

### COMPRESSOR DEFINITION

Designation	<b>NJ 9238GS</b>
Nominal Voltage/Frequency	<b>380-420 V 50 Hz / 440-480 V 60 Hz</b>
Engineering Number	<b>947RM96</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	380-420 / 50	[ V / Hz ]	
4 Application type	Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	3PHASE		
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 temperature			
9.1 Operating	25.2	[kgf/cm <sup>2</sup> ] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm <sup>2</sup> ] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1 1/2	[hp]
2 Displacement	32.67	[cm <sup>3</sup> ] (1.994 cu.in)
2.1 Bore [mm]	41.770	
2.2 Stroke [mm]	23.850	
3 Lubricant charge	750	[ml] (25.36 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	20.4	[kg] (44.97 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	380-420 V 50 Hz / 440-480 V 60 Hz 3 ~ (Three phase)	
2 Starting device type	3PHASE	
2.1 Starting device		
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	34HM260-42	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.40	[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		

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @420V60Hz			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]
19320	4869	5661	2223	4.10	159.06	8.69	2.19	2.55

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @420V50Hz			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)	7555	1904	2214	1043	2.23	47.95	7.24	1.82	2.12
-15	(+ 5)	9685	2441	2838	1156	2.50	61.83	8.38	2.11	2.45
-10	(+14)	12120	3054	3552	1260	2.76	77.85	9.62	2.42	2.82
-5	(+23)	14861	3745	4355	1355	3.00	96.16	10.97	2.77	3.22
0	(+32)	17906	4512	5247	1441	3.20	116.87	12.42	3.13	3.64
+5	(+41)	21256	5357	6229	1517	3.35	140.11	13.96	3.52	4.09
+10	(+50)	24911	6277	7299	1584	3.42	166.01	15.57	3.92	4.56

TEST CONDITIONS: @420V50Hz			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)	6310	1590	1849	1062	2.29	44.22	5.95	1.50	1.74
-15	(+ 5)	8123	2047	2380	1191	2.57	57.24	6.82	1.72	2.00
-10	(+14)	10230	2578	2998	1316	2.86	72.58	7.76	1.96	2.28
-5	(+23)	12633	3183	3702	1438	3.13	90.38	8.78	2.21	2.57
0	(+32)	15330	3863	4492	1556	3.38	110.77	9.86	2.48	2.89
+5	(+41)	18322	4617	5369	1671	3.59	133.86	10.99	2.77	3.22
+10	(+50)	21609	5445	6332	1782	3.74	159.79	12.17	3.07	3.57

TEST CONDITIONS: @420V50Hz			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)	5014	1264	1469	1083	2.35	39.43	4.62	1.17	1.36
-15	(+ 5)	6495	1637	1903	1227	2.64	51.42	5.30	1.34	1.55
-10	(+14)	8261	2082	2421	1374	2.95	65.92	6.01	1.52	1.76
-5	(+23)	10312	2599	3022	1524	3.26	83.06	6.77	1.71	1.98
0	(+32)	12648	3187	3706	1676	3.56	102.95	7.54	1.90	2.21
+5	(+41)	15268	3848	4474	1830	3.83	125.73	8.34	2.10	2.44
+10	(+50)	18173	4580	5325	1987	4.05	151.53	9.15	2.31	2.68

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @420V60Hz		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)	8839	2227	2590	1220	2.17	56.10	7.24	1.83	2.12
-15	(+ 5)	11332	2856	3320	1352	2.53	72.34	8.38	2.11	2.46
-10	(+14)	14181	3574	4155	1474	2.83	91.09	9.62	2.43	2.82
-5	(+23)	17387	4382	5095	1586	3.08	112.51	10.97	2.76	3.22
0	(+32)	20950	5279	6139	1686	3.27	136.74	12.42	3.13	3.64
+5	(+41)	24870	6267	7288	1775	3.40	163.93	13.96	3.52	4.09
+10	(+50)	29148	7345	8541	1853	3.46	194.25	15.58	3.93	4.57

TEST CONDITIONS: @420V60Hz		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)	7383	1860	2163	1243	2.31	51.74	5.95	1.50	1.74
-15	(+ 5)	9503	2395	2785	1393	2.62	66.97	6.82	1.72	2.00
-10	(+14)	11969	3016	3507	1540	2.92	84.92	7.77	1.96	2.28
-5	(+23)	14780	3725	4331	1682	3.19	105.75	8.78	2.21	2.57
0	(+32)	17937	4520	5256	1821	3.44	129.60	9.86	2.48	2.89
+5	(+41)	21439	5403	6282	1955	3.66	156.62	11.00	2.77	3.22
+10	(+50)	25286	6372	7410	2084	3.85	186.97	12.18	3.07	3.57

TEST CONDITIONS: @420V60Hz		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)	5866	1478	1719	1267	2.45	46.13	4.62	1.17	1.35
-15	(+ 5)	7599	1915	2227	1436	2.72	60.16	5.30	1.34	1.55
-10	(+14)	9665	2436	2832	1608	3.01	77.13	6.01	1.52	1.76
-5	(+23)	12065	3040	3535	1783	3.31	97.17	6.76	1.70	1.98
0	(+32)	14798	3729	4336	1961	3.62	120.45	7.54	1.90	2.21
+5	(+41)	17866	4502	5235	2141	3.94	147.12	8.35	2.10	2.45
+10	(+50)	21267	5359	6232	2323	4.26	177.32	9.17	2.31	2.69

### F - EXTERNAL CHARACTERISTICS

1 Base plate	American Standard
2 Tray holder	No
3 Connectors	
3.1 SUCTION	12.7 +0.25/-0.25 [mm] (0.500" +0.010"/-0.010")
3.1.1 Material	Steel
3.1.2 Shape	ROTOLOCK(Ex. thr. 1"-14UNS-2A)
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	6.42 +0.08/+0.00 [mm] (0.253" +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