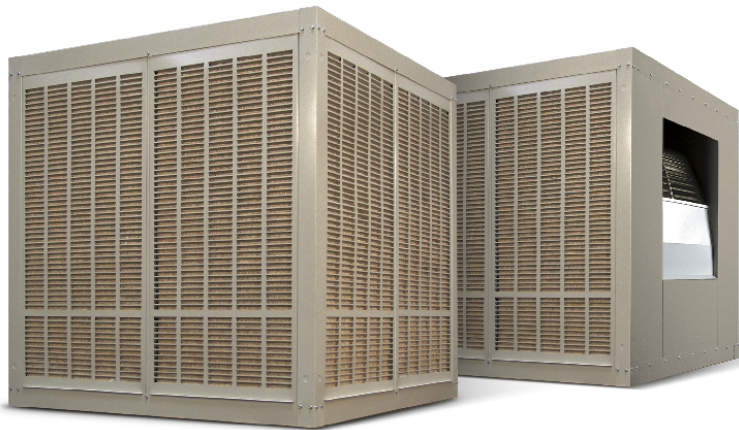


PHOENIX MANUFACTURING, INC.

3655 E. Roeser Rd. - Phoenix, AZ 85040 *evapcool.com* 602-437-1034

SPECIFICATION DATA



COMMERCIAL EVAPORATIVE ASPEN COOLER MODELS:

**D/H 8801(UL Classified),
UD/UH 8801 (UL LISTED)
D/H 1425(UL Classified),
UD/UH 1425 (UL LISTED)
D/H 2231(UL Classified),
UD/UH 2231 (UL LISTED)**

Commercial Evaporative Coolers Feature:

- Units are UL Listed to UL Standard 507.
- High quality architectural grade Peblar XT® finish.
- Galvanized sheet steel is zinc coated at weights rated G40 or G90.
- Up to 22,000 CFM capacity (Industry Standard Rating)
- Evaporative media used in the UL Listed models is rated to UL900.
- Three Phase EISA motors are NEMA MG-1 Table 12-12 compliant.
- Belt and bleed off included.
- Bearings have an L10 bearing life of 39,000 hours.
- City of Los Angeles Approved.
- Solid shaft for strength & durability.
- Heavy duty UL Recognized motor & pump available.
- Multilayer bottom pan finish.
- Dynamically balanced blower wheels.

Phoenix Evaporative Coolers and components are designed and tested in accordance with one or more of the following standards or agencies:

PERFORMANCE

AIR DELIVERY - data published derived from tests conducted in accordance with A.M.C.A. (Air Movement and Control Assoc.) standard 210.

BEARING LIFE - L10 bearing life of 39,600 hours is based on ABMA standard 9/ISO standard 281.

MOTORS - recognized under UL component standard #1004 for motor certification.

SINGLE PHASE MOTORS - tested under UL standard 507 for locked rotor and heat rise protection.

THREE PHASE MOTORS - EISA motors are NEMA MG-1 Table 12-12 compliant.

PUMPS - recognized under the UL standard #778 for operating water pumps with thermal overload and locked rotor protection.

CONSTRUCTION

ASPEN PADS - built to federal specification PP-E-911 for Type 1, Class A. Grade 4.

DURA-COOL PADS - Used in UL Listed coolers is rated to UL900.

SEALANT - water immersion per ASTM D870.

FLEXIBILITY - per ASTM D756.

HOT DIPPED GALVANIZED SHEET STEEL - is ASTM A653, Type CS, with zinc coating weights rated G40 or G90.

CORROSION RESISTANCE - per ASTM B117.

BLOWER WHEEL - balanced in accordance with ISO 1940 and A.N.S.I. standard S2.19, quality grade G6.3. City of Los Angeles (C.O.L.A.), RR8075 Mechanical, RR930159 Electrical (11/2 HP Maximum, Single Phase).

POLYMERIC MATERIALS - listed in accordance with UL 94 and 746C.

PENCIL HARDNESS - per ASTM D3363.

IMPACT RESISTANCE - per D2794.

FLEXIBILITY - per ASTM D522.

SPECULAR GLOSS - per ASTM D523.

SURFACE BURNING CHARACTERISTICS - of building materials (best rating) per UL 723 and ASTM E-84.

PEBLAR XT® - is our one coat TGIC Polyester Powder Coating system that is applied over 5 stage zinc phosphate prepared sheet steel surfaces for protection against atmospheric corrosion. This coating system meets the requirements of UL 1332 - Organic Coatings for Steel Enclosures of Outdoor Use Electrical Equipment.



AMCA Certified

Phoenix Manufacturing, Inc. certifies that the evaporative coolers shown are licensed to bear the AMCA seal. Cooler ratings are based on tests and procedures performed in accordance with AMCA publication 211 and comply with the requirements of the AMCA Certified Ratings Program.



UL Classified Models

The Commercial Cooler models are UL Classified. In order to maintain this U.L. Classification designation, these models must be used in conjunction with PMI supplied Motors, Sheaves, Pumps, and Junction Box kits(JBK).



UL Listed Models

U.L. listed models also available. To specify and order a U.L. Listed model, add a "U" prefix to the front of the appropriate model number.

All data, specifications and detail contained in this publication are intended as a general guide for using PHOENIX MANUFACTURING, INC. PRODUCTS. These products should not be used in design or construction without an independent evaluation by a qualified engineer or architect to verify the suitability of a particular product for use in a specific application. PHOENIX MANUFACTURING, INC. assumes no liability for failure resulting from the use or misapplication of computation, detail drawings and specifications contained herein. This publication contains the latest information available at the time of printing. PHOENIX MANUFACTURING, INC. reserves the right to make modifications and/or change materials of any of their products without prior notice or obligation. PHOENIX MANUFACTURING, INC. may not produce all of the products contained in this submittal. For product availability and the latest information regarding products contact PHOENIX MANUFACTURING, INC.



PHOENIX MANUFACTURING, INC.

SUBMITTAL DATA

~ Blower RPM Values based on motor RPM 1725
~ AMCA Licensed Ratings

Certified Air Delivery at Various External Static Pressures

Inches H2O		0"		.1"		.2"		.3"		.4"		.5"		.6"		.7"		.8"		.9"		1.0"	
MODEL	HP	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM
D/H 8801	3/4	5480	303	5200	317	4950	332	4650	348	4350	366	4000	385	3631	406	3274	428	2790	457	2191	492	1617	521
	1	6030	332	5800	347	5550	360	5300	373	5020	388	4700	406	4400	425	4075	441	3770	461	3400	483	2909	512
	1 1/2	7230	384	6997	395	6769	408	6544	420	6316	432	6084	445	5849	458	5607	472	5354	486	5107	499	4883	513
	2	7958	384	7746	409	7538	444	7332	455	7127	466	6919	478	6708	489	6496	500	6279	513	6052	526	5822	538
D 1425	1	8675	240	8153	255	7679	267	7144	282	6636	297	6111	312	5505	332	4685	357	3774	394	3080	420	2552	439
	1 1/2	9930	275	9462	286	9053	299	8618	311	8146	323	7701	337	7257	350	6771	365	6218	383	5506	404	4777	434
	2	10930	302	10497	313	10120	324	9744	335	9329	347	8901	358	8499	370	8099	382	7671	394	7205	410	6666	427
	3	12511	346	12126	356	11785	365	11462	375	11131	384	10770	395	10393	404	10029	414	9681	425	9333	436	8966	446
H 1425	1	8616	235	8114	248	7662	263	7148	279	6614	295	6003	310	5498	333	4553	362	3506	395	2917	417	2635	437
	1 1/2	9862	269	9411	287	9021	294	8606	307	8152	320	7691	335	7164	347	6664	364	6221	384	5400	407	4386	441
	2	10855	296	10438	307	10077	318	9720	330	9322	342	8909	355	8490	367	8019	379	7535	391	7141	411	6677	426
	3	12426	339	12053	348	11727	357	11420	369	11104	378	10758	389	10396	399	10037	411	9666	422	9254	432	8822	442
D 2231	1 1/2	13131	219	12494	229	11804	241	11100	254	10382	266	9642	280	8908	294	8172	310	7049	332	5637	364	4762	386
	2	14453	241	13879	250	13261	260	12623	272	11982	283	11323	295	10651	307	9982	320	9328	334	8555	350	7340	374
	3	16545	276	16049	283	15520	292	14970	302	14411	312	13852	322	13283	332	12700	342	12112	353	11527	364	10952	375
	5	19616	327	19203	333	18767	340	18314	348	17850	356	17380	364	16909	373	16437	381	15959	390	15472	398	14978	407
	7 1/2	22454	374	22096	380	21722	386	21335	392	20937	399	20532	406	20122	413	19711	420	19300	428	18887	435	18471	443
H 2231	1 1/2	13466	239	12747	249	12361	262	11672	271	10769	281	10316	295	9637	308	8651	320	7902	336	6851	361	5664	392
	2	14821	263	14122	271	13756	284	13325	294	12514	301	11770	311	11376	324	10830	336	9931	346	9157	360	8462	376
	3	16966	301	16304	308	15927	318	15631	329	15216	337	14519	343	13766	350	13299	361	12976	373	12510	383	11762	392
	5	20115	357	19512	362	19114	369	18836	379	18590	388	18292	396	17854	402	17233	406	16573	412	16056	420	15722	430

Water Bleed Off Rate

Model #	Motor H.P.	MAX (GPH) Usage Including Bleed Off	Bleed Off (GPH)
D/H 8801	3/4	25	3.8
D/H 8801	1	28	3.8
D/H 8801	1 1/2	34	6.2
D/H 8801	2	37	6.2
D/H 8801	3	43	6.2
D/H 1425	1	41	6.2
D/H 1425	1 1/2	47	6.2
D/H 1425	2	51	6.2
D/H 1425	3	59	6.2
D/H 2231	1 1/2	56	6.2
D/H 2231	2	61	6.2
D/H 2231	3	70	6.2
D/H 2231	5	82	6.2
D 2231	7 1/2	90	6.2

Performance shown is installation Type B - Free Inlet, duct outlet. Power Rating (B.H.P.) does not include drive losses. Performance ratings include the effects of evaporative media in the airstream.

Pump Specifications

Model	Volts	Amps	Watts	GPM @ 6' Head
PK60LA	115	1.7	105	6.8
PK62LA	230	1.1	105	6.8

Required Belt Change

Model #	Motor H.P.	Belt Size
H 8801	3	5-3-98
D 8801	1 1/2 HP & UP	5-3-135
D/H 1425	3	5-3-101
D 2231	7 1/2	5-3-151

Sheave Selection

Model Number	Motor HP.	PMI Part	Bore	Blower RPM - Sheave Turns Open						
				5	4	3	2	1	0	
D/H 8801	3/4, 1, 1 1/2, 2	S1	5/8	234	259	283	308	333	357	
	3/4, 1, 1 1/2, 2	S1A	7/8	234	259	283	308	333	357	
	3/4, 1, 1 1/2, 2	S2	5/8	296	320	345	370	394	419	
	3/4, 1, 1 1/2, 2	S2A	7/8	296	320	345	370	394	419	
	3/4, 1, 1 1/2, 2	S3	5/8	345	370	394	419	444	468	
	3/4, 1, 1 1/2, 2	S3A	7/8	345	370	394	419	444	468	
	3/4, 1, 1 1/2, 2	S4A	5/8	419	444	468	493	518	542	
	3/4, 1, 1 1/2, 2	S4	7/8	419	444	468	493	518	542	
	3	S4B	1 1/8	419	444	468	493	518	542	
	3	S11B	1 1/8	492	518	542	567	592	616	
D/H 1425	1, 1 1/2, 2	S2	5/8	230	249	268	288	307	326	
	1, 1 1/2, 2	S2A	7/8	230	249	268	288	307	326	
	1, 1 1/2, 2	S3	5/8	268	288	307	326	345	364	
	1, 1 1/2, 2	S3A	7/8	268	288	307	326	345	364	
	1, 1 1/2, 2	S4A	5/8	326	345	364	383	403	422	
	1, 1 1/2, 2	S4	7/8	326	345	364	383	403	422	
	1, 1 1/2, 2	S11	5/8	383	403	422	441	460	479	
	1, 1 1/2, 2	S11A	7/8	383	403	422	441	460	479	
	3	S4B	1 1/8	326	345	364	383	403	422	
	3	S11B	1 1/8	383	403	422	441	460	479	
D/H 2231	1, 1/2, 2	S5A	5/8	192	211	230	249	268	288	
	1, 1/2, 2	S5	7/8	192	211	230	249	268	288	
	1, 1/2, 2	S6A	5/8	249	268	288	307	326	345	
	1, 1/2, 2	S6	7/8	249	268	288	307	326	345	
	1, 1/2, 2	S8A	5/8	326	345	364	383	403	422	
	1, 1/2, 2	S8B	7/8	326	345	364	383	403	422	
	3, 5	S7	1 1/8	249	268	288	307	326	345	
	3, 5	S8	1 1/8	326	345	364	383	403	422	
	5	S9	1 1/8	403	422	441	460	479	498	
	7 1/2	S8C	1 3/8	355	374	393	413	431	452	
D 2231	7 1/2	S10	1 3/8	403	422	441	460	479	498	

Motor Specifications

Model No.	H.P.	Phase	Volt	Amperage	Lbs.	Base	Frame	Shaft Dia.
*M180	3/4 - 2 spd.	1	115	10.5-5.8	32.3	Resilient	56	5/8
*M161	3/4	1	115/208-230	10.6/5.3	24.2	Resilient	56	5/8
*M162	3/4 - 2 spd.	1	230	5.8/3.5	25.5	Resilient	56	5/8
M163B	3/4	3	208-230/460	2.7-2.8/1.4	22	Resilient	56	5/8
*M181A	1 - 2 spd.	1	115	11.8/6.1	32.3	Resilient	56	5/8
*M165	1	1	115/208-230	14.0/7.0	30.2	Resilient	56	5/8
M166C ++	1	3	208-230/460	3.2-3.1/1.6	38	Rigid	143T	7/8
M167B	1	3	200	3.6-3.1	40	Rigid	143T	7/8
*M168	1 - 2 spd.	1	230	7.2	32.4	Resilient	56	5/8
*M169A	1 1/2	1	115/208-230	18/9.3-9	41.7	Resilient	56H	5/8
M170C ++	1 1/2	3	208-230/460	4.6-4.8/2.4	48	Rigid	145T	7/8
M171B	1 1/2	3	200	5.1/4.6	40	Rigid	145T	7/8
*M172A	2	1	115/208-230	21/11.3-10	50	Resilient	56H	5/8
M173C ++	2	3	208-230/460	6.0-5.8/2.9	58	Rigid	145T	7/8
M174B	2	3	200-208	6.7/6.0	44	Rigid	145T	7/8
M176C ++	3	3	208-230/460	8.4-7.8/3.9	74	Rigid	182T	1 1/8
M177B	3	3	200-208	10.6/10.2	55	Rigid	182T	1 1/8
M178C ++	5	3	230/460	13.6-12.4/6.2	80	Rigid	182T	1 1/8
M179B	5	3	200-208	15.2-14.6	70	Rigid	184T	1 1/8
M182B ++	7 1/2	3	208-230/460	18.6/9.3	128	Rigid	213T	1 3/8
M183 +	10	3	208-230/460	28.6-26.4/13.2	130	Rigid	215T	1 3/8
M183A ++				26.9-25.0/12.5	145			

All 1 HP & greater, 3 Phase motors are high efficiency & meet U.S. EPACT (+) or EISA (++) levels. *Indicates the motor is thermally protected, eliminated the need for external starting



PHOENIX MANUFACTURING, INC.

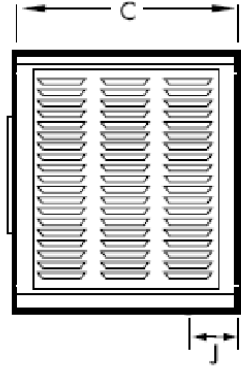
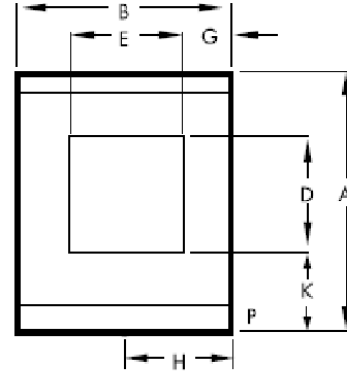
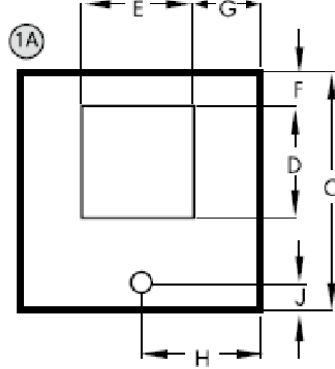
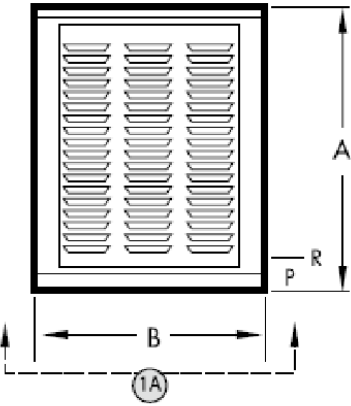
SUBMITTAL DATA

COMMERCIAL EVAPORATIVE

COOLER MODELS:
 D/H 8801, UD/UH 8801
 D/H 1425, UD/UH 1425
 D/H 2231, UD/UH 2231

BOTTOM DISCHARGE

SIDE DISCHARGE



Model Number	Cabinet Dimensions (Inches)											Riser	Pad Filler Dimensions			Belts Part #	Approx. Ship Wt.	Oper. Weight	Blower Wheel Dia. X Width	Blower Pulley Pitch Dia.
	A	B	C	D	E	F	G	H	J	K	P		No.	Ht.	Width					
D 8801	52	41	41	21 3/4	21 3/4	4 3/8	9 5/8	20 1/2	4 1/2	15 7/8	3 1/2	6	4	45	35	A74	280	476	21 X 20	14" Single
H 8801	52	41	41	21 3/4	21 3/4	4 3/8	9 5/8	20 1/2	4 1/2	15 7/8	3 1/2	6	3	45	35	A76	280	476	21 X 20	14" Single
D/H 1425	52	52	52	26 3/4	26 3/4	4 1/2	12 5/8	26	4 1/2	21 1/4	3 1/2	6	8/6	45	22	A94	415	721	24 X 24	18" Single
D 2231	60	62	62	31 3/4	31 3/4	8 1/8	15 1/8	31	4 1/2	23 3/4	3 1/2	7	8	54	26	A102	550	1006	28 X 28	18" Dual
H 2231	60	62	62	31 3/4	31 3/4	8 1/8	15 1/8	31	4 1/2	23 3/4	3 1/2	7	6	54	26	A98	550	1006	28 X 28	18" Dual

Project _____

Location _____

Architect _____

Engineer _____

Contractor _____

Submitted by _____

Notes _____

Date _____

Ref #	Cooler Model	QTY.	CFM	Static Pressure	Motor	HP	Speed	Voltage	Phase	Motor Sheave	Pump	QTY.	Voltage
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													

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