

Safety is an indispensable factor when you are considering climate control for your rooms. Whether you are looking for air-conditioning in offices or banks, climate control in sensitive hospital wards, a process climate for IT and production areas or to meet cleanroom requirements. TOUFAN TAHVIEH Air conditioners provide the Perfect solution for all tasks. TOUFAN TAHVIEH is a 10-year old well established company in IRAN with production facility in KARAJ-IRAN, employing over 100 people. The staff of IRAN factory applies innovative approaches and tried-and tested expertise to provide customer needs solutions in line with the constantly increasing demands of the market place. We bring to fruition special projects and meet bespoke requirements, proof of our flexibility. Well thought out, all embracing solutions, from the original idea to advice, planning, development and production, right through to assembly and maintenance. Modern, state-of-the-art production plants and consistently applied quality management under DIN EN ISO 9001:2000 guarantee a recognized quality standard for our products. "Just-in-time" delivery included.

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General Feature

In all Toufan Tahviah packaged unit the frames are from galvanized steel sheets the chassis and body panels are made from galvanized steel sheets in appropriate thicknesses.

Toufan Tahviah packaged units are manufactured in sections descriptions of which are offered below all units are completely painted in the proper thickness

1-Fan section

In this section double width-double into centrifugal fans with forward curved blades are normally used for low pressure drop requirements as opposed to fans with backward curved blades which are for high pressure drop applications. Fans and housing are made of galvanized steel sheet.

Each set of fan plus other related components such as shafts are statically and dynamically balanced. Shafts are selected from proper material and size . other power transmission components such as pulleys and belts are also suitably chosen depending on the required fan speed and electrical motor power.

2- Coil section:

This section could include the D.X cooling coil by itself or the D.X coil plus the heating coil.

The D.X coils are constructed of 3/8 OD copper tubes also plate finned (10, 12 or 14 FPI) in aluminum or cooper as required.

In system equipped with D.X coil, refrigerants such as R-22, R-407c or R-134a mar be used. The coils are available in 4 or 6 rows configuration.

3-mixing box

This section is where the fresh and return air streams are mixed and an independent air damper is included for each air stream.

In the section a free space for special filter of the pleated type only has been considered.

4-condenser section:

In cases where air cooling units are selected, the condenser section is an integral part of the unit.

This section includes air cooling condenser coils, the fan and corresponding electric motor, electrical panel and the required valves.

In air cooling packaged units of capacity the coils for this section are installed in a flat position while for the higher capacity models the coils are installed in a slant in order the coils to occupy less space.

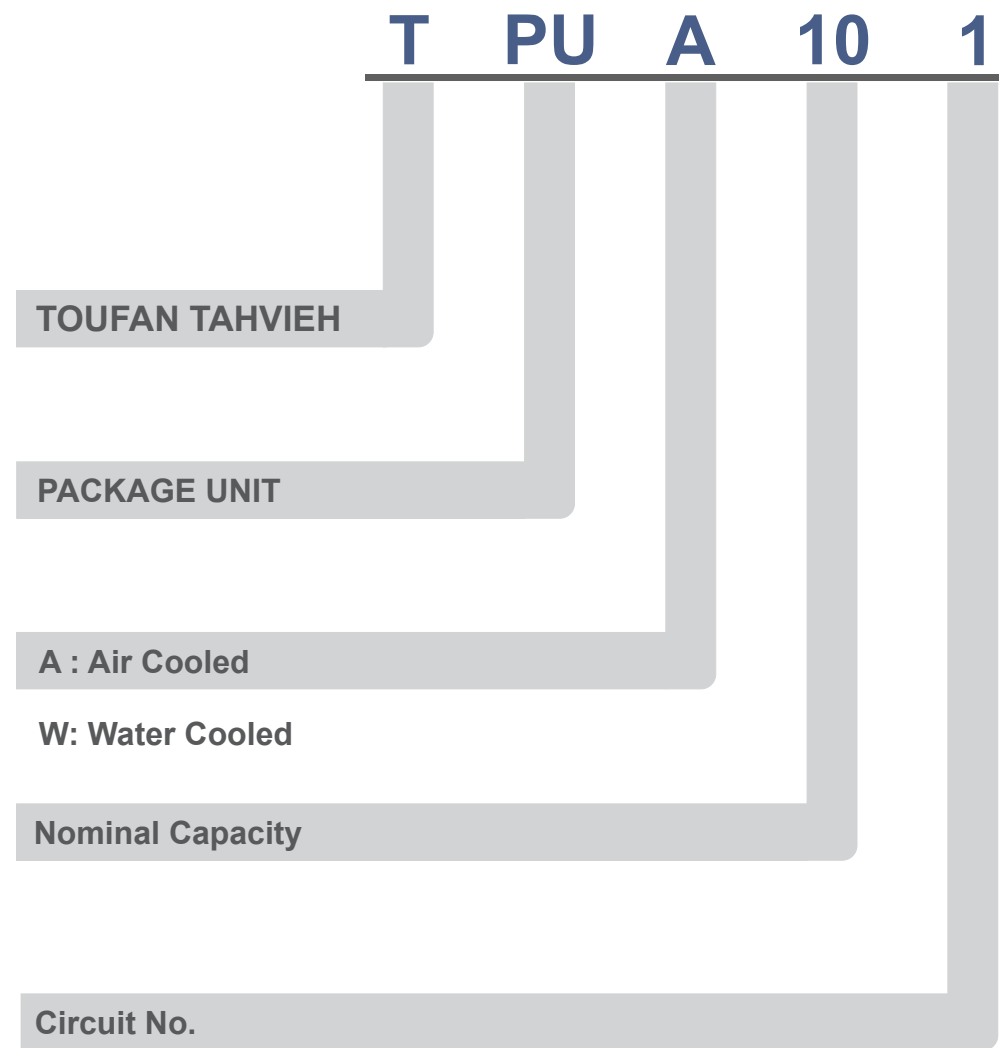
Air cooling condenser coils include 3/8 copper tubes aluminum or copper finned (as per request) in 8, 10, 12 or 14 FPI.in climates aluminum f inning is used while for more demanding climates copper fining could be used.

5-compressor section

In cases where split air or water cooling packaged units are selected, this section would be an integral portion of the pack aged unit.

In water cooling packaged units, this section includes compressor (S), water cooling condenser, electrical panel, different types of valves and the corresponding piping and for air cooling split packaged unit this section

includes compressor (S), electrical panel, different type of valves and corresponding piping.



Water Cooled Package Unit (Refrigerant R-134 a)

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			E. WB.T (°F)	Condenser Water		Condensing Temperature (°F)					
				GPM	PD (Ft.WG)	85		95		105	
TC (KBH)	KW	TC (KBH)	KW	TC (KBH)	KW	TC (KBH)	KW				
TPUW5-1	2000	4.2	59	15.4	2.8	69	3.3	65	3.74	60	4.13
			63	15.8	2.9	71	3.29	67	3.73	62	4.15
			67	16.2	3.1	74	3.28	69	3.74	65	4.17
TPUW8-1	3300	6.2	59	26.4	5.8	119	5.6	111	6.35	104	7.05
			63	27.2	6.1	122	5.6	115	6.35	107	7.05
			67	27.8	6.3	126	5.56	118	6.35	110	7.1
TPUW10-1	4000	8.2	59	31.2	6.4	140	6.6	131	7.45	122	8.3
			63	32	6.8	144	6.55	135	7.5	126	8.35
			67	32.8	6.9	148	6.55	139	7.5	130	8.4
TPUW15-1	5500	11.2	59	40.4	5.8	181	8.95	170	10.1	159	11.3
			63	41.4	6.2	186	8.9	175	10.1	164	11.3
			67	42.6	6.3	191	8.9	180	10.2	169	11.4
TPUW20-1	7000	13.4	59	45	6	198	10.6	185	11.8	173	13
			63	46	6.2	204	10.6	191	11.9	178	13.1
			67	47.2	6.5	210	10.6	197	11.9	184	13.2
TPUW25-1	8000	16.8	59	57	9.1	251	13.7	236	15.3	221	16.8
			63	58.6	9.5	258	13.8	243	15.4	228	16.9
			67	60	9.7	266	13.8	251	15.4	235	17
TPUW30-1	9500	19.9	59	68	6.9	290	16.7	280	18.6	261	20.3
			63	49.8	7	307	16.8	288	18.7	270	20.4
			67	71.6	7.9	316	16.8	297	18.8	278	20.6
TPUW35-1	11.5	25.1	59	83	9.4	360	21.3	338	23.6	315	25.9
			63	85	5.2	371	21.3	348	23.7	325	26.1
			67	87.2	5.5	382	21.4	359	23.9	335	26.2
TPUW40-1	14000	28.2	59	99.4	5.1	433	25.2	406	28	379	30.6
			63	102	5.3	446	25.3	418	28.1	391	31.9
			67	104.8	5.5	460	25.3	431	28.3	403	31.1
TPUW50-1	15500	33.6	59	107.4	5.8	474	25.4	445	28.4	416	31.3
			63	119.2	6.3	520	29.8	488	32.9	455	35.7
			67	122.4	6.4	536	29.9	503	33.1	469	36
TPUW60-1	18500	39.7	59	125.6	6.5	553	30	519	33.3	444	36.3
			63	129	6.9	570	30.1	535	33.4	500	36.6
			67	144.8	9.1	533	35.9	592	39.8	553	43.4
			63	148.6	9.3	652	36	611	40	571	43.7
			67	152.6	9.8	672	36	630	40.1	589	44
			71	156.4	10.2	693	36.1	650	40.3	607	44.3

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input
- Difference between entering and leaving condenser water temperature= 10°F
- Entering hot water temperature = 180° F
- P.D: condenser water pressure drop (FT.W.G)

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			E. WB.T (°F)	Condenser Water		Condensing Temperature (°F)					
				GPM	PD	85		95		105	
TC (KBH)	KW	TC	KW	TC	KW	TC	KW				
TPUW10-2	4000	8.4	59	30.8	5.6	138	6.6	130	7.48	120	8.26
			63	31.6	5.8	142	6.58	134	7.46	124	8.3
			67	32.4	6.2	148	6.56	138	7.48	130	8.34
			71	33.2	6.4	152	6.54	142	7.48	136	8.38
TPUW16-2	6600	12.4	59	52.8	11.6	238	11.2	222	12.7	208	14.1
			63	54.4	12.2	244	11.2	230	12.7	214	14.1
			67	55.6	12.6	252	11.12	236	12.7	220	14.2
			71	57.2	13.2	260	11.1	244	12.7	228	14.2
TPUW20-2	8000	16.4	59	62.4	12.8	280	13.2	262	14.9	244	16.6
			63	64	13.6	288	13.1	270	15	252	16.7
			67	65.6	13.8	296	13.1	278	15	260	16.8
			71	67.2	14.8	306	13	286	15	268	16.8
TPUW30-2	11000	22.4	59	80.8	11.6	362	17.9	340	20.2	318	22.6
			63	82.8	12.4	372	17.8	350	20.2	328	22.6
			67	85.2	12.6	382	17.8	360	20.4	338	22.8
			71	87.2	12.8	394	17.7	372	20.4	348	22.8
TPUW40-2	14000	26.8	59	90	12	396	21.2	370	23.6	346	26
			63	92	12.4	408	21.2	382	23.8	356	26.2
			67	94.4	13	420	21.2	394	23.8	368	26.4
			71	96.8	13.6	434	21.2	406	24	378	26.6
TPUW50-2	16000	33.6	59	114	18.2	502	27.4	472	30.6	442	33.6
			63	117.2	19	516	27.6	486	30.8	456	33.8
			67	120	19.4	532	27.6	502	30.8	470	34
			71	123.2	20.2	548	27.6	516	31	486	34.2
TPUW60-2	19000	39.8	59	136	13.8	580	33.4	560	37.2	522	40.6
			63	99.6	14	614	33.6	576	37.4	540	40.8
			67	143.2	15.8	632	33.6	594	37.6	556	41.2
			71	146.8	16.6	652	33.8	614	37.8	574	41.6
TPUW70-2	23	50.2	59	166	18.8	720	42.6	676	47.2	630	51.8
			63	170	10.4	742	42.6	696	47.4	650	52.2
			67	174.4	11	764	42.8	718	47.8	670	52.4
			71	178.8	11.4	786	42.8	738	48	690	52.8
TPUW80-2	28000	56.4	59	198.8	10.2	866	50.4	812	56	758	61.2
			63	204	10.6	892	50.6	836	56.2	782	63.8
			67	209.6	11	920	50.6	862	56.6	806	62.2
			71	214.8	11.6	948	50.8	890	56.8	832	62.6
TPUW100-2	31000	67.2	59	238.4	12.6	1040	59.6	976	65.8	910	71.4
			63	244.8	12.8	1072	59.8	1006	66.2	938	72
			67	251.2	13	1106	60	1038	66.6	966	72.6
			71	258	13.8	1140	60.2	1070	66.8	1000	73.2
TPUW120-2	37000	79.4	59	289.6	18.2	1066	71.8	1184	79.6	1106	86.8
			63	297.2	18.6	1304	72	1222	80	1142	87.4
			67	305.2	19.6	1344	72	1260	80.2	1178	88
			71	312.8	20.4	1386	72.2	1300	80.6	1214	88.6

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input
- Difference between entering and leaving condenser water temperature= 10°F
- Entering hot water temperature = 180° F
- P.D: condenser water pressure drop (FT.W.G)

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			E. WB.T (°F)	Condenser Water		Condensing Temperature (°F)					
				GPM	PD (FT.WG)	85		95		105	
TC (KBH)	KW	TC (KBH)	KW	TC (KBH)	KW	TC (KBH)	KW				
TPUW5-1	2000	4.2	59	16.5	2.9	74	3.78	69	4.24	64	4.66
			63	17	3.3	76.5	3.79	71.5	4.26	66.5	4.69
			67	17.5	3.6	79	3.79	74	4.27	69	4.72
			71	18	3.7	82	3.79	76.5	4.29	71.5	4.75
TPUW8-1	3000	5.9	59	19.9	5.5	89.5	4	83.5	5.05	77.5	5.6
			63	20.6	5.6	92.5	4	86.5	5.1	80	5.65
			67	21.2	5.7	95.5	4	89.5	5.1	83	5.65
			71	21.8	5.8	99	4	92.5	5.1	86	5.7
TPUW10-1	4000	8.2	59	30.2	6.7	135	6.95	125	7.7	115	8.45
			63	31.2	7.2	140	6.95	130	7.75	119	8.5
			67	32	7.6	144	7	134	7.85	123	8.6
			71	33	8	149	7.05	138	7.9	128	8.65
TPUW15-1	5500	11.2	59	36.8	5.5	165	8.45	153	9.55	141	10.6
			63	38	5.7	171	8.5	158	9.6	146	10.6
			67	39.2	5.8	177	8.5	164	9.65	151	10.7
			71	40.2	5.9	183	8.5	170	9.7	157	10.8
TPUW20-1	8200	16.8	59	54	7.8	233	14.9	217	16.2	200	17.4
			63	55.6	7.9	241	15	224	16.3	207	17.6
			67	57.2	8.1	249	15.1	232	16.5	215	17.8
			71	58.8	8.2	257	15.2	240	16.7	222	18.1
TPUW30-1	9500	19.9	59	65.8	6.9	285	18	264	19.7	243	21
			63	67.8	7	295	18.1	273	19.7	252	21.3
			67	69.8	7.7	305	18.3	283	20	261	21.5
			71	72	8	315	18.4	292	20.2	270	21.8
TPUW40-1	13000	25.5	59	76.6	4.5	334	20.1	312	21.9	290	23.6
			63	78.8	4.6	346	20.1	323	22	300	23.8
			67	81.2	4.7	358	20.2	334	22.2	311	24
			71	83.6	4.8	370	20.3	346	22.3	322	24.2
TPUW50-1	14500	30	59	89.8	5.5	387	24.9	361	27	336	28.9
			63	92.4	5.6	400	25.1	374	27.2	348	29.2
			67	95.2	5.8	414	25.25	387	27.5	361	29.4
			71	98	6	428	25.4	401	27.7	373	29.8
TPUW60-1	18500	39.7	59	105.6	8.5	458	28.2	428	31	396	33.3
			63	108.6	8.6	474	28.4	443	31.3	411	33.7
			67	111.8	8.7	490	28.5	458	31.5	425	34.1
			71	115	8.9	506	28.7	473	31.8	440	34.4

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input
- Difference between entering and leaving condenser water temperature= 10°F
- Entering hot water temperature = 180° F
- P.D: condenser water pressure drop (FT.W.G)

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			E. WB.T (°F)	Condenser Water		Condensing Temperature (°F)					
				GPM	PD (Ft.WG)	85		95		105	
						TC (KBH)	KW	TC (KBH)	KW	TC (KBH)	KW
TPUW10-2	4000	8.4	59	33	5.8	148	7.56	138	8.48	128	9.32
			63	34	6.6	153	7.58	143	8.52	133	9.38
			67	35	7.2	158	7.58	148	8.54	138	9.44
			71	36	7.4	164	7.58	153	8.58	143	9.5
TPUW16-2	6000	11.8	59	39.8	11	179	9	167	10.1	155	11.2
			63	41.2	11.2	185	9	173	10.2	160	11.3
			67	42.4	11.4	191	9	179	10.2	166	11.3
			71	43.6	11.6	198	9	185	10.2	172	11.4
TPUW20-2	8000	16.4	59	60.4	13.4	270	13.9	250	15.4	230	16.9
			63	62.4	14.4	280	13.9	260	15.5	238	17
			67	64	15.2	288	14	268	15.7	246	17.2
			71	66	16	298	14.1	276	15.8	256	17.3
TPUW30-2	11000	22.4	59	73.6	11	330	16.9	306	19.1	282	21.2
			63	76	11.4	342	17	316	19.2	292	21.2
			67	78.4	11.6	354	17	328	19.3	302	21.4
			71	80.4	11.8	366	17	340	19.4	314	21.6
TPUW40-2	16400	33.6	59	108	15.6	466	29.8	434	32.4	400	34.8
			63	111.2	15.8	282	30	448	32.6	414	35.2
			67	114.4	16.2	298	30.2	464	33	430	35.6
			71	117.6	16.4	514	30.4	480	33.4	444	36.2
TPUW60-2	19000	39.85	59	131.6	13.8	570	36	528	39	486	42
			63	135.6	14	590	36.2	546	39.4	504	42.6
			67	139.6	15.4	610	36.6	566	40	522	43
			71	144	16	630	36.8	584	40.4	540	43.6
TPUW80-2	26000	51	59	153.2	9	668	40.2	624	43.8	580	47.2
			63	157.6	9.2	692	40.2	646	44	600	47.2
			67	162.4	9.4	716	40.6	668	44.4	622	48
			71	167.2	9.6	740	40.6	692	44.6	644	48.4
TPUW100-2	29000	67.2	59	179.6	11	774	49.8	722	54	672	57.6
			63	184.8	11.2	800	50.2	748	54.4	696	58.4
			67	190.4	11.6	828	50.4	774	55	722	59
			71	196	12	858	50.8	802	55.4	746	59.6
TPUW120-2	37000	79.42	59	211.2	17	916	56.4	856	62	792	66.6
			63	217.2	17.2	948	56.8	886	62.6	822	67.4
			67	223.2	17.4	980	57	916	63	850	68.2
			71	230	17.8	1012	57.4	946	63.6	880	68.8

NOTS:

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- Entering hot water temperature = 180° F
- P.D: condenser water pressure drop(FT.W.G)

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling									
			E. WB.T (°F)	Condensing Temperature (°F)								
				90			100			110		
				TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)
TPUA5-1	2000	4.2	59	69	3.3	77	65	3.73	74	60	4.13	71
			63	71	3.29	79	67	3.73	76	62	4.15	73
			67	74	3.28	81	69	3.74	78	65	4.17	75
			71	76	3.27	83	71	3.74	80	68	4.19	77
TPUA8-1	3300	6.2	59	119	5.6	132	111	6.35	127	104	7.05	122
			63	122	5.6	136	115	6.35	130	107	7.05	125
			67	126	5.56	139	118	6.35	134	110	7.1	129
			71	130	5.55	143	122	6.35	137	114	7.1	132
TPUA10-1	4000	8.2	59	140	6.6	156	131	7.45	150	122	8.3	144
			63	144	6.55	160	135	7.5	154	126	8.35	147
			67	148	6.55	164	139	7.5	158	130	8.4	151
			71	153	6.5	168	143	7.5	162	134	8.4	155
TPUA15-1	5500	11.2	59	181	8.95	202	170	10.1	196	159	11.3	189
			63	186	8.9	207	175	10.1	201	164	11.3	194
			67	191	8.9	213	180	10.2	206	169	11.4	198
			71	197	8.85	218	186	10.2	211	174	11.4	203
TPUA20-1	7000	13.4	59	198	10.6	225	185	11.8	216	173	13	207
			63	204	10.6	230	191	11.9	222	178	13.1	213
			67	210	10.6	236	197	11.9	227	184	13.2	218
			71	217	10.6	242	203	12	233	189	13.3	224
TPUA25-1	8000	16.8	59	251	13.7	285	236	15.3	276	221	16.8	266
			63	258	13.8	293	243	15.4	283	211	16.9	273
			67	266	13.8	300	251	15.4	290	220	17	280
			71	274	13.8	308	258	15.5	298	229	17.1	287
TPUA30-1	9500	19.9	59	290	16.7	340	280	18.6	328	230	20.3	315
			63	307	16.8	349	288	18.7	337	240	20.4	324
			67	316	16.8	358	297	18.8	346	250	20.6	333
			71	326	16.9	367	307	18.9	355	261	20.8	342
TPUA35-1	11.5	25.1	59	360	21.3	415	338	23.6	400	288	25.9	385
			63	371	21.3	425	348	23.7	410	300	26.1	395
			67	382	21.4	436	359	23.9	427	312	26.2	405
			71	393	21.4	447	369	24	432	325	26.4	416
TPUA40-1	14000	28.2	59	433	25.2	497	406	28	479	345	30.6	461
			63	446	25.3	510	418	28.1	492	360	31.9	473
			67	460	25.3	524	431	28.3	505	376	31.1	486
			71	474	25.4	537	445	28.4	518	392	31.3	499
TPUA50-1	15500	33.6	59	520	29.8	596	488	32.9	574	424	35.7	0.55
			63	536	29.9	612	503	33.1	589	463	36	565
			67	553	30	628	519	33.3	605	462	36.3	580
			71	570	30.1	645	535	33.4	621	481	36.6	596
TPUA60-1	18500	39.7	59	533	35.9	724	592	39.8	696	508	43.4	669
			63	652	36	743	611	40	715	530	43.7	687
			67	672	36	763	630	40.1	734	552	44	705
			71	693	36.1	782	650	40.3	758	576	44.3	724

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling									
			E. WB.T (°F)	90			100			110		
				TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)
TPUA10-2	4000	8.4	59	138	6.6	154	130	7.46	148	120	8.26	142
			63	142	6.58	158	134	7.46	152	124	8.3	146
			67	148	6.56	162	138	7.48	156	130	8.34	150
			71	152	6.54	166	142	7.48	160	136	8.38	154
TPUA16-2	6600	12.4	59	238	11.2	264	222	12.7	254	208	14.1	244
			63	244	11.2	272	230	12.7	260	214	14.1	250
			67	252	11.12	278	236	12.7	268	220	14.2	258
			71	260	11.1	286	244	12.7	274	228	14.2	264
TPUA20-2	8000	16.4	59	280	13.2	312	262	14.9	300	244	16.6	288
			63	288	13.1	320	270	15	308	252	16.7	294
			67	296	13.1	328	278	15	316	260	16.8	302
			71	306	13	336	286	15	324	268	16.8	310
TPUA30-2	11000	22.4	59	362	17.9	404	340	20.2	392	318	22.6	378
			63	372	17.8	414	350	20.2	402	328	22.6	388
			67	382	17.8	426	360	20.4	412	338	22.8	396
			71	394	17.7	436	372	20.4	422	348	22.8	406
TPUA40-2	14000	26.8	59	396	21.2	450	370	23.6	432	346	26	414
			63	408	21.2	460	382	23.8	444	356	26.2	426
			67	420	21.2	472	394	23.8	454	368	26.4	436
			71	434	21.2	484	406	24	466	378	26.6	448
TPUA50-2	16000	33.6	59	502	27.4	570	472	30.6	552	442	33.6	532
			63	516	27.6	586	486	30.8	566	452	33.8	546
			67	532	27.6	600	502	30.8	580	460	34	560
			71	548	27.6	616	516	31	596	468	34.2	574
TPUA60-2	19000	39.8	59	580	33.4	680	560	37.2	656	460	40.6	630
			63	614	33.6	698	576	37.4	674	480	40.8	648
			67	632	33.6	716	594	37.6	692	500	41.2	666
			71	652	33.8	734	614	37.8	710	522	41.6	684
TPUA70-2	23000	50.2	59	720	42.6	830	676	47.2	800	576	51.8	770
			63	742	42.6	850	696	47.4	820	600	52.2	790
			67	764	42.8	872	718	47.8	854	624	52.4	810
			71	786	42.8	894	738	48	864	650	52.8	832
TPUA80-2	28000	56.4	59	866	50.4	994	812	56	958	690	61.2	922
			63	892	50.6	1020	836	56.2	984	720	63.8	946
			67	920	50.6	1048	862	56.6	1010	752	62.2	972
			71	948	50.8	1074	890	56.8	1036	784	62.6	998
TPUA100-2	31000	67.2	59	1040	59.6	1192	976	65.8	1148	848	71.4	1.1
			63	1072	59.8	1224	1006	66.2	1178	876	72	1130
			67	1106	60	1256	1038	66.6	1210	904	72.6	1160
			71	1140	60.2	1290	1070	66.8	1242	932	73.2	1192
TPUA120-2	37000	79.4	59	1066	71.8	1448	1184	79.6	1392	1016	86.8	1338
			63	1304	72	1486	1222	80	1430	1060	87.4	1374
			67	1344	72	1526	1260	80.2	1468	1104	88	1410
			71	1386	72.2	1564	1300	80.6	1516	1152	88.6	1448

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Model	Nomi CFM	Coil Face Area (Sq.Ft)	E. WB.T (°F)	Cooling								
				90			100			110		
				TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)
TPUA5-1	2000	4.2	59	74	3.78	82.5	69	4.24	79	64	4.66	75.5
			63	76	3.79	85	71.5	4.26	81.5	66.5	4.69	78
			67	79	3.79	87.5	74	4.27	84	69	4.72	80.5
			71	82	3.79	90	76.5	4.29	86.5	71.5	4.75	83
TPUA8-1	3000	5.9	59	89.5	4.5	99.5	83.5	5.05	95.5	77.5	5.6	91
			63	92.5	4.5	103	86.5	5.1	98.5	80	5.65	94
			67	95.5	4.5	106	89.5	5.1	101	83	5.65	97
			71	99	4.5	109	92.5	5.1	104	86	5.7	99.5
TPUA10-1	4000	8.2	59	135	6.95	151	125	7.7	144	115	8.45	136
			63	140	6.95	156	130	7.75	148	119	8.5	140
			67	144	7	160	134	7.85	153	123	8.6	145
			71	149	7.05	165	138	7.9	157	128	8.65	149
TPUA15-1	5500	11.2	59	165	8.45	184	153	9.55	176	141	10.6	167
			63	171	8.5	190	158	9.6	181	146	10.6	172
			67	177	8.5	196	164	9.65	187	151	10.7	178
			71	183	8.5	201	170	9.7	192	157	10.8	183
TPUA20-1	8200	16.8	59	233	14.9	270	217	16.2	258	200	17.4	246
			63	241	15	278	224	16.3	266	207	17.6	253
			67	249	15.7	286	232	16.5	273	215	17.8	261
			71	257	15.2	294	240	16.7	281	222	18.1	268
TPUA30-1	9500	19.9	59	285	18	329	264	19.5	314	243	21	298
			63	295	18.1	339	273	19.7	323	252	21.3	307
			67	305	18.3	349	283	20	333	261	21.5	316
			71	315	18.4	360	292	20.2	343	270	21.8	326
TPUA40-1	13000	25.5	59	334	20.1	383	312	21.9	367	290	23.6	350
			63	346	20.1	394	323	22	378	300	23.8	361
			67	358	20.2	406	334	22.2	389	311	24	372
			71	370	20.3	418	346	22.3	401	322	24.2	383
TPUA50-1	14500	30	59	387	24.9	449	361	27	430	336	28.9	411
			63	400	25.1	462	374	27.2	443	348	29.2	424
			67	414	25.2	476	387	27.5	456	361	29.5	436
			71	428	25.4	490	401	27.7	470	373	29.8	450
TPUA60-1	18500	39.7	59	458	28.2	528	428	31	506	396	33.3	482
			63	474	28.4	543	443	31.3	521	411	33.7	497
			67	490	28.5	559	458	31.5	537	425	34.1	512
			71	506	28.7	575	473	31.8	552	440	34.4	527

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Model	Nomi CFM	Coil Face Area (Sq.Ft)	E. WB.T (°F)	Cooling								
				Condensing Temperature (°F)								
				90			100			110		
				TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)
TPUA10-2	4000	8.4	59	148	7.56	165	138	8.48	158	128	9.32	151
			63	152	7.58	170	143	8.52	163	133	9.38	156
			67	158	7.58	175	148	8.54	168	138	9.44	161
TPUA16-2	6000	11.8	59	179	9	199	167	10.1	191	155	11.2	182
			63	185	9	206	173	10.2	197	160	11.3	188
			67	191	9	212	179	10.2	202	166	11.3	194
TPUA20-2	8000	16.4	59	198	9	218	185	10.2	208	172	11.4	199
			63	270	13.9	302	250	15.4	288	230	16.9	272
			67	288	14	320	268	15.7	306	246	17.2	290
TPUA30-2	11000	22.4	59	298	14.1	330	276	15.8	314	256	17.3	298
			63	330	16.9	368	306	19.1	352	282	21.2	334
			67	342	17	380	316	19.2	362	292	21.2	344
TPUA40-2	16400	33.6	59	354	17	392	328	19.3	374	302	21.4	356
			63	366	17	402	340	19.4	384	314	21.6	366
			67	466	29.8	540	434	32.4	516	400	34.8	492
TPUA60-2	19000	39.85	59	482	30	556	448	32.6	532	414	35.2	506
			63	498	31.4	572	464	33	546	430	35.6	522
			67	514	30.4	588	480	33.4	562	444	36.2	536
TPUA80-2	26000	51	59	570	36	658	528	39	628	486	42	596
			63	590	36.2	678	546	39.4	646	504	42.6	614
			67	610	36.6	698	566	40	666	522	43	632
TPUA100-2	29000	67.2	59	630	36.8	720	584	40.4	686	540	43.6	652
			63	668	40.2	766	624	43.8	734	580	47.2	700
			67	692	40.2	788	646	44	756	600	47.6	722
TPUA120-2	37000	79.42	59	716	40.4	812	668	44.4	778	622	48	744
			63	740	40.6	836	692	44.6	802	644	48.4	766
			67	774	49.8	898	722	54	860	672	57.8	822
TPUA120-2	37000	79.42	63	800	50.2	924	748	54.4	886	696	58.4	848
			67	828	50.4	952	774	55	912	722	59	872
			71	856	50.8	980	802	55.4	940	746	59.6	900
TPUA120-2	37000	79.42	59	916	56.4	1056	856	62	1012	792	26.6	964
			63	948	56.8	1086	886	62.6	1042	822	67.4	994
			67	980	77	1118	916	63	1074	850	68.2	1024
71	1012	77.4	1150	946	63.6	1104	880	68.8	1054			

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			Condensing Temperature (°F)								
			115			120			125		
			TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)
TPUA5-1	2000	4.2	58	4.32	70	56	4.51	68	54	4.69	66
			60	4.35	72	58	4.54	70	56	4.73	68
			62	4.38	74	60	4.58	72	58	4.77	70
TPUA8-1	3300	6.2	64	4.4	76	62	4.61	74	60	4.81	72
			100	7.35	119	96.5	7.7	117	93	8	114
			103	7.4	123	99.5	7.75	120	96	8.1	117
TPUA10-1	4000	8.2	107	7.45	126	103	7.8	123	99	8.15	121
			110	7.5	129	106	7.85	126	102	8.2	124
			118	8.7	141	114	9.1	138	109	9.5	135
TPUA15-1	5500	11.2	122	8.75	144	117	9.2	141	113	9.6	138
			125	8.8	148	121	9.25	145	116	9.65	142
			129	8.85	152	125	9.3	149	120	9.7	146
TPUA20-1	7000	13.4	154	11.8	185	149	12.3	182	144	12.9	178
			159	11.9	190	153	12.4	186	148	13	183
			164	11.9	195	158	12.5	191	153	13.1	187
TPUA25-1	8000	16.8	169	12	200	163	12.6	196	157	13.2	192
			166	13.6	203	160	14.1	198	154	14.7	194
			172	13.7	208	165	14.3	204	159	14.8	199
TPUA30-1	9500	19.9	177	13.8	214	170	14.4	209	164	14.9	204
			183	13.9	219	176	14.5	214	169	15.1	210
			214	17.5	261	206	18.2	255	199	18.8	250
TPUA35-1	11.5	25.1	221	17.6	268	213	18.3	262	205	19	257
			228	17.8	275	220	18.5	269	212	19.2	263
			235	17.9	282	227	18.6	276	218	19.4	270
TPUA40-1	14000	28.2	252	21.1	309	243	21.9	302	234	22.6	295
			260	21.3	317	251	22.1	311	241	22.9	304
			269	21.5	326	259	22.3	319	242	23.1	312
TPUA50-1	15500	33.6	277	21.7	335	267	22.5	328	257	23.3	320
			304	26.9	378	293	28	376	282	29	362
			314	27.2	387	302	28.3	380	291	29.3	372
TPUA60-1	18500	39.7	324	27.4	397	312	28.5	389	300	29.6	381
			334	27.6	408	322	28.7	399	310	29.9	391
			365	31.9	452	351	33.2	442	338	34.4	432
TPUA50-1	15500	33.6	377	32.2	464	363	33.5	454	349	34.7	444
			389	32.5	476	375	33.8	467	361	35.1	457
			402	32.7	489	387	34.1	479	373	35.4	469
TPUA50-1	15500	33.6	438	37.1	538	421	38.4	525	404	39.6	512
			452	37.4	552	435	38.7	539	417	40	526
			467	37.4	567	449	39.1	554	431	40.5	540
TPUA60-1	18500	39.7	461	38.1	582	463	39.5	569	444	40.9	555
			534	45.2	565	515	46.9	643	497	48.7	630
			551	45.6	673	532	47.4	660	514	49.1	647
TPUA60-1	18500	39.7	569	45.9	692	549	47.8	678	530	49.6	665
			587	46.3	710	567	48.2	696	547	50.1	682

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			Condensing Temperature (°F)								
			115			120			125		
TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)			
TPUA10-2	4000	8.4	116	8.64	140	112	9.02	136	108	9.38	132
			120	8.7	144	116	9.08	140	112	9.46	136
			124	8.76	148	120	9.16	144	116	9.54	140
			128	8.8	152	124	9.22	148	120	9.62	144
TPUA16-2	6600	12.4	200	14.7	238	193	15.4	234	186	16	228
			206	14.8	246	199	15.5	240	192	16.2	234
			214	14.9	252	206	15.6	246	198	16.3	242
			220	15	258	212	15.7	252	204	16.4	248
TPUA20-2	8000	16.4	236	17.4	282	228	18.2	276	218	19	270
			244	17.5	288	234	18.4	282	226	19.2	276
			250	17.6	296	242	18.5	290	232	19.3	284
			258	17.7	304	250	18.6	298	240	19.4	292
TPUA30-2	11000	22.4	308	23.6	370	298	24.6	364	288	25.8	356
			318	23.8	380	306	24.8	372	296	26	366
			328	23.8	390	316	25	382	306	26.2	374
			338	24	400	326	25.2	392	314	26.4	384
TPUA40-2	14000	26.8	332	27.2	406	320	28.2	396	308	29.4	388
			344	27.4	416	330	28.6	408	318	29.6	398
			354	27.6	428	340	28.8	418	328	29.8	408
			366	27.8	438	352	29	428	338	30.2	420
TPUA50-2	16000	33.6	428	35	522	412	36.4	510	398	37.6	500
			442	35.2	536	426	36.6	524	410	38	514
			456	35.6	550	440	37	538	424	38.4	526
			470	35.8	564	454	37.2	552	436	38.8	540
TPUA60-2	19000	39.8	504	42.2	618	486	43.8	604	468	45.2	590
			520	42.6	634	502	44.2	622	482	45.8	608
			538	43	652	518	44.6	638	484	46.2	624
			554	43.4	670	534	45	656	514	46.6	640
TPUA70-2	23000	50.2	608	53.8	756	586	56	752	564	58	724
			628	54.4	774	604	56.6	760	582	58.6	744
			648	54.8	794	624	57	778	600	59.2	762
			668	55.2	816	644	57.4	798	620	59.8	782
TPUA80-2	28000	56.4	730	63.8	904	702	66.4	884	676	68.8	864
			754	64.4	928	726	67	908	698	69.4	888
			778	65	952	750	67.6	934	722	70.2	914
			804	65.4	978	774	68.2	958	746	70.8	938
TPUA100-2	31000	67.2	876	74.2	1076	842	76.8	1050	808	79.2	1024
			904	74.8	1104	870	77.4	1078	834	80	1052
			934	74.8	1134	898	78.2	1108	862	81	1080
			922	76.2	1164	926	79	1138	888	81.8	1110
TPUA120-2	37000	79.4	1068	90.4	1130	1030	93.8	1286	994	97.4	1260
			1102	91.2	1346	1064	94.8	1320	1028	98.2	1294
			1138	91.8	1384	1098	95.6	1356	1060	99.2	1330
			1174	92.6	1420	1134	96.4	1392	1094	100.2	1364

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			Condensing Temperature (°F)								
			115			120			125		
TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)			
TPUA5-1	2000	4.2	61.5	4.86	74	59	5.05	72	56.5	5.2	70
			64	4.9	76	61.5	5.1	74	58.5	5.25	72
			66	4.93	78.5	63.5	5.15	76.5	61	5.3	74.5
			68.5	4.95	81	66	5.2	79	63	5.35	76.5
TPUA8-1	3000	5.9	74.5	5.85	89	71.5	6.1	86.5	68	6.3	84.5
			77	5.9	91.5	74	6.16	89.5	71	6.35	87
			79.5	5.95	94.5	76.5	6.2	92	73.5	6.45	89.5
			82.5	6	97	79.5	6.25	95	76	6.5	92.5
TPUA10-1	4000	8.2	110	8.75	132	105	9.1	129	100	9.4	125
			114	8.85	136	109	9.2	132	104	9.5	128
			118	8.95	141	113	9.3	136	108	9.6	132
			122	9.05	145	117	9.4	140	112	9.7	136
TPUA15-1	5500	11.2	135	11	163	129	11.5	158	123	11.9	154
			140	11.1	168	134	11.6	163	128	12	159
			145	11.2	173	139	11.7	168	132	12.1	164
			150	11.3	178	144	11.8	174	137	12.3	169
TPUA20-1	8200	16.8	192	18	240	184	18.6	233	176	19.1	227
			199	18.3	247	191	18.8	240	182	19.4	234
			206	18.5	254	197	19.1	248	189	19.7	241
			213	18.7	262	204	19.4	255	196	20	248
TPUA30-1	9500	19.9	233	21.7	290	222	22.4	282	212	23	274
			241	22	299	231	22.7	290	220	23.4	282
			250	22.3	308	239	23	299	228	23.7	291
			259	22.6	317	247	23.3	309	236	24.1	300
TPUA40-1	13000	25.5	279	24.4	342	268	25.1	334	257	25.9	325
			289	24.6	352	278	25.4	344	267	26.2	335
			299	24.9	363	288	25.7	354	277	26.5	346
			310	25.1	374	298	26	365	287	26.8	356
TPUA50-1	14500	30	323	29.8	401	311	30.6	392	299	31.5	382
			335	30.1	414	322	31	404	310	31.9	394
			347	30.5	420	334	31.4	416	322	32.3	407
			360	30.8	439	347	31.8	429	333	32.7	419
TPUA60-1	18500	39.7	381	34.4	470	365	35.3	458	349	36.2	445
			394	34.8	485	378	35.8	472	362	36.7	459
			409	35.2	499	392	36.3	486	375	37.2	473

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

Hot water and Steam

Model	Nomi CFM	Coil Face Area (Sq.Ft)	Cooling								
			Condensing Temperature (°F)								
			115			120			125		
TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)	TC (KBH)	KW	THR (KBH)			
TPUA10-2	4000	8.4	123	9.72	148	118	10.1	144	113	10.4	140
			128	9.8	152	123	10.2	148	117	10.5	144
			132	9.86	157	127	10.3	153	122	10.6	149
			137	9.9	162	132	10.4	158	126	10.7	153
TPUA16-2	6600	12.4	149	11.7	178	143	12.2	173	136	12.6	169
			154	11.8	183	148	12.32	179	142	12.7	174
			159	11.9	189	153	12.4	184	147	12.9	179
			165	12	194	159	12.5	190	152	13	185
TPUA20-2	8000	16.4	220	17.5	264	210	18.2	258	200	18.8	250
			228	17.7	272	218	18.4	264	208	19	256
			236	17.9	282	226	18.6	272	216	19.2	264
			244	18.1	290	234	18.8	280	224	19.4	272
TPUA30-2	11000	22.4	270	22	326	258	23	316	246	23.8	308
			280	22.2	336	268	23.2	326	256	24	318
			290	22.4	346	278	23.4	336	264	24.2	328
			300	22.6	356	288	23.6	348	274	24.6	338
TPUA40-2	14000	26.8	384	36	480	368	37.2	466	352	38.2	454
			398	36.6	494	382	37.6	480	364	38.8	468
			412	37	508	394	38.2	496	378	39.4	482
			426	37.4	524	408	38.8	510	392	40	496
TPUA50-2	16000	33.6	466	43.4	580	444	44.8	564	424	46	548
			482	44	598	462	45.4	580	440	46.8	564
			500	44.6	616	478	46	598	456	47.4	582
			518	45.2	634	494	46.6	618	472	48.2	600
TPUA60-2	19000	39.8	558	48.8	684	536	50.2	668	514	51.8	650
			578	49.2	704	556	50.8	688	534	52.4	670
			598	49.8	726	576	51.4	708	554	53	692
			620	50.2	748	596	52	730	574	53.6	712
TPUA70-2	23000	50.2	646	59.6	802	622	61.2	784	598	63	764
			670	60.2	828	644	62	808	620	63.8	788
			694	61	840	668	62.8	832	644	64.6	814
			720	61.6	878	694	63.6	858	666	65.4	838
TPUA80-2	28000	56.4	762	68.8	940	730	70.6	916	698	72.4	890
			788	69.6	970	756	71.6	944	724	73.4	918
			818	70.4	998	784	72.6	972	750	74.4	946
			846	71.2	1028	812	73.4	1002	778	75.4	974

NOTS:

- E.WB.TY: entering air W.B temperature (°F)
- T.C: total cooling capacity
- KW: compressor kilowatt input

MODEL	Nomi. CFM	Coil Face Area (Sq.Ft)	E.A.T (°F)	Heating		
				Capacity(KBH)		
				Hot Water		steam
1 Row	2 Rows	5PSIG				
TPUA10-2	4000	8.4	40	220	340	242
			50	200	310	220
			60	180	280	198
			70	162	252	178
TPUA16-2	6600	12.4	40	340	534	374
			50	308	486	338
			60	278	440	304
			70	248	396	272
TPUA20-2	8000	16.4	40	454	700	500
			50	414	640	454
			60	376	580	412
			70	338	522	370
TPUA30-2	11000	22.4	40	642	982	706
			50	586	900	644
			60	532	816	584
			70	476	736	522
TPUA40-2	14000	26.8	40	766	1192	840
			50	700	1092	770
			60	632	988	694
			70	568	890	624
TPUA50-2	16000	33.6	40	920	1414	1010
			50	840	1296	920
			60	762	1174	838
			70	684	1058	750
TPUA60-2	19000	39.8	40	1110	1702	1220
			50	1016	1562	1116
			60	922	1420	1014
			70	828	1280	910
TPUA70-2	23000	50.2	40	1390	2122	1528
			50	1274	1946	1400
			60	1158	1772	1270
			70	1042	1600	1146
TPUA80-2	28000	56.4	40	1648	2542	1810
			50	1512	2334	1660
			60	1376	2124	1510
			70	1242	1924	1360
TPUA100-2	31000	67.2	40	1904	900	2060
			50	1674	2660	1920
			60	1590	2432	1690
			70	1434	2196	1572
TPUA120-2	37000	79.4	40	2210	3400	2430
			50	2020	3120	2220
			60	1848	2846	2020
			70	1668	2570	1830

NOTS:

- E.A.T: entering air D.B temperature (°F)
- Entering hot water temperature = 180° F
- ATH: Hot water entering and leaving temperature difference

MODEL	Nomi. CFM	Coil Face Area (Sq.Ft)	E.A.T (°F)	Heating			
				Capacity(KBH)			
				Hot Water		steam	
1 Row	2 Rows	5PSIG	150W				
TPUA5-1	2000	4.2	40	110	170	121	
			50	100	155	110	
			60	90	140	99	
			70	81	126	89	
TPUA8-1	3300	6.2	40	170	267	187	
			50	154	243	169	
			60	139	220	152	
			70	124	198	136	
TPUA10-1	4000	8.2	40	227	350	250	
			50	207	320	227	
			60	188	290	206	
			70	169	261	185	
TPUA15-1	5500	11.2	40	321	491	353	
			50	293	450	322	
			60	266	408	292	
			70	238	368	261	
TPUA20-1	7000	13.4	40	383	596	420	
			50	350	546	385	
			60	316	494	347	
			70	284	445	312	
TPUA25-1	8000	16.8	40	460	707	505	
			50	420	648	460	
			60	381	587	419	
			70	342	529	375	
TPUA30-1	9500	19.9	40	555	851	610	
			50	508	781	558	
			60	461	710	507	
			70	414	640	455	
TPUA35-1	11500	25.1	40	695	1061	764	
			50	637	973	700	
			60	579	886	635	
			70	521	800	573	
TPUA40-1	14000	28.2	40	824	1271	905	
			50	756	1167	830	
			60	688	1062	755	
			70	621	962	680	
TPUA50-1	15500	33.6	40	952	1450	1030	
			50	837	1330	960	
			60	795	1216	845	
			70	717	1098	786	
TPUA60-1	18500	39.7	40	1105	1700	1215	
			50	1010	1560	1110	
			60	924	1423	1010	
			70	834	1285	915	

Hot water correction factor

Temp Drop (°F)	Entering Water Temp.(°F)			
	160	180	200	220
10	0.95	1.2	1.5	1.75
20	0.75	1	1.25	1.5
30	0.56	0.77	1.1	1.27

Steam correction factor

Pressure(PSIG)	2	5	10	15	20	30
Temp(°F)	218.5	277.2	239	249.7	258.8	274.1
Latent heat(Btu/lb)	966.2	960.5	952.5	945.5	939.3	928.5
correction Factor	0.95	1	1.07	1.14	1.19	1.28

Capacity factor for non-standard cfm

CFM/NOM. CFM	80%	90%	100%	110%	120%
Cooling Capacity	0.87	0.94	1	1.04	1.09
Heating Capacity	0.89	0.95	1	1.02	1.05

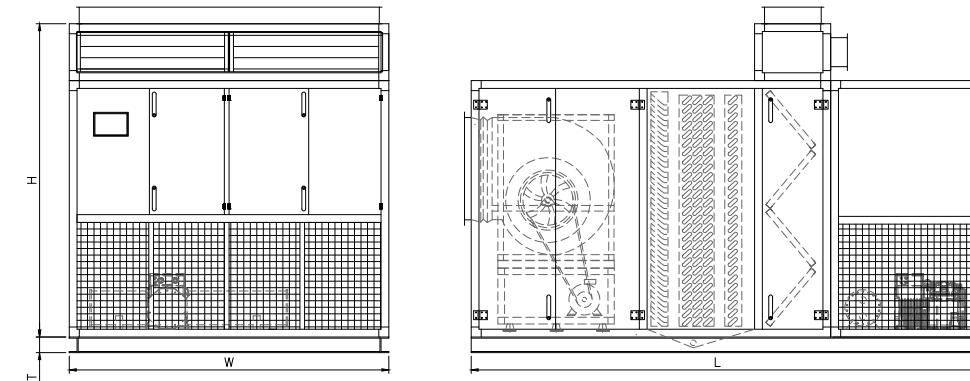
Approximate sensible heat factor

Ent. W.B.	Ent. Dry Bulb Temp (°F)			
	75	80	85	90
59	0.94	0.97	1	1
63	0.74	0.8	0.92	1
67	0.56	0.7	0.84	1
71	0.41	0.52	0.64	0.74

Correction factor for fin

Coil Fin Per Inch			
8	10	12	14
0.69	0.8	0.91	1

WATER Cooled Package

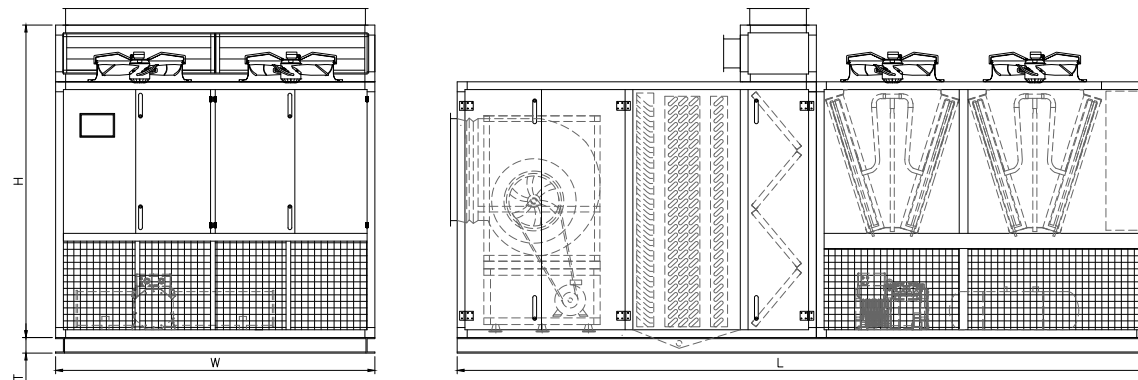


Model	L	W	H	T
TPUW5-1	269	150	154	10
TPUW10-1	294	150	162	10
TPUW15-1	294	200	162	10
TPUW20-1	327	200	195	10
TPUW25-1	327	230	205	12
TPUW30-1	327	230	205	12
TPUW16-2	294	200	162	10
TPUW20-2	327	200	195	10
TPUW30-2	327	230	205	12
TPUW35-1	360	230	180	12
TPUW40-1	360	230	180	12
TPUW50-1	372	230	205	12
TPUW60-1	392	270	190	12
TPUW40-2	360	230	180	12
TPUW50-2	372	230	205	12
TPUW60-2	392	270	190	12
TPUW70-2	417	270	210	12
TPUW80-2	442	270	225	12
TPUW100-2	477	270	260	14
TPUW120-2	602	270	240	14

-All dimension in cm.

-Drawing shown in the fan section indicates an up-blast discharge arrangement while other options such as horizontal-blast and down-blast are also available upon request.

AIR Cooled Package



Model	L	W	H	T
TPUA5-1	394	150	145	10
TPUA10-1	419	150	145	10
TPUA15-1	424	200	160	10
TPUA20-1	502	200	180	10
TPUA25-1	522	230	195	10
TPUA30-1	522	230	195	10
TPUA16-2	424	200	160	10
TPUA20-2	502	200	180	10
TPUA30-2	522	200	195	10
TPUA35-1	610	230	190	12
TPUA40-1	610	230	230	12
TPUA50-1	680	230	255	12
TPUA60-1	702	270	250	12
TPUA40-2	610	230	230	12
TPUA50-2	680	230	255	12
TPUA60-2	702	270	250	12
TPUA70-2	767	270	270	12
TPUA80-2	807	270	285	12
TPUA100-2	832	270	260	14
TPUA120-2	977	300	240	14

NOTE:
 -All dimension in cm.
 -Drawing shown in the fan section indicates an up-blast discharge arrangement while other options such as horizontal-blast and down-blast are also available upon request.

Weight and oil charge for r-22

Model	Ref Charge(Kg)		Oil Charge US Gals
	Water Cooled	Air Cooled	
TPUA5-1	3.5	2.5	0.5
TPUA8-1	3.5	3.5	1
TPUA10-1	3.5	4.5	1
TPUA15-1	3.5	7.5	1
TPUA20-1	3.5	9	1
TPUA25-1	3.5	11.5	1.1
TPUA30-1	3.5	13.5	1.1
TPUA35-1	3.5	16	1.1
TPUA40-1	3.5	18	2
TPUA50-1	3.5	22.5	2
TPUA60-1	3.5	27	2
TPUA10-2	3.5	5	1
TPUA16-2	3.5	7	2
TPUA20-2	3.5	9	2
TPUA30-2	3.5	14	2
TPUA40-2	3.5	18	2
TPUA50-2	3.5	23	2.2
TPUA60-2	3.5	27	2.2
TPUA70-2	3.5	32	2.2
TPUA80-2	3.5	36	4
TPUA100-2	3.5	45	4
TPUA120-2	3.5	54	4

NOTE:
 -for split air cooled packaged units, add the condenser and the connecting piping charges to the corresponding table values.
 -Values given above may vary based on specific design requirements.

Weight and oil charge for r-134a

Model	Ref Charge(Kg)		Oil Charge US Gals
	Water Cooled	Air Cooled	
TPUA5-1	3.5	2.5	0.5
TPUA8-1	5.5	3.5	1
TPUA10-1	7	4.5	1
TPUA15-1	10.5	7.5	1
TPUA20-1	14	9	1
TPUA30-1	21	13.5	1.1
TPUA40-1	28	18	2
TPUA50-1	35	22.5	2
TPUA60-1	42	27	2
TPUA10-2	7	5	1
TPUA16-2	11	7	2
TPUA20-2	14	9	2
TPUA30-2	21	14	2
TPUA40-2	28	18	2
TPUA60-2	42	27	2.2
TPUA80-2	56	36	4
TPUA100-2	70	45	4
TPUA120-2	84	54	4

Weights of refrigerant in copper lines (kg per 100 ft)

O.D. Line size (in)	liquid @100 F	Hot gas @120F
3/8	1.75	0.1
1/2	3.24	0.17
5/8	5.24	0.28
7/8	10.9	0.57
1 1/8	18.55	0.97
1 3/8	28.23	1.48
1 5/8	40	2.1
2 1/8	69.55	3.65
2 5/8	107.27	5.64
3 1/8	152.27	8.05
3 5/8	207.27	10.91
4 1/8	269.1	14.14

Electrical data for R-22

Model	TPUA5-1		TPUA8-1		TPUA10-1		TPUA15-1		TPUA20-1		TPUA25-1		TPUA30-1		TPUA35-1		TPUA40-1		TPUA50-1		TPUA60-1		
	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	
Compressor Motor Per Unit	HP	5	7.5	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160	
	RLA	7.5	12.9	14.9	17.4	19.8	23.3	23.1	26.2	29	33	33.3	38.1	45.6	52.1	54.4	57.2	68.1	77.1	81.9	81.9	92.4	
	FLA	8.1	9.7	14	17	21.8	25.1	24.9	28.2	31.4	35.5	36.3	41.4	49.5	56.3	54.5	61.8	73.3	82.3	88.2	88.2	99.6	
	MOC	10.3	18	21.3	28	30.5	40.1	47.7	62.4	71.8	84	91.6	107	128	148	168	188	218	248	284	347	444	544
Blower	HP	2	2	3	4	5.5	5.5	7.5	7.5	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	FLA	3.4	3.4	4.8	6.5	8.3	8.3	10.9	10.9	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
	MOC	4.4	4.4	6.4	9.3	12.2	12.2	16.5	16.5	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Wire Size ²²	4*4	4*4	4*6	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10

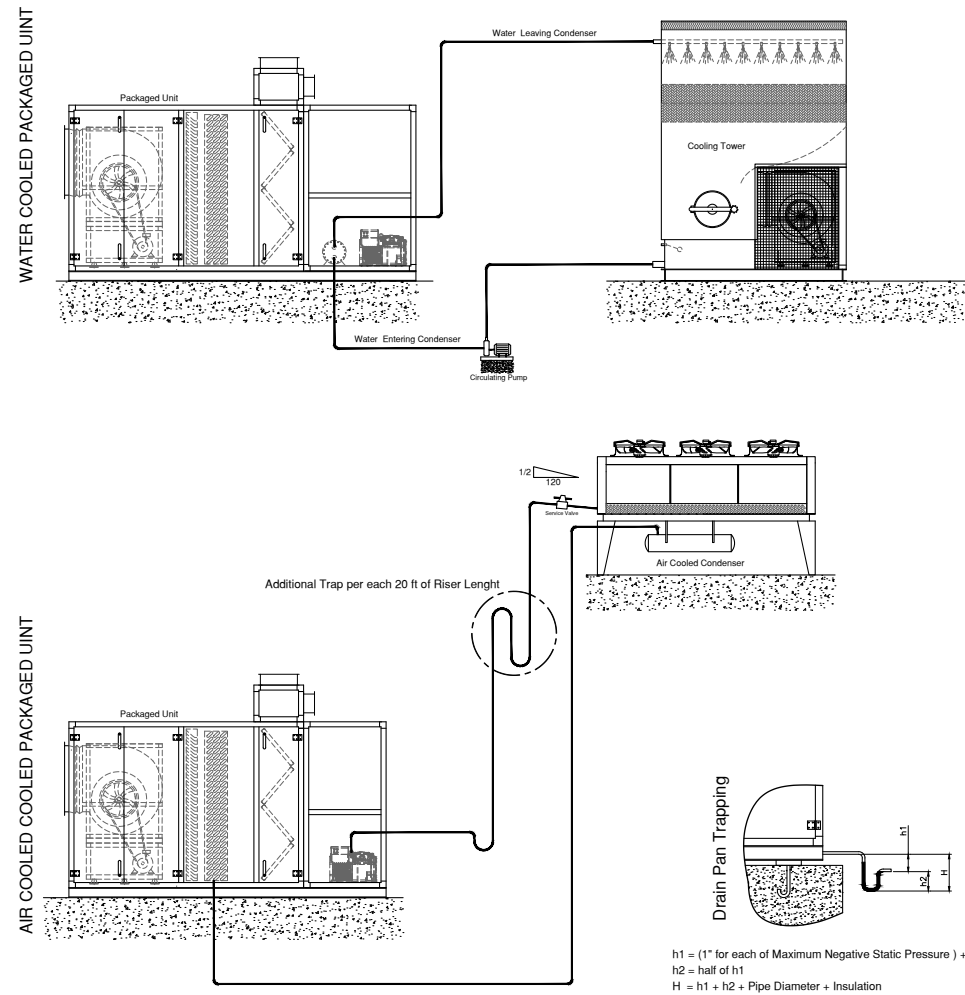
Electrical data for R-134a

Model	TPUA10-2		TPUA16-2		TPUA20-2		TPUA30-2		TPUA40-2		TPUA50-2		TPUA60-2		TPUA70-2		TPUA80-2		TPUA100-2		TPUA120-2		
	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	
Compressor Motor Per Unit	HP	5	7.5	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160	
	RLA	7.5	12.9	14.9	17.4	19.8	23.3	23.1	26.2	29	33	33.3	38.1	45.6	52.1	54.4	57.2	68.1	77.1	81.9	81.9	92.4	
	FLA	8.1	9.7	14	17	21.8	25.1	24.9	28.2	31.4	35.5	36.3	41.4	49.5	56.3	54.5	61.8	73.3	82.3	88.2	88.2	99.6	
	MOC	10.3	18	21.3	28	30.5	40.1	47.7	62.4	71.8	84	91.6	107	128	148	168	188	218	248	284	347	444	544
Blower	HP	2	2	3	4	5.5	5.5	7.5	7.5	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	FLA	3.4	3.4	4.8	6.5	8.3	8.3	10.9	10.9	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
	MOC	4.4	4.4	6.4	9.3	12.2	12.2	16.5	16.5	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Wire Size ²²	4*6	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10

Model	TPUA5-1		TPUA8-1		TPUA10-1		TPUA15-1		TPUA20-1		TPUA30-1		TPUA40-1		TPUA50-1		TPUA60-1				
	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled			
Compressor Motor Per Unit	HP	5	7.5	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120			
	RLA	8.5	10.4	9.6	12.2	15	18.1	19.2	23.4	30.1	36.8	36.5	4.5	49	56.5	60.2	69.1	72.5	81.9		
	FLA	9.8	11.3	11.4	13.3	17	19.5	21.9	25.6	34.6	40.1	41.9	48.8	53.8	60.7	66	74.1	78.7	86.8		
	MOC	12	14	14	17	20.5	24.9	28.2	35.5	46.8	55	62.4	71.8	84	91.6	107	128	148	168	188	
Blower	HP	2	2	3	4	5.5	5.5	7.5	7.5	10	10	10	10	10	10	10	10	10	10	10	10
	FLA	3.4	3.4	4.8	6.5	8.3	8.3	10.9	10.9	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
	MOC	4.4	4.4	6.4	9.3	12.2	12.2	16.5	16.5	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Wire Size ²²	4*4	4*4	4*6	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10

Model	TPUA10-2		TPUA16-2		TPUA20-2		TPUA30-2		TPUA40-2		TPUA60-2		TPUA80-2		TPUA100-2		TPUA120-2				
	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled			
Compressor Motor Per Unit	HP	5	7.5	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120			
	RLA	8.5	10.4	9.6	12.2	15	18.1	19.2	23.4	30.1	36.8	36.5	44.5	49	56.5	60.2	69.1	72.5	81.9		
	FLA	9.8	11.3	11.4	13.3	17	19.5	21.9	25.6	34.6	40.1	41.9	48.8	53.8	60.7	66	74.1	78.7	86.8		
	MOC	12	14	14	17	20.5	24.9	28.2	35.5	46.8	55	62.4	71.8	84	91.6	107	128	148	168	188	
Blower	HP	2	2	3	4	5.5	5.5	7.5	7.5	10	10	10	10	10	10	10	10	10	10	10	10
	FLA	3.4	3.4	4.8	6.5	8.3	8.3	10.9	10.9	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
	MOC	4.4	4.4	6.4	9.3	12.2	12.2	16.5	16.5	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Wire Size ²²	4*6	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10	4*10

PIPING DIAGRAM



Note:
The above schematic diagram must be not taken as complete piping procedures.

ENTHALPY/ALTITUDE

Air Wet Bulb Temperature	Altitude(ft)					
	0	1000	2000	3000	4000	5000
	Enthalpy(BTU/LB)					
35	13	13.3	13.4	13.6	13.7	13.9
36	13.4	13.7	13.8	14	14.1	14.3
37	13.9	14.2	14.3	14.5	14.6	14.8
38	14.2	14.5	14.6	14.8	14.9	15.1
39	14.8	15.1	15.2	15.4	15.5	15.7
40	15.2	15.5	15.6	15.8	15.9	16.1
41	15.7	16	16.1	16.3	16.4	16.6
42	16.3	16.6	16.7	16.9	17	17.2
43	16.6	16.9	17	17.2	17.3	17.5
44	17.3	17.6	17.7	17.9	18	18.2
45	17.7	18	18.1	18.3	18.4	18.6
46	18	18.3	18.4	18.6	18.7	18.9
47	18.6	18.9	19	19.2	19.3	19.5
48	19.2	19.5	19.6	19.8	19.9	20.1
49	19.7	20	20.1	20.3	20.4	20.6
50	20.3	20.6	20.7	20.9	21	21.2
51	20.5	20.8	20.9	21.1	21.2	21.4
52	21	21.3	21.4	21.6	21.7	21.9
53	22	22.3	22.4	22.6	22.7	22.9
54	22.6	22.9	23	23.2	23.3	23.5
55	23.2	23.5	23.6	23.8	23.9	24.1
56	23.8	24.1	24.2	24.4	24.5	24.7
57	24.4	24.7	24.9	25.1	25.2	25.4
58	25.3	25.6	25.8	26	26.1	26.3
59	25.8	26.1	26.3	26.5	26.6	26.8
60	26.4	26.7	26.9	27.1	27.2	27.4
61	27.4	27.7	27.9	28.1	28.2	28.4
62	27.9	28.2	28.4	28.6	28.7	28.9
63	28.5	28.8	29	29.2	29.3	29.5
64	29.3	29.6	29.8	30	30.1	30.3
65	30.2	30.5	30.7	30.9	31	31.2
66	31.9	32.2	32.4	32.6	32.7	32.9
67	32.4	32.7	32.9	33.1	33.2	33.4
68	33.2	33.5	33.7	33.9	34	34.2
69	34	34.3	34.5	34.7	34.8	35
70	34.9	35.2	35.4	35.6	35.7	35.9
71	35.8	36.1	36.3	36.5	36.6	36.8
72	36.6	36.9	37.1	37.3	37.4	37.6
73	37.4	37.7	37.9	38.1	38.2	38.4
74	38.5	38.8	39	39.2	39.3	39.5
75	39.6	39.9	40.1	40.3	40.4	40.6
76	40.2	40.5	40.7	40.9	41	41.2
77	41.4	41.7	41.9	42.1	42.2	42.4
78	42.6	42.9	43.1	43.3	43.4	43.6
79	43.7	44	44.2	44.4	44.5	44.7
80	44.8	45.1	45.3	45.5	45.6	45.8
81	45.9	46.2	46.4	46.6	46.7	46.9
82	47	47.3	47.5	47.7	47.8	48
83	48	48.3	48.5	48.7	48.8	49
84	49	49.3	49.5	49.7	49.8	50
85	50.2	50.5	50.7	50.9	51	51.2

