-1/2	C-1-1/2
	LA*270	3/16	24	20	C-2-1/2	C-2-1/2	C-4	C-2

NOTE:
Nozzles sized for 90-100°F liquid temperature at expansion valve.

Contact Application Engineering for guidance if

- *Liquid temperature is not 90-100°F*
- *Evaporator TD is not 10°-15°F (room temperature – saturated suction temperature)*
- *Electric defrost and hot gas models with a saturated suction temperature of 10°F or higher*

Caution: *Refrigeration system will not perform properly without correct nozzle!*

**R-22 Nozzles for informational purposes only. Not included with stocking evaporators*

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CHANDLER REFRIGERATION

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

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