

COMPRESSOR DEFINITION

Designation	VEM T403U
Nominal Voltage/Frequency	230 V 40-150 Hz
Engineering Number	513903042

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	230 / 40-150	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial - Curves until T.Evap -		
4.1 Evaporating temperature range	-40°C to 0°C	(-40°F to 32°F)	
5 Motor type	BPM		
6 Starting torque	LST/HST - Low/High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static/Fan	103 to 140 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	103 to 140 V	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	3.00	[cm ³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	220	[ml] (7.44 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO22	
4 Weight (with oil charge)	7.2	[kg] (15.87 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 40-150 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF03B03 N XX XX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER CF03B03 N X	
6 Start winding resistance	28.36	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	28.36	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (40/150 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (40/150 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (40/150 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V1200RPM			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]
203	51	59	35	0.30	0.60	5.75	1.45	1.68

TEST CONDITIONS: @220V1200RPM			ASHRAELBP32 Fan		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]
207	52	61	34	0.30	0.62	6.02	1.52	1.76

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]
268	68	79	44	0.38	0.80	6.06	1.53	1.78

TEST CONDITIONS: @220V1600RPM			ASHRAELBP32 Fan		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]
273	69	80	44	0.38	0.81	6.18	1.56	1.81

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]
332	84	97	54	0.47	0.99	6.10	1.54	1.79

TEST CONDITIONS: @220V2000RPM			ASHRAELBP32 Fan		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]
338	85	99	55	0.46	1.01	6.19	1.56	1.81

D - PERFORMANCE - CHECK POINT DATA

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]
493	124	144	81	0.69	1.47	6.10	1.54	1.79

TEST CONDITIONS: @220V3000RPM			ASHRAELBP32 Fan		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]
504	127	148	82	0.69	1.50	6.14	1.55	1.80

TEST CONDITIONS: @220V3600RPM			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]
594	150	174	98	0.84	1.77	6.04	1.52	1.77

TEST CONDITIONS: @220V3600RPM			ASHRAELBP32 Fan		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]
611	154	179	101	0.85	1.82	6.03	1.52	1.77

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]
731	184	214	125	1.06	2.17	5.84	1.47	1.71

TEST CONDITIONS: @220V4500RPM			ASHRAELBP32 Fan		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]
752	189	220	129	1.08	2.24	5.82	1.47	1.71

E - PERFORMANCE - CURVES

TEST CONDITIONS:	ASHRAE32	(Condensing temperature 35°C (+95°F))
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E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1200RPM		ASHRAE32 Static								
Evaporating temperature	Cooling capacity (Qe)			Input power (We)	Electric current	Mass flow rate	Efficiency EER & COP			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-40 (-40)	118	30	35	19	0.32	0.35	6.03	1.52	1.77	
-35 (-31)	150	38	44	24	0.33	0.44	6.34	1.60	1.86	
-30 (-22)	186	47	55	27	0.35	0.55	6.91	1.74	2.02	
-25 (-13)	229	58	67	30	0.37	0.68	7.74	1.95	2.27	
-20 (- 4)	279	70	82	32	0.39	0.83	8.81	2.22	2.58	
-15 (+ 5)	338	85	99	34	0.41	1.01	10.11	2.55	2.96	
-10 (+14)	406	102	119	35	0.43	1.22	11.64	2.93	3.41	
-5 (+23)	486	122	142	36	0.43	1.47	13.38	3.37	3.92	
0 (+32)	577	145	169	37	0.43	1.75	15.33	3.86	4.49	

TEST CONDITIONS: @220V1200RPM		ASHRAE32 Static									(Condensing temperature 45°C (+113°F))
Evaporating temperature	Cooling capacity (Qe)			Input power (We)	Electric current	Mass flow rate	Efficiency EER & COP				
	+/- 5%						+/- 7%				
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]		
-40 (-40)	106	27	31	21	0.30	0.31	5.22	1.32	1.53		
-35 (-31)	136	34	40	25	0.32	0.40	5.45	1.37	1.60		
-30 (-22)	172	43	50	29	0.35	0.51	5.86	1.48	1.72		
-25 (-13)	213	54	62	33	0.39	0.63	6.45	1.63	1.89		
-20 (- 4)	262	66	77	36	0.42	0.78	7.20	1.82	2.11		
-15 (+ 5)	319	80	93	39	0.46	0.95	8.11	2.04	2.38		
-10 (+14)	385	97	113	42	0.49	1.16	9.17	2.31	2.69		
-5 (+23)	462	117	136	45	0.51	1.40	10.35	2.61	3.03		
0 (+32)	552	139	162	48	0.53	1.68	11.66	2.94	3.42		

TEST CONDITIONS: @220V1200RPM		ASHRAE32 Static									(Condensing temperature 55°C (+131°F))
Evaporating temperature	Cooling capacity (Qe)			Input power (We)	Electric current	Mass flow rate	Efficiency EER & COP				
	+/- 5%						+/- 7%				
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]		
-40 (-40)	86	22	25	20	0.30	0.25	4.40	1.11	1.29		
-35 (-31)	117	29	34	25	0.33	0.34	4.66	1.17	1.37		
-30 (-22)	151	38	44	30	0.37	0.45	5.03	1.27	1.47		
-25 (-13)	192	48	56	35	0.41	0.57	5.49	1.38	1.61		
-20 (- 4)	240	61	70	39	0.46	0.72	6.03	1.52	1.77		
-15 (+ 5)	296	75	87	44	0.51	0.89	6.65	1.68	1.95		
-10 (+14)	362	91	106	49	0.55	1.09	7.34	1.85	2.15		
-5 (+23)	437	110	128	54	0.59	1.32	8.08	2.04	2.37		
0 (+32)	525	132	154	60	0.62	1.60	8.87	2.24	2.60		

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1200RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-40	(-40)	60	15	18	17	0.32	0.18	3.39	0.85	0.99
-35	(-31)	91	23	27	24	0.36	0.27	3.78	0.95	1.11
-30	(-22)	126	32	37	30	0.40	0.37	4.21	1.06	1.23
-25	(-13)	167	42	49	36	0.45	0.50	4.65	1.17	1.36
-20	(- 4)	215	54	63	43	0.50	0.64	5.10	1.28	1.49
-15	(+ 5)	270	68	79	50	0.56	0.81	5.54	1.40	1.62
-10	(+14)	335	84	98	57	0.61	1.01	5.97	1.50	1.75
-5	(+23)	411	103	120	64	0.66	1.24	6.38	1.61	1.87
0	(+32)	497	125	146	73	0.70	1.51	6.75	1.70	1.98

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)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	153	39	45	26	0.39	0.45	5.86	1.48	1.72
-35	(-31)	193	49	57	30	0.40	0.57	6.32	1.59	1.85
-30	(-22)	240	61	70	35	0.42	0.71	6.95	1.75	2.04
-25	(-13)	297	75	87	38	0.45	0.88	7.78	1.96	2.28
-20	(- 4)	363	92	106	41	0.48	1.08	8.83	2.23	2.59
-15	(+ 5)	442	111	129	44	0.51	1.32	10.12	2.55	2.97
-10	(+14)	534	134	156	46	0.53	1.61	11.66	2.94	3.42
-5	(+23)	640	161	188	48	0.54	1.94	13.48	3.40	3.95
0	(+32)	763	192	224	49	0.52	2.32	15.60	3.93	4.57

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)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	135	34	40	27	0.38	0.40	5.03	1.27	1.47
-35	(-31)	175	44	51	32	0.40	0.52	5.44	1.37	1.60
-30	(-22)	222	56	65	37	0.44	0.66	5.96	1.50	1.75
-25	(-13)	277	70	81	42	0.48	0.82	6.60	1.66	1.93
-20	(- 4)	342	86	100	46	0.52	1.02	7.38	1.86	2.16
-15	(+ 5)	418	105	123	50	0.56	1.25	8.32	2.10	2.44
-10	(+14)	507	128	149	54	0.60	1.53	9.44	2.38	2.77
-5	(+23)	610	154	179	57	0.61	1.85	10.77	2.71	3.15
0	(+32)	729	184	214	60	0.61	2.22	12.31	3.10	3.61

E - PERFORMANCE - CURVES

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)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	111	28	33	26	0.36	0.33	4.32	1.09	1.27
-35	(-31)	151	38	44	32	0.39	0.45	4.76	1.20	1.40
-30	(-22)	198	50	58	38	0.44	0.59	5.24	1.32	1.53
-25	(-13)	251	63	74	44	0.50	0.75	5.76	1.45	1.69
-20	(- 4)	315	79	92	49	0.56	0.94	6.35	1.60	1.86
-15	(+ 5)	388	98	114	55	0.62	1.16	7.02	1.77	2.06
-10	(+14)	474	120	139	60	0.67	1.43	7.81	1.97	2.29
-5	(+23)	574	145	168	66	0.70	1.74	8.72	2.20	2.55
0	(+32)	688	174	202	71	0.71	2.09	9.78	2.46	2.86

TEST CONDITIONS: @220V1600RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-40	(-40)	81	20	24	23	0.32	0.24	3.51	0.88	1.03
-35	(-31)	121	30	35	30	0.37	0.36	4.07	1.02	1.19
-30	(-22)	166	42	49	37	0.44	0.49	4.58	1.15	1.34
-25	(-13)	219	55	64	44	0.52	0.65	5.06	1.28	1.48
-20	(- 4)	280	71	82	51	0.60	0.84	5.54	1.40	1.62
-15	(+ 5)	352	89	103	59	0.67	1.05	6.03	1.52	1.77
-10	(+14)	434	109	127	66	0.74	1.31	6.55	1.65	1.92
-5	(+23)	530	134	155	74	0.80	1.60	7.13	1.80	2.09
0	(+32)	641	162	188	82	0.83	1.95	7.78	1.96	2.28

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	185	47	54	33	0.44	0.55	5.59	1.41	1.64
-35	(-31)	236	59	69	38	0.47	0.70	6.20	1.56	1.82
-30	(-22)	296	75	87	43	0.50	0.88	6.91	1.74	2.03
-25	(-13)	367	92	108	47	0.54	1.09	7.78	1.96	2.28
-20	(- 4)	451	114	132	51	0.58	1.35	8.83	2.22	2.59
-15	(+ 5)	550	139	161	55	0.61	1.65	10.10	2.54	2.96
-10	(+14)	665	168	195	58	0.63	2.00	11.62	2.93	3.41
-5	(+23)	798	201	234	60	0.63	2.41	13.44	3.39	3.94
0	(+32)	950	240	278	61	0.61	2.89	15.58	3.93	4.57

E - PERFORMANCE - CURVES

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	161	41	47	34	0.42	0.48	4.84	1.22	1.42
-35	(-31)	212	53	62	39	0.46	0.63	5.38	1.36	1.58
-30	(-22)	271	68	79	45	0.51	0.80	5.97	1.50	1.75
-25	(-13)	340	86	100	51	0.57	1.01	6.64	1.67	1.95
-20	(- 4)	422	106	124	56	0.62	1.26	7.42	1.87	2.18
-15	(+ 5)	518	131	152	62	0.67	1.55	8.36	2.11	2.45
-10	(+14)	630	159	184	66	0.70	1.89	9.49	2.39	2.78
-5	(+23)	758	191	222	70	0.72	2.29	10.84	2.73	3.18
0	(+32)	906	228	266	73	0.72	2.76	12.46	3.14	3.65

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	133	33	39	32	0.39	0.39	4.17	1.05	1.22
-35	(-31)	183	46	54	39	0.45	0.54	4.74	1.19	1.39
-30	(-22)	241	61	71	46	0.52	0.72	5.28	1.33	1.55
-25	(-13)	309	78	91	53	0.59	0.92	5.84	1.47	1.71
-20	(- 4)	389	98	114	60	0.66	1.16	6.45	1.63	1.89
-15	(+ 5)	482	122	141	67	0.73	1.44	7.15	1.80	2.09
-10	(+14)	590	149	173	74	0.78	1.78	7.96	2.01	2.33
-5	(+23)	715	180	210	80	0.82	2.16	8.94	2.25	2.62
0	(+32)	859	216	252	85	0.84	2.61	10.10	2.55	2.96

TEST CONDITIONS: @220V2000RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-40	(-40)	99	25	29	29	0.35	0.29	3.39	0.85	0.99
-35	(-31)	149	38	44	36	0.42	0.44	4.06	1.02	1.19
-30	(-22)	207	52	61	45	0.51	0.61	4.65	1.17	1.36
-25	(-13)	274	69	80	53	0.60	0.81	5.19	1.31	1.52
-20	(- 4)	352	89	103	62	0.69	1.05	5.71	1.44	1.67
-15	(+ 5)	442	112	130	71	0.78	1.32	6.25	1.57	1.83
-10	(+14)	548	138	160	80	0.86	1.65	6.84	1.72	2.00
-5	(+23)	669	169	196	89	0.92	2.02	7.52	1.90	2.20
0	(+32)	808	204	237	97	0.96	2.46	8.33	2.10	2.44

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	249	63	73	50	0.53	0.74	5.03	1.27	1.47
-35	(-31)	331	83	97	57	0.60	0.98	5.75	1.45	1.68
-30	(-22)	425	107	125	65	0.68	1.26	6.54	1.65	1.92
-25	(-13)	536	135	157	72	0.76	1.59	7.45	1.88	2.18
-20	(- 4)	665	168	195	78	0.83	1.98	8.51	2.14	2.49
-15	(+ 5)	815	205	239	84	0.88	2.44	9.75	2.46	2.86
-10	(+14)	989	249	290	89	0.91	2.98	11.22	2.83	3.29
-5	(+23)	1188	299	348	92	0.90	3.59	12.94	3.26	3.79
0	(+32)	1416	357	415	94	0.85	4.30	14.96	3.77	4.38

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	227	57	66	51	0.56	0.67	4.45	1.12	1.30
-35	(-31)	303	76	89	59	0.63	0.90	5.10	1.29	1.50
-30	(-22)	393	99	115	68	0.72	1.17	5.78	1.46	1.69
-25	(-13)	500	126	146	76	0.81	1.49	6.52	1.64	1.91
-20	(- 4)	625	157	183	84	0.89	1.86	7.35	1.85	2.15
-15	(+ 5)	771	194	226	92	0.96	2.31	8.31	2.09	2.44
-10	(+14)	940	237	276	99	1.01	2.83	9.45	2.38	2.77
-5	(+23)	1136	286	333	106	1.03	3.43	10.79	2.72	3.16
0	(+32)	1360	343	398	110	1.02	4.13	12.37	3.12	3.62

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	195	49	57	50	0.54	0.58	3.92	0.99	1.15
-35	(-31)	268	67	78	59	0.62	0.79	4.57	1.15	1.34
-30	(-22)	354	89	104	68	0.71	1.05	5.18	1.31	1.52
-25	(-13)	456	115	134	78	0.81	1.36	5.81	1.46	1.70
-20	(- 4)	577	145	169	89	0.92	1.72	6.48	1.63	1.90
-15	(+ 5)	719	181	211	99	1.02	2.15	7.22	1.82	2.12
-10	(+14)	885	223	259	109	1.10	2.66	8.08	2.04	2.37
-5	(+23)	1077	271	316	118	1.16	3.26	9.10	2.29	2.67
0	(+32)	1297	327	380	126	1.18	3.94	10.30	2.60	3.02

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-40	(-40)	156	39	46	46	0.48	0.46	3.32	0.84	0.97
-35	(-31)	224	56	66	56	0.57	0.66	4.02	1.01	1.18
-30	(-22)	306	77	90	67	0.68	0.91	4.64	1.17	1.36
-25	(-13)	405	102	119	79	0.80	1.20	5.21	1.31	1.53
-20	(- 4)	522	131	153	91	0.93	1.56	5.77	1.46	1.69
-15	(+ 5)	660	166	193	104	1.06	1.98	6.36	1.60	1.86
-10	(+14)	822	207	241	117	1.18	2.47	7.01	1.77	2.05
-5	(+23)	1011	255	296	130	1.28	3.06	7.76	1.96	2.27
0	(+32)	1228	309	360	142	1.35	3.73	8.64	2.18	2.53

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	306	77	90	63	0.62	0.90	4.85	1.22	1.42
-35	(-31)	399	101	117	72	0.68	1.18	5.53	1.39	1.62
-30	(-22)	508	128	149	80	0.76	1.51	6.29	1.59	1.84
-25	(-13)	636	160	186	89	0.86	1.89	7.18	1.81	2.10
-20	(- 4)	788	199	231	96	0.96	2.35	8.21	2.07	2.41
-15	(+ 5)	968	244	284	103	1.04	2.90	9.42	2.37	2.76
-10	(+14)	1178	297	345	109	1.10	3.55	10.86	2.74	3.18
-5	(+23)	1424	359	417	114	1.12	4.31	12.54	3.16	3.67
0	(+32)	1708	430	500	117	1.08	5.19	14.50	3.65	4.25

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	274	69	80	64	0.66	0.81	4.33	1.09	1.27
-35	(-31)	366	92	107	74	0.73	1.08	4.97	1.25	1.46
-30	(-22)	472	119	138	84	0.82	1.40	5.64	1.42	1.65
-25	(-13)	597	151	175	93	0.93	1.78	6.38	1.61	1.87
-20	(- 4)	745	188	218	103	1.03	2.22	7.21	1.82	2.11
-15	(+ 5)	918	231	269	112	1.13	2.75	8.18	2.06	2.40
-10	(+14)	1121	282	328	120	1.20	3.37	9.31	2.35	2.73
-5	(+23)	1357	342	398	128	1.23	4.10	10.64	2.68	3.12
0	(+32)	1631	411	478	134	1.21	4.96	12.20	3.07	3.57

E - PERFORMANCE - CURVES

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	231	58	68	61	0.65	0.68	3.79	0.95	1.11
-35	(-31)	323	81	95	73	0.73	0.96	4.44	1.12	1.30
-30	(-22)	428	108	125	84	0.84	1.27	5.07	1.28	1.49
-25	(-13)	550	139	161	96	0.96	1.63	5.72	1.44	1.67
-20	(- 4)	692	174	203	108	1.09	2.07	6.40	1.61	1.88
-15	(+ 5)	860	217	252	119	1.21	2.57	7.17	1.81	2.10
-10	(+14)	1055	266	309	130	1.30	3.17	8.06	2.03	2.36
-5	(+23)	1282	323	376	141	1.35	3.88	9.08	2.29	2.66
0	(+32)	1546	389	453	151	1.35	4.70	10.29	2.59	3.01

TEST CONDITIONS: @220V3600RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-40	(-40)	180	45	53	56	0.57	0.53	3.15	0.79	0.92
-35	(-31)	271	68	79	70	0.68	0.80	3.87	0.97	1.13
-30	(-22)	374	94	110	83	0.82	1.11	4.51	1.14	1.32
-25	(-13)	493	124	144	97	0.97	1.47	5.11	1.29	1.50
-20	(- 4)	631	159	185	111	1.13	1.88	5.71	1.44	1.67
-15	(+ 5)	793	200	232	126	1.28	2.37	6.33	1.60	1.85
-10	(+14)	981	247	287	140	1.40	2.95	7.01	1.77	2.06
-5	(+23)	1199	302	351	153	1.49	3.62	7.79	1.96	2.28
0	(+32)	1452	366	426	167	1.52	4.41	8.70	2.19	2.55

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	372	94	109	81	0.78	1.10	4.57	1.15	1.34
-35	(-31)	486	122	142	92	0.86	1.44	5.29	1.33	1.55
-30	(-22)	625	157	183	103	0.97	1.85	6.04	1.52	1.77
-25	(-13)	789	199	231	114	1.09	2.35	6.86	1.73	2.01
-20	(- 4)	978	247	287	125	1.21	2.92	7.81	1.97	2.29
-15	(+ 5)	1192	300	349	134	1.31	3.57	8.93	2.25	2.62
-10	(+14)	1429	360	419	141	1.38	4.30	10.25	2.58	3.00
-5	(+23)	1689	426	495	144	1.40	5.11	11.83	2.98	3.47
0	(+32)	1972	497	578	143	1.36	6.00	13.71	3.45	4.02

E - PERFORMANCE - CURVES

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	330	83	97	80	0.82	0.97	4.12	1.04	1.21
-35	(-31)	441	111	129	93	0.91	1.31	4.79	1.21	1.40
-30	(-22)	577	146	169	106	1.02	1.71	5.46	1.37	1.60
-25	(-13)	737	186	216	119	1.16	2.19	6.15	1.55	1.80
-20	(- 4)	920	232	270	132	1.29	2.75	6.92	1.74	2.03
-15	(+ 5)	1126	284	330	144	1.40	3.37	7.81	1.97	2.29
-10	(+14)	1355	341	397	153	1.49	4.08	8.86	2.23	2.60
-5	(+23)	1606	405	470	159	1.53	4.86	10.12	2.55	2.96
0	(+32)	1878	473	550	162	1.50	5.71	11.63	2.93	3.41

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	273	69	80	76	0.79	0.81	3.58	0.90	1.05
-35	(-31)	384	97	112	90	0.89	1.14	4.28	1.08	1.25
-30	(-22)	517	130	151	106	1.03	1.53	4.92	1.24	1.44
-25	(-13)	673	170	197	122	1.18	2.00	5.54	1.40	1.62
-20	(- 4)	851	214	249	137	1.34	2.54	6.19	1.56	1.81
-15	(+ 5)	1050	265	308	151	1.48	3.15	6.91	1.74	2.02
-10	(+14)	1271	320	372	163	1.59	3.82	7.75	1.95	2.27
-5	(+23)	1513	381	443	173	1.65	4.57	8.75	2.20	2.56
0	(+32)	1774	447	520	179	1.66	5.39	9.95	2.51	2.92

TEST CONDITIONS: @220V4500RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-40	(-40)	203	51	59	69	0.70	0.60	2.89	0.73	0.85
-35	(-31)	313	79	92	86	0.83	0.93	3.67	0.92	1.08
-30	(-22)	444	112	130	103	0.99	1.32	4.34	1.09	1.27
-25	(-13)	596	150	175	121	1.17	1.77	4.95	1.25	1.45
-20	(- 4)	770	194	226	139	1.36	2.30	5.54	1.40	1.62
-15	(+ 5)	963	243	282	156	1.53	2.88	6.15	1.55	1.80
-10	(+14)	1177	297	345	172	1.68	3.54	6.84	1.72	2.00
-5	(+23)	1410	355	413	184	1.78	4.26	7.64	1.92	2.24
0	(+32)	1662	419	487	193	1.83	5.05	8.59	2.17	2.52

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 40° up + 0° to Back		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		