

### COMPRESSOR DEFINITION

Designation	J 9232E
Nominal Voltage/Frequency	200-220 V 50 Hz / 230 V 60 Hz
Engineering Number	163MK01

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-22		
3 Nominal voltage and frequency	200-220 / 50	[ V / Hz ]	
4 Application type	Medium-High Back pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	CSCR		
6 Starting torque	HST - 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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	21.7	[kgf/cm <sup>2</sup> ] (309 psig)	/ °C - °F
9.2 Peak (gauge)	24.2	[kgf/cm <sup>2</sup> ] (344 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1 1/4	[hp]
2 Displacement	26.11	[cm <sup>3</sup> ] (1.593 cu.in)
2.1 Bore [mm]	41.770	
2.2 Stroke [mm]	19.066	
3 Lubricant charge	890	[ml] (30.10 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO46	
4 Weight (with oil charge)	22.1	[kg] (48.72 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	200-220 V 50 Hz / 230 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B10AT3	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	30(440)	[µF(VAC minimum)]
5 Motor protection	T0828/C9	
6 Start winding resistance	5.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.75	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @230V60Hz			ASHRAEHBP46 Fan		Evaporating temperature (Condensing temperature		7.2°C (44.96°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]
14400	3629	4220	1618	7.80	88.93	8.90	2.24	2.61

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V50Hz		ASHRAE46 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]
-20	(- 4)	4425	1115	1297	814	3.56	23.12	5.44	1.37	1.59
-15	(+ 5)	5766	1453	1690	895	4.03	30.31	6.43	1.62	1.88
-10	(+14)	7278	1834	2133	968	4.45	38.40	7.51	1.89	2.20
-5	(+23)	9009	2270	2640	1032	4.81	47.73	8.74	2.20	2.56
0	(+32)	11010	2775	3226	1087	5.12	58.64	10.15	2.56	2.98
+5	(+41)	13331	3359	3906	1130	5.37	71.47	11.81	2.98	3.46
+10	(+50)	16020	4037	4694	1162	5.55	86.58	13.76	3.47	4.03

TEST CONDITIONS: @230V50Hz		ASHRAE46 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]
-20	(- 4)	4002	1009	1173	807	3.57	22.37	4.98	1.25	1.46
-15	(+ 5)	5219	1315	1529	900	4.08	29.28	5.80	1.46	1.70
-10	(+14)	6602	1664	1935	990	4.56	37.18	6.66	1.68	1.95
-5	(+23)	8202	2067	2403	1076	5.03	46.42	7.60	1.92	2.23
0	(+32)	10068	2537	2950	1157	5.48	57.33	8.67	2.19	2.54
+5	(+41)	12249	3087	3589	1232	5.90	70.27	9.93	2.50	2.91
+10	(+50)	14795	3728	4335	1301	6.29	85.57	11.41	2.88	3.34

TEST CONDITIONS: @230V50Hz		ASHRAE46 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]
-20	(- 4)	3578	902	1049	801	3.57	21.52	4.43	1.12	1.30
-15	(+ 5)	4671	1177	1369	907	4.11	28.17	5.17	1.30	1.51
-10	(+14)	5926	1493	1736	1014	4.68	35.91	5.88	1.48	1.72
-5	(+23)	7394	1863	2167	1121	5.25	45.08	6.61	1.67	1.94
0	(+32)	9125	2299	2674	1229	5.84	56.02	7.41	1.87	2.17
+5	(+41)	11167	2814	3272	1336	6.43	69.08	8.34	2.10	2.44
+10	(+50)	13572	3420	3977	1440	7.02	84.61	9.43	2.38	2.76

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V60Hz		ASHRAE46 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]
-20	(- 4)	5177	1305	1517	952	4.17	27.05	5.44	1.37	1.59
-15	(+ 5)	6747	1700	1977	1047	4.71	35.46	6.43	1.62	1.88
-10	(+14)	8515	2146	2495	1133	5.20	44.93	7.51	1.89	2.20
-5	(+23)	10541	2656	3089	1208	5.63	55.84	8.73	2.20	2.56
0	(+32)	12883	3246	3775	1272	5.99	68.61	10.15	2.56	2.98
+5	(+41)	15597	3931	4570	1322	6.28	83.62	11.82	2.98	3.46
+10	(+50)	18743	4723	5492	1359	6.50	101.29	13.77	3.47	4.03

TEST CONDITIONS: @230V60Hz		ASHRAE46 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]
-20	(- 4)	4682	1180	1372	945	4.17	26.17	4.97	1.25	1.46
-15	(+ 5)	6105	1539	1789	1054	4.76	34.25	5.80	1.46	1.70
-10	(+14)	7724	1947	2263	1159	5.34	43.50	6.66	1.68	1.95
-5	(+23)	9596	2418	2812	1260	5.88	54.31	7.60	1.91	2.23
0	(+32)	11779	2968	3452	1354	6.40	67.08	8.67	2.19	2.54
+5	(+41)	14331	3611	4199	1442	6.89	82.21	9.93	2.50	2.91
+10	(+50)	17310	4362	5072	1522	7.35	100.12	11.41	2.88	3.34

TEST CONDITIONS: @230V60Hz		ASHRAE46 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]
-20	(- 4)	4187	1055	1227	938	4.17	25.18	4.43	1.12	1.30
-15	(+ 5)	5465	1377	1601	1060	4.81	32.96	5.17	1.30	1.51
-10	(+14)	6934	1747	2032	1185	5.47	42.01	5.88	1.48	1.72
-5	(+23)	8651	2180	2535	1311	6.15	52.74	6.61	1.67	1.94
0	(+32)	10676	2690	3128	1437	6.83	65.54	7.42	1.87	2.17
+5	(+41)	13066	3293	3829	1562	7.52	80.83	8.34	2.10	2.44
+10	(+50)	15878	4001	4653	1685	8.21	98.99	9.43	2.38	2.76

### F - EXTERNAL CHARACTERISTICS

1 Base plate	American Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	12.77 +0.08/+0.00	[mm]	(0.503" +0.003"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Vertical		
3.2 DISCHARGE	8 +0.07/+0.00	[mm]	(0.315" +0.003"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted J		
3.3 PROCESS	9.6 +0.07/+0.00	[mm]	(0.378" +0.003"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Vertical		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		