

***Packaged Commercial / Industrial Evaporative Cooling
2,000 to 7,000 cfm with 100 to 400 MBH Natural Vented Gas Fired Furnace***

Features

- #409 stainless steel heat exchanger and burner / 20-60 °F or 20-100 °F temperature rise
- L.P. or Natural gas
- External static pressure range of 0.25" to 1.25" W.G.
- 2" Pre-filters
- Factory tested and shipped ready to operate, including factory wired components
- Single point power panel with pre-wired control packages
- ETL listed and labeled in accordance with U.L.1995 standard
- Copper-wound, heavy duty ball bearing motors
- One high capacity pump provides complete media saturation
- Self-aligning, heavy duty, greasable, ball type fan bearings
- Fan performance is factory set to job specific specifications
- Lifting points incorporated in base frame
- Premium 12" thick CELdek cross fluted media for 90% evaporative efficiency
- Heavy gauge, hot dipped galvanized steel construction
- Epoxy powder base paint finish baked on at 375°
- Rugged cabinet assembly with double thick steel corners
- "Rain-Tight" pitched top construction (1/4"/12")
- Easily accessible external distributor clean-outs
- Side access media removal
- Adjustable motor sheave for air flow adjustment

• 800 Series - With Heat

- UMP-824S-WH
- UMP-839S-WH
- Side/End Discharge Only

Available Options

- 2-Stage or modulating furnace
- Standard or High Temp Furnaces
- 1 or 2-Speed blower motor
- Class II, U.L. 900 GLASdek media
- 8" thick evaporative media
- Distribution flush system
- Freeze protection
- Hinged access door
- Installation accessories
- Fused and non-fused disconnects
- Equipment supports
- Adjustable pitch roof jacks
- Downstairs controls

Resources Available for This Product

- Catalog By Mail
- Catalog Online



United Metal Products

1920 E Encanto Drive Tempe, AZ 85281
T 480.968.9550
F 480.968.9555
www.unitedmetal.com



Table 1: UMP-824S-WH & UMP-839S-WH SINGLE SPEED PERFORMANCE (3-phase motors shown)

Model Number	CFM	Furnace		0.25" ESP						0.50" ESP						0.75" ESP						
		Input MBH *	Temp Rise F	Fan	BHP	HP	RPM	SHIP	OP.	Fan	BHP	HP	RPM	SHIP	OP.	Fan	BHP	HP	RPM	SHIP	OP.	
UMP-824S-WH	2,000	100 - L	36.9	10	0.60	0.75	992	740	877	10	0.72	1	1092	742	879	10	0.83	1	1188	742	879	
		150 - L	55.3	10	0.61	0.75	988	763	900	10	0.72	1	1088	765	902	10	0.83	1	1189	765	902	
		200 - L	24.6	12	1.06	1.5	884	756	893	12	1.22	1.5	962	756	893	12	1.38	1.5	1036	756	893	
	3,000	150 - L	36.9	12	1.05	1.5	878	779	916	12	1.21	1.5	956	779	916	12	1.37	1.5	1031	779	916	
		200 - L	49.2	12	1.02	1.5	862	819	956	12	1.18	1.5	941	819	956	12	1.33	1.5	1016	819	956	
		250 - H	61.4	12	1.08	1.5	894	859	996	12	1.24	1.5	971	859	996	12	1.40	1.5	1045	859	996	
	4,000	150 - L	27.6	15	1.48	2	790	809	946	15	1.69	2	853	809	946	15	2.36	3	1129	804	941	
		200 - L	36.9	15	1.40	2	766	849	986	15	1.62	2	831	849	986	15	1.84	2	893	849	986	
		250 - L	46.1	15	1.40	2	766	889	1,026	15	1.62	2	831	889	1,026	15	1.84	2	893	889	1,026	
	300 - L	55.3	15	1.40	2	766	889	1,026	15	1.62	2	831	889	1,026	15	1.84	2	893	889	1,026		
	UMP-839S-WH	5,000	150 - L	22.1	15	2.10	3	814	923	1,059	15	2.36	3	874	923	1,059	15	2.61	3	930	923	1,059
			200 - L	29.5	18	1.79	2	654	978	1,114	15	2.22	3	843	963	1,099	15	2.48	3	901	963	1,099
250 - L			36.9	18	1.79	2	654	1,018	1,154	15	2.22	3	843	1,003	1,139	15	2.48	3	901	1,003	1,139	
300 - L			44.2	18	1.79	2	654	1,018	1,154	15	2.22	3	843	1,003	1,139	15	2.48	3	901	1,003	1,139	
350 - L			51.6	18	1.62	2	617	1,109	1,245	15	2.08	3	807	1,094	1,230	15	2.32	3	867	1,094	1,230	
400 - L			59.0	18	1.62	2	617	1,109	1,245	15	2.08	3	807	1,094	1,230	15	2.32	3	867	1,094	1,230	
6,000		200 - L	24.6	18	2.59	3	707	994	1,130	18	2.93	5	760	1,006	1,142	15	3.56	5	965	975	1,111	
		250 - L	30.7	18	2.59	3	707	1,034	1,170	18	2.93	5	760	1,046	1,182	15	3.56	5	965	1,015	1,151	
		300 - L	36.9	18	2.59	3	707	1,034	1,170	18	2.93	5	760	1,046	1,182	15	3.56	5	965	1,015	1,151	
		350 - L	43.0	18	2.30	3	658	1,125	1,261	18	2.63	3	714	1,125	1,261	18	2.98	5	767	1,137	1,273	
		400 - L	49.2	18	2.30	3	658	1,125	1,261	18	2.63	3	714	1,125	1,261	18	2.98	5	767	1,137	1,273	
		400 - L	49.2	18	2.30	3	658	1,125	1,261	18	2.63	3	714	1,125	1,261	18	2.98	5	767	1,137	1,273	
7,000		200 - L	21.1	18	3.70	5	774	1,006	1,142	18	4.09	5	822	1,006	1,142	18	4.49	5	869	1,006	1,142	
		250 - L	26.3	18	3.68	5	772	1,046	1,182	18	4.07	5	820	1,046	1,182	18	4.47	5	866	1,046	1,182	
		300 - L	31.6	18	3.68	5	772	1,046	1,182	18	4.07	5	820	1,046	1,182	18	4.47	5	866	1,046	1,182	
		350 - L	36.9	18	3.22	5	711	1,137	1,273	18	3.60	5	762	1,137	1,273	18	4.00	5	811	1,137	1,273	
		400 - L	42.1	18	3.22	5	711	1,137	1,273	18	3.60	5	762	1,137	1,273	18	4.00	5	811	1,137	1,273	
		400 - L	42.1	18	3.22	5	711	1,137	1,273	18	3.60	5	762	1,137	1,273	18	4.00	5	811	1,137	1,273	
UMP-824S-WH	2,000	100 - L	36.9	10	0.95	1.5	1280	746	883	x	x	x	x	x	x	x	x	x	x	x		
		150 - L	55.3	10	0.94	1.5	1277	769	906	x	x	x	x	x	x	x	x	x	x	x		
		200 - L	24.6	10	1.89	2	1406	755	892	10	2.04	3	1475	771	908	10	2.04	3	1475	771	908	
	3,000	150 - L	36.9	10	1.88	2	1401	778	915	10	2.03	3	1469	794	931	10	2.00	3	1456	834	971	
		200 - L	49.2	10	1.85	2	1387	818	955	10	2.00	3	1456	834	971	10	2.00	3	1456	834	971	
		250 - H	61.4	10	1.91	2	1414	858	995	10	2.06	3	1483	874	1,011	10	2.06	3	1483	874	1,011	
	4,000	150 - L	27.6	12	2.56	3	1189	804	941	12	2.76	3	1248	804	941	12	2.76	3	1248	804	941	
		200 - L	36.9	12	2.49	3	1168	844	981	12	2.69	3	1227	844	981	12	2.69	3	1227	844	981	
		250 - L	46.1	12	2.49	3	1168	884	1,021	12	2.69	3	1227	884	1,021	12	2.69	3	1227	884	1,021	
	300 - L	55.3	12	2.49	3	1168	884	1,021	12	2.69	3	1227	884	1,021	12	2.69	3	1227	884	1,021		
	UMP-839S-WH	5,000	150 - L	22.1	15	2.87	3	983	923	1,059	12	4.05	5	1297	914	1,050	15	3.00	5	1008	975	1,111
			200 - L	29.5	15	2.73	3	955	963	1,099	15	3.00	5	1008	975	1,111	15	3.00	5	1008	1,015	1,151
250 - L			36.9	15	2.73	3	955	1,003	1,139	15	3.00	5	1008	1,015	1,151	15	3.00	5	1008	1,015	1,151	
300 - L			44.2	15	2.73	3	955	1,003	1,139	15	3.00	5	1008	1,015	1,151	15	3.00	5	1008	1,015	1,151	
350 - L			51.6	15	2.59	3	923	1,094	1,230	15	2.84	3	977	1,094	1,230	15	2.84	3	977	1,094	1,230	
400 - L			59.0	15	2.59	3	923	1,094	1,230	15	2.84	3	977	1,094	1,230	15	2.84	3	977	1,094	1,230	
6,000		200 - L	24.6	15	3.87	5	1016	975	1,111	15	4.16	5	1064	975	1,111	15	4.16	5	1064	1,015	1,151	
		250 - L	30.7	15	3.87	5	1016	1,015	1,151	15	4.16	5	1064	1,015	1,151	15	4.16	5	1064	1,015	1,151	
		300 - L	36.9	15	3.87	5	1016	1,015	1,151	15	4.16	5	1064	1,015	1,151	15	4.16	5	1064	1,015	1,151	
		350 - L	43.0	15	3.61	5	972	1,106	1,242	15	3.90	5	1022	1,106	1,242	15	3.90	5	1022	1,106	1,242	
		400 - L	49.2	15	3.61	5	972	1,106	1,242	15	3.90	5	1022	1,106	1,242	15	3.90	5	1022	1,106	1,242	
		400 - L	49.2	15	3.61	5	972	1,106	1,242	15	3.90	5	1022	1,106	1,242	15	3.90	5	1022	1,106	1,242	
7,000		200 - L	21.1	15	5.06	7.5	1044	1,008	1,144	15	5.73	7.5	1135	1,008	1,144	15	5.73	7.5	1135	1,008	1,144	
		250 - L	26.3	15	5.04	7.5	1042	1,048	1,184	15	5.73	7.5	1134	1,048	1,184	15	5.73	7.5	1134	1,048	1,184	
		300 - L	31.6	15	5.04	7.5	1042	1,048	1,184	15	5.73	7.5	1134	1,048	1,184	15	5.73	7.5	1134	1,048	1,184	
		350 - L	36.9	18	4.39	5	857	1,137	1,273	15	5.31	7.5	1079	1,139	1,275	15	5.31	7.5	1079	1,139	1,275	
		400 - L	42.1	18	4.39	5	857	1,137	1,273	15	5.31	7.5	1079	1,139	1,275	15	5.31	7.5	1079	1,139	1,275	
		400 - L	42.1	18	4.39	5	857	1,137	1,273	15	5.31	7.5	1079	1,139	1,275	15	5.31	7.5	1079	1,139	1,275	

* Furnace Input MBH -L denotes standard temperature rise furnace.
* Furnace Input MBH -H denotes high temperature rise furnace.

Performance data is at 0ft elevation using stamp-faced louver, 2" filters (midpoint Pd), 90% efficient 12" deep evaporative cooling media and the furnace / fan / motor combination shown.

8" deep media, CELdek® or GLASdek® media, 2-speed motors and our usual accessories are also available; call for details.

Temperature rise is shown for unit installations at elevations between 0 and 2000 ft. (610m).

For unit installations in U.S.A. above 2000 ft. (610m), the unit input must be derated by 4% for each 1000 ft. above sea level (example: 2500ft = x0.9, 4500ft = x0.82, etc); refer to local codes, or in the absence of local codes, refer to the National Fuel Gas Code, ANSI Standard Z223.1-1996 (N.F.P.A. No. 54), or the latest edition of.

Fan Data Table.

Fan	Max RPM	Max 1-Speed HP
18	1155	7.5
15	1328	7.5



Table 2: UMP-824S-WH 2-SPEED PERFORMANCE (3-phase motors shown)

Model Number	CFM Hi/Lo	Furnace		0.25" ESP					0.50" ESP					0.75" ESP								
		Input MBH *	Temp Rise F	Fan	BHP Hi / Lo	HP Hi / Lo	RPM Hi / Lo	SHIP	OP.	Fan	BHP Hi / Lo	HP Hi / Lo	RPM Hi / Lo	SHIP	OP.	Fan	BHP Hi / Lo	HP Hi / Lo	RPM Hi / Lo	SHIP	OP.	
UMP-824S-WH	2000 / 1322	100 - L	36.9	10	0.61	1	992	751	888	10	0.72	1	1092	751	888	10	0.83	1	1188	751	888	
			55.8		0.18	0.44	656				0.24	0.44	722				0.27	0.44	785			
		150 - H	55.3	10	0.71	1	1080	774	911	10	0.82	1	1176	774	911	10	0.93	1.5	1270	791	928	
			83.7		0.21	0.44	714				0.24	0.44	777				0.27	0.67	839			
		3000 / 1982	100 - L	24.6	12	1.06	1.5	884	778	915	12	1.22	1.5	962	778	915	12	1.38	2	1036	787	924
				37.2		0.51	0.67	584				0.56	0.67	636				0.6	0.89	685		
	150 - L		36.9	12	1.05	1.5	878	801	938	12	1.21	1.5	956	801	938	12	1.37	2	1031	810	947	
			55.8		0.33	0.67	580				0.38	0.67	632				0.52	0.89	681			
	200 - H		49.2	12	1.08	1.5	894	841	978	12	1.24	1.5	971	841	978	12	1.4	2	1045	850	987	
			74.4		0.31	0.67	591				0.36	0.67	642				0.40	0.89	691			
	250 - H		61.4	12	1.08	1.5	894	881	1018	12	1.24	1.5	971	881	1018	12	1.4	2	1045	890	1027	
			93.0		0.31	0.67	591				0.36	0.67	642				0.40	0.89	691			
	4000 / 2645		150 - L	27.6	15	1.48	2	790	831	968	15	1.69	2	853	831	968	12	2.36	3	1129	817	954
				41.8		0.49	0.89	522				0.68	0.89	564				0.74	1.3	746		
			200 - L	36.9	15	1.4	2	766	871	1008	15	1.62	2	831	871	1008	12	2.29	3	1107	857	994
				55.8		0.44	0.89	506				0.5	0.89	549				0.69	1.3	732		
		250 - H	46.1	15	1.56	2	813	911	1048	15	1.78	2	876	911	1048	12	2.43	3	1151	897	1034	
			69.7		0.45	0.89	537				0.51	0.89	579				0.70	1.3	761			
		300 - H	55.3	15	1.56	2	813	911	1048	15	1.78	2	876	911	1048	12	2.43	3	1151	897	1034	
			83.6		0.45	0.89	537				0.51	0.89	579				0.70	1.3	761			

Model Number	CFM Hi/Lo	Furnace		1.00" ESP					1.25" ESP							
		Input MBH *	Temp Rise F	Fan	BHP Hi / Lo	HP Hi / Lo	RPM Hi / Lo	SHIP	OP.	Fan	BHP Hi / Lo	HP Hi / Lo	RPM Hi / Lo	SHIP	OP.	
UMP-824S-WH	2000 / 1322	100 - L	36.9	10	0.95	1.5	1280	768	905	x	x	x	x	x	x	
			55.8		0.27	0.67	846				x	x	x			
		150 - H	55.3	x	x	x	x	x	x	x	x	x	x	x	x	x
			83.7		x	x	x					x	x	x		
		3000 / 1982	100 - L	24.6	10	1.89	3	1406	784	921	10	2.04	3	1475	784	921
				37.2		0.65	1.3	929				0.69	1.3	975		
	150 - L		36.9	10	1.88	3	1401	807	944	10	2.04	3	1475	807	944	
			55.8		0.57	1.3	926				0.61	1.3	975			
	200 - H		49.2	10	1.91	3	1414	847	984	10	2.06	3	1483	847	984	
			74.4		0.55	1.3	934				0.59	1.3	980			
	250 - H		61.4	10	1.91	3	1414	887	1,024	10	2.06	3	1483	887	1,024	
			93.0		0.55	1.3	934				0.59	1.3	980			
	4000 / 2645		150 - L	27.6	12	2.56	3	1189	817	954	12	2.76	3	1248	817	954
				41.8		0.80	1.3	786				0.86	1.3	825		
			200 - L	36.9	12	2.49	3	1168	857	994	12	2.69	3	1227	857	994
				55.8		0.75	1.3	772				0.81	1.3	811		
		250 - H	46.1	12	2.64	3	1211	897	1,034	12	2.84	3	1269	897	1,034	
			69.7		0.76	1.3	800				0.82	1.3	839			
		300 - H	55.3	12	2.64	3	1211	897	1,034	12	2.84	3	1269	897	1,034	
			83.6		0.76	1.3	800				0.82	1.3	839			

Performance data is at 0ft elevation using stamp-faced louver, 2" filters (midpoint Pd), 90% efficient 12" deep evaporative cooling media and the furnace / fan / 2-speed motor combination shown.

* Furnace Input MBH -A denotes standard temperature rise furnace.
* Furnace Input MBH -C denotes high temperature rise furnace.

8" deep media, CELdek® or GLASdek® media, 1-speed motors and our usual accessories are also available; call for details.

Temperature rise is shown for unit installations at elevations between 0 and 2000 ft. (610m).

For unit installations in U.S.A. above 2000 ft. (610m), the unit input must be derated by 4% for each 1000 ft. above sea level (example: 2500ft = x0.9, 4500ft = x0.82, etc); refer to local codes, or in the absence of local codes, refer to the National Fuel Gas Code, ANSI Standard Z223.1-1996 (N.F.P.A. No. 54), or the latest edition of.

Fan Data Table.

Fan	Max RPM	Max 2-Speed HP
18	1155	5
15	1328	5
12	1614	5
10	1934	5



Table 3: UMP-839S-WH 2-SPEED PERFORMANCE (3-phase motors shown)

Model Number	CFM Hi/Lo	Furnace		0.25° ESP					0.50° ESP					0.75° ESP								
		Input MBH *	Temp Rise F	Fan	BHP Hi/Lo	HP Hi/Lo	RPM Hi/Lo	SHIP	OP.	Fan	BHP Hi/Lo	HP Hi/Lo	RPM Hi/Lo	SHIP	OP.	Fan	BHP Hi/Lo	HP Hi/Lo	RPM Hi/Lo	SHIP	OP.	
UMP-839S-WH	5000 / 3603	150 - L	22.1	15	2.10	3	814	936	1072	15	2.36	3	874	936	1,072	15	2.61	3	930	936	1,072	
			33.5		0.73	1.3	538				0.80	1.3	578				1.15	1.3	615			
		200 - L	29.5	18	1.79	2	654	1000	1136	15	2.22	3	843	976	1,112	15	2.48	3	901	976	1,112	
			44.6		0.63	0.89	432				0.70	1.3	557				0.78	1.3	595			
		250 - L	36.9	18	1.79	2	654	1040	1176	15	2.22	3	843	1,016	1,152	15	2.48	3	901	1,016	1,152	
			55.8		0.63	0.89	432				0.70	1.3	557				0.78	1.3	595			
		300 - H	44.2	15	2.24	3	848	1016	1152	15	2.49	3	905	1,016	1,152	15	2.75	3	980	1,016	1,152	
			66.9		0.65	1.3	560				0.72	1.3	598				0.80	1.3	634			
		350 - H	51.6	15	2.25	3	850	1107	1243	15	2.51	3	908	1,107	1,243	15	2.76	3	982	1,107	1,243	
			78.1		0.65	1.3	562				0.73	1.3	600				0.80	1.3	636			
		400 - H	59.0	15	2.25	3	850	1107	1243	15	2.51	3	908	1,107	1,243	15	2.76	3	982	1,107	1,243	
			89.3		0.65	1.3	562				0.72	1.3	600				0.79	1.3	636			
	6000 / 3965	200 - L	24.6	18	2.59	3	707	1007	1143	15	3.27	5	912	1,017	1,153	15	3.56	5	965	1,017	1,153	
			37.2		0.96	1.3	467				1.05	2.2	603				1.13	2.2	638			
		250 - L	30.7	18	2.59	3	707	1047	1183	15	3.27	5	912	1,057	1,193	15	3.56	5	965	1,057	1,193	
			46.5		0.96	1.3	467				1.05	2.2	603				1.13	2.2	638			
		300 - L	36.9	18	2.59	3	707	1047	1183	15	3.27	5	912	1,057	1,193	15	3.56	5	965	1,057	1,193	
			55.7		0.96	1.3	467				1.05	2.2	603				1.13	2.2	638			
		350 - H	43.0	15	3.46	5	946	1148	1284	15	3.76	5	998	1,148	1,284	15	4.06	5	1047	1,148	1,284	
			65.2		1.00	2.2	625				1.08	2.2	660				1.17	2.2	692			
		400 - H	49.2	15	3.46	5	946	1148	1284	15	3.76	5	998	1,148	1,284	15	4.06	5	1047	1,148	1,284	
			74.3		1.00	2.2	625				1.09	2.2	660				1.17	2.2	692			
		7000 / 4623	200 - L	21.1	18	3.68	5	772	1048	1184	18	4.07	5	820	1,048	1,184	18	4.47	5	866	1,048	1,184
				31.9		1.24	2.2	510				1.36	2.2	542				1.36	2.2	572		
250 - L	26.3		18	3.68	5	772	1088	1224	18	4.07	5	820	1,088	1,224	18	4.47	5	866	1,088	1,224		
	39.9			1.24	2.2	510				1.36	2.2	542				1.36	2.2	572				
300 - L	31.6		18	3.68	5	772	1088	1224	18	4.07	5	820	1,088	1,224	18	4.47	5	866	1,088	1,224		
	47.8			1.24	2.2	510				1.36	2.2	542				1.36	2.2	572				
350 - L	36.9		18	3.22	5	711	1179	1315	18	3.60	5	762	1,179	1,315	18	4.00	5	811	1,179	1,315		
	55.8			0.97	2.2	470				1.08	2.2	504				1.19	2.2	536				
400 - H	42.1		18	4.53	5	873	1179	1315	x	x	x	x	x	x	x	x	x	x	x	x		
	63.8			1.30	2.2	577				x	x	x				x	x					

Model Number	CFM Hi/Lo	Furnace		1.00° ESP					1.25° ESP							
		Input MBH *	Temp Rise F	Fan	BHP Hi/Lo	HP Hi/Lo	RPM Hi/Lo	SHIP	OP.	Fan	BHP Hi/Lo	HP Hi/Lo	RPM Hi/Lo	SHIP	OP.	
UMP-839S-WH	5000 / 3603	150 - L	22.1	15	2.87	5	983	977	1,113	12	4.05	5	1297	956	1,092	
			33.5		1.22	2.2	650				1.29	2.2	857			
		200 - L	29.5	15	2.73	3	975	976	1,112	15	3.00	5	1008	1,017	1,153	
			44.6		0.85	1.3	644				0.93	2.2	666			
		250 - L	36.9	15	2.73	3	975	1,016	1,152	15	3.00	5	1008	1,057	1,193	
			55.8		0.85	1.3	644				0.93	2.2	666			
		300 - H	44.2	15	3.02	5	1012	1,057	1,193	15	3.28	5	1062	1,057	1,193	
			66.9		0.87	2.2	669				0.95	2.2	702			
		350 - H	51.6	15	3.03	5	1014	1,148	1,284	15	3.30	5	1064	1,148	1,284	
			78.1		0.88	2.2	670				0.95	2.2	703			
		400 - H	59.0	15	3.03	5	1014	1,148	1,284	15	3.30	5	1064	1,148	1,284	
			89.3		0.87	2.2	670				0.95	2.2	703			
	6000 / 3965	200 - L	24.6	15	3.87	5	1016	1,017	1,153	15	4.16	5	1064	1,017	1,153	
			37.2		1.22	2.2	671				1.31	2.2	703			
		250 - L	30.7	15	3.87	5	1016	1,057	1,193	15	4.16	5	1064	1,057	1,193	
			46.5		1.22	2.2	671				1.31	2.2	703			
		300 - L	36.9	15	3.87	5	1016	1,057	1,193	15	4.16	5	1064	1,057	1,193	
			55.7		1.22	2.2	671				1.31	2.2	703			
		350 - H	43.0	15	4.36	5	1094	1,148	1,284	15	4.68	5	1140	1,148	1,284	
			65.2		1.25	2.2	723				1.35	2.2	753			
		400 - H	49.2	15	4.36	5	1094	1,148	1,284	15	4.68	5	1140	1,148	1,284	
			74.3		1.26	2.2	723				1.35	2.2	753			
		7000 / 4623	200 - L	21.1	18	4.87	5	910	1,048	1,184	x	x	x	x	x	x
				31.9		1.36	2.2	601				x	x	x		
250 - L	26.3		18	4.87	5	910	1,088	1,224	x	x	x	x	x	x		
	39.9			1.36	2.2	601				x	x	x				
300 - L	31.6		18	4.87	5	910	1,088	1,224	x	x	x	x	x	x		
	47.8			1.36	2.2	601				x	x	x				
350 - L	36.9		18	4.39	5	857	1,179	1,315	x	x	x	x	x	x		
	55.8			1.30	2.2	566				x	x	x				
400 - H	42.1		x	x	x	x	x	x	x	x	x	x	x	x		
	63.8			x	x	x				x	x	x				

Performance data is at 0ft elevation using stamp-faced louver, 2" filters (midpoint Pd), 90% efficient 12" deep evaporative cooling media and the furnace / fan / 2-speed motor combination shown.

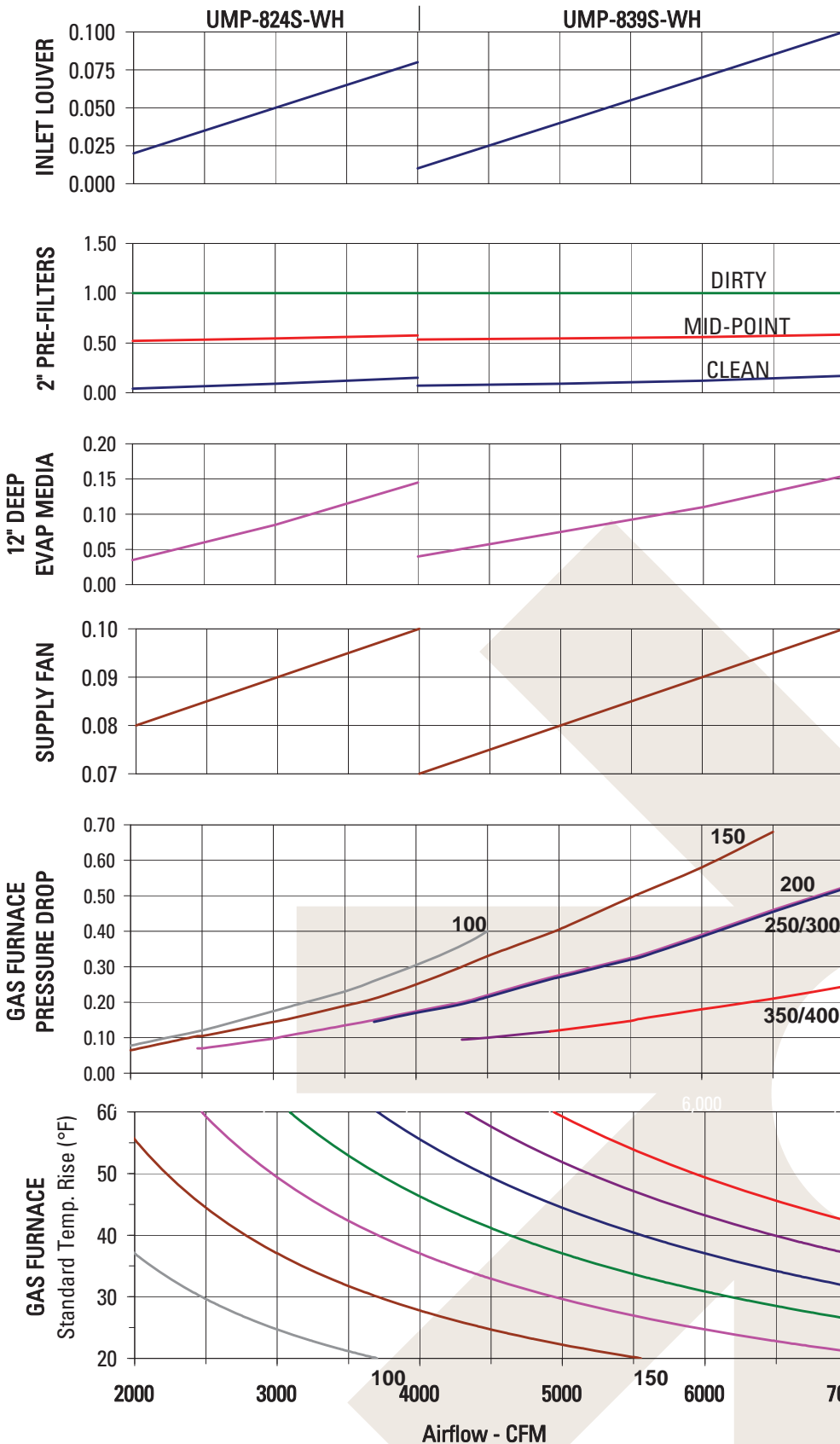
* Furnace Input MBH -A denotes standard temperature rise furnace.

* Furnace Input MBH -C denotes high temperature rise furnace.

8" deep media, CELdek® or GLASdek® media, 1-speed motors and our usual accessories are also available; call for details.

Temperature rise is shown for unit installations at elevations between 0 and 2000 ft. (610m).

For unit installations in U.S.A. above 2000 ft. (610m), the unit input must be derated by 4% for each 1000 ft. above sea level (example: 2500ft = x0.9, 4500ft = x0.82, etc); refer to local codes, or in the absence of local codes, refer to the National Fuel Gas Code, ANSI Standard Z223.1-1996 (N.F.P.A. No. 54), or the latest edition of.



**Standard Temperature-Rise
Furnaces (20-60 °F)**

Use these charts to determine the system Total Static Pressure (TSP) of the air handling system if the standard unit configuration in Table 1 does not apply.

United Metal Products will then select the best fan / motor combination for that application.

PROJECT INFORMATION

NAME: _____
 LOCATION: _____
 ALTITUDE: _____
 AIRFLOW: _____ CFM
 TEMP. RISE: _____ °F
 OR
 HEAT INPUT: _____ MBH

STATIC PRESSURE ANALYSIS:

INLET LOUVER: _____ "WG
 FILTERS: _____ "WG
 EVAP. MEDIA: _____ "WG
 SUPPLY FAN: _____ "WG
 FURNACE: _____ "WG
 ESP.: _____ "WG
 TSP.: _____ "WG

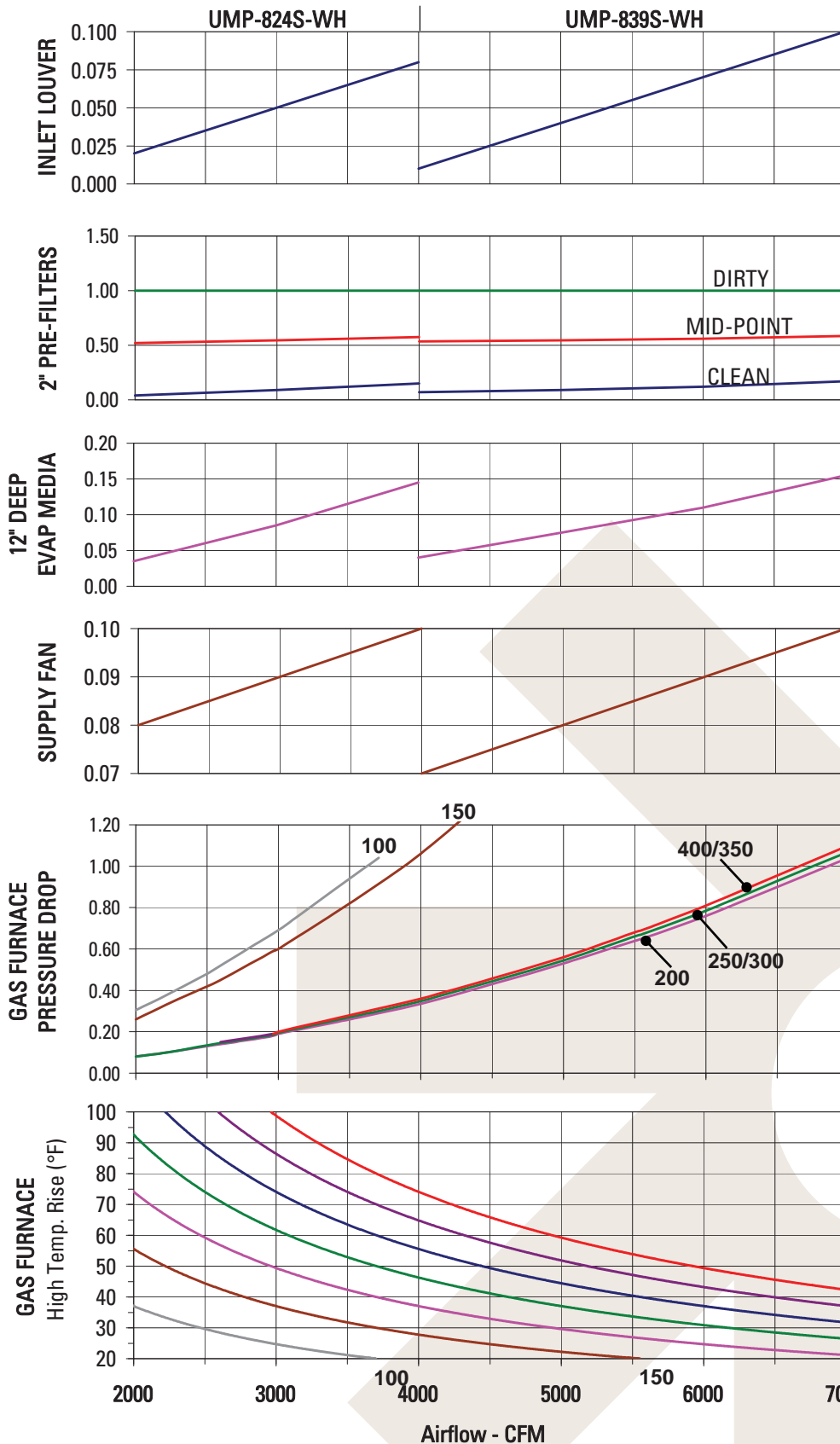
Formula

To properly select a unit, two of the three following items must be known:

- Temperature Rise (TR) required
- Cubic Feet per Minute (CFM) required
- Output (BTU/H OUT) required

From any two of these items the third item can be determined, as well as the Input (BTU/H IN) required as follows:
 (The value 1.085 represents a constant.)

- TR = BTU/H Out / (1.085 x CFM)
- CFM = BTU/H / (1.085 x TR)
- BTU/H Out = (CFM x 1.085) x TR
- BTU/H In = BTU/H Out / Efficiency .80 or .79



**High Temperature-Rise
Furnaces (20-100 °F)**

Use these charts to determine the system Total Static Pressure (TSP) of the air handling system if the standard unit configuration in Tables 2 and 3 do not apply.

United Metal Products will then select the best fan / motor combination for that application.

PROJECT INFORMATION

NAME: _____
 LOCATION: _____
 ALTITUDE: _____
 AIRFLOW: _____ CFM
 TEMP. RISE: _____ °F
 OR
 HEAT INPUT: _____ MBH

STATIC PRESSURE ANALYSIS:

INLET LOUVER: _____ "WG
 FILTERS: _____ "WG
 EVAP. MEDIA: _____ "WG
 SUPPLY FAN: _____ "WG
 FURNACE: _____ "WG
 ESP.: _____ "WG
 TSP.: _____ "WG

Formula

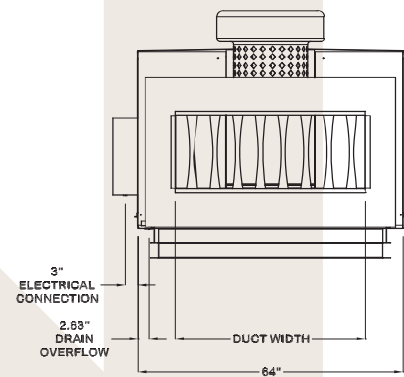
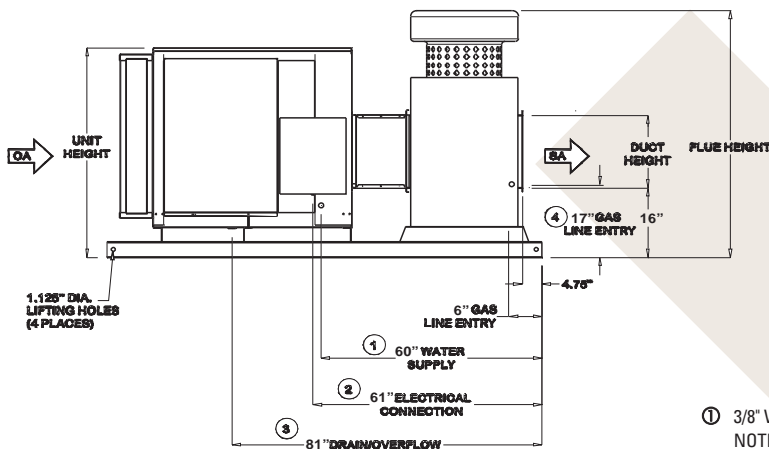
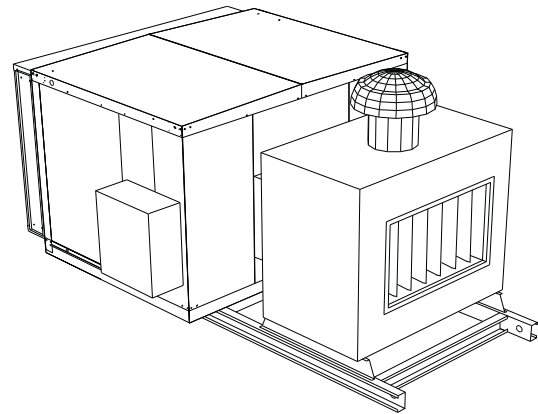
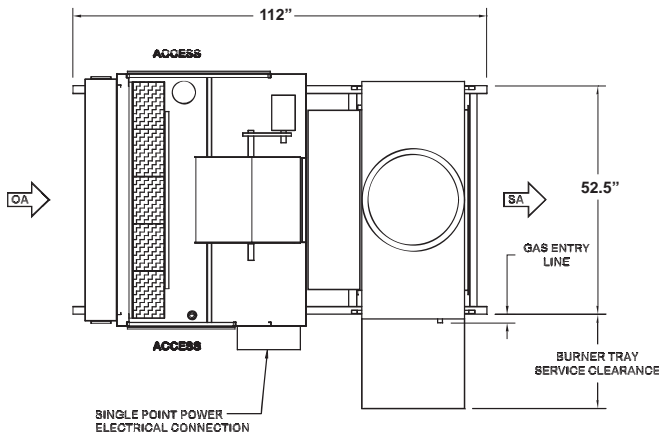
To properly select a unit, two of the three following items must be known:

- Temperature Rise (TR) required
- Cubic Feet per Minute (CFM) required
- Output (BTU/H OUT) required

From any two of these items the third item can be determined, as well as the Input (BTU/H IN) required as follows:

(The value 1.085 represents a constant.)

- $TR = BTU/H \text{ Out} / (1.085 \times CFM)$
- $CFM = BTU/H / (1.085 \times TR)$
- $BTU/H \text{ Out} = (CFM \times 1.085) \times TR$
- $BTU/H \text{ In} = BTU/H \text{ Out} / \text{Efficiency } .80 \text{ or } .79$



- ① 3/8" Water supply compression fitting connection made inside unit. NOTE: Minimum 50 p.s.i. of water pressure required for float.
- ② 7/8" Knockout electrical service entrance.
- ③ 3/4" Male hose thread drain connection.
- ④ See gas connection size below. Connection made inside furnace.
Natural Gas Inlet Pressure: 6-7"W.C. (14"W.C. Max).
Liquid Propane Inlet Pressure: 11-14"W.C. (14"W.C. Max).

Fan Motor Electrical Specifications (NEC 2005)

Motor HP	Single Speed		2-Speed	
	115/208/230 Volt 1-Phase Amps	208/230/460 Volt 3-Phase Amps	High Speed 115/230 Volt 1-Phase Amps	High Speed 208/230/460 Volt 3-Phase Amps
0.75	13.8 / 7.6 / 6.9	3.5 / 3.2 / 1.6	--	--
1	16.0 / 8.8 / 8.0	4.6 / 4.2 / 2.1	Available by special order.	4.6 / 4.2 / 2.1
1.5	20.0 / 11.0 / 10.0	6.6 / 6.0 / 3.0	--	6.6 / 6.0 / 3.0
2	24.0 / 13.2 / 12.0	7.5 / 6.8 / 3.4	--	7.5 / 6.8 / 3.4
3	-- / 18.7 / 17.0	10.6 / 9.6 / 4.8	--	10.6 / 9.6 / 4.8
5	--	14.7 / 15.2 / 7.6	--	16.7 / 15.2 / 7.6
7.5	--	24.2 / 22.0 / 11.0	--	--

Furnace Specifications

MBH	Gas Line Entry			Burner Tray Service Clearance	Flue Height	Supply Duct Width x Height	Min CFM Std / High Temp Rise Furnace
	Gas Conn. (W)	Inlet Size (Nat)	Inlet Size (LP)				
100	-9.0	0.50	0.5	11.0	58.0	18 x 19	1,235 / 714
150	-7.0	0.50	0.5	18.0	58.0	22 x 19	1,852 / 1,111
200	-6.0	0.50	0.5	21.0	62.0	24 x 23	2,469 / 1,481
250	-4.0	0.75	0.75	26.0	63.0	27 x 23	3,086 / 1,852
300	-4.0	0.75	0.75	26.0	63.0	27 x 23	3,704 / 2,222
350	+1.5	0.75	0.75	43.0	65.5	38.6 x 23	4,321 / 2,593
400	+1.5	0.75	0.75	43.0	65.5	38.6 x 23	4,938 / 2,963

Notes:

- * Low speed HP and amp draw for 2-Speed motors available on request.
- * Final flue arrangement is the responsibility of the installing contractor and must meet local codes.
- * Thermostats, equipment supports and roof jacks are available.
- * Contact United Metal Products for more information.

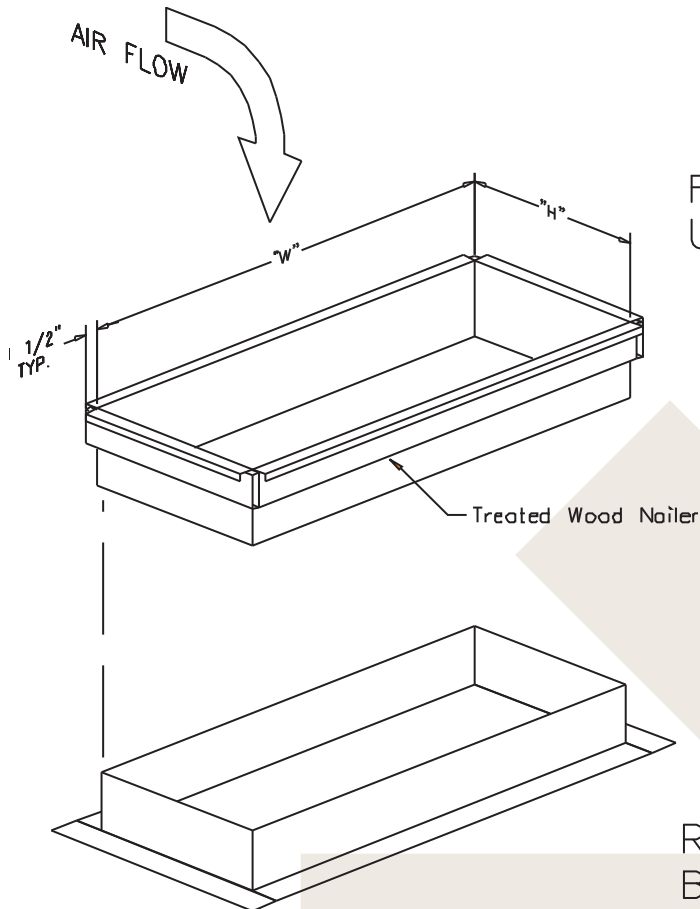
Evaporative Cooler Specifications

Model #	Unit Height	Filters	Evaporative Media	Pump	
		(Qty) - Depth x Width x Height	(Qty) - Depth x Width x Height	GPH @ 5' Head	Volt / Phase 115 1-Ph Amps
UMP-824S-WH	41	(3) - 2" x 20" x 24"	(5) - 12" x 12" x 24"	460	1.1
UMP-839S-WH	56	(6) - 2" x 20" x 20"	(5) - 12" x 12" x 39"	820	2.3

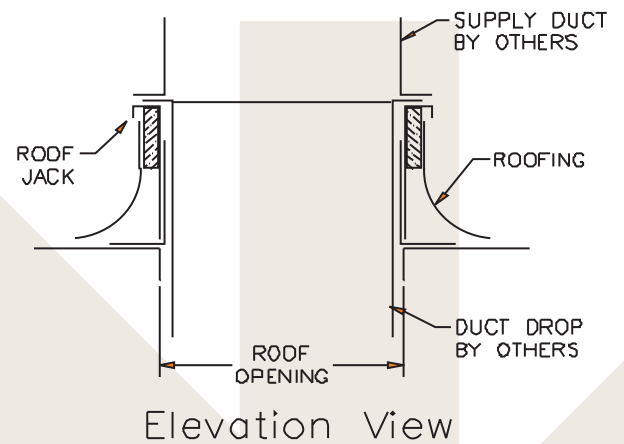


UMP-800S-WH Series: Adjustable Pitch Roof Jack for Supply Air Duct

(duct between the furnace and roof jack is supplied by others to suit site conditions)



Roof Jack
Upper Assembly



Elevation View

Roof Jack
Base Assembly

Adjustment Range	
Curb Height	Pitch
8"	1.5" per 12" max.

Jack Material
18ga G90 Galv. (unless otherwise specified)

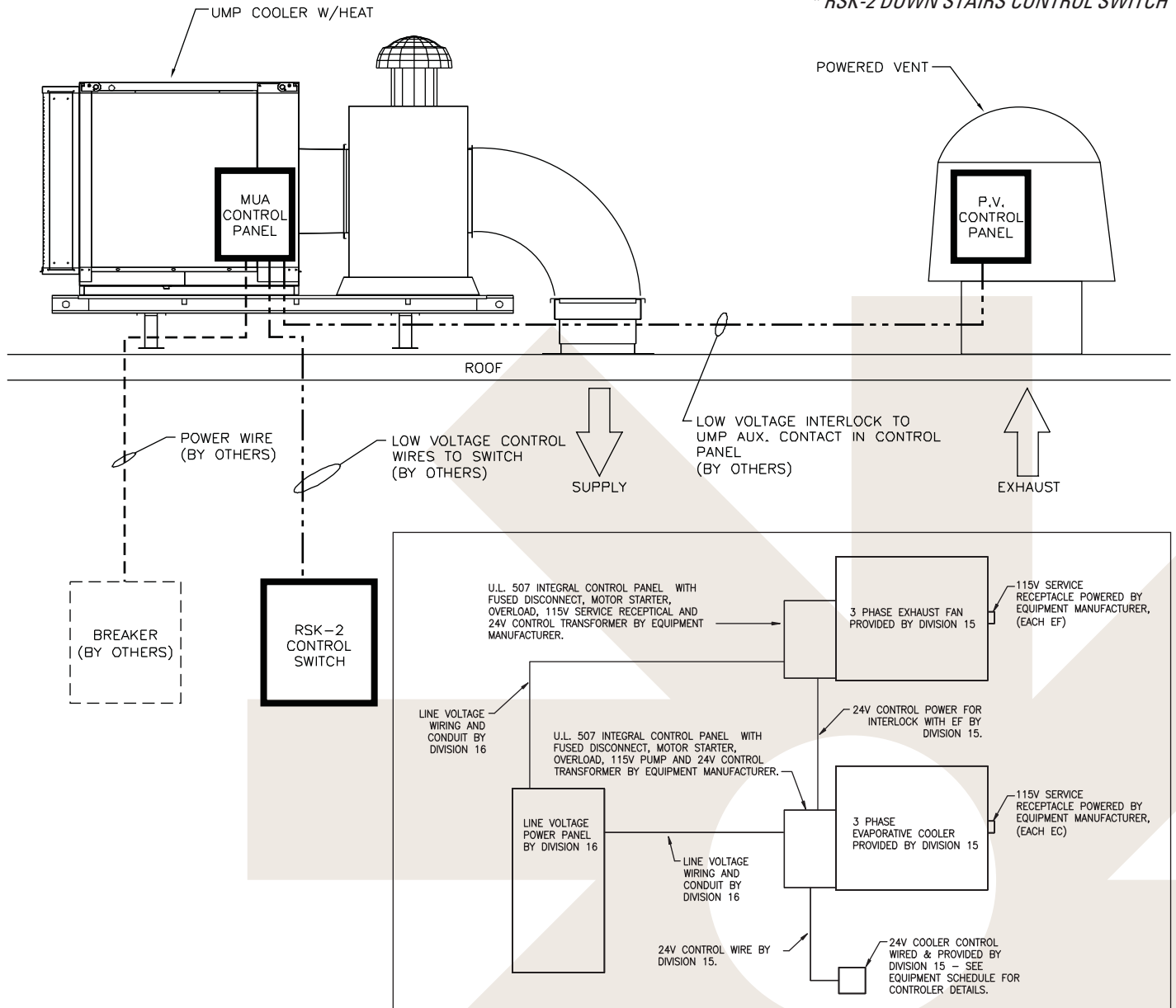
Roof Jack Size and Roof Opening Size					
Part #	Furnace MBH	"W" nominal	"H" nominal	Weight (lbs)	Recommended Roof Opening Size
82343	100	18.0	19.0	37	H x W
82344	150	22.0	19.0	40	H x W
82345	200	24.0	23.0	43	H x W
82346	250	27.0	23.0	47	H x W
82346	300	27.0	23.0	47	H x W
82347	350	38.6	23.0	58	H x W
82347	400	38.6	23.0	56	H x W



UMP-800S-WH Series: Typical Installation and CHV-1™ Control Package

CHV-1™ Control Package

- * MUA CONTROL PANEL
- * POWER VENTILATOR CONTROL PANEL
- * RSK-2 DOWN STAIRS CONTROL SWITCH



United Metal Products is able to provide a complete CHV-1 control package including the MUA control panel, the exhaust ventilator control panel and the RSK-2 downstairs control switch.

Many methods and practices for installing an evaporative cooler with furnace exist. United Metal Products adjustable pitch equipment supports and jacks – shown

above - are one way. See separate page literature for more information on these products.

Full perimeter curbs complete with duct penetrations are also available from United Metal Products to meet specific site requirements - contact us with your requirements and we will be happy to work with you.

United Metal Products is an Equipment Manufacturing Entity. We do not claim to be expert on equipment installation in the field. Steps must be taken by the installing contractor to assure the installation is approved by the local governing construction codes, and poses no risks.

Manufacturer of Quality Air Moving Equipment