

COMPRESSOR DEFINITION

Designation	VEM Y6HH
Nominal Voltage/Frequency	230 V 53-150 Hz
Engineering Number	513900032

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	230 / 53-150	[V / Hz]	
4 Application type	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°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)	Fan	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	Fan	187 to 255 V	187 to 255 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm ²] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/10	[hp]
2 Displacement	5.72	[cm ³] (0.349 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	220	[ml] (7.44 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.5	[kg] (16.53 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 53-150 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC3CO2456XX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC3CO2456XX	
6 Start winding resistance	16.07	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	16.07	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V1600RPM			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
337	85	99	60	0.45	1.91	5.62	1.42	1.65	

TEST CONDITIONS: @220V3000RPM			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
600	151	176	105	0.73	3.41	5.73	1.44	1.68	

TEST CONDITIONS: @220V4500RPM			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)		
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
782	197	229	143	0.97	4.44	5.46	1.38	1.60	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1600RPM		ASHRAE32 Fan				(Condensing temperature 35°C (+95°F))				
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	179	45	52	33	0.26	1.01	5.31	1.34	1.56
-30	(-22)	255	64	75	41	0.32	1.45	6.27	1.58	1.84
-25	(-13)	347	87	102	48	0.37	1.97	7.36	1.85	2.16
-20	(- 4)	458	115	134	55	0.41	2.61	8.56	2.16	2.51
-15	(+ 5)	591	149	173	61	0.45	3.37	9.82	2.47	2.88
-10	(+14)	748	188	219	67	0.49	4.28	11.11	2.80	3.26
-5	(+23)	930	234	273	74	0.54	5.35	12.41	3.13	3.64
0	(+32)	1141	287	334	83	0.60	6.60	13.67	3.45	4.01
+5	(+41)	1382	348	405	92	0.66	8.04	14.87	3.75	4.36
+10	(+50)	1656	417	485	103	0.74	9.71	15.97	4.02	4.68
+15	(+59)	1965	495	576	117	0.83	11.60	16.93	4.27	4.96

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V1600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	165	42	48	35	0.28	0.93	4.63	1.17	1.36
-30	(-22)	237	60	69	44	0.34	1.35	5.35	1.35	1.57
-25	(-13)	326	82	96	53	0.40	1.86	6.20	1.56	1.82
-20	(- 4)	435	110	127	61	0.45	2.48	7.13	1.80	2.09
-15	(+ 5)	566	143	166	70	0.51	3.23	8.12	2.05	2.38
-10	(+14)	721	182	211	79	0.57	4.13	9.13	2.30	2.67
-5	(+23)	903	228	265	89	0.63	5.19	10.12	2.55	2.96
0	(+32)	1113	281	326	100	0.71	6.44	11.06	2.79	3.24
+5	(+41)	1355	341	397	114	0.80	7.89	11.92	3.00	3.49
+10	(+50)	1630	411	478	129	0.90	9.55	12.67	3.19	3.71
+15	(+59)	1941	489	569	147	1.03	11.46	13.26	3.34	3.89

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V1600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	137	35	40	35	0.28	0.77	3.98	1.00	1.16
-30	(-22)	207	52	61	45	0.35	1.18	4.58	1.16	1.34
-25	(-13)	295	74	86	56	0.42	1.68	5.30	1.33	1.55
-20	(- 4)	403	101	118	66	0.48	2.29	6.08	1.53	1.78
-15	(+ 5)	533	134	156	77	0.55	3.04	6.90	1.74	2.02
-10	(+14)	689	174	202	89	0.63	3.94	7.73	1.95	2.26
-5	(+23)	871	220	255	102	0.72	5.01	8.52	2.15	2.50
0	(+32)	1083	273	317	118	0.82	6.26	9.25	2.33	2.71
+5	(+41)	1327	334	389	135	0.94	7.72	9.89	2.49	2.90
+10	(+50)	1605	404	470	155	1.07	9.40	10.39	2.62	3.04
+15	(+59)	1919	484	562	177	1.23	11.33	10.73	2.70	3.14

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V1600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	95	24	28	32	0.26	0.54	3.07	0.77	0.90
-30	(-22)	164	41	48	44	0.34	0.94	3.67	0.93	1.08
-25	(-13)	252	64	74	56	0.42	1.44	4.36	1.10	1.28
-20	(- 4)	361	91	106	69	0.50	2.06	5.11	1.29	1.50
-15	(+ 5)	493	124	144	83	0.59	2.81	5.87	1.48	1.72
-10	(+14)	650	164	191	98	0.70	3.72	6.63	1.67	1.94
-5	(+23)	836	211	245	115	0.81	4.80	7.34	1.85	2.15
0	(+32)	1051	265	308	134	0.94	6.07	7.97	2.01	2.34
+5	(+41)	1298	327	380	156	1.09	7.55	8.49	2.14	2.49
+10	(+50)	1580	398	463	180	1.26	9.26	8.86	2.23	2.60
+15	(+59)	1899	479	556	208	1.45	11.21	9.05	2.28	2.65

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	344	87	101	64	0.47	1.94	5.31	1.34	1.55	
-30 (-22)	476	120	140	77	0.56	2.71	6.18	1.56	1.81	
-25 (-13)	632	159	185	89	0.63	3.60	7.14	1.80	2.09	
-20 (- 4)	816	206	239	101	0.71	4.65	8.16	2.06	2.39	
-15 (+ 5)	1037	261	304	113	0.78	5.92	9.20	2.32	2.70	
-10 (+14)	1301	328	381	127	0.86	7.44	10.26	2.58	3.01	
-5 (+23)	1614	407	473	142	0.96	9.28	11.29	2.84	3.31	
0 (+32)	1984	500	581	160	1.07	11.47	12.27	3.09	3.60	
+5 (+41)	2416	609	708	182	1.21	14.06	13.18	3.32	3.86	
+10 (+50)	2918	735	855	208	1.38	17.10	13.99	3.53	4.10	
+15 (+59)	3496	881	1024	239	1.59	20.64	14.68	3.70	4.30	

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	316	80	93	67	0.49	1.78	4.72	1.19	1.38	
-30 (-22)	444	112	130	81	0.58	2.53	5.45	1.37	1.60	
-25 (-13)	595	150	174	95	0.67	3.39	6.26	1.58	1.83	
-20 (- 4)	775	195	227	109	0.76	4.42	7.13	1.80	2.09	
-15 (+ 5)	992	250	291	124	0.85	5.66	8.04	2.03	2.36	
-10 (+14)	1251	315	367	140	0.95	7.16	8.95	2.26	2.62	
-5 (+23)	1560	393	457	158	1.06	8.97	9.84	2.48	2.88	
0 (+32)	1925	485	564	180	1.19	11.13	10.69	2.69	3.13	
+5 (+41)	2353	593	689	205	1.35	13.69	11.46	2.89	3.36	
+10 (+50)	2850	718	835	235	1.55	16.71	12.14	3.06	3.56	
+15 (+59)	3424	863	1003	270	1.77	20.21	12.69	3.20	3.72	

TEST CONDITIONS: @220V3000RPM		ASHRAE32 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	268	68	79	65	0.47	1.51	4.15	1.04	1.22	
-30 (-22)	392	99	115	82	0.58	2.23	4.76	1.20	1.39	
-25 (-13)	539	136	158	98	0.69	3.07	5.46	1.38	1.60	
-20 (- 4)	715	180	209	115	0.79	4.07	6.22	1.57	1.82	
-15 (+ 5)	927	234	272	132	0.90	5.29	7.02	1.77	2.06	
-10 (+14)	1182	298	346	151	1.02	6.76	7.82	1.97	2.29	
-5 (+23)	1487	375	436	173	1.16	8.54	8.60	2.17	2.52	
0 (+32)	1847	466	541	198	1.31	10.68	9.35	2.35	2.74	
+5 (+41)	2271	572	665	228	1.50	13.22	10.02	2.52	2.93	
+10 (+50)	2764	697	810	262	1.71	16.20	10.59	2.67	3.10	
+15 (+59)	3333	840	977	301	1.97	19.68	11.04	2.78	3.23	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V3000RPM		Fan								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	200	50	59	58	0.43	1.13	3.50	0.88	1.03	
-30 (-22)	320	81	94	78	0.56	1.82	4.03	1.02	1.18	
-25 (-13)	462	116	135	97	0.69	2.63	4.65	1.17	1.36	
-20 (- 4)	634	160	186	117	0.81	3.61	5.33	1.34	1.56	
-15 (+ 5)	842	212	247	138	0.94	4.80	6.05	1.52	1.77	
-10 (+14)	1093	275	320	161	1.09	6.25	6.77	1.71	1.98	
-5 (+23)	1393	351	408	187	1.25	8.01	7.48	1.89	2.19	
0 (+32)	1750	441	513	216	1.43	10.11	8.15	2.05	2.39	
+5 (+41)	2169	547	636	250	1.64	12.62	8.75	2.20	2.56	
+10 (+50)	2658	670	779	289	1.89	15.58	9.25	2.33	2.71	
+15 (+59)	3223	812	944	333	2.17	19.02	9.63	2.43	2.82	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@220V4500RPM		Fan								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	470	118	138	96	0.68	2.66	4.91	1.24	1.44	
-30 (-22)	643	162	188	112	0.79	3.65	5.74	1.45	1.68	
-25 (-13)	851	214	249	129	0.89	4.84	6.63	1.67	1.94	
-20 (- 4)	1094	276	321	145	0.98	6.23	7.56	1.91	2.22	
-15 (+ 5)	1372	346	402	161	1.08	7.83	8.52	2.15	2.50	
-10 (+14)	1684	424	493	177	1.18	9.64	9.49	2.39	2.78	
-5 (+23)	2030	512	595	194	1.27	11.68	10.46	2.64	3.06	
0 (+32)	2411	608	707	211	1.38	13.94	11.42	2.88	3.35	
+5 (+41)	2826	712	828	229	1.48	16.44	12.35	3.11	3.62	
+10 (+50)	3274	825	959	247	1.60	19.19	13.25	3.34	3.88	
+15 (+59)	3756	947	1101	267	1.72	22.18	14.09	3.55	4.13	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V4500RPM		Fan								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	431	109	126	98	0.69	2.44	4.38	1.10	1.28	
-30 (-22)	592	149	173	116	0.81	3.36	5.12	1.29	1.50	
-25 (-13)	788	199	231	134	0.92	4.48	5.92	1.49	1.73	
-20 (- 4)	1020	257	299	151	1.03	5.80	6.75	1.70	1.98	
-15 (+ 5)	1286	324	377	169	1.13	7.34	7.62	1.92	2.23	
-10 (+14)	1587	400	465	187	1.24	9.08	8.51	2.14	2.49	
-5 (+23)	1922	484	563	205	1.35	11.05	9.39	2.37	2.75	
0 (+32)	2291	577	671	223	1.46	13.25	10.27	2.59	3.01	
+5 (+41)	2694	679	789	242	1.58	15.68	11.12	2.80	3.26	
+10 (+50)	3131	789	918	262	1.70	18.35	11.94	3.01	3.50	
+15 (+59)	3602	908	1055	283	1.84	21.27	12.70	3.20	3.72	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4500RPM		ASHRAE32 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	373	94	109	95	0.67	2.11	3.91	0.98	1.14
-30	(-22)	524	132	153	115	0.80	2.97	4.55	1.15	1.33
-25	(-13)	710	179	208	135	0.93	4.04	5.25	1.32	1.54
-20	(- 4)	931	235	273	155	1.05	5.30	5.99	1.51	1.75
-15	(+ 5)	1186	299	348	175	1.17	6.77	6.76	1.70	1.98
-10	(+14)	1477	372	433	196	1.30	8.45	7.55	1.90	2.21
-5	(+23)	1802	454	528	216	1.42	10.36	8.35	2.10	2.45
0	(+32)	2161	545	633	237	1.55	12.49	9.13	2.30	2.68
+5	(+41)	2554	644	748	259	1.69	14.86	9.90	2.49	2.90
+10	(+50)	2981	751	874	281	1.83	17.47	10.63	2.68	3.12
+15	(+59)	3442	867	1009	304	1.98	20.32	11.32	2.85	3.32

TEST CONDITIONS: @220V4500RPM		ASHRAE32 Fan			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	297	75	87	86	0.61	1.68	3.47	0.88	1.02
-30	(-22)	438	110	128	110	0.76	2.49	4.01	1.01	1.17
-25	(-13)	615	155	180	134	0.91	3.50	4.60	1.16	1.35
-20	(- 4)	827	208	242	157	1.06	4.71	5.24	1.32	1.54
-15	(+ 5)	1074	271	315	181	1.20	6.13	5.91	1.49	1.73
-10	(+14)	1355	342	397	204	1.35	7.76	6.61	1.66	1.94
-5	(+23)	1671	421	490	228	1.50	9.61	7.31	1.84	2.14
0	(+32)	2021	509	592	253	1.65	11.68	8.00	2.02	2.34
+5	(+41)	2406	606	705	278	1.82	13.99	8.67	2.19	2.54
+10	(+50)	2824	712	828	304	1.98	16.54	9.31	2.35	2.73
+15	(+59)	3276	826	960	330	2.16	19.34	9.91	2.50	2.90

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	Straight		
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		