

High Capacity, High Efficiency Evaporative Cooling for Garden Centers and Greenhouse Applications

Features

- Available in 4 sizes from 9,100 to 18,800 cfm delivery air @ 0.0" W.G
- Factory tested and shipped ready to operate, including factory wired components
- ETL Listed and labeled in accordance with U.L. standards
- Copper-wound, heavy duty ball bearing motors
- One high capacity pump provides complete media saturation
- Self-aligning, heavy duty, greaseable, pillow block, ball type fan bearings
- Fan performance is factory set to job specific specifications
- Premium 8" thick cross fluted 80% efficient media
- Lifting sky hooks
- The most up-to-date propeller type axial fan affords maximum air delivery while minimizing horsepower
- Heavy gauge, hot dipped galvanized steel construction
- Epoxy powder base paint finish baked on at 375°
- Rugged cabinet assembly with double thick steel corners
- Discharge safety grill
- Easily accessible external distributor clean-outs
- Side access media removal
- Adjustable motor sheave for air flow adjustment

• 600 Series

- **UMP-644**
-Side Discharge
- **UMP-644x2**
-Side Discharge

Available Options

- Class II, U.L. 900 media
- Pre-wired control packages
- Distribution flush system
- Freeze protection
- Self-tensioning belt
- Installation accessories
- Fused and non-fused disconnects

Resources Available for This Product

- Catalog By Mail
- Catalog Online



Patent #4774030 or other patents pending

United Metal Products

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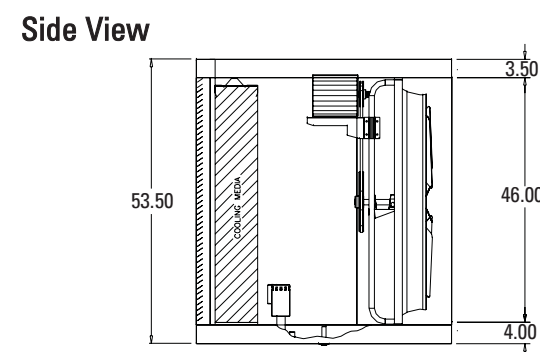
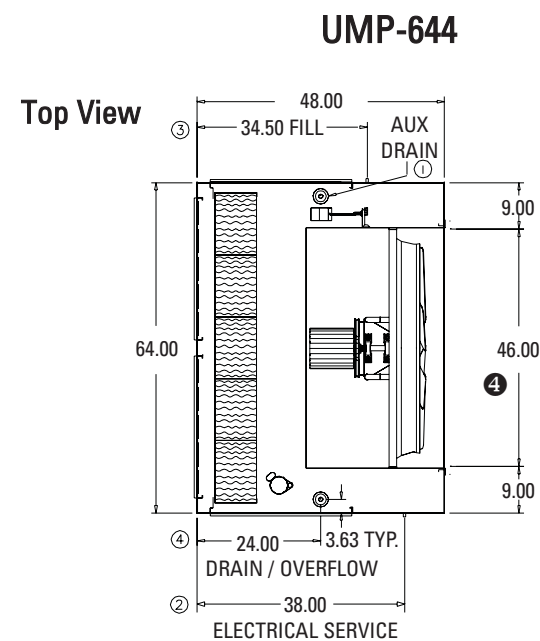
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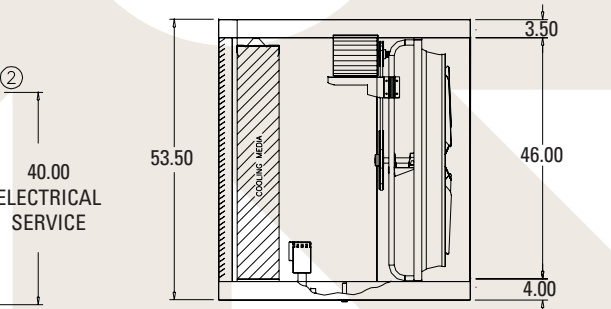
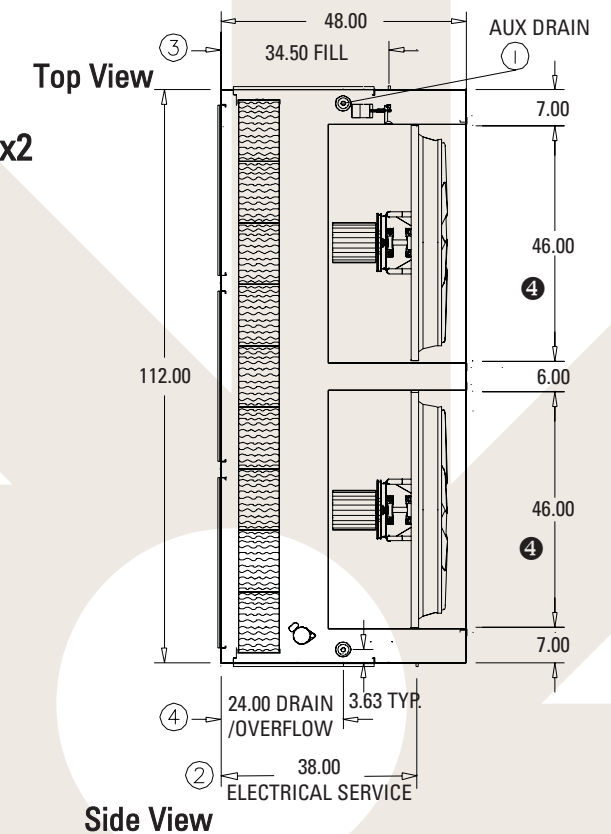
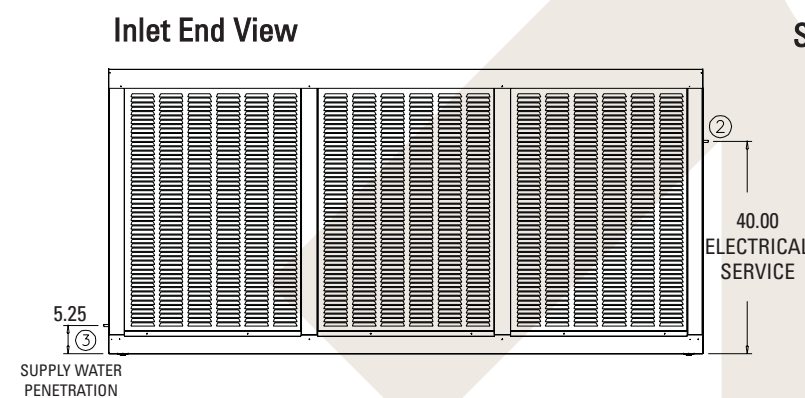
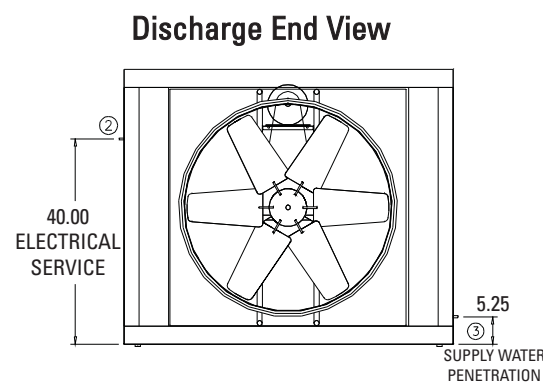


Model	Industry Standard Rating	AMCA LICENSED AIR DELIVERY IN CUBIC FEET PER MINUTE										ELECTRICAL SPECIFICATIONS					FAN UNIT		Evaporative Media Qty.-Depth x Width x Height	Weights (Lbs) ③		
		Inches Static Pressure (W.G.) ①										Fan Motor ②			Pump ⑤		Fan			Shipping	Operate	
		0		0.1		0.2		0.3		0.4		HP	Max BHP	Volt/Phase 115/208/230 1-Phase Amps	Volt/Phase 208/230/460 3-Phase Amps	GPH @ 5' Head	Volt/Phase 115/ 1-Phase Amps	Dia.				Max RPM
UMP-644 Side	10,000	9,167	378	6,511	378	4,768	378	2,123	378	--	--	1/2	0.58	9.8/5.4/4.9	2.4/2.2/1.1	450	1.7	42"	690	5 - 8" x 12" x 44"	492	792
	12,000	10,485	485	8,545	485	7,140	485	5,821	485	4,082	485	1	1.15	16.0/8.8/8.0	4.6/4.2/2.1	450	1.7	42"	690	5 - 8" x 12" x 44"	494	794
UMP-644x2 Side	16000	16,500	340	11,080	340	6,813	340	2,995	340	--	--	(2) 1/2	(2) 0.58	(2) 9.8/5.4/4.9	(2) 2.4/2.2/1.1	820	2.3	42"	690	9 - 8" x 12" x 44"	934	1,444
	21000	18,850	437	15,115	437	11,046	437	8,372	437	--	--	(2) 3/4	(2) 0.86	(2) 13.8/7.6/6.9	(2) 3.5/3.2/1.6	820	2.3	42"	690	9 - 8" x 12" x 44"	938	1,448

* Performance rating include the effects of the evaporative media, inlet louver, motor and drives in the airstream.
 * Performance shown is for installation Type B: Free Inlet, Ducted Outlet
 * Power rating (BHP) does not include drive losses.



- ① The UMP-600 Series fan type evaporative coolers are only designed for straight side duct or non ducted applications. External static pressure ranges of 0.0" to 0.2". Higher ESP are only shown to demonstrate fan characteristics and performance with loaded media. For ducted applications with external static pressures exceeding 0.2" a UMP-800 or 900 series blower model is recommended.
 - ② Only motors with 1 HP or less are provided with integral thermal protection. Motors 1.5 HP or greater require a separate motor overload device. Amperage ratings shown are NEC. Usable at 208v. Consult factory for overload and control options.
 - ③ Weights are in pounds and include motors, pumps and drives. Operating weights include saturated media and assumes 2.5" depth of water in sump. Weights exclude optional accessories such as curb, diffuser and controls.
 - ④ Minimum duct sizing should equal discharge dimension. Consult factory for special applications.
 - ⑤ 230v pumps are available; contact UMP for details.
- ① Auxiliary drain utilized only with optional freeze protection or distribution flush system. Consult factory for special applications.
 ② 7/8" Electrical service entrance for 1/2" conduit.
 ③ 3/8" Compression fitting connection made inside unit. Minimum water pressure recommended to deliver the volume needed to meet high summer evaporation and bleed requirements: UMP-644 = 15 p.s.i. UMP-644x2 = 30 p.s.i. Do not exceed 125 p.s.i.
 ④ 3/4" Male hose thread.



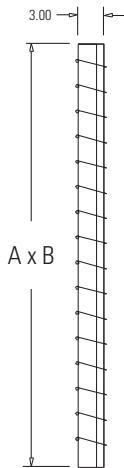


UMP-600 Optional Accessories

Description	Part #	Material	Pressure Drop @ 800 FPM	A	B	Weight in Lbs.
UMP-644 Auto Damper Diffuser	80662	Aluminum	.07"	46.00"	46.00"	30
UMP-644x2 Auto Damper Diffuser	80664	Aluminum	.07"	46.00"	46.00"	(2) 30

AUTO DAMPER DIFFUSER

* Accessories can be factory mounted in fan opening upon request

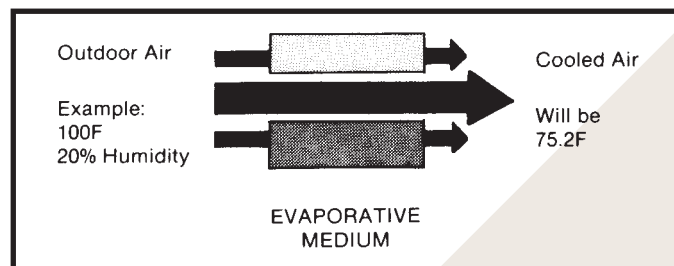


Principles of Evaporative Air Cooling

Evaporative air cooling is a dynamic space conditioning tool, characterized by low energy consumption and associated operating economy. There are two basic principles on which its effectiveness is based: (1) adiabatic heat transfer, to lower the temperature of outside air; (2) forced movement of a high volume of this cooled outside air through the area to be cooled.

HOW AN EVAPORATIVE COOLER COOLS

1. Adiabatic heat transfer: nature's cooling mechanism. Evaporating water cools the air by converting the air's "sensible" heat - heat we can feel with our senses - to "latent" heat that we **don't** feel suspended in the vaporized moisture. An ordinary **dry bulb** thermometer measures the heat people feel. A thermometer with a wet wick can measure the combined effect of both sensible **and** latent heat. As air becomes saturated with water vapor, the wet bulb reading remains constant; hence, the term "adiabatic" (without heat loss or gain). Yet sensible heat, as it's converted to insensible latent heat, **drops, lowering the dry bulb temperature that people can feel.**
2. Moving a high volume of air, the effective temperature of the evaporatively cooled air is reduced still further by the effect of air movement (velocity).



Moreover, the introduction of a high volume of fresh, filtered air provides complete and continual ventilation of the conditioned space.

