

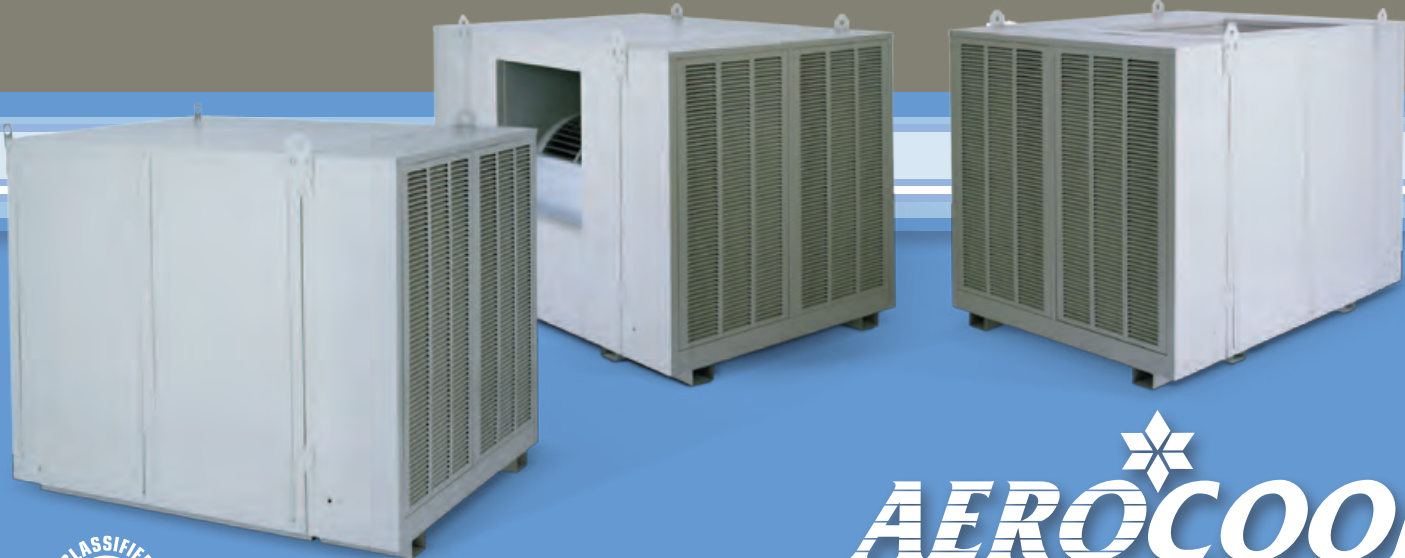


Productivity Through Comfort

High Efficiency Evaporative Air Cooling



To meet today's growing demand for increased productivity and sensibility, PMI has designed and offers the Aerocool Commercial Cooler to provide universal, high saturating efficiency in evaporative cooling. *Productivity Through Comfort* >>



AEROCOOL[®]
Commercial Coolers



U.L. Listed Models
also available
See complete marking on product

8" Wet Section Series



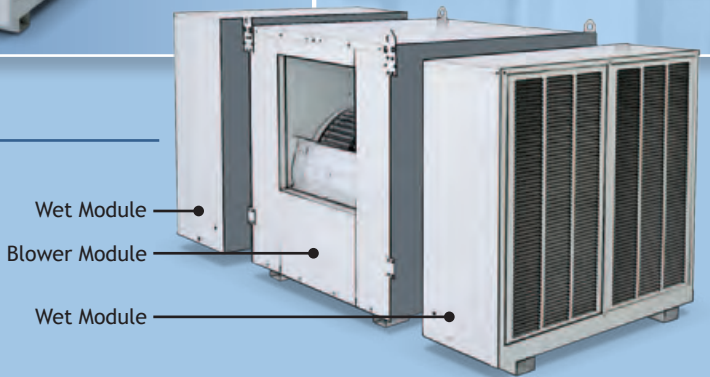
Economical Performance & Comfort



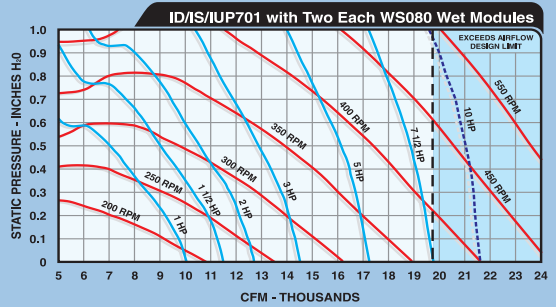
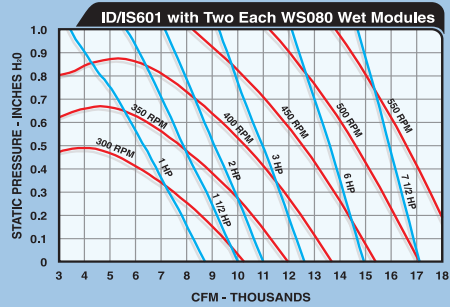
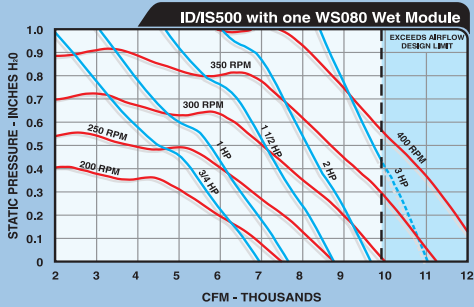
Increase Productivity >>

Versatility to Meet Any Application

Aerocool Commercial, by Phoenix Manufacturing Inc. is designed to meet your high quality and performance requirements. Depending on the model, the blower module will be used in conjunction with one or two evaporative wet modules bolted together to form a complete unit. This combination gives the desired air flow and cooling requirements for most job applications.



Performance Charts



Specification of critical components is vital in obtaining the required discharge volume through the unit. Motor horse power, voltage, motor shaft outside diameter, motor sheave outside and inside diameter all directly relate to the revolutions per minute (RPM) of the blower wheel. Equally important is the reduction in electrical usage and water required for operation.

Aerocool Commercial by Phoenix Manufacturing, Inc. enhances productivity though comfort, sustaining energy efficiency and exceptional performance.



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

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.

Premier Commercial Air Coolers

Whether used to cool an entire facility or simply to spot cool specific areas, the AeroCool Commercial Cooler can supplement and/or replace mechanical refrigeration needs. In commercial, industrial, institutional or agricultural facilities & buildings requiring large quantities of fresh air moving throughout, our coolers are ideal. Perfect candidates for energy efficient evaporative cooling are laundries, gymnasiums, kitchens, heat treating areas and dry cleaning plants.

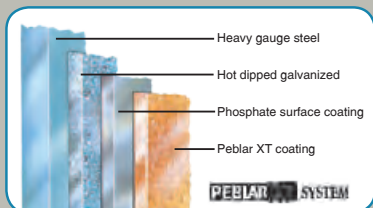
Constructed of heavy galvanized steel, these industrial units are coated with our exclusive Peblar XT finish. All

sizes of the AeroCool Commercial are available in side or down draft configurations. In addition, the IUP 701, is an up-discharge unit designed for specialized installations or access needs.

Each wet section comes equipped with a 8" thick rigid media for maximum evaporation. This rigid media is constructed of special cellulose material, impregnated with insoluble decay resistant chemicals as well as rigidifying saturants. The unique design of the pads, which continually direct

water to the air inlet side, induces highly turbulent mixing of air and water for optimum moisture transfer. This process results in cooler, consistent air flow with lower temperatures.

You'll find nothing but quality and value in the evaporative air coolers Phoenix Manufacturing, Inc. delivers. We provide a large array of configurations (3/4 - 10 horse power motors) and CFM output. With dynamically balanced industrial size blower wheels, long life ball bearings, and Peblar XT protective powder paint finish, you can look forward to years of trouble free operation and maximum return on your investment.



Economical High-Saturation Evaporative Cooling...

We designed and built the AeroCool Commercial Cooler to meet today's growing demand for increased sensible cooling with extremely low energy consumption. This rigid media type cooler provides the most universal, high saturating efficiencies available with evaporative cooling. Strong performance in air delivery matched with high efficiency media often results in fewer required units when compared to standard aspen models.



Choosing The Right 8" Wet Section Model To Meet Your Needs

Choosing the right AeroCool Commercial Cooler model is important for proper operation. The AeroCool Commercial air coolers are designed to operate at maximum efficiency with minimal maintenance. All Commercial air coolers use High-Efficiency Media to deliver colder air while reducing the overall cost of replacing the media.

For maximum performance, choose the model with the proper rating and motor as well as the correct duct configuration. Ask your qualified contractor to help you choose the correct AeroCool Commercial Cooler Series model that best fits your needs.



Down Single Inlet



Side Single Inlet



Down Dual Inlet



Side Dual Inlet



Up Dual Inlet

Sizing Instructions

Use the Certified Air Delivery performance tables and the procedure to the right to properly size these AeroCool Commercial units. The performance or Sensible Heat Capacity of any evaporative cooler is a function of both the CFM and the efficiency (air discharge temperature). Both of these specifications should be considered to properly size the units.

Static pressure, or duct system resistance, also impacts air delivery. Once the model number, CFM air delivery required and static pressure are known, identify the blower wheel RPM in the column to the right of CFM air delivery. This will ensure a properly sized sheave.

- Determine design Conditions
 - Outside Dry-Bulb (DB)
 - Outside Wet-Bulb (WB)
 - Inside Dry-Bulb (TI)
- Determine the design Sensible Heat Load. (Btuh)

- Determine the Cooler Leaving Air Temperature (LAT)

$$LAT = DB - [(DB - WB)EFF]$$
 Where EFF ≈ .85 for 8" media

- Determine the CFM required

$$CFM = \frac{0.925 \times \text{Sensible Heat Load}}{(TI - LAT)}$$

- Determine the cooler(s) required by referring to the air flow charts below.

Technical Information

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

Pump Model	Volts	Amps	Watts	GPM at 5' Head
PK60LA	115	1.7	105	7.3
PK62LA	230	1.1	105	7.3

Optional Belt Kits

Unit Number	Motor H.P.	Kit Number
IS 500	3	Belt A83
ID 500	3	Belt A79

Note: ID/IS 500 .8" static pressure and higher requires belt change to above

Certified Air Delivery at Various External Static Pressures

- Blower RPM values based on motor RPM 1725
- AMCA Licensed Ratings

			External Static Pressure - inches H2O																								
			0"		.1"		.2"		.3"		.4"		.5"		.6"		.7"		.8"		.9"		1.0"				
CFM UP TO 10,000	Unit	Media	HP	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM	CFM	RPM		
	ID/IS500	8" Media	WS080	3/4	6950	280	6500	290	6150	305	5750	319	5250	328	4575	355	3900	379	3375	396	2900	420	2475	451	1975	478	
1				7650	308	7250	315	6900	330	6575	343	6200	354	5700	363	5075	390	4450	412	3925	430	3475	447	3075	470		
1 1/2				8850	350	8400	359	8100	369	7800	382	7500	392	7150	402	6800	410	6300	420	5725	450	5175	469	4700	485		
2				9675	386	9300	392	9025	400	8775	412	8500	424	8200	435	7900	443	7550	451	7150	457	6675	472	6150	502		
3				9875	400	9875	415	9875	432	9875	450	9875	468	9775	484	9550	493	9300	502	9000	508	8700	515	8350	520		
CFM UP TO 17,000	ID/IS601	8" Media	WS080	1	8725	255	8275	268	7775	282	7300	295	6825	310	6350	326	5850	342	5300	360	4700	383	4050	418	3475	446	
				1 1/2	10000	292	9625	304	9200	315	8750	327	8325	339	7900	352	7475	366	7075	379	6625	393	6150	409	5650	428	
				2	11000	321	10675	332	10275	342	9875	353	9500	364	9125	375	8700	387	8350	399	7975	412	7575	423	7175	436	
				3	12600	369	12300	378	11975	386	11650	395	11300	404	10950	413	10600	424	10275	434	9925	445	9600	456	9275	466	
				5	14950	438	14700	445	14425	452	14150	460	13875	468	13575	474	13275	482	12975	490	12700	499	12400	506	12125	516	
				7 1/2	17100	500	16900	507	16675	514	16425	520	16200	526	15925	532	15675	540	15425	546	15150	553	14900	560	14650	568	
CFM UP TO 19,750	ID/IS701 IUP701	8" Media	WS080	1	10050	186	9725	210	9150	226	8475	242	7825	259	7075	277	6400	315	5975	343	5475	365	5125	385	4850	403	
				1 1/2	11500	212	11250	235	10900	251	10250	264	9675	278	9100	293	8500	306	7700	325	7300	348	6975	369	6550	410	
				2	12700	235	12450	255	12125	270	11750	284	11075	295	10550	309	10050	321	9525	332	8875	348	8375	369	7950	410	
				3	14500	268	14300	286	14075	302	13775	314	13300	324	12825	335	12350	347	11875	358	11425	370	10975	380	10425	392	
				5	17250	320	17100	334	16900	350	16700	360	16450	371	16125	380	15600	388	15175	397	14800	407	14425	416	14025	426	
				7 1/2	19750	366	19600	380	19450	392	19300	405	19100	414	18875	422	18600	431	18250	439	17825	445	17450	453	17100	462	
				OPERATION NOT RECOMMENDED IN THIS AREA, WATER ENTRAINMENT WILL OCCUR.								19750	412	19750	424	19750	436	19750	449	19750	461	19750	472	19750	483	19500	495

Do not exceed listed rpm, motor current draw (FLA) will be less than nameplate. Water entrainment may occur if operated at higher rpm's than indicated.

Sheave Selection

Blower RPM values based on motor RPM 1725

Model Number	Motor H.P.	Browning	Bore	Blower RPM - Sheave Turns Open						PMI Part
				5	4	3	2	1	0	
ID/IS 500	3/4, 1, 1 1/2, 2	1VL 34	5/8	252	279	305	332	358	385	S1
ID/IS 500	1, 1 1/2, 2	1VL 34	7/8	252	279	305	332	358	385	S1A
ID/IS 500	3/4, 1, 1 1/2, 2	1VP 40	5/8	318	345	372	398	425	451	S2
ID/IS 500	1, 1 1/2, 2	1VL 40	7/8	318	345	372	398	425	451	S2A
ID/IS 500	3/4, 1, 1 1/2, 2	1VL 44	5/8	372	398	425	451	478	504	S3
ID/IS 500	1, 1 1/2, 2	1VL 44	7/8	372	398	425	451	478	504	S3A
ID/IS 500	1, 1 1/2, 2	1VM 50	5/8	451	478	504	531	557	584	S4A
ID/IS 500	1, 1 1/2, 2	1VM 50	7/8	451	478	504	531	557	584	S4
ID/IS 500	3	1VP 44	1 1/8	372	398	425	451	478	504	S3B
ID/IS 500	3	1VP 50	1 1/8	451	478	504	531	557	584	S4B
ID/IS 601	1	2VP 36	5/8	192	211	230	249	268	288	S5
ID/IS 601	1	2VP 36	7/8	192	211	230	249	268	288	S5A
ID/IS 601	1, 1 1/2, 2	2VP 42	5/8	249	268	288	307	326	345	S6A
ID/IS 601	1, 1 1/2, 2	2VP 42	7/8	249	268	288	307	326	345	S6
ID/IS 601	1, 1 1/2, 2	2VP 50	5/8	326	345	364	383	403	422	S8A
ID/IS 601	1, 1 1/2, 2	2VP 50	7/8	326	345	364	383	403	422	S8B
ID/IS 601	1, 2	2VP 60	5/8	383	403	422	441	461	479	S9A
ID/IS 601	1, 2	2VP 60	7/8	403	422	441	460	479	498	S9B
ID/IS 601	3	2VP 50	1 1/8	326	345	364	383	403	422	S8
ID/IS 601	3,5	2VP 60	1 1/8	403	422	441	460	479	498	S9
ID/IS 601	5	2VP 65	1 1/8	450	470	489	508	527	546	S10A
ID/IS 601	7 1/2	2VP 65	1 3/8	450	470	489	508	527	546	S10
ID/IS 601	7 1/2	2VP 68	1 3/8	498	518	537	556	575	594	S12
ID/IS/IUP 701	1, 1 1/2, 2	2VP 36	5/8	192	211	230	249	268	288	S5
ID/IS/IUP 701	1, 1 1/2, 2	2VP 36	7/8	192	211	230	249	268	288	S5A
ID/IS/IUP 701	1, 1 1/2, 2	2VP 42	5/8	249	268	288	307	326	345	S6A
ID/IS/IUP 701	1, 1 1/2, 2	2VP 42	7/8	249	268	288	307	326	345	S6
ID/IS/IUP 701	1, 1 1/2, 2	2VP 50	5/8	326	345	364	383	403	422	S8A
ID/IS/IUP 701	1, 1 1/2, 2	2VP 50	7/8	326	345	364	383	403	422	S8B
ID/IS/IUP 701	3	2VP 42	1 1/8	249	268	288	307	326	345	S7
ID/IS/IUP 701	3, 5	2VP 50	1 1/8	326	345	364	383	403	422	S8
ID/IS/IUP 701	5	2VP 60	1 1/8	403	422	441	460	479	498	S9
ID/IS/IUP 701	7 1/2, 10	2VP 60	1 3/8	403	422	441	460	479	498	S9C
ID/IS/IUP 701	10	2VP 65	1 3/8	450	470	489	508	527	546	S10

Sheave Selection

All sheaves listed are adjustable to meet the blower speed RPM requirements for your application. Using the model number combined with the motor horse power and blower RPM, use this chart to locate the corresponding part number in the far right column.

Motors of varying and identical horse power may have different motor shaft sizes. Be certain the motor shaft diameter and motor sheave bore size are the same size.

UL Classified Models

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



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.

Example: UID601 & UWS080

See complete marking on product

Technical Motor Specifications

Model Number	H.P.	Phase	Volt	Amperage	Weight/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
M163	3/4	3	208-230 / 460	2.7-2.8 / 1.4	22	Resilient	56	5/8
*M181	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
M166	1	3	208-230 / 460	3.3-3.1 / 1.6	40	Rigid	143T	7/8
M167	1	3	200	3.6	40	Rigid	143T	7/8
*M168	1 - 2 spd.	1	230	7.2	32.4	Resilient	56	5/8
*M169	1 1/2	1	115 / 208-230	18 / 9.3-9	41.7	Resilient	56H	5/8
M170	1 1/2	3	208-230 / 460	4.6-4.4 / 2.2	40	Rigid	145T	7/8
M171	1 1/2	3	200	5.1	40	Rigid	145T	7/8
*M172	2	1	115 / 208-230	21 / 11.3-10	50	Resilient	56H	5/8
M173	2	3	208-230 / 460	6.2-5.8 / 2.9	44	Rigid	145T	7/8
M174	2	3	200-208	6.7 / 6.0	44	Rigid	145T	7/8
M176	3	3	208-230 / 460	8.4-7.8 / 3.9	75	Rigid	182T	1 1/8
M177	3	3	200-208	10.6 / 10.2	55	Rigid	182T	1 1/8
M178	5	3	208-230 / 460	13.6-12.4 / 6.2	81	Rigid	184T	1 1/8
M179	5	3	200-208	15.2-14.6	70	Rigid	184T	1 1/8
M182	7 1/2	3	208-230 / 460	19.2-9.6	121	Rigid	213T	1 3/8
M183	10	3	208-230 / 460	28.6-26.4 / 13.2	130	Rigid	215T	1 3/8

All 1 Hp and greater, 3 phase motors are high efficiency and meet U.S. EPACT levels.

*Indicates the motor is thermally protected, eliminating the need for external starting devices.

The Commercial Series by Aerocool® cools better and requires less maintenance than conventional coolers.

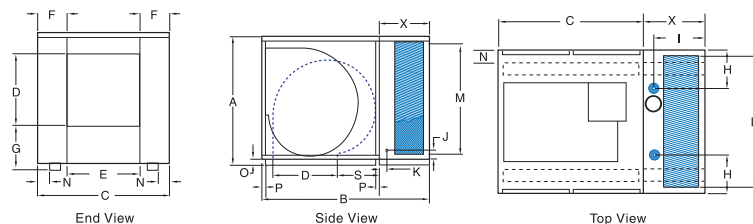
Aerocool Commercial Evaporative Coolers Feature:

- Metal Skids under each module for roof mounting. Lift brackets are supplied for lifting to installation site.
- Each dry section comes with belt included.
- Models ID/IS 500 requires one pump. Models ID/IS 601 and ID/IS/IUP 701 require 2 pumps. (PK60LA or PK62LA)
- Knockout for electrical service is 7/8".
- Water supply line is 1/4" O.D. and service can be from either side.
- Bottom pan drain is 3/4" male hose thread.

Model #	QTY	Blower Module	Wet Module	CFM	E.S.P.	Motor Specifications			
						H.P.	Voltage	Phase	Amps
Model #						H.P.	Voltage	Phase	Amps
QTY									
Model #						H.P.	Voltage	Phase	Amps
QTY									
Model #						H.P.	Voltage	Phase	Amps
QTY									
Model #						H.P.	Voltage	Phase	Amps
QTY									

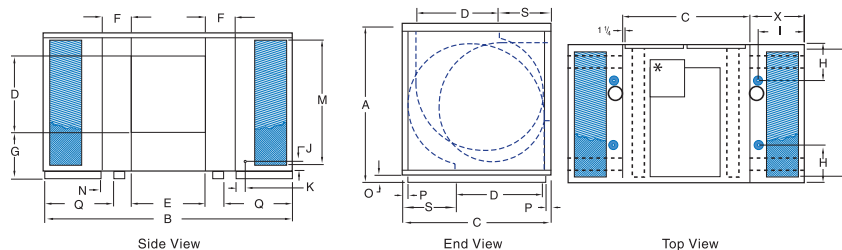
Single Inlet Discharge

Model ID/IS 500



Dual Inlet Discharge

Model ID/IS 601 and ID/IS/IUP 701



Optional Accessories

Notes:

Contractor

Submitted By:

Phoenix Manufacturing, Inc. produces this equipment, with pride and craftsmanship, in the U.S.A. As a leader in our country's evaporative cooler production, we continuously strive to offer product improvements and reserve the right to change specifications and designs without notice.

* Weights include appropriate number of WS80 but excludes motor, sheave and pumps

AeroCool Commercial/Industrial Engineering Data

Model Number	Cabinet Dimensions (Inches)																			Ship Weight*	. Weight	Blower Wheel Dia x Width	Blower Pulley Pitch Diameter				
	Duct Opening									Drain Loc.		Water Svc.		Media		Skid Location								Belts			
	H	W	D	Wet Cab	Duct Opening					H	I	J	K	L	M	N	O	P	Q					QTY	SIDE	DOWN	UP
ID500	51 5/8	66	49	17	27	26 7/8	17 1/4	11 1/16	N/A	13	13 3/8	5	3 7/16	48	44 1/2	4 1/2	2 1/2	1 1/8	-	1	A80	A77	-	460	538	24 X 24	13" Single
IS500	51 5/8	66	49	17	27	26 7/8	N/A	11 1/16	16 3/4	13	13 3/8	5	3 7/16	48	44 1/2	4 1/2	2 1/2	1 1/8	-	1	A80	A77	-	460	538	24 X 24	13" Single
ID601	51 5/8	83	49	17	27	26 7/8	17 1/4	11 1/16	N/A	13	13 3/8	5	3 7/16	48	44 1/2	1 7/8	2 1/2	1 1/8	21 1/4	2	A98	A98	-	595	719	24 x 24	18" Dual
IS601	51 5/8	83	49	17	27	26 7/8	N/A	11 1/16	16 3/4	13	13 3/8	5	3 7/16	48	44 1/2	1 7/8	2 1/2	1 1/8	21 1/4	2	A98	A98	-	595	719	24 x 24	18" Dual
ID/IS 701	51 5/8	83	49	17	31 3/4	31 3/4	14 7/8	8 5/8	17 3/8	13	13 3/8	5	3 7/16	48	44 1/2	1 7/8	2 1/2	1 5/8	18 7/8	2	A90	A85	-	619	775	28 x 28	18" Dual
IUP 701	51 5/8	83	49	17	31 3/4	31 3/4	13 3/4	8 5/8	N/A	13	13 3/8	5	3 7/16	48	44 1/2	1 7/8	2 1/2	1 5/8	18 7/8	2	-	-	A90	619	775	28 x 28	18" Dual

AEROCOOL® Evaporative Coolers and components are designed and tested in accordance with one or more of the following standards or agencies: **AIR DELIVERY** - data published derived from tests conducted in accordance with A.M.C.A. (Air Movement and Control Assoc.) standard 210. **EVAPORATIVE MEDIA** - Specially corrugated cellulose material, impregnated with insoluble antirrot salts and rigidifying saturants. **SEALANT** - water immersion per ASTM D870. **FLEXIBILITY** - per ASTM D756. **CORROSION RESISTANCE** - per ASTM B117. **PENCIL HARDNESS** - per ASTM D3363. **IMPACT RESISTANCE** - per D2794. **FLEXIBILITY** - per ASTM D522. **SURFACE BURNING CHARACTERISTICS** of building materials (best rating) per UL 723 and ASTM E-84. **SINGLE PHASE MOTOR** tested under UL standard #547 for locked rotor and heat rise protection. **BLOWER WHEEL** - balanced in accordance with ISO 1940 and A.N.S.I. standard S2.19, quality grade G6.3.



PHOENIX MANUFACTURING, INC.
"Committed to Customer Success"™

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