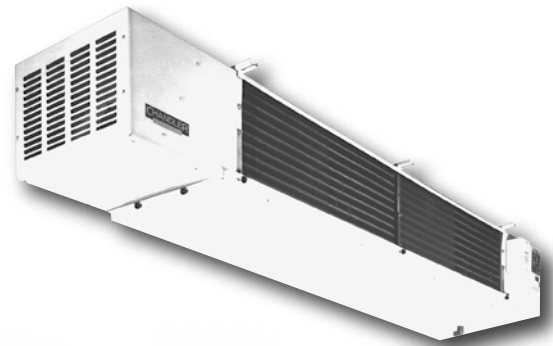




CH-LFTB
May 2008

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CHANDLER
REFRIGERATION



LOW FLOW LOW VELOCITY UNIT COOLERS

Technical Guide

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

www.chandlerref.com



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We have made a commitment to customer needs, innovation and environmental stewardship and have dedicated ourselves to delivering energy-efficient choices. PSC and EC motors will reduce costs, improve the bottom line and enhance equipment performance and service life.

Choose the most energy-efficient motor available for evaporators.



The EC motor is an Energy Solutions® option on new Chandler Low Flow evaporators. Available on all new equipment or as an easy-to-install, drop-in replacement aftermarket part from InterLink™ Commercial Refrigeration Parts. Because they're 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% 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.

To learn more about EC motors, visit www.interlinkparts.com/ec.

Nomenclature

LAH	070	A	E
Model Series	Capacity	Electrical Code	Design Revision
LAH = Chandler Low Flow, air defrost LAL = Chandler Low Flow, electric defrost LAG = Chandler Low Flow, hot gas defrost	# x 100 = BTUH	A = 115/1/60 B = 208-230/1/60 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 170. PSC motors are standard on sizes 190 through 270
- 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

Performance Data

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

Model	Capacity						Fan Data		
	10°F TD 25°F SST	6°C TD -4°C SST	15°F TD 25°F SST	8°C TD -4°C SST	20°F TD 25°F SST	10°C TD -4°C SST	No.	CFM	m ³ h
	BTUH	Watts	BTUH	Watts	BTUH	Watts			
LA*070	7,000	2,050	10,500	3,075	14,000	4,100	2	1,200	2,040
LA*090	8,700	2,550	13,050	3,822	17,400	5,100	2	1,200	2,040
LA*120	11,800	3,460	17,700	5,183	23,600	6,910	2	1,300	2,210
LA*130	12,500	3,660	18,750	5,490	25,000	7,320	2	1,300	2,210
LA*160	15,000	4,390	22,500	6,590	30,000	8,790	2	1,900	3,230
LA*170	16,500	4,830	24,750	7,250	33,000	9,670	2	1,900	3,230
LA*190	18,900	5,540	28,350	8,300	37,800	11,070	2	2,400	4,080
LA*220	22,500	6,590	33,750	9,890	45,000	13,180	2	2,700	4,590
LA*270	26,600	7,790	39,900	11,690	53,200	15,580	2	3,200	5,440

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

Model	Capacity						Fan Data		
	10°F TD 25°F SST	6°C TD -4°C SST	15°F TD 25°F SST	8°C TD -4°C SST	20°F TD 25°F SST	10°C TD -4°C SST	No.	CFM	m ³ h
	BTUH	Watts	BTUH	Watts	BTUH	Watts			
LA*070	6,390	1,870	9,588	2,810	12,780	3,740	2	1,085	1,846
LA*090	7,950	2,330	11,917	3,490	15,900	4,660	2	1,085	1,846
LA*120	10,780	3,160	16,162	4,730	21,560	6,320	2	1,176	1,999
LA*130	11,420	3,350	17,123	5,020	22,840	6,690	2	1,176	1,999
LA*160	13,700	4,010	20,546	6,020	27,400	8,030	2	1,719	2,922
LA*170	15,070	4,410	22,601	6,620	30,140	8,830	2	1,719	2,922
LA*190	17,260	5,060	25,888	7,580	34,520	10,110	2	2,171	3,691
LA*220	20,550	6,020	30,819	9,030	41,100	12,040	2	2,443	4,153
LA*270	24,290	7,120	36,433	10,670	48,580	14,230	2	2,895	4,922

LAH= Air Defrost

LAL = Electric Defrost

LAG = Hot Gas Defrost

Specifications

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	1.24	164	0.82	182	-	-	1.8	57	1.0	59
LAH090	3.6	232	2.4	244	1.24	164	0.82	182	-	-	1.8	57	1.0	59
LAH120	3.6	232	2.4	244	1.24	164	0.82	182	-	-	1.8	57	1.0	59
LAH130	3.6	232	2.4	244	1.24	164	0.82	182	-	-	1.8	57	1.0	59
LAH160	3.6	232	2.4	244	1.24	164	0.82	182	-	-	1.8	57	1.0	59
LAH170	3.6	232	2.4	244	1.24	164	0.82	182	-	-	1.8	57	1.0	59
LAH190	-	-	-	-	2.80	230	1.40	230	0.8	288	4.8	210	2.4	215
LAH220	-	-	-	-	2.80	230	1.40	230	0.8	288	4.8	210	2.4	215
LAH270	-	-	-	-	2.80	230	1.40	230	0.8	288	4.8	210	2.4	215

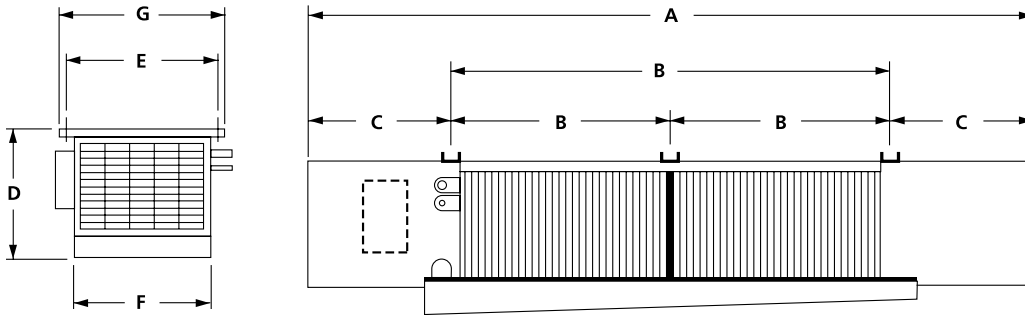
Model LAL Electric Defrost

Model	Shaded Pole Motor		PSC Motor				EC Motor		Watts	Defrost Heaters	
	208-230/1		208-230/1		460/1		208-230/1			208-230/1	460/1
	Amps	Watts	Amps	Watts	Amps	Watts	Amps	Watts		Total Amps	
LAL070	2.4	244	0.82	182	-	-	1.0	59	2,650	11.5	-
LAL090	2.4	244	0.82	182	-	-	1.0	59	2,650	11.5	-
LAL120	2.4	244	0.82	182	-	-	1.0	59	3,850	16.7	-
LAL130	2.4	244	0.82	182	-	-	1.0	59	3,850	16.7	-
LAL160	2.4	244	0.82	182	-	-	1.0	59	3,850	16.7	-
LAL170	2.4	244	0.82	182	-	-	1.0	59	3,850	16.7	-
LAL190	-	-	1.40	230	0.8	288	4.8	215	4,770	20.7	10.4
LAL220	-	-	1.40	230	0.8	288	4.8	215	5,700	24.8	12.4
LAL270	-	-	1.40	230	0.8	288	4.8	215	5,700	24.8	12.4

Model LAG Hot Gas Defrost

Model	Shaded Pole Motor				PSC Motor						EC Motor				Watts	Drain Pan Heaters		
	115/1		208-230/1		115/1		208-230/1		460/1		115/1		208-230/1			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	1.24	164	1.0	182	-	-	1.8	57	1.0	59	660	5.8	2.9	-
LAG090	3.6	232	2.4	244	1.24	164	1.0	182	-	-	1.8	57	1.0	59	660	5.8	2.9	-
LAG120	3.6	232	2.4	244	1.24	164	1.0	182	-	-	1.8	57	1.0	59	960	8.4	4.2	-
LAG130	3.6	232	2.4	244	1.24	164	1.0	182	-	-	1.8	57	1.0	59	960	8.4	4.2	-
LAG160	3.6	232	2.4	244	1.24	164	1.0	182	-	-	1.8	57	1.0	59	960	8.4	4.2	-
LAG170	3.6	232	2.4	244	1.24	164	1.0	182	-	-	1.8	57	1.0	59	960	8.4	4.2	-
LAG190	-	-	-	-	2.80	230	1.4	230	.08	288	4.8	210	2.4	215	1,190	10.4	5.2	2.6
LAG220	-	-	-	-	2.80	230	1.4	230	.08	288	4.8	210	2.4	215	1,426	12.4	6.2	3.1
LAG270	-	-	-	-	2.80	230	1.4	230	.08	288	4.8	210	2.4	215	1,426	12.4	6.2	3.1

Dimensional Data



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

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	2,108	49	1,245	17	432	14	356	22	559	19-1/2	495	23-1/4	591
LA*090	83	2,108	49	1,245	17	432	14	356	22	559	19-1/2	495	23-1/4	591
LA*120	111	2,819	38-1/2	978	17	432	14-1/2	368	22	559	19-1/2	495	23-1/4	591
LA*130	111	2,819	38-1/2	978	17	432	14-1/2	368	22	559	19-1/2	495	23-1/4	591
LA*160	114	2,896	38-1/2	978	18-1/2	470	16	406	22	559	19-1/2	495	23-1/4	591
LA*170	114	2,896	38-1/2	978	18-1/2	470	16	406	22	559	19-1/2	495	23-1/4	591
LA*190	134	3,404	48-1/2	1,232	18-1/2	470	16-1/2	419	22	559	19-1/2	495	23-1/4	591
LA*220	153	3,886	58	1,473	18-1/2	470	16-1/2	419	22	559	19-1/2	495	23-1/4	591
LA*270	158	4,013	58	1,473	21	533	20	508	27	689	24-1/2	622	28-1/4	718

Replacement 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.interlinkparts.com.

Part #	Description
4267W	LAG Defrost Termination / Fan Delay Thermostat
22512501	Terminal Strip
28906601	Defrost Termination / Fan Delay Thermostat
2697490	Drain Fitting: Adapter
2697491	Drain Fitting: Locknut
2771001	Drain Fitting: Washer
26925101	Drain Fitting

Model	Fan Blade (2) Req'd	Motor Mount (2) Req'd		Drain Pan	Defrost Heater (2) Req'd	Filters
		Shaded Pole or PSC	EC			
LA*070	22900601	2316597	23103301	4040170	2470063	89900801
LA*090	22900601	2316597	23103301	4040170	2470063	89900801
LA*120	22900601	2316597	23103301	4040171	2470130	89900801
LA*130	22900601	2316597	23103301	4040171	2470130	89900801
LA*160	22900701	2316598	23103301	4040171	2470130	89900802
LA*170	22900701	2316598	23103301	4040171	2470130	89900802
LA*190	2291240	4000111	4000111	4040172	2470160	89900802
LA*220	2291240	4000111	4000111	4040174	2470200	89900802
LA*270	2291624	4000112	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	25300601	25300501	–	25317801	25317701
LA*090	25300101	25300201	25300601	25300501	–	25317801	25317701
LA*120	25300101	25300201	25300601	25300501	–	25317801	25317701
LA*130	25300101	25300201	25300601	25300501	–	25317801	25317701
LA*160	25300101	25300201	25300601	25300501	–	25317801	25317701
LA*170	25300101	25300201	25300601	25300501	–	25317801	25317701
LA*190	–	–	2530688	2530689	25305001	25318201	25318101
LA*220	–	–	2530688	2530689	25305001	25318201	25318101
LA*270	–	–	2530688	2530689	25305001	25318201	25318101

Physical Data

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
LAL = Electric Defrost
LAG = Hot Gas Defrost

[†] 7/8" inlet on hot gas defrost models

Standard Nozzle Selection

Model LAH Air Defrost

Model	Distributor Type				No. of Circuits	R-404A Nozzle*	R-22 Nozzle
	OD		Length				
	in.	cm	in.	cm			
LAH070	3/16	0.5	24	61	2	L-1/2	L-1/3
LAH090	3/16	0.5	24	61	2	L-3/4	L-1/2
LAH120	3/16	0.5	24	61	4	L-1	L-1/2
LAH130	3/16	0.5	24	61	4	L-1	L-3/4
LAH160	3/16	0.5	24	61	4	L-1	L-3/4
LAH170	3/16	0.5	24	61	6	L-1-1/2	L-3/4
LAH190	3/16	0.5	24	61	4	L-1-1/2	L-1
LAH220	3/16	0.5	24	61	6	L-2	L-1
LAH270	3/16	0.5	30	76	12	L-2	L-1-1/2

Model LAL Electric Defrost

Model	Distributor Type				No. of Circuits	R-404A Nozzle*	R-22 Nozzle
	OD		Length				
	in.	cm	in.	cm			
LAL070	3/16	0.5	24	61	2	L-3/4	L-1/2
LAL090	3/16	0.5	24	61	2	L-1	L-3/4
LAL120	3/16	0.5	24	61	4	L-1-1/2	L-3/4
LAL130	3/16	0.5	24	61	4	L-1-1/2	L-3/4
LAL160	3/16	0.5	24	61	4	L-2	L-1
LAL170	3/16	0.5	24	61	6	L-2	L-1
LAL190	3/16	0.5	24	61	4	L-2-1/2	L-1-1/2
LAL220	3/16	0.5	24	61	6	L-3	L-1-1/2
LAL270	3/16	0.5	30	76	12	L-3	L-2

Model LAG Hot Gas Defrost

Model	Distributor Type				No. of Circuits	R-404A Nozzle*	R-22 Nozzle
	OD		Length				
	in.	cm	in.	cm			
LAG070	1/4	0.6	24	61	2	L-3/4	L-1/2
LAG090	1/4	0.6	24	61	2	L-1	L-3/4
LAG120	1/4	0.6	24	61	4	L-1-1/2	L-3/4
LAG130	1/4	0.6	24	61	4	L-1-1/2	L-3/4
LAG160	1/4	0.6	24	61	4	L-2	L-1
LAG170	1/4	0.6	24	61	6	L-2	L-1
LAG190	1/4	0.6	24	61	4	L-2-1/2	L-1-1/2
LAG220	1/4	0.6	24	61	6	L-3	L-1-1/2
LAG270	1/4	0.6	30	76	12	E-3	E-2

* also suitable for R-507, R-502, R-134A, R-401A, R-402A

NOTE: Nozzles sized for 90-100°F liquid temp. at expansion valve. Refer to I&O manual if liquid temp. is not 90-100°F.

Note: Refrigeration system will not perform properly without correct nozzle!



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