

COMPRESSOR DEFINITION

Designation	VES G9C
Nominal Voltage/Frequency	230 V 32-150 Hz
Engineering Number	513907526

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 32-150	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Fullmotion Compressors)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	BPM		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	205	[ml] (6.93 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	6.15	[kg] (13.56 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 31.7-150 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF01F22 M	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CF01F12 M 0.0 XX F X	
6 Start winding resistance	15.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.60	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (32/150 Hz)	2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (32/150 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (32/150 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V950RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
160	40	47	25	0.24	0.50	6.49	1.64	1.90

TEST CONDITIONS: @220V1300RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
235	59	69	35	0.30	0.74	6.69	1.69	1.96

TEST CONDITIONS: @220V1600RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
293	74	86	43	0.35	0.92	6.76	1.70	1.98

TEST CONDITIONS: @220V2000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
365	92	107	53	0.42	1.15	6.86	1.73	2.01

TEST CONDITIONS: @220V3000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
546	138	160	80	0.62	1.71	6.82	1.72	2.00

TEST CONDITIONS: @220V4000RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature)		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
717	181	210	111	0.83	2.25	6.48	1.63	1.90

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V4500RPM			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
751	189	220	120	0.89	2.36	6.26	1.58	1.83

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V950RPM			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	104	26	31	15	0.15	0.33	6.75	1.70	1.98
-30	(-22)	140	35	41	18	0.17	0.44	7.66	1.93	2.24
-25	(-13)	181	46	53	21	0.19	0.57	8.67	2.19	2.54
-20	(- 4)	230	58	67	23	0.21	0.72	9.82	2.48	2.88
-15	(+ 5)	288	73	84	26	0.22	0.91	11.15	2.81	3.27
-10	(+14)	359	90	105	28	0.23	1.13	12.71	3.20	3.72
-5	(+23)	445	112	130	31	0.25	1.41	14.53	3.66	4.26
0	(+32)	547	138	160	33	0.28	1.73	16.66	4.20	4.88

TEST CONDITIONS: @220V950RPM			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	96	24	28	16	0.15	0.30	6.06	1.53	1.78
-30	(-22)	131	33	38	19	0.18	0.41	6.80	1.71	1.99
-25	(-13)	172	43	50	23	0.21	0.54	7.59	1.91	2.22
-20	(- 4)	220	55	65	26	0.23	0.69	8.47	2.13	2.48
-15	(+ 5)	279	70	82	29	0.25	0.88	9.48	2.39	2.78
-10	(+14)	350	88	102	33	0.27	1.10	10.67	2.69	3.13
-5	(+23)	436	110	128	36	0.30	1.38	12.08	3.04	3.54
0	(+32)	539	136	158	40	0.33	1.71	13.74	3.46	4.03

TEST CONDITIONS: @220V950RPM			ASHRAE32 Static		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	82	21	24	16	0.14	0.26	5.27	1.33	1.54
-30	(-22)	117	30	34	20	0.18	0.37	5.93	1.49	1.74
-25	(-13)	158	40	46	24	0.22	0.50	6.59	1.66	1.93
-20	(- 4)	207	52	61	29	0.25	0.65	7.29	1.84	2.14
-15	(+ 5)	266	67	78	33	0.28	0.84	8.08	2.04	2.37
-10	(+14)	339	85	99	38	0.31	1.07	8.99	2.27	2.63
-5	(+23)	426	107	125	42	0.34	1.35	10.08	2.54	2.95
0	(+32)	531	134	156	47	0.38	1.68	11.37	2.87	3.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1300RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	144	36	42	21	0.19	0.45	6.78	1.71	1.99
-30	(-22)	191	48	56	25	0.22	0.60	7.70	1.94	2.26
-25	(-13)	247	62	72	28	0.24	0.78	8.72	2.20	2.56
-20	(- 4)	314	79	92	32	0.27	0.99	9.88	2.49	2.89
-15	(+ 5)	395	100	116	35	0.29	1.24	11.22	2.83	3.29
-10	(+14)	492	124	144	38	0.31	1.55	12.79	3.22	3.75
-5	(+23)	609	153	178	42	0.33	1.92	14.63	3.69	4.29
0	(+32)	747	188	219	45	0.36	2.37	16.78	4.23	4.92

TEST CONDITIONS: @220V1300RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	132	33	39	22	0.19	0.41	6.12	1.54	1.79
-30	(-22)	180	45	53	26	0.23	0.57	6.88	1.73	2.02
-25	(-13)	236	60	69	31	0.27	0.74	7.68	1.94	2.25
-20	(- 4)	303	76	89	35	0.30	0.95	8.58	2.16	2.51
-15	(+ 5)	383	97	112	40	0.33	1.21	9.61	2.42	2.81
-10	(+14)	479	121	140	44	0.36	1.51	10.81	2.72	3.17
-5	(+23)	593	149	174	49	0.39	1.88	12.23	3.08	3.58
0	(+32)	729	184	214	53	0.43	2.31	13.91	3.51	4.08

TEST CONDITIONS: @220V1300RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	116	29	34	22	0.18	0.36	5.37	1.35	1.57
-30	(-22)	164	41	48	27	0.24	0.52	6.06	1.53	1.78
-25	(-13)	220	55	64	33	0.29	0.69	6.75	1.70	1.98
-20	(- 4)	285	72	84	38	0.33	0.90	7.47	1.88	2.19
-15	(+ 5)	364	92	107	44	0.36	1.15	8.28	2.09	2.43
-10	(+14)	457	115	134	50	0.40	1.44	9.21	2.32	2.70
-5	(+23)	569	143	167	55	0.44	1.80	10.30	2.60	3.02
0	(+32)	701	177	205	61	0.48	2.22	11.61	2.93	3.40

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1600RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	177	45	52	26	0.22	0.55	6.78	1.71	1.99
-30	(-22)	235	59	69	31	0.26	0.74	7.70	1.94	2.26
-25	(-13)	304	76	89	35	0.29	0.95	8.70	2.19	2.55
-20	(- 4)	386	97	113	39	0.32	1.21	9.84	2.48	2.88
-15	(+ 5)	485	122	142	43	0.35	1.53	11.17	2.81	3.27
-10	(+14)	605	152	177	48	0.37	1.91	12.72	3.20	3.73
-5	(+23)	748	189	219	51	0.40	2.36	14.54	3.66	4.26
0	(+32)	918	231	269	55	0.43	2.91	16.67	4.20	4.89

TEST CONDITIONS: @220V1600RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	164	41	48	27	0.23	0.51	6.14	1.55	1.80
-30	(-22)	222	56	65	32	0.28	0.70	6.90	1.74	2.02
-25	(-13)	291	73	85	38	0.32	0.91	7.71	1.94	2.26
-20	(- 4)	372	94	109	43	0.36	1.17	8.60	2.17	2.52
-15	(+ 5)	471	119	138	49	0.39	1.48	9.62	2.43	2.82
-10	(+14)	588	148	172	54	0.42	1.86	10.82	2.73	3.17
-5	(+23)	729	184	214	60	0.46	2.31	12.24	3.08	3.59
0	(+32)	896	226	263	65	0.50	2.84	13.92	3.51	4.08

TEST CONDITIONS: @220V1600RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	146	37	43	27	0.22	0.46	5.42	1.37	1.59
-30	(-22)	204	51	60	33	0.28	0.64	6.13	1.55	1.80
-25	(-13)	272	69	80	40	0.34	0.85	6.83	1.72	2.00
-20	(- 4)	352	89	103	47	0.39	1.11	7.57	1.91	2.22
-15	(+ 5)	448	113	131	54	0.43	1.41	8.38	2.11	2.46
-10	(+14)	563	142	165	60	0.48	1.78	9.31	2.35	2.73
-5	(+23)	701	177	205	67	0.52	2.22	10.41	2.62	3.05
0	(+32)	864	218	253	74	0.57	2.74	11.73	2.96	3.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	220	55	65	33	0.27	0.69	6.69	1.69	1.96
-30	(-22)	292	74	86	38	0.31	0.91	7.60	1.92	2.23
-25	(-13)	377	95	110	44	0.35	1.18	8.59	2.16	2.52
-20	(- 4)	479	121	140	49	0.39	1.51	9.70	2.44	2.84
-15	(+ 5)	603	152	177	55	0.43	1.90	10.99	2.77	3.22
-10	(+14)	752	190	220	60	0.46	2.37	12.50	3.15	3.66
-5	(+23)	931	235	273	65	0.49	2.94	14.28	3.60	4.18
0	(+32)	1143	288	335	70	0.52	3.62	16.37	4.12	4.80

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	205	52	60	34	0.28	0.64	6.09	1.53	1.78
-30	(-22)	277	70	81	40	0.33	0.87	6.87	1.73	2.01
-25	(-13)	362	91	106	47	0.38	1.14	7.67	1.93	2.25
-20	(- 4)	463	117	136	54	0.43	1.46	8.55	2.16	2.51
-15	(+ 5)	585	148	172	61	0.48	1.84	9.56	2.41	2.80
-10	(+14)	732	184	215	68	0.53	2.31	10.73	2.70	3.14
-5	(+23)	908	229	266	75	0.57	2.87	12.11	3.05	3.55
0	(+32)	1116	281	327	82	0.61	3.54	13.76	3.47	4.03

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	184	46	54	34	0.27	0.58	5.39	1.36	1.58
-30	(-22)	256	65	75	42	0.34	0.80	6.13	1.55	1.80
-25	(-13)	340	86	100	50	0.40	1.07	6.85	1.73	2.01
-20	(- 4)	440	111	129	58	0.47	1.38	7.60	1.91	2.23
-15	(+ 5)	559	141	164	67	0.52	1.76	8.41	2.12	2.46
-10	(+14)	703	177	206	75	0.58	2.22	9.33	2.35	2.74
-5	(+23)	875	220	256	84	0.63	2.77	10.42	2.63	3.05
0	(+32)	1079	272	316	93	0.68	3.42	11.72	2.95	3.43

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	323	81	95	51	0.40	1.01	6.29	1.59	1.84
-30	(-22)	429	108	126	60	0.46	1.34	7.15	1.80	2.09
-25	(-13)	555	140	163	69	0.53	1.74	8.05	2.03	2.36
-20	(- 4)	707	178	207	78	0.58	2.22	9.04	2.28	2.65
-15	(+ 5)	891	224	261	87	0.64	2.80	10.18	2.57	2.98
-10	(+14)	1113	280	326	97	0.70	3.51	11.52	2.90	3.38
-5	(+23)	1379	347	404	105	0.75	4.36	13.10	3.30	3.84
0	(+32)	1694	427	496	113	0.81	5.37	14.98	3.78	4.39

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	302	76	88	52	0.41	0.94	5.79	1.46	1.70
-30	(-22)	408	103	120	62	0.49	1.28	6.57	1.65	1.92
-25	(-13)	533	134	156	73	0.56	1.67	7.34	1.85	2.15
-20	(- 4)	684	172	200	84	0.64	2.15	8.15	2.05	2.39
-15	(+ 5)	866	218	254	95	0.71	2.73	9.06	2.28	2.66
-10	(+14)	1085	273	318	107	0.79	3.42	10.12	2.55	2.97
-5	(+23)	1347	340	395	119	0.86	4.26	11.37	2.87	3.33
0	(+32)	1659	418	486	130	0.93	5.26	12.87	3.24	3.77

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	275	69	81	53	0.40	0.86	5.15	1.30	1.51
-30	(-22)	379	96	111	64	0.49	1.19	5.93	1.49	1.74
-25	(-13)	502	127	147	76	0.58	1.58	6.65	1.68	1.95
-20	(- 4)	650	164	191	88	0.67	2.04	7.37	1.86	2.16
-15	(+ 5)	828	209	243	102	0.76	2.61	8.14	2.05	2.39
-10	(+14)	1043	263	306	116	0.84	3.29	9.00	2.27	2.64
-5	(+23)	1300	328	381	130	0.93	4.11	10.01	2.52	2.93
0	(+32)	1606	405	470	144	1.02	5.09	11.20	2.82	3.28

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3600RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	389	98	114	64	0.48	1.22	6.04	1.52	1.77
-30	(-22)	503	127	147	74	0.56	1.58	6.86	1.73	2.01
-25	(-13)	652	164	191	85	0.64	2.05	7.69	1.94	2.25
-20	(- 4)	840	212	246	98	0.72	2.64	8.60	2.17	2.52
-15	(+ 5)	1068	269	313	111	0.80	3.36	9.63	2.43	2.82
-10	(+14)	1339	338	392	124	0.88	4.22	10.84	2.73	3.18
-5	(+23)	1657	418	486	135	0.95	5.24	12.29	3.10	3.60
0	(+32)	2024	510	593	144	1.01	6.41	14.05	3.54	4.12

TEST CONDITIONS: @220V3600RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	351	88	103	63	0.48	1.10	5.60	1.41	1.64
-30	(-22)	482	121	141	76	0.58	1.51	6.36	1.60	1.86
-25	(-13)	641	161	188	90	0.69	2.01	7.10	1.79	2.08
-20	(- 4)	830	209	243	105	0.79	2.61	7.85	1.98	2.30
-15	(+ 5)	1053	265	308	121	0.89	3.31	8.69	2.19	2.55
-10	(+14)	1312	331	384	135	0.98	4.14	9.67	2.44	2.83
-5	(+23)	1609	406	472	149	1.06	5.09	10.84	2.73	3.18
0	(+32)	1948	491	571	159	1.12	6.18	12.26	3.09	3.59

TEST CONDITIONS: @220V3600RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	324	82	95	65	0.48	1.01	4.95	1.25	1.45
-30	(-22)	453	114	133	78	0.60	1.42	5.75	1.45	1.68
-25	(-13)	603	152	177	93	0.71	1.89	6.47	1.63	1.90
-20	(- 4)	777	196	228	109	0.81	2.44	7.17	1.81	2.10
-15	(+ 5)	976	246	286	124	0.91	3.07	7.90	1.99	2.31
-10	(+14)	1204	303	353	138	1.00	3.80	8.72	2.20	2.56
-5	(+23)	1463	369	429	151	1.07	4.63	9.69	2.44	2.84
0	(+32)	1756	442	515	161	1.13	5.57	10.87	2.74	3.19

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	428	108	125	72	0.54	1.34	5.91	1.49	1.73
-30	(-22)	543	137	159	82	0.61	1.70	6.73	1.70	1.97
-25	(-13)	722	182	212	97	0.72	2.26	7.50	1.89	2.20
-20	(- 4)	950	239	278	114	0.84	2.98	8.32	2.10	2.44
-15	(+ 5)	1213	306	355	131	0.95	3.82	9.28	2.34	2.72
-10	(+14)	1497	377	439	144	1.03	4.72	10.46	2.64	3.06
-5	(+23)	1787	450	524	149	1.06	5.65	11.96	3.01	3.50
0	(+32)	2070	522	607	145	1.01	6.56	13.86	3.49	4.06

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	399	101	117	72	0.55	1.25	5.48	1.38	1.61
-30	(-22)	530	133	155	85	0.65	1.66	6.27	1.58	1.84
-25	(-13)	708	179	208	102	0.77	2.22	6.98	1.76	2.04
-20	(- 4)	921	232	270	120	0.90	2.90	7.70	1.94	2.26
-15	(+ 5)	1155	291	338	136	1.01	3.63	8.51	2.15	2.50
-10	(+14)	1394	351	408	147	1.07	4.40	9.52	2.40	2.79
-5	(+23)	1625	409	476	150	1.07	5.14	10.81	2.72	3.17
0	(+32)	1833	462	537	142	0.99	5.81	12.47	3.14	3.65

TEST CONDITIONS: @220V4000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	346	87	101	72	0.53	1.08	4.84	1.22	1.42
-30	(-22)	496	125	145	88	0.66	1.56	5.65	1.42	1.65
-25	(-13)	680	171	199	107	0.81	2.13	6.34	1.60	1.86
-20	(- 4)	883	222	259	125	0.94	2.78	7.01	1.77	2.05
-15	(+ 5)	1091	275	320	141	1.04	3.44	7.74	1.95	2.27
-10	(+14)	1291	325	378	150	1.10	4.07	8.63	2.17	2.53
-5	(+23)	1467	370	430	150	1.07	4.64	9.76	2.46	2.86
0	(+32)	1606	405	470	138	0.95	5.09	11.22	2.83	3.29

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4500RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	478	121	140	81	0.62	1.50	5.87	1.48	1.72
-30	(-22)	606	153	177	92	0.70	1.90	6.62	1.67	1.94
-25	(-13)	789	199	231	110	0.80	2.48	7.23	1.82	2.12
-20	(- 4)	1015	256	297	128	0.91	3.19	7.88	1.99	2.31
-15	(+ 5)	1267	319	371	145	1.00	3.99	8.76	2.21	2.57
-10	(+14)	1530	385	448	154	1.06	4.82	10.03	2.53	2.94
-5	(+23)	1788	451	524	151	1.06	5.65	11.86	2.99	3.48
0	(+32)	2028	511	594	132	0.98	6.43	14.45	3.64	4.23

TEST CONDITIONS: @220V4500RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	441	111	129	80	0.62	1.38	5.45	1.37	1.60
-30	(-22)	579	146	170	92	0.72	1.81	6.32	1.59	1.85
-25	(-13)	761	192	223	109	0.84	2.39	6.96	1.75	2.04
-20	(- 4)	972	245	285	128	0.96	3.05	7.57	1.91	2.22
-15	(+ 5)	1196	301	351	144	1.05	3.77	8.31	2.09	2.44
-10	(+14)	1419	358	416	152	1.09	4.48	9.36	2.36	2.74
-5	(+23)	1625	410	476	149	1.07	5.14	10.90	2.75	3.19
0	(+32)	1799	453	527	129	0.96	5.71	13.09	3.30	3.84

TEST CONDITIONS: @220V4500RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	375	94	110	80	0.58	1.17	4.70	1.18	1.38
-30	(-22)	529	133	155	93	0.72	1.66	5.71	1.44	1.67
-25	(-13)	715	180	209	111	0.86	2.24	6.42	1.62	1.88
-20	(- 4)	916	231	269	130	0.99	2.88	7.01	1.77	2.05
-15	(+ 5)	1119	282	328	146	1.08	3.52	7.64	1.93	2.24
-10	(+14)	1307	329	383	154	1.11	4.12	8.50	2.14	2.49
-5	(+23)	1465	369	429	150	1.07	4.64	9.76	2.46	2.86
0	(+32)	1579	398	463	129	0.93	5.01	11.60	2.92	3.40

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal VES		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 75° up + 13° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		