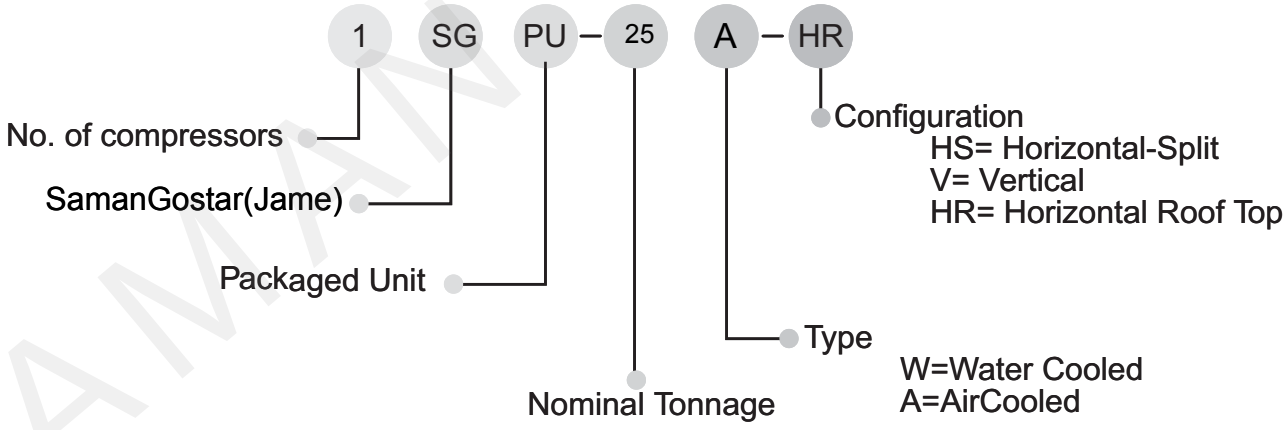
CONTENTS

NOMENCLATURE



Please fill in the boxes with the appropriate characters at the time of placing orders

FEATURES

In all S.G.J packaged units the frames are from galvanized steel sheets while the chassis and body panels are made from galvanized steel sheets in appropriate thicknesses.
S.G.J 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 inlet 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 housings are made of galvanized steel sheets. 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 electric motor power. Fan (S) and the corresponding electric motor(S) are installed on an independent chassis which is itself installed on the main chassis unit vibration dampers in order to eliminate transfer of vibrations to the structure.To further reduce the effects of vibrations,fan outlet (S) are also connected to the structure via flexible material such as canvous. Blower electric motor is installed in the fan section.All 380V/3Ø/50Hz electric motors are selected with insulation class of (F) and ingress protection of (IP-54).Electric motors with ingress protection of (IP-55) are also available upon request.

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 aluminium or copper as required.
In systems equipped with D.X. Coils, refrigerants such as R-22, R-407cor R-134a may be used. The D.X. Coils are a vailable in 4 or 6 rows configurations.
Heating coils are available in two types of hot water and steam.The hot water coilis offered in 1 and 2 row configurations. Steam heating coils are constructed of ½" seamless steel pipe spiral finned in aluminium or copper.
Upon request instead of hot water heating coil, electrical heating elements with the required power rating and stages may be installed.
In order to prevent water droplets from entering the fan section,one row of droplet eliminator is installed after the D.X. Coil

3-Mixing Box Section:

This section is where the fresh and return air streams are mixed and an independent air damper is included for each air stream.
Dampers are manufactured from aluminium in opposed blade configuration and air sealed through the use of rubber strip gasket. Damper actuators may be easily installed when required.
Washable aluminium filter modules 2 inches in thickness are arranged in (V) type configuration inside these boxes.
In this section a free space for special filter of the pleated type only has been considered.

4-Special Filter Section:

This section may include pleatedor bag filter which are installedas per customer requirements. Efficiency and class of special filters are specified by the client.
Notes:
1- Allowable air velocity over the special filter section must be less than or equal to 500 fpm.
2-In cases where only pleated filters are required they are easily installed in the mixing box and not in the special filter section.

5-Condenser Section:

In cases where air cooling unitary packagedunits 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 an slant in order for the coils to occupy less space.
Air cooling condenser coils include3/8 copper tubes aluminum or copper finned (as per request) in 8,10,12or 14 FPI. In normal climates aluminum finning is used while for more demanding climates copper finning could be used.
In cases where corrosion is a concern, the coilsare coated with protective coating.
Electrical panel which includes all electrical and control components of the packagedunit section and the air cooling condenser section is installed at this section.
Fans installed for this section are of the axial type directly coupled with 380 V/ 3Ø /50 hz, Ins .Cl.F and Ip -55 electric motors.

6-Compressor Section:

In cases where split air or water cooling packaged units are selected,this section would be an integral portion of the packaged unit.
In water cooling packaged units, this section includes compressor (S), water cooling condenser, electricalpanel, different types of valves and the corresponding piping and for air cooling split packaged unit this section includes compressor (S), electrical panel, different types of valves and corresponding piping.

SELECTION PROCEDURE

WATER COOLED PACKAGED UNIT

Given:

Cooling load .....265000 Btu/hr
Refrigerant R22
Heating load .....500000 B/hr
Required air flow rate .....9400 CFM
External static air P.D. .....0.65 In.W.G
Condenser leaving water temp.....95 F
Ambient altitude .....3000 FT
Summer room design condition .....75 F DB/63 F WB
Winter entering air temp. .....50 F
Heating media : steam @ 10 PSIG
D.X. Coil fin per inch 14
Heating coil fin per inch = 8
Fresh & return air (mixing air)

Select suitable unit to satisfy condition above:

Entering table 1@63 °F Ent.W.B. and 95° F condenser Lvg. Water temp.,Select 1SGPU-30W producing 285000 Btu/hr of cooling@ the nominal CFM of 9500. As 9400 CFM is 99% of the nominal CFM,from table 5 the capacity correction factor is 0.994. Therefore actual cooling capacity is (285000 x 0.994 = 283290 Btu/hr).
From table 1,condenser water flow rate and the corresponding pressure drop are given as 70 GPM and 7.6 Ft. of water respectively.
From table 4 @ 63°F Ent .W.B and 75 °F Ent. D.B , the approximate sensible heat factor is 0.74

$$\text{Lvg. DB temp.} = \text{Ent . DB temp.} - \frac{\text{Cooling Capacity x Sensible Heat Factor}}{1.085 \text{ x CFM}}$$

$$= 75 - \frac{(283290)(0.74)}{(1.085)(9400)} = 54.45\,^{\circ}\text{F}$$

-To determine lvg.W.B. temp.:

$$H_{LVG} = H_{ENT} - \frac{\text{Total Cooling Capacity}}{4.45 \text{ x CFM}} = 30.16 - \frac{283290}{4.45 \text{ x } 9400} = 23.38 \text{ Btu/lb}$$

Entering table 13@ 3000 FT altitude and H_{LVG} = 23.38 Btu/hr, LVG .WB temp. Is determined to be 53.4° F
From table 1 considering a 1SGPU- 30 W and nominal CFM of 9500 @ Ent. DB temperature of 50° F, the capacity of a 1 row heating coil using steam @ 5 psig is 558000 Btu/hr
From table 5 @ CFM ratio of 99% under heating, correction factor of 0.995 Is determined.
From table 6 for 10 PSIG saturated steam,the capacity correction factor is 1.07, Therefore,the corrected heating capacity is (558000 x 0.995 x 1.07 = 594074).
From table 1 coil face area is 19.9 SQFT.

$$\text{Coil face velocity} = \frac{\text{Air Flow Rate}}{\text{Coil Face Area}} = \frac{9400}{19.9} = 472 \text{ FPM}$$

From table 8, 9 @ coil face velocity determine the air P.D.
D.X. Coil P.D. .....0.76 In.W.G
Heating coil P.D. .....0.136 x 0.69 = 0.094 In.W.G
Eleminator air P.D. .....0.1 In.W.G
Filter air P.D. .....0.085 In.W.G
Mixing box air P.D. .....0.06 In.W.G
Damper air P.D. .....0.05 In.W.G
Internal static air P.D. .....0.76 + 0.094 + 0.085 + 0.1 + 0.06 + 0.05 = 1.15 In.W.G
Total static air P.D. = Internal static air P.D. + External static air P.D.
= 1.15 + 0.65 =1.8 In. W.G

AIR COOLED PACKAGED UNIT

Cooling load .....235000 Btu/hr
Heating load .....550000 Btu/hr
Required air flow rate .....9400 CFM
External static air P.D. .....0.65 In.W.G
Max .Ambient temp .....110 F
Ambient altitude .....3000 Ft.
Summer room design condition .....75 F DB/63 F WB
Winter entering air temp.....50 F
Entering hot water temp.....200 F
D.X. & Heating coil fin per inch 14
Fresh & return air (mixing air)

Select stuitable unit to satisfy the above conditions:

Entering table 2 @ 63 °F Ent. WB and 110°F ambient air temperature, select unit 1SGPU-30A producing 240000 BTU/HR of cooling @ the nominal CFM of 9500 as 9400 CFM is 99% of the nominal CFM, from table 7 the capacity correction factor is 0.994 Therefore, actual cooling capacity is)240000 x 0.994 = 238560 Btu/hr).
From table 2 we also determine the T.H.R to be 303000 Btu/hr.
Entering table 4 @ 63°F Ent.W.B and 75 ° F Ent.D.B the approximate sensible heat factor is 0.74.

$$\text{Lvg. DB temp .} = \text{Ent.DB temp.} - \frac{\text{Cooling Capacity x Sensible Heat Factor}}{1.085 \times \text{CFM}}$$

$$= 75 - \frac{(238560)(0.74)}{(1.085)(9400)} = 57.7^{\circ}\text{F}$$

To determine Lvg .WB temp.:

$$H_{LVG.} = H_{ENT} - \frac{\text{Total Cooling Capacity}}{4.45 \times \text{CFM}} = 30.16 - \frac{238560}{4.45 \times 9400} = 24.45 \text{ Btu/lb}$$

Entering table 13 @ 3000 Ft. Atitude and $H_{LVG.}$ = 24.45 Btu/hr , Lvg. WB temp. Is determined to be 55.1 ° F
From table 2 and considering a 1SGPU-30 A and nominal CFM of 9500 @ Ent. DB temperature of 50°F, the capacity of a 1 row heating coil using hot water @ 180°F is 508000 Btu/hr.
From table 5 @ CFM ratio of 99%, under heating, correction factor of 0.995 Is determined.
Entering table 3 @ Ent. Hot water temperature of 200°F and temperature drop of 20°F, the correction factor is 1.25, Therefore, corrected capacity is
(508000 x 0.995x 1.25 = 631825 Btu/hr.)
From table 1, coil face area is 19.9 SQFT.

$$\text{Coil face velocity} = \frac{\text{Air Flow Rate}}{\text{Coil Face Area}} = \frac{9400}{19.9} = 472 \text{ FPM}$$

From table 8, 9 @ coil face velocity determine the air P.D.
D.X. Coil P.D. .....0.76 In.W.G
Heating coil P.D. .....0.136 x 0.69 = 0.094 In.W.G
Eleminator air P.D. .....0.1 In.W.G
Filter air P.D. .....0.085 In.W.G
Mixing box air P.D. .....0.06 In.W.G
Damper air P.D. .....0.05 In.W.G
Internal static air P.D. = 0.76 + 0.094 + 0.085 + 0.1 + 0.06 + 0.05 = 1.15 In.W.G
Total static pressure = internal static air P.D. + External static air P.D.
= 1.15 + 0.65 = 1.8 In .W.G

PERFORMANCE TABLES

WATER COOLED PACKAGED UNIT (Refrigerant : R22)

Table 1

MODEL	Nominal CFM	Coil F.A. Sq.Ft	Cooling								Heating			
			E.WB.T (°F)	Condenser Water		Condensing Temp.(°F)					E.A.T. (°F)	Capacity (MBH)		Steam 5PSIG 1-Row
						85		95		105		HotWater ΔT_H=20 °F		
				GPM	PD Ft.WG	TC (MBH)	KW	TC (MBH)	KW	TC (MBH)	KW		1-Row	2-Row	
1SGPU-5-W	2000	4.2	59	15.4	2.8	69	3.3	65	3.73	60	4.13	40	110	170	121
			63	15.8	2.9	71	3.29	67	3.73	62	4.15	50	100	155	110
			67	16.2	3.1	74	3.28	69	3.74	65	4.17	60	90	140	99
			71	16.6	3.2	76	3.27	71	3.74	68	4.19	70	81	126	89
1SGPU-8-W	3300	6.2	59	26.4	5.8	119	5.6	111	6.35	104	7.05	40	170	267	187
			63	27.2	6.1	122	5.6	115	6.35	107	7.05	50	154	243	169
			67	27.8	6.3	126	5.56	118	6.35	110	7.1	60	139	220	152
			71	28.6	6.6	130	5.55	122	6.35	114	7.1	70	124	198	136
1SGPU-10-W	4000	8.2	59	31.2	6.4	140	6.6	131	7.45	122	8.3	40	227	350	250
			63	32	6.8	144	6.55	135	7.5	126	8.35	50	207	320	227
			67	32.8	6.9	148	6.55	139	7.5	130	8.4	60	188	290	206
			71	33.6	7.4	153	6.5	143	7.5	134	8.4	70	169	261	185
1SGPU-15-W	5500	11.2	59	40.4	5.8	181	8.95	170	10.1	159	11.3	40	321	491	353
			63	41.4	6.2	186	8.9	175	10.1	164	11.3	50	293	450	322
			67	42.6	6.3	191	8.9	180	10.2	169	11.4	60	266	408	292
			71	43.6	6.4	197	8.85	186	10.2	174	11.4	70	238	368	261
1SGPU-20-W	7000	13.4	59	45	6	198	10.6	185	11.8	173	13	40	383	596	420
			63	46	6.2	204	10.6	191	11.9	178	13.1	50	350	546	385
			67	47.2	6.5	210	10.6	197	11.9	184	13.2	60	316	494	347
			71	48.4	6.8	217	10.6	203	12	189	13.3	70	284	445	312
1SGPU-25-W	8000	16.8	59	57	9.1	251	13.7	236	15.3	221	16.8	40	460	707	505
			63	58.6	9.5	258	13.8	243	15.4	228	16.9	50	420	648	460
			67	60	9.7	266	13.8	251	15.4	235	17	60	381	587	419
			71	61.6	10.1	274	13.8	258	15.5	243	17.1	70	342	529	375
1SGPU-30-W	9500	19.9	59	68	6.9	297	16.7	280	18.6	261	20.3	40	555	851	610
			63	49.8	7	307	16.8	288	18.7	270	20.4	50	508	781	558
			67	71.6	7.9	316	16.8	297	18.8	278	20.6	60	461	710	507
			71	73.4	8.3	326	16.9	307	18.9	287	20.8	70	414	640	455
1SGPU-35-W	11500	25.1	59	83	4.9	360	21.3	338	23.6	315	25.9	40	695	1061	764
			63	85	5.2	371	21.3	348	23.7	325	26.1	50	637	973	700
			67	87.2	5.5	382	21.4	359	23.9	335	26.2	60	579	886	635
			71	89.4	5.7	393	21.4	369	24	345	26.4	70	521	800	573
1SGPU-40-W	14000	28.2	59	99.4	5.1	433	25.2	406	28	379	30.6	40	824	1271	905
			63	102	5.3	446	25.3	418	28.1	391	31.9	50	756	1167	830
			67	104.8	5.5	460	25.3	431	28.3	403	31.1	60	688	1062	755
			71	107.4	5.8	474	25.4	445	28.4	416	31.3	70	621	962	680
1SGPU-50-W	15500	33.6	59	119.2	6.3	520	29.8	488	32.9	455	35.7	40	952	1450	1030
			63	122.4	6.4	536	29.9	503	33.1	469	36	50	873	1330	960
			67	125.6	6.5	553	30	519	33.3	484	36.3	60	795	1216	845
			71	129	6.9	570	30.1	535	33.4	500	36.6	70	717	1098	786
1SGPU-60-W	18500	39.7	59	144.8	9.1	533	35.9	592	39.8	553	43.4	40	1105	1700	1215
			63	148.6	9.3	652	36	611	40	571	43.7	50	1010	1560	1110
			67	152.6	9.8	672	36	630	40.1	589	44	60	924	1423	1010
			71	156.4	10.2	693	36.1	650	40.3	607	44.3	70	834	1285	915

Notes:

- E.A.T. : Entering Air D. B. Temperature (°F)
- E.WB.T.: Entering Air W.B. Temperature (°F)
- T.C. : Total Cooling Capacity
- KW : Compressor Kilowatt Input
- Entering and Leaving Condenser Water Temperature Difference = 10°F
- Entering Hot Water Temperature = 180°F
- P.D. : Condenser Water Pressure Drop (Ft.W.G.)
- $-\Delta T_H$: Hot Water Entering and Leaving Temperature Difference
- MBH = 1000 Btu/hr

PERFORMANCE TABLES

WATER COOLED PACKAGED UNIT (Refrigerant : R22)

Table 1 (Cont.)

MODEL	Nominal CFM	Coil F.A. Sq.Ft	Cooling									Heating			
			E.WB.T (°F)	CondenserWater		Condensing Temp.(°F)						E.A.T. (°F)	Capacity (MBH)		Steam 5PSIG 1-Row
						85		95		105			HotWater ΔT_H=20 °F		
				GPM	P.D Ft.WG	TC (MBH)	KW	TC (MBH)	KW	TC (MBH)	KW		1-Row	2-Row	
2SGPU-10-W	4000	8.4	59	30.8	5.6	138	6.6	130	7.46	120	8.26	40	220	340	242
			63	31.6	5.8	142	6.58	134	7.46	124	8.3	50	200	310	220
			67	32.4	6.2	148	6.56	138	7.48	130	8.34	60	180	280	198
			71	33.2	6.4	152	6.54	142	7.48	136	8.38	70	162	252	178
2SGPU-15-W	6600	12.4	59	52.8	11.6	238	11.2	222	12.7	208	14.1	40	340	534	374
			63	53.4	12.2	244	11.2	230	12.7	214	14.1	50	308	486	338
			67	55.6	12.6	252	11.2	236	12.7	220	14.2	60	278	440	304
			71	57.2	12.2	260	11.2	44	12.7	228	14.2	70	248	396	272
2SGPU-20-W	8000	16.4	59	62.4	12.8	280	12.12	262	14.9	244	16.6	40	454	700	500
			63	64	13.6	288	13.1	270	15	252	16.7	50	414	640	454
			67	65.6	13.8	256	13.1	278	15	260	16.8	60	376	580	412
			71	67.2	14.8	306	13	286	15	268	16.8	70	338	522	370
2SGPU-30-W	11000	22.4	59	80.8	11.6	362	17.9	340	20.2	318	22.6	40	642	982	706
			63	82.8	12.4	372	17.8	350	20.2	328	22.6	50	586	900	644
			67	85.6	12.6	387	17.8	360	20.4	338	22.8	60	532	816	584
			71	87.2	12.8	394	17.7	372	20.4	348	22.8	70	476	736	522
2SGPU-40-W	14000	26.8	59	90	12	396	20.12	370	23.6	346	26	40	766	1192	840
			63	92	12.4	408	20.12	382	23.8	356	26.2	50	700	1092	770
			67	94.4	13	420	20.12	394	23.8	368	26.4	60	632	988	694
			71	96.8	13.6	434	20.12	406	24	378	26.6	70	568	890	624
2SGPU-50-W	16000	33.6	59	114	18.2	502	27.4	472	30.6	442	33.6	40	920	1414	1010
			63	117.2	19	516	27.6	486	30.8	456	33.8	50	840	1296	920
			67	120	19.4	532	27.6	502	30.8	470	34	60	762	1174	838
			71	123.2	20.2	548	27.6	516	31	486	34.2	70	684	1058	750
2SGPU-60-W	19000	39.8	59	136	13.8	694	32.4	560	37.2	522	40.6	40	1110	1702	1220
			63	139.6	14	614	33.6	570	37.4	540	40.8	50	1016	1562	1116
			67	143.2	15.8	632	33.6	594	37.6	556	41.2	60	922	1420	1014
			71	146.8	16.6	652	33.8	614	37.8	534	41.2	70	828	1280	910
2SGPU-70-W	23000	50.2	59	166	9.8	720	42.6	676	47.2	630	51.8	40	1390	2122	1528
			63	170	10.4	742	42.6	696	47.4	650	52.2	50	1274	1946	1400
			67	174.4	11	764	42.8	718	47.8	670	52.4	60	1158	1772	1270
			71	178.8	17.4	786	42.8	738	48	790	52.8	70	1042	1600	1146
2SGPU-80-W	28000	56.4	59	198.8	10.2	866	50.4	812	56	758	61.2	40	1648	2542	1810
			63	204	10.6	892	50.6	835	56.2	782	61.8	50	1512	2334	1660
			67	209.6	11	920	50.6	862	56.6	806	62.2	60	1376	2124	1510
			71	214.8	11.6	948	50.8	890	56.8	832	62.6	70	1242	1924	1360
2SGPU-100-W	31000	67.2	59	238.4	12.6	1040	59.6	976	65.8	910	71.4	40	1904	2900	2060
			63	244.8	12.8	1072	59.8	1006	66.2	938	72	50	1746	2660	1920
			67	251.2	13	1106	60	1038	66.6	968	72.6	60	1590	2432	1690
			71	258	13.8	1140	60.2	1070	66.8	1000	73.2	70	1434	2196	1572
2SGPU-120-W	37000	79.4	59	289.6	18.2	1266	71.8	1184	79.6	1006	86.8	40	2210	3400	2430
			63	297.2	18.6	1304	72	1222	80	1142	87.4	50	2020	3120	2220
			67	305.2	19.6	1344	72	1260	80.2	1178	88	60	1848	2846	2020
			71	312.8	20.4	1386	72.2	1300	80.6	1214	88.6	70	1668	2570	1830

Notes:

- E.A.T. : Entering Air D. B. Temperature (°F)
- E.WB.T.: Entering Air W.B. Temperature (°F)
- T.C. : Total Cooling Capacity
- KW : Compressor Kilowatt Input
- Entering and Leaving Condenser Water Temperature Difference = 10°F
- Entering Hot Water Temperature = 180°F
- P.D. : Condenser Water Pressure Drop (Ft.W.G.)
- $-\Delta T_H$: Hot Water Entering and Leaving Temperature Difference
- MBH = 1000 Btu/hr

PERFORMANCE TABLES

AIR COOLED PACKAGED UNIT (Refrigerant : R22)

Table 3

MODEL	Nominal CFM	Coil F.A. Sq.Ft	Cooling										Heating		
			E.WB.T (°F)	Ambient Temp.(°F)									E.A.T. (°F)	Capacity (MBH) HotWater ΔT_H=20 °F		Steam 5PSIG 1-Row
				90			100			110				1-Row	2-Row	
				TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)				
1SGPU-5-A	2000	4.2	59	69	3.3	77	65	3.73	74	60	4.13	71	40	110	170	121
			63	71	3.29	79	67	3.73	76	62	4.15	73	50	100	155	110
			67	74	3.28	81	69	3.74	78	65	4.17	75	60	90	140	99
			71	76	3.27	83	71	3.74	80	68	4.19	77	70	81	126	89
1SGPU-8-A	3300	6.2	59	119	5.6	132	111	6.35	127	104	7.05	122	40	170	267	187
			63	122	5.6	136	115	6.35	130	107	7.05	125	50	154	243	169
			67	125	5.56	139	118	6.35	134	110	7.1	129	60	139	220	152
			71	130	5.55	143	122	6.35	137	114	7.1	132	70	124	198	136
1SGPU-10-A	4000	8.2	59	140	6.6	156	131	7.45	150	122	8.3	144	40	227	350	250
			63	144	6.55	160	135	7.5	154	126	8.35	147	50	207	320	227
			67	148	6.55	164	139	7.5	158	130	8.4	151	60	188	290	206
			71	153	6.5	168	143	7.5	162	134	8.4	155	70	169	261	185
1SGPU-15-A	5500	11.2	59	181	8.95	202	170	10.1	196	159	11.3	189	40	321	491	353
			63	186	8.9	207	175	10.1	201	164	11.3	194	50	293	450	322
			67	191	8.9	213	180	10.2	206	169	11.4	198	60	266	408	292
			71	197	8.85	218	186	10.2	211	174	11.4	203	70	238	368	261
1SGPU-20-A	7000	13.4	59	198	10.6	225	185	11.8	216	173	13	207	40	383	596	420
			63	204	10.6	230	191	11.9	222	178	13.1	213	50	350	546	385
			67	210	10.6	236	197	11.9	227	184	13.2	218	60	316	494	347
			71	217	10.6	242	203	12	233	189	13.3	224	70	284	445	312
1SGPU-25-A	8000	16.8	59	251	13.7	285	236	15.3	276	221	16.8	266	40	460	707	505
			63	258	13.8	293	243	15.4	283	211	16.9	273	50	420	648	460
			67	266	13.8	300	251	15.4	290	220	17	280	60	381	587	419
			71	274	13.8	308	258	15.5	298	229	17.1	287	70	342	529	375
1SGPU-30-A	9500	19.9	59	297	16.7	340	280	18.6	328	230	20.3	315	40	555	851	610
			63	307	16.8	349	288	18.7	337	240	20.4	324	50	508	781	558
			67	316	16.8	358	297	18.8	346	250	20.6	333	60	461	710	507
			71	326	16.9	367	307	18.9	355	261	20.8	342	70	414	640	455
1SGPU-35-A	11500	25.1	59	360	21.3	415	338	23.6	400	288	25.9	385	40	695	1061	764
			63	371	21.3	425	348	23.7	410	300	26.1	395	50	637	973	700
			67	382	21.4	436	359	23.9	427	312	26.2	405	60	579	886	635
			71	393	21.4	447	369	24	432	325	26.4	416	70	521	800	573
1SGPU-40-A	14000	28.2	59	433	25.2	497	406	28	479	345	30.6	461	40	824	1271	905
			63	446	25.3	510	418	28.1	492	360	30.9	473	50	726	1167	830
			67	460	25.3	524	431	28.3	505	376	31.1	486	60	688	1062	755
			71	474	25.4	537	445	28.4	518	392	31.3	499	70	621	962	680
1SGPU-50-A	15500	33.6	59	520	29.8	596	488	32.9	574	424	35.7	550	40	952	1450	1030
			63	536	29.9	612	503	33.1	589	443	36	565	50	873	1330	960
			67	553	30	628	519	33.3	605	462	36.3	580	60	795	1216	845
			71	570	30.1	645	535	33.4	621	481	36.6	596	70	717	1098	786
1SGPU-60-A	18500	39.7	59	633	35.9	724	592	39.8	696	508	43.4	669	40	1105	1700	1215
			63	652	36	743	611	40	715	530	43.7	687	50	1010	1560	1110
			67	672	36	763	630	40.1	734	552	44	705	60	924	1423	1010
			71	693	36.1	782	650	40.3	758	576	44.3	724	70	834	1285	915

Notes:

- E.A.T. : Entering Air D. B. Temperature (°F)
- E.WB.T.: Entering Air W.B. Temperature (°F)
- T.C. : Total Cooling Capacity
- KW : Compressor Kilowatt Input
- Entering and Leaving Condenser Water Temperature Difference = 10°F
- Entering Hot Water Temperature = 180°F
- P.D. : Condenser Water Pressure Drop (Ft.W.G.)
- ΔT_H : Hot Water Entering and Leaving Temperature Difference
- MBH = 1000 Btu/hr

PERFORMANCE TABLES

AIR COOLED PACKAGED UNIT (Refrigerant : R22)

Table 3 (Cont.)

MODEL	Nominal CFM	Coil F.A. Sq.Ft	Cooling									Heating			
			E.WB.T (°F)	Ambient Temp.(°F)								E.A.T. (°F)	Capacity (MBH)		Steam 5PSIG 1-Row
				115			120			125			HotWater ΔT_H=20 °F		
				TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)		1-Row	2-Row	
1SGPU-5-A	2000	4.2	59	58	4.32	70	56	4.51	68	54	4.69	66	40	110	170	121
			63	60	4.35	72	58	4.54	70	56	4.73	68	50	100	155	110
			67	62	4.38	74	60	4.58	72	58	4.77	70	60	90	140	99
			71	64	4.4	76	62	4.61	74	60	4.81	72	70	81	126	89
1SGPU-8-A	3300	6.2	59	100	7.35	119	96.5	7.7	117	93	8	114	40	170	267	187
			63	103	7.4	123	99.5	7.75	120	96	8.1	117	50	154	243	169
			67	107	7.45	126	103	7.8	123	99	8.15	121	60	139	220	152
			71	110	7.5	129	106	7.85	126	102	8.2	124	70	124	198	136
1SGPU-10-A	4000	8.2	59	118	8.7	141	114	9.1	138	109	9.5	135	40	227	350	250
			63	122	8.75	144	117	9.2	141	113	9.6	138	50	207	320	227
			67	125	8.8	148	121	9.25	145	116	9.65	142	60	188	290	206
			71	129	8.85	152	125	9.3	149	120	9.7	146	70	169	261	185
1SGPU-15-A	5500	11.2	59	154	11.8	185	149	12.3	182	144	12.9	178	40	321	491	353
			63	159	11.9	190	153	12.4	186	148	13	183	50	293	450	322
			67	164	11.9	195	158	12.5	191	153	13.1	187	60	266	408	292
			71	169	12	200	163	12.6	196	157	13.2	192	70	238	368	261
1SGPU-20-A	7000	13.4	59	166	13.6	203	160	14.1	198	154	14.7	194	40	383	596	420
			63	172	13.7	208	165	14.3	204	159	14.8	199	50	350	546	385
			67	177	13.8	214	170	14.4	209	164	14.9	204	60	316	494	347
			71	183	13.9	219	176	14.5	214	169	15.1	210	70	284	445	312
1SGPU-25-A	8000	16.8	59	214	17.5	261	206	18.2	255	199	18.8	250	40	460	707	505
			63	221	17.6	268	213	18.3	262	205	19	257	50	420	648	460
			67	228	17.8	275	220	18.5	269	212	19.2	263	60	381	587	419
			71	235	17.9	282	227	18.6	276	218	19.4	270	70	342	529	375
1SGPU-30-A	9500	19.9	59	252	21.1	309	243	21.9	302	234	22.6	295	40	555	851	610
			63	260	21.3	317	251	22.1	311	241	22.9	304	50	508	781	558
			67	269	21.5	326	259	22.3	319	242	23.1	312	60	461	710	507
			71	277	21.7	335	267	22.5	328	257	23.3	320	70	414	640	455
1SGPU-35-A	11500	25.1	59	304	26.9	378	293	28	376	282	29	362	40	695	1061	764
			63	314	27.2	387	302	28.3	380	291	29.3	372	50	637	973	700
			67	324	27.4	397	312	28.5	389	300	29.6	381	60	579	886	635
			71	334	27.6	408	322	28.7	399	310	29.9	391	70	521	800	573
1SGPU-40-A	14000	28.2	59	365	31.9	452	351	33.2	442	338	34.4	432	40	824	1271	905
			63	377	32.2	464	363	33.5	454	349	34.7	444	50	756	1167	830
			67	389	32.5	476	375	33.8	467	361	35.1	457	60	688	1062	755
			71	402	32.7	489	387	34.1	479	373	35.4	469	70	621	962	680
1SGPU-50-A	15500	33.6	59	438	37.1	538	421	38.4	525	404	39.6	512	40	952	1450	1030
			63	452	37.4	552	435	38.7	539	417	40	526	50	873	1330	960
			67	467	37.4	567	449	39.1	554	431	40.5	540	60	795	1216	845
			71	461	38.1	582	463	39.5	569	444	40.9	555	70	717	1098	786
1SGPU-60-A	18500	39.7	59	534	45.2	656	515	46.9	643	497	48.7	630	40	1105	1700	1215
			63	551	45.6	673	532	47.4	660	514	49.1	647	50	1010	1560	1110
			67	569	45.9	692	549	47.8	678	530	49.6	665	60	924	1423	1010
			71	587	46.3	710	567	48.2	696	547	50.1	682	70	834	1285	915

Notes:

- E.A.T. : Entering Air D. B. Temperature (°F)
- E.WB.T.: Entering Air W.B. Temperature (°F)
- T.C. : Total Cooling Capacity
- KW : Compressor Kilowatt Input
- Entering and Leaving Condenser Water Temperature Difference = 10°F
- Entering Hot Water Temperature = 180°F
- P.D. : Condenser Water Pressure Drop (Ft.W.G.)
- -ΔT_H : Hot Water Entering and Leaving Temperature Difference
- MBH = 1000 Btu/hr

PERFORMANCE TABLES

AIR COOLED PACKAGED UNIT (Refrigerant : R22)

Table 3 (Cont.)

MODEL	Nominal CFM	Coil F.A. Sq.Ft	Cooling									Heating			
			E.WB.T (°F)	Ambient Temp.(°F)								E.A.T. (°F)	Capacity (MBH)		Steam 5PSIG 1-Row
				90			100			110			HotWater ΔT H=20 °F		
				TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)		1-Row	2-Row	
2SGPU-10-A	4000	8.4	59	138	6.6	154	130	7.46	148	120	8.26	142	40	220	340	242
			63	142	6.58	158	134	7.46	152	124	8.3	146	50	200	310	220
			67	148	6.56	162	138	7.48	150	130	8.34	150	60	180	280	198
			71	152	6.54	166	142	7.48	160	136	8.38	154	70	162	252	178
2SGPU-15-A	6600	12.4	59	238	11.2	264	222	12.7	254	208	14.1	244	40	340	534	374
			63	244	11.2	272	230	12.7	260	214	14.1	250	50	308	486	338
			67	252	11.2	278	236	12.7	208	220	14.2	258	60	278	440	304
			71	260	11.2	286	244	12.7	274	228	14.2	264	70	248	396	272
2SGPU-20-A	8000	16.4	59	280	12.12	312	262	14.9	300	244	16.6	288	40	454	700	500
			63	288	13.1	320	270	15	308	252	16.7	254	50	414	640	454
			67	256	13.1	328	278	15	316	260	16.8	302	60	376	580	412
			71	306	13	336	286	15	324	268	16.8	310	70	338	522	370
2SGPU-30-A	11000	22.4	59	362	17.9	404	340	20.2	392	318	22.6	378	40	642	982	706
			63	372	17.8	414	350	20.2	402	328	22.6	388	50	586	900	644
			67	381	17.8	426	360	20.4	412	338	22.8	396	60	532	816	584
			71	394	17.7	436	372	20.4	422	348	22.8	406	70	476	736	522
2SGPU-40-A	14000	26.8	59	396	20.12	450	370	23.6	432	346	28	414	40	766	1192	840
			63	408	20.12	460	382	23.3	444	356	26.2	426	50	700	1092	770
			67	420	20.12	472	394	23.8	454	368	26.4	436	60	632	988	694
			71	434	20.12	484	406	24	466	378	26.6	448	70	568	890	624
2SGPU-50-A	16000	33.6	59	502	27.4	570	474	30.6	552	442	33.6	532	40	920	1414	1010
			63	516	27.6	586	486	30.8	566	456	33.8	546	50	840	1296	920
			67	532	27.6	600	502	30.8	580	470	34	560	60	762	1174	838
			71	548	27.6	616	516	31	598	486	34.2	574	70	684	1058	750
2SGPU-60-A	19000	39.8	59	594	33.4	680	560	37.2	656	522	40.6	630	40	1110	1702	1220
			63	614	33.6	698	576	37.4	674	540	40.8	648	50	1016	1562	1116
			67	632	33.6	716	594	37.6	692	556	41.2	666	60	922	1420	1014
			71	652	33.8	734	614	37.8	710	574	41.6	684	70	828	1280	910
2SGPU-70-A	23000	50.2	59	720	42.6	830	676	47.2	800	630	51.8	770	40	1390	2122	1528
			63	742	42.6	850	696	47.4	820	650	52.2	790	50	1274	1946	1400
			67	764	42.8	872	718	47.8	842	670	52.4	810	60	1158	1772	1270
			71	786	42.8	894	738	48	864	690	52.8	832	70	1042	1600	1146
2SGPU-80-A	28000	56.4	59	866	50.4	994	812	56	958	758	61.2	922	40	1648	2542	1810
			63	892	50.6	1020	836	56.2	984	782	61.8	946	50	1512	2334	1660
			67	920	50.6	1048	862	56.6	1010	806	62.2	972	60	1376	2124	1510
			71	948	50.6	1074	890	56.8	1036	832	62.6	998	70	1242	1924	1360
2SGPU-100-A	31000	67.2	59	1040	59.8	1192	976	65.8	1148	910	71.4	1100	40	1904	2900	2060
			63	1072	59.8	1214	1066	66.2	1178	938	72	1130	50	1746	2660	1920
			67	1106	60	1250	1038	66.6	1210	968	72.6	1160	60	1590	2432	1690
			71	1140	60.2	1290	1070	66.8	1242	1000	73.2	1192	70	1434	2196	1572
s2SGPU-120-A	37000	79.4	59	1266	71.8	1448	1184	79.6	1392	1006	86.8	1338	40	2210	3400	2430
			63	1304	72	1486	1222	80	1430	1142	87.4	1374	50	2020	3120	2220
			67	1344	72	1526	1260	80.2	1468	1178	88	1410	60	1848	2846	2020
			71	1386	72.2	1564	1300	80.6	1506	1214	88.6	1448	70	1668	2570	1830

Notes:

- E.A.T. : Entering Air D. B. Temperature (°F)
- E.WB.T.: Entering Air W.B. Temperature (°F)
- T.C. : Total Cooling Capacity
- KW : Compressor Kilowatt Input
- Entering and Leaving Condenser Water Temperature Difference = 10°F
- Entering Hot Water Temperature = 180°F
- P.D. : Condenser Water Pressure Drop (Ft.W.G.)
- $-\Delta T_H$: Hot Water Entering and Leaving Temperature Difference
- MBH = 1000 Btu/hr

PERFORMANCE TABLES

AIR COOLED PACKAGED UNIT (Refrigerant : R22)

Table 3 (Cont.)

MODEL	Nominal CFM	Coil F.A. Sq.Ft	Cooling									Heating			
			E.WB.T (°F)	Ambient Temp.(°F)								E.A.T. (°F)	Capacity (MBH)		Steam 5PSIG 1-Row
				115			120			125			HotWater ΔT_H=20 °F		
				TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)	TC (MBH)	KW	THR (MBH)		1-Row	2-Row	
2SGPU-10-A	4000	8.4	59	116	8.64	140	112	9.02	136	108	9.38	132	40	220	340	242
			63	120	8.7	144	116	9.08	140	112	9.48	136	50	200	310	220
			67	124	8.76	148	120	9.16	144	116	9.54	140	60	180	280	198
			71	128	8.8	152	124	9.22	148	120	9.62	144	70	162	252	178
2SGPU-15-A	6600	12.4	59	200	14.7	238	193	15.4	234	186	16	128	40	340	534	374
			63	206	14.8	246	199	15.5	240	192	16.2	134	50	308	486	338
			67	214	14.9	252	206	15.6	246	198	16.3	242	60	278	440	304
			71	220	15	258	212	15.7	252	204	16.4	248	70	248	396	272
2SGPU-20-A	8000	16.4	59	236	17.4	282	228	18.2	276	218	19	270	40	454	700	500
			63	244	17.5	288	234	18.4	282	226	19.2	276	50	414	640	454
			67	250	17.6	296	242	18.5	290	232	19.3	284	60	376	580	412
			71	258	17.7	304	250	18.6	298	240	19.4	292	70	338	522	370
2SGPU-30-A	11000	22.4	59	308	23.6	370	298	24.6	364	288	25.8	356	40	642	982	706
			63	318	23.8	380	306	24.8	372	296	26	362	50	586	900	644
			67	128	23.8	390	316	25	382	306	26.2	374	60	532	816	584
			71	138	24	400	326	25.2	392	314	26.4	384	70	476	736	522
2SGPU-40-A	14000	26.8	59	332	27.2	406	320	28.2	396	308	29.4	388	40	766	1192	840
			63	344	27.4	416	330	28.6	408	318	29.6	398	50	700	1092	770
			67	354	27.6	428	340	28.8	418	328	29.8	408	60	632	988	694
			71	366	27.8	438	352	29	428	338	30.1	420	70	568	890	624
2SGPU-50-A	16000	33.6	59	428	35	522	412	36.4	510	398	17.6	500	40	920	1414	1010
			63	442	35.2	536	426	36.4	524	410	38	514	50	840	1296	920
			67	456	35.6	556	440	37	538	424	38.4	526	60	762	1174	838
			71	470	35.8	564	454	37.2	552	436	38.8	240	70	684	1058	750
2SGPU-60-A	19000	39.8	59	504	42.2	618	486	43.8	604	468	45.2	390	40	1110	1702	1220
			63	520	42.6	634	502	44.2	622	482	45.8	608	50	1016	1562	1116
			67	538	43	652	518	44.6	638	498	46.2	624	60	922	1420	1014
			71	554	43.4	676	534	45	656	514	46.6	640	70	828	1280	910
2SGPU-70-A	23000	50.2	59	608	53.8	756	586	56	752	564	58	724	40	1390	2122	1528
			63	628	54.4	774	604	56.6	760	582	58.6	744	50	1274	1946	1400
			67	648	54.8	794	624	57	778	600	59.2	762	60	1158	1772	1270
			71	668	55.2	816	644	57.4	498	620	59.8	782	70	1042	1600	1146
2SGPU-80-A	28000	56.4	59	730	63.8	904	702	66.4	882	676	68.8	864	40	1648	2542	1810
			63	754	64.4	928	726	67	908	698	69.4	888	50	1512	2334	1660
			67	778	65	952	750	67.6	934	722	70.2	914	60	1376	2124	1510
			71	804	65.4	978	774	68.2	958	746	70.8	938	70	1242	1924	1360
2SGPU-100-A	31000	67.2	59	876	74.2	1076	842	76.8	1050	808	79.2	1024	40	1904	2900	2060
			63	904	74.8	1104	870	77.4	1078	834	80	1052	50	1746	2660	1920
			67	934	75.4	1134	898	78.4	1108	862	81	1080	60	1590	2432	1690
			71	962	76.2	1164	926	79	1138	888	81.8	1110	70	1434	2196	1572
s2SGPU-120-A	37000	79.4	59	1068	90.4	1312	1030	93.8	1286	994	91.4	1260	40	2210	3400	2430
			63	1102	91.2	1346	1064	94.8	1320	1028	98.2	1294	50	2020	3120	2220
			67	1138	91.8	1384	1098	95.6	1356	1060	99.2	1330	60	1848	2846	2020
			71	1171	92.6	1420	1134	96.4	1392	1094	100.2	1364	70	1668	2570	1830

Notes:

- E.A.T. : Entering Air D. B. Temperature (°F)
- E.WB.T.: Entering Air W.B. Temperature (°F)
- T.C. : Total Cooling Capacity
- KW : Compressor Kilowatt Input
- Entering and Leaving Condenser Water Temperature Difference = 10°F
- Entering Hot Water Temperature = 180°F
- P.D. : Condenser Water Pressure Drop (Ft.W.G.)
- $-\Delta T_H$: Hot Water Entering and Leaving Temperature Difference
- MBH = 1000 Btu/hr

HOT WATER CORRECTION FACTOR

Table: 5

Temp. Drop (F)	Ent. Water Temp. F			
	160	180	200	220
10	0.95	1.20	1.50	1.75
20	0.75	1.00	1.25	1.50
30	0.56	0.77	1.10	1.27

STEAM CORRECTION FACTOR

Table: 7

Pressure PSIG	2	5	10	15	20	30
Temp. F	218.5	227.2	239.4	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

Table: 6

CFM/Nom. CFM	80%	90%	100%	110%	120%
Cooling Capacity	0.87	0.94	1.00	1.04	1.09
Heating Capacity	0.89	0.95	1.00	1.02	1.05

APPROXIMATE SENSIBLE HEAT FACTOR

Table: 8

Ent. W.B Temp. (F)	Ent. Dry Bulb Temp. F			
	75	80	85	90
59	0.94	0.97	1.00	1.00
63	0.74	0.80	0.92	1.00
67	0.56	0.70	0.84	1.00
71	0.41	0.52	0.64	0.74

COIL AIR PRESSURE DROP (IN.W.G)

Table: 9

FIN Per Inch	Rows Deep	Coil Face Velocity								
		300		400		500		600	700	800
		Dry	Wet	Dry	Wet	Dry	Wet	Dry	Dry	Dry
14	1	0.07	0.10	0.10	0.15	0.15	0.20	0.20	0.28	0.32
	2	0.13	0.20	0.22	0.29	0.32	0.42	0.44	0.57	0.70
	3	0.16	0.29	0.23	0.45	0.41	0.64	0.57	0.73	0.90
	4	0.22	0.36	0.35	0.58	0.51	0.84	0.70	0.88	1.12
	6	0.35	0.57	0.49	0.88	0.75	1.23	1.03	1.33	1.67

BYPASS FACTOR

Table: 10

Coil Face Velocity (FPM)	4 Row	6 Row
400	0.20	0.10
450	0.21	0.11
500	0.23	0.12
550	0.26	0.13
600	0.27	0.14

P.D CORRECTION FACTOR

Coil FPI			
8	10	12	14
0.69	0.80	0.91	1.0

Notes:

- In order to determine air-side pressure drop for cases where the number of fin per inch are less than 14 FPI , multiply the valuesby the corresponding correction factor given in the table above.
- F.P.I=fin per inch

FILTER AIR PER DROPESSURE

Table: 10

Filters	Face Velocity.P .M.									
	300	350	400	450	500	550	600	650	700	800
Cleanable	0.037	0.050	0.065	0.081	0.099	0.120	0.156	0.182	0.235	0.325

Notes:

- All pressure drops in inches of water.
-Filter area in flat configuration equals the coil face area

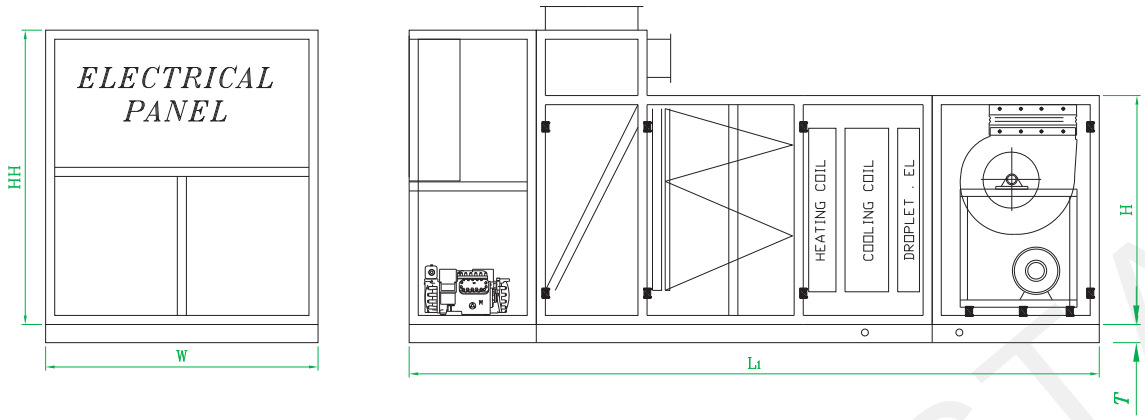
ACCESSORIES AIR SIDE PRESSURE DROP (IN.W.G)

(AT 500 F.P.M. VELOCITY)

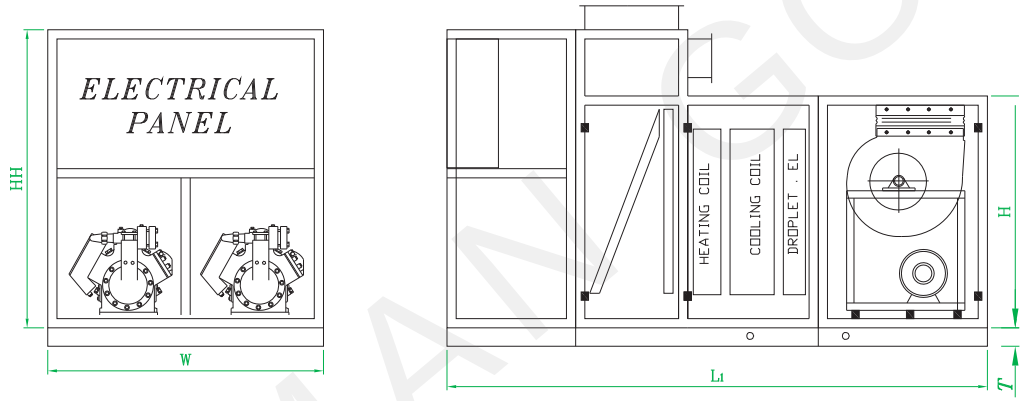
Table: 11

Damper	Mixing Box Without Filter	Electrical Heater	Eleminator
0.05	0.06	0.02	0.1

SPLIT AIR COOLED & WATER COOLED PACKAGED UNIT (WITH SPECIAL FILTER)



SPLIT AIR COOLED & WATER COOLED PACKAGED UNIT (WITHOUT SPECIAL FILTER)

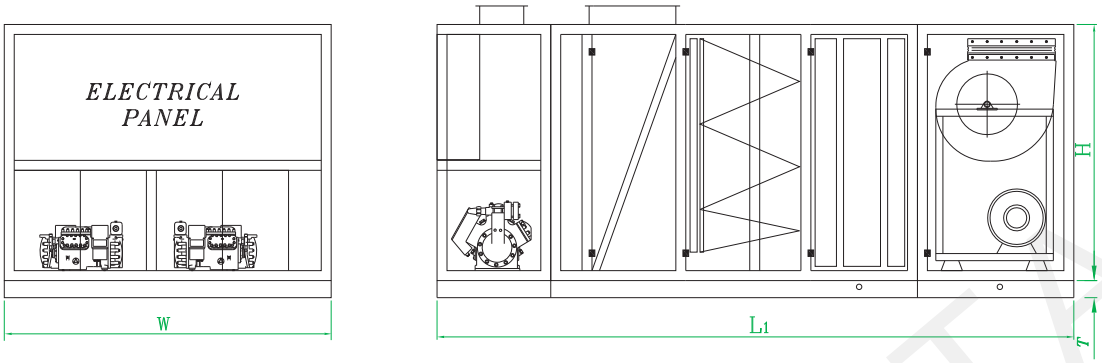


Model	L1	L2	W	H	HH	T
1SGPU-8	355	269	150	118	154	10
1SGPU-10	380	294	150	126	162	10
1SGPU-15	380	294	200	126	162	10
1SGPU-20	415	327	200	155	195	10
1SGPU-25	415	327	230	165	205	12
1SGPU-30	415	327	230	165	205	12
2SGPU-15	380	294	200	126	162	10
2SGPU-20	415	327	200	155	195	10
2SGPU-30	415	327	230	165	205	12

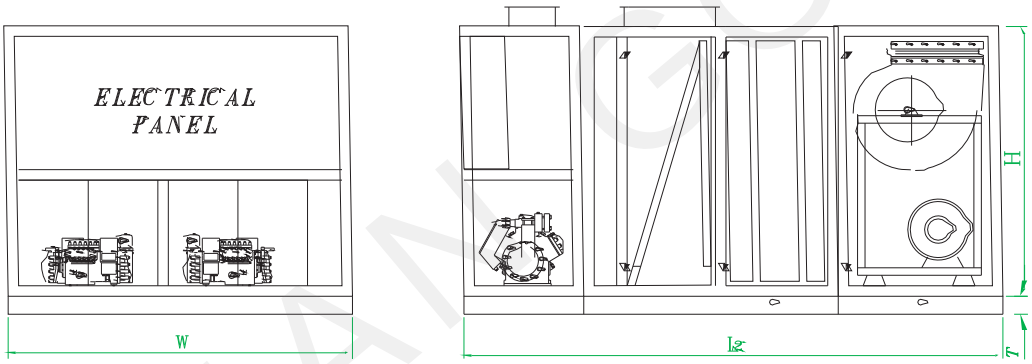
Note:

- All dimensions in mm.
- 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.

SPLIT AIR COOLED & WATER COOLED PACKAGED UNIT (WITH SPECIAL FILTER)



SPLIT AIR COOLED & WATER COOLED PACKAGED UNIT (WITHOUT SPECIAL FILTER)

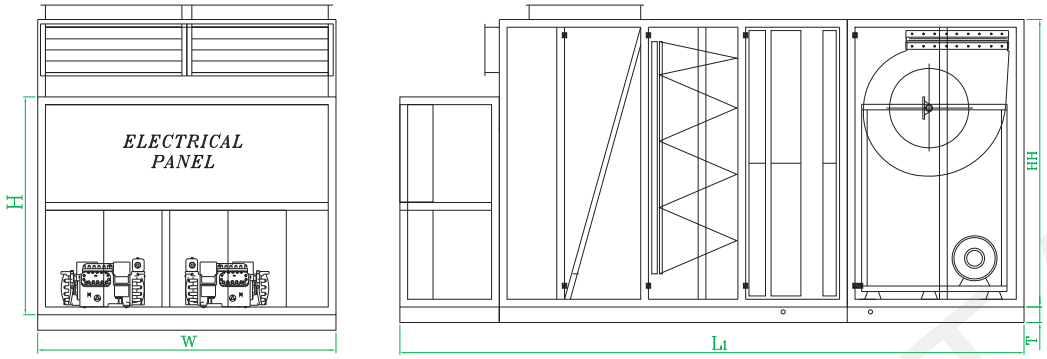


Model	L1	L2	W	H	T
1SGPU-35	448	360	230	180	12
1SGPU-40	448	360	230	180	12
1SGPU-50	460	372	230	205	12
1SGPU-60	480	392	270	190	12
2SGPU-40	448	360	230	180	12
2SGPU-50	460	372	230	205	12
2SGPU-60	480	392	270	190	12
2SGPU-70	505	417	270	210	12
2SGPU-80	530	442	270	225	12

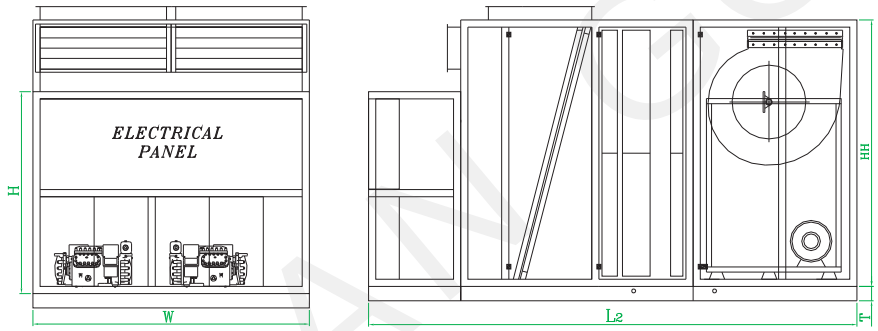
Note:

- All dimensions in mm.
- 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.

SPLIT AIR COOLED & WATER COOLED PACKAGED UNIT (WITH SPECIAL FILTER)



SPLIT AIR COOLED & WATER COOLED PACKAGED UNIT (WITHOUT SPECIAL FILTER)

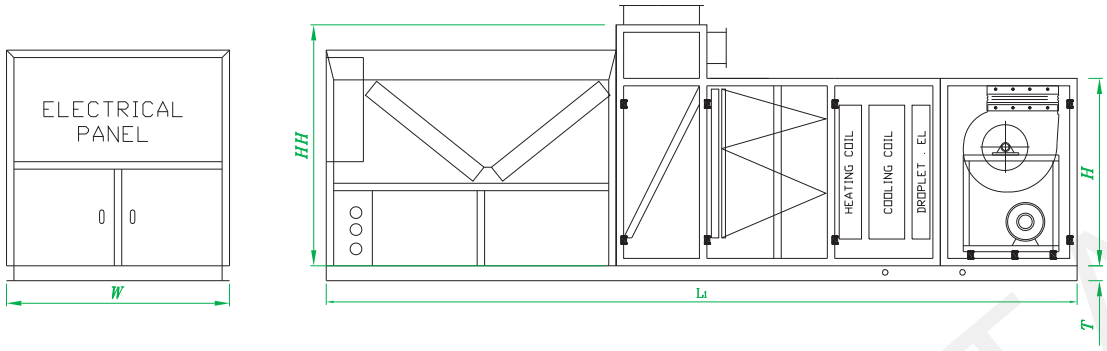


Model	L_1	L_2	W	H	HH	T
2SGPU-100	565	477	270	197	260	14
2SGPU-120	690	602	270	187	240	14

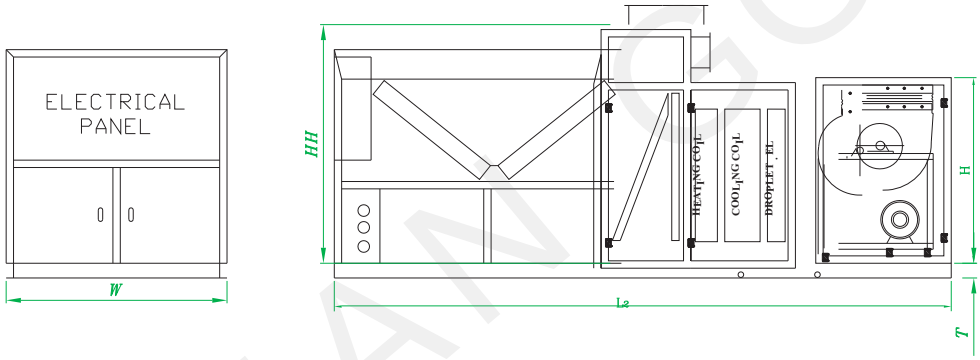
Note:

- All dimensions in mm.
- 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.

ROOF TOP AIR COOLED PACKAGED UNIT
(WITH SPECIAL FILTER)



ROOF TOP AIR COOLED PACKAGED UNIT
(WITH SPECIAL FILTER)



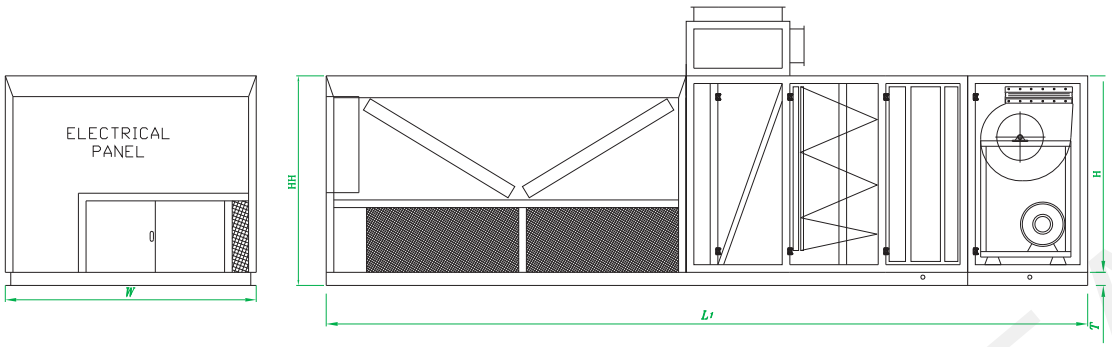
Model	L1	L2	W	H	HH	T
1SGPU-8	480	394	150	118	145	10
1SGPU-10	505	419	150	126	145	10
1SGPU-15	510	424	200	126	160	10
1SGPU-20	590	502	200	155	180	10
1SGPU-25	610	522	230	165	195	10
1SGPU-30	610	522	230	165	195	10
2SGPU-15	510	424	200	126	160	10
2SGPU-20	590	502	200	155	180	10
2SGPU-30	610	522	230	165	195	10

Note:

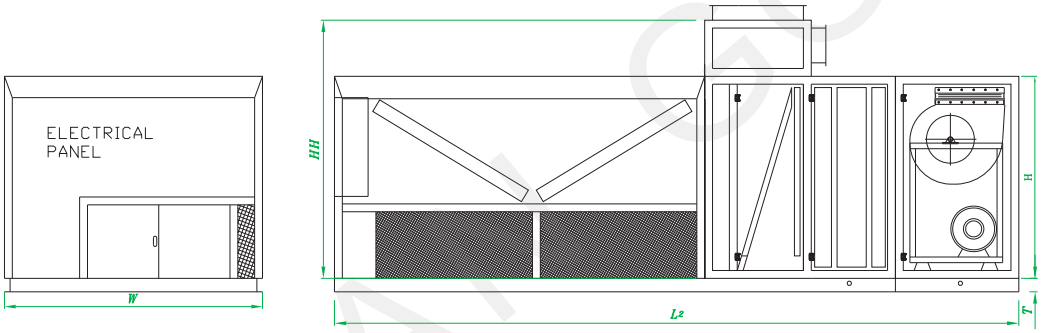
- All dimensions in mm.
- Drawing shown in the fan section indicates an up-blast discharge arrangement while other options such as horizontal-blast and down-blast are also available upon request.

REFRIGERANT:R22

ROOF TOP AIR COOLED PACKAGED UNIT
(WITH SPECIAL FILTER)



ROOF TOP AIR COOLED PACKAGED UNIT
(WITH SPECIAL FILTER)



Model	L1	L2	W	H	T
1SGPU-35	698	610	230	180	12
1SGPU-40	698	610	230	180	12
1SGPU-50	768	680	230	205	12
1SGPU-60	790	702	270	190	12
2SGPU-40	698	610	230	180	12
2SGPU-50	768	680	230	205	12
2SGPU-60	790	702	270	190	12
2SGPU-70	855	767	270	210	12
2SGPU-80	895	807	270	225	12

Note:

- All dimensions in mm.
- 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.

ENGINEERING DATA

SINGLE COMPRESSOR MODELS (Refrigerant: R22)

Table 14

Model		1SGPU-5		1SGPU-8		1SGPU-10		1SGPU-15		1SGPU-20		1SGPU-25		1SGPU-30		1SGPU-35		1SGPU-40		1SGPU-50		1SGPU-60	
		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	
	RLA	7.5	8.6	12.9	14.9	14.9	17.4	19.8	23.3	23.1	26.2	29.0	33.0	32.3	38.1	45.6	52.1	50.4	57.2	68.1	77.1	81.9	92.4
	FLA	8.1	9.7	14.0	17.0	16.3	18.6	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	99.6
	MOC	10.3		18.0		21.3		28.0		30.5		40.1		47.7		62.4		71.8		91.6		107.0	
	LRA	55		106		121		129		160		192		218		284		347		444		544	
Blower	HP	2		2		3		4		5.5		5.5		7.5		7.5		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	
	LRA	20		20		24.2		41.3		49.3		49.3		73.2		73.2		107.3		107.3		107.3	
System (3)	Max[1] KW Input	6.3	7.4	9.3	11.3	11.5	11.8	15.5	18.7	18.6	22.0	22.7	26.9	28.2	33.2	34.1	40.7	41.5	49.4	46.9	56.1	55.0	66.2
	FLA	11.5	13.1	17.4	20.4	21.1	23.4	28.3	31.6	33.2	36.5	39.7	43.8	47.2	52.3	60.4	67.2	69.7	77.0	88.5	97.5	103.4	114.8
	Wire[2] Size	4x4		4x4		4x6		4x10		4x10		4x16		3x25/16		3x25/16		3x35/16		3x50/25		3x50/25	3x70/35

TWO COMPRESSOR MODELS (Refrigerant: R22)

Model		2SGPU-10		2SGPU-15		2SGPU-20		2SGPU-30		2SGPU-40		2SGPU-50		2SGPU-60		2SGPU-70		2SGPU-80		2SGPU-100		2SGPU-120	
		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	
	RLA	7.5	8.6	12.9	14.9	14.9	17.4	19.8	23.3	23.1	26.2	29.0	33.0	32.3	38.1	45.6	52.1	50.4	57.2	68.1	77.1	81.9	92.4
	FLA	8.1	9.7	14.0	17.0	16.3	18.6	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	99.6
	MOC	10.3		18.0		21.3		28.0		30.5		40.1		47.7		62.4		71.8		91.6		107.0	
	LRA	55		106		121		129		160		192		218		284		347		444		544	
Blower	HP	2		2		3		4		5.5		5.5		7.5		7.5		10		10		10	
	FLA	4		4		5.3		7.5		8.8		8.8		12.2		12.2		16.5		16.5		16.5	
	LRA	20		20		24.2		41.3		49.3		49.3		73.2		73.2		107.3		107.3		107.3	
System (3)	Max[1] KW Input	10.7	13.0	16.7	20.7	20.3	22.9	27.4	33.8	32.5	39.2	40.6	49.1	50.0	59.9	61.8	75.1	74.4	90.2	82.3	103.6	101.4	123.8
	FLA	19.6	22.8	31.4	37.4	37.4	42.0	50.0	56.6	58.1	64.4	71.0	79.2	83.5	93.7	109.9	123.5	124.1	138.8	161.7	179.9	191.5	214.5
	Wire[2] Size	4x6	4x10	4x10		4x10		3x25/16		3x25/16	3x25/16	3x35/16		3x50/25		3x70/35		3x70/35	3x95/50	3x120/70		3x150/70	

Note:

- LRA: Locked Rotor Amps
- MOC: Maximum Operating Current
- FLA : Full Load Amps
- RLA : Rated Load Amps

(1) Maximum Power Input is the value which after applying such factors as safety and future additions can be used to figure out the amount of electricity required.

(2) Suggested cable size based on copper conductor under full load conditions (FLA) at maximum ambient temperature of 50°C and maximum distance of 70 m.

(3) For unitary packaged units also consider the air cooled condenser's data relating to items listed under "system". As the data given under "system" correspond to a split type operation.
Excluding the amount of refrigerant for an air cooled condenser & relevant pipings.

ENGINEERING DATA

SINGLE COMPRESSOR MODELS (Refrigerant: R134a)

Table 15

	Model	1SGPU-5		1SGPU-8		1SGPU-10		1SGPU-15		1SGPU-20		1SGPU-30		1SGPU-40		1SGPU-50		1SGPU-60	
		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		30		40		50		60	
	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		20.5		17		41.9		51		55		77		88.2	
	LRA	55		70		104		156		175		221		311		458		476	
Blower	HP	2		2		3		4		5.5		7.5		10		10		10	
	FLA	3.4		3.4		4.8		6.5		8.3		10.9		15.2		15.2		15.2	
	LRA	20		20		24.2		41.3		49.3		73.2		107.3		107.3		107.3	
System (3)	Max[1] KW Input	6.9	7.9	7.9	9.2	11.9	13.7	15.2	17.6	24.4	28	30.2	34.4	35.6	39.3	40.8	46.3	46	51.8
	FLA	13.2	14.7	14.8	16.7	21.8	24.3	28.4	32.1	429	48.4	52.8	59.7	69	75.9	81.2	89.3	93.9	102
	Wire[2] Size	4x4		4x4		4x6		4x10		4x16		4x25/		3x35/16		3x50/25		3x50/25	3x70/35

TWO COMPRESSOR MODELS (Refrigerant: R134a)

	Model	2SGPU-10		2SGPU-15		2SGPU-20		2SGPU-30		2SGPU-40		2SGPU-60		2SGPU-80		2SGPU-100		2SGPU120	
		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		30		40		50		60	
	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		20.5		17		41.9		51		55		77		88.2	
	LRA	55		70		104		156		175		221		311		458		476	
Blower	HP	2		2		3		4		5.5		7.5		10		10		10	
	FLA	4		4		5.3		7.5		8.8		12.2		16.5		16.5		16.5	
	LRA	20		20		24.2		41.3		49.3		73.2		107.3		107.3		107.3	
System (3)	Max[1] KW Input	12.2	14.2	143	16.8	21.7	25.2	27.4	32.2	44.8	52	54.9	63.3	61.7	71.1	74.1	85.1	84.5	96.1
	FLA	13.2	14.7	14.8	16.7	21.8	24.3	28.4	32.1	429	48.4	52.8	59.7	69	75.9	81.2	89.3	93.9	102
	Wire[2] Size	4x6	4x10	4x10		4x1		3x25/16		3x25/16	3x25/16	3x50/25		3x70/35	3x95/50	3x120/70		3x150/70	

Note:

- LRA: Locked Rotor Amps
- MOC: Maximum Operating Current
- FLA : Full Load Amps
- RLA : Rated Load Amps

(1) Maximum Power Input is the value which after applying such factors as safety and future additions can be used to figure out the amount of electricity required.

(2) Suggested cable size based on copper conductor under full load conditions (FLA) at maximum ambient temperature of 50°C and maximum distance of 70 m.

(3) For unitary packaged units also consider the air cooled condenser's data relating to items listed under "system". As the data given under "system" correspond to a split type operation.
Excluding the amount of refrigerant for an air cooled condenser & relevant pipings.

ENTHALPY / ALTITUDE

Air Wet Bulb Temperature F	Altitude (FT.)					
	0	1000	2000	3000	4000	5000
	Enthalpy (BTU/Lb)					
35	13.0	13.2	13.3	13.5	13.7	13.9
36	13.4	13.5	13.8	14.0	14.2	14.5
37	13.9	14.0	14.3	14.4	14.7	14.8
38	14.2	14.5	14.7	15.0	15.1	15.3
39	14.8	15.0	15.2	15.4	15.6	15.9
40	15.2	15.4	15.7	15.9	16.2	16.4
41	15.7	15.9	16.1	16.4	16.6	16.8
42	16.2	16.4	16.6	16.9	17.2	17.4
43	16.6	16.9	17.1	17.4	17.6	18.0
44	17.2	17.4	17.6	17.9	18.2	18.5
45	17.7	17.9	18.2	18.4	18.7	19.0
46	18.2	18.4	18.7	19.0	19.3	19.6
47	18.7	18.9	19.3	19.5	19.8	20.2
48	19.2	19.5	19.8	20.0	20.4	20.8
49	19.7	20.0	20.4	20.6	21.0	21.3
50	20.3	20.6	20.9	21.2	21.6	22.3
51	20.9	21.2	21.5	21.8	22.2	22.6
52	21.4	21.7	22.1	22.5	22.8	23.2
53	22.0	22.4	22.7	23.1	23.5	24.0
54	22.6	23.0	23.4	23.8	24.1	24.6
55	23.2	23.6	24.0	24.4	24.8	25.3
56	23.8	24.2	24.6	25.0	25.5	25.9
57	24.4	24.8	25.3	25.8	26.2	26.7
58	25.2	25.5	25.9	26.4	26.9	27.4
59	25.8	26.2	26.7	27.2	27.6	28.2
60	26.5	26.9	27.4	27.8	28.4	28.9
61	27.2	27.6	28.1	28.6	29.2	29.7
62	27.9	28.3	28.9	29.4	29.9	30.5
63	28.5	29.0	29.6	30.2	30.7	31.4
64	29.3	29.8	30.3	31.0	31.6	32.2
65	30.1	30.6	31.2	31.7	32.3	33.0
66	30.8	31.4	32.0	32.6	33.3	33.9
67	31.6	32.2	32.8	33.5	34.1	34.8
68	32.4	33.0	33.7	34.3	35.0	35.8
69	33.2	33.9	34.5	35.3	35.9	36.7
70	34.0	34.7	35.4	36.1	36.9	37.6
71	34.9	35.6	36.3	37.0	37.9	38.6
72	35.8	36.5	37.3	38.0	38.8	39.7
73	36.7	37.5	38.2	39.0	39.9	40.7
74	37.6	38.4	39.2	40.0	40.9	41.8
75	38.6	39.4	40.2	41.0	42.0	42.9
76	39.6	40.3	41.2	42.1	43.0	44.0
77	40.6	41.4	42.3	43.2	42.2	45.2
78	41.5	42.5	43.4	44.3	45.3	46.4
79	42.6	43.5	44.5	45.5	46.5	47.5
80	43.7	44.6	45.6	46.6	47.6	48.8
81	44.8	45.8	46.7	47.8	48.8	50.0
82	45.9	46.9	48.0	49.0	50.3	51.4
83	47.0	48.1	49.2	50.3	51.5	52.8
84	48.2	49.3	50.4	51.6	52.9	54.2
85	49.4	50.3	51.7	53.0	54.2	55.6