

### COMPRESSOR DEFINITION

Designation	VEM X11C+
Nominal Voltage/Frequency	230 V 60-150 Hz
Engineering Number	513906164

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 60-150	[ V / Hz ]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°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	-	-
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 <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	11.14	[cm <sup>3</sup> ] (0.680 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	21.000	
3 Lubricant charge	210	[ml] (7.10 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	7.4	[kg] (16.31 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 60-150 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC3 1156 XXXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER VCC3 1156 U	
6 Start winding resistance	8.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60/150 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60/150 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60/150 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: <b>@115V2000RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>	
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]
457	115	134	71	0.96	1.43	6.48	1.63	1.90

TEST CONDITIONS: <b>@115V3000RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>	
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]
670	169	196	104	1.56	2.10	6.45	1.63	1.89

TEST CONDITIONS: <b>@115V3900RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>	
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]
787	198	231	131	2.10	2.47	5.99	1.51	1.76

TEST CONDITIONS: <b>@115V4000RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>	
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]
810	204	237	136	2.08	2.54	5.98	1.51	1.75

TEST CONDITIONS: <b>@115V4300RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>	
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]
880	222	258	147	2.50	2.76	5.97	1.50	1.75

TEST CONDITIONS: <b>@115V4500RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)		<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>	
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]
911	230	267	155	2.68	2.86	5.88	1.48	1.72

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35	(-31)	280	71	82	43	0.67	0.88	6.43	1.62	1.88
-30	(-22)	348	88	102	49	0.76	1.09	7.06	1.78	2.07
-25	(-13)	446	112	131	56	0.86	1.40	8.00	2.01	2.34
-20	(- 4)	575	145	169	63	0.96	1.81	9.15	2.31	2.68
-15	(+ 5)	736	186	216	71	1.08	2.32	10.43	2.63	3.06
-10	(+14)	930	234	272	79	1.21	2.93	11.76	2.96	3.44

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35	(-31)	250	63	73	44	0.68	0.78	5.70	1.44	1.67
-30	(-22)	323	81	95	52	0.79	1.01	6.22	1.57	1.82
-25	(-13)	429	108	126	61	0.92	1.35	7.02	1.77	2.06
-20	(- 4)	568	143	167	70	1.06	1.79	8.03	2.02	2.35
-15	(+ 5)	742	187	218	81	1.21	2.34	9.15	2.31	2.68
-10	(+14)	951	240	279	93	1.40	3.00	10.29	2.59	3.01

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35	(-31)	198	50	58	43	0.67	0.62	4.87	1.23	1.43
-30	(-22)	270	68	79	53	0.81	0.85	5.28	1.33	1.55
-25	(-13)	377	95	111	63	0.97	1.18	5.97	1.50	1.75
-20	(- 4)	521	131	153	76	1.15	1.64	6.84	1.72	2.00
-15	(+ 5)	702	177	206	89	1.35	2.21	7.81	1.97	2.29
-10	(+14)	920	232	270	104	1.59	2.90	8.78	2.21	2.57

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35	(-31)	212	53	62	45	0.69	0.66	4.59	1.16	1.34
-30	(-22)	277	70	81	56	0.86	0.87	4.91	1.24	1.44
-25	(-13)	379	96	111	69	1.05	1.19	5.48	1.38	1.61
-20	(- 4)	521	131	153	84	1.28	1.64	6.23	1.57	1.83
-15	(+ 5)	702	177	206	100	1.54	2.21	7.06	1.78	2.07
-10	(+14)	923	232	270	118	1.84	2.91	7.87	1.98	2.31

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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)	381	96	112	65	0.97	1.19	5.88	1.48	1.72	
-30 (-22)	510	128	149	75	1.12	1.60	6.76	1.70	1.98	
-25 (-13)	662	167	194	87	1.31	2.08	7.62	1.92	2.23	
-20 (- 4)	843	213	247	100	1.53	2.65	8.48	2.14	2.48	
-15 (+ 5)	1057	266	310	114	1.77	3.33	9.30	2.34	2.72	
-10 (+14)	1309	330	383	130	2.02	4.13	10.08	2.54	2.95	

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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)	359	90	105	68	1.04	1.12	5.32	1.34	1.56	
-30 (-22)	487	123	143	79	1.20	1.53	6.13	1.54	1.80	
-25 (-13)	641	162	188	92	1.39	2.01	6.97	1.76	2.04	
-20 (- 4)	825	208	242	105	1.61	2.59	7.82	1.97	2.29	
-15 (+ 5)	1042	263	305	120	1.84	3.28	8.68	2.19	2.54	
-10 (+14)	1299	327	381	136	2.08	4.10	9.52	2.40	2.79	

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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)	327	83	96	69	1.06	1.03	4.76	1.20	1.39	
-30 (-22)	453	114	133	83	1.26	1.42	5.44	1.37	1.59	
-25 (-13)	605	152	177	98	1.49	1.90	6.18	1.56	1.81	
-20 (- 4)	788	199	231	113	1.74	2.48	6.97	1.76	2.04	
-15 (+ 5)	1006	254	295	129	2.00	3.17	7.78	1.96	2.28	
-10 (+14)	1265	319	371	147	2.26	3.99	8.62	2.17	2.53	

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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)	296	75	87	65	0.97	0.93	4.53	1.14	1.33	
-30 (-22)	415	105	122	83	1.24	1.30	5.01	1.26	1.47	
-25 (-13)	562	142	165	101	1.54	1.77	5.59	1.41	1.64	
-20 (- 4)	742	187	217	119	1.85	2.33	6.23	1.57	1.83	
-15 (+ 5)	959	242	281	138	2.17	3.02	6.94	1.75	2.03	
-10 (+14)	1217	307	357	158	2.49	3.84	7.70	1.94	2.26	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4500RPM		ASHRAE32 Static			(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)	542	137	159	99	1.46	1.70	5.44	1.37	1.59	
-30 (-22)	661	166	194	108	1.91	2.07	6.13	1.54	1.80	
-25 (-13)	866	218	254	129	2.37	2.71	6.70	1.69	1.96	
-20 (- 4)	1129	285	331	155	2.80	3.55	7.27	1.83	2.13	
-15 (+ 5)	1425	359	418	180	3.12	4.49	7.94	2.00	2.33	
-10 (+14)	1726	435	506	197	3.30	5.44	8.81	2.22	2.58	

TEST CONDITIONS: @115V4500RPM		ASHRAE32 Static			(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)	499	126	146	100	1.53	1.56	5.02	1.27	1.47	
-30 (-22)	647	163	189	114	2.00	2.03	5.72	1.44	1.68	
-25 (-13)	868	219	254	138	2.46	2.72	6.32	1.59	1.85	
-20 (- 4)	1135	286	332	164	2.86	3.57	6.91	1.74	2.02	
-15 (+ 5)	1421	358	416	188	3.14	4.47	7.60	1.92	2.23	
-10 (+14)	1698	428	498	201	3.25	5.36	8.51	2.15	2.49	

TEST CONDITIONS: @115V4500RPM		ASHRAE32 Static			(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)	455	115	133	101	1.53	1.42	4.53	1.14	1.33	
-30 (-22)	620	156	182	120	2.06	1.94	5.19	1.31	1.52	
-25 (-13)	845	213	247	147	2.56	2.65	5.74	1.45	1.68	
-20 (- 4)	1103	278	323	174	2.97	3.47	6.30	1.59	1.85	
-15 (+ 5)	1367	344	400	196	3.25	4.30	6.96	1.75	2.04	
-10 (+14)	1609	406	472	207	3.33	5.08	7.85	1.98	2.30	

TEST CONDITIONS: @115V4500RPM		ASHRAE32 Static			(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)	404	102	118	94	1.40	1.27	4.32	1.09	1.26	
-30 (-22)	574	145	168	118	2.03	1.80	4.87	1.23	1.43	
-25 (-13)	791	199	232	148	2.61	2.48	5.32	1.34	1.56	
-20 (- 4)	1028	259	301	177	3.08	3.23	5.78	1.46	1.69	
-15 (+ 5)	1259	317	369	198	3.39	3.96	6.36	1.60	1.86	
-10 (+14)	1454	366	426	205	3.48	4.59	7.16	1.80	2.10	

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
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	Slanted 79° up + 0° back		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-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	Slanted 42° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		