

**COMPRESSOR DEFINITION**

Designation	<b>NJ 6220ZX</b>
Nominal Voltage/Frequency	<b>380-420 V 50 Hz / 440-480 V 60 Hz</b>
Engineering Number	<b>148HM11</b>

**A - APPLICATION / LIMIT WORKING CONDITIONS**

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	380-420 / 50	[ V / Hz ]	
4 Application type	High Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-15°C to 10°C	(5°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	55	[ °C ]	
9.2 Peak	60	[ °C ]	
10 Maximum winding temperature	130	[ °C ]	

**B - MECHANICAL DATA**

1 Commercial designation	1	[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	750	[ml] (25.36 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	19.6	[kg] (43.21 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	34HM272-50	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	18.67	[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	UL	

**D - PERFORMANCE - CHECK POINT DATA**

TEST CONDITIONS: <b>@V50Hz</b>			<b>ASHRAEHBP46 Fan</b>		Evaporating temperature (Condensing temperature	<b>7.2°C (44.96°F) 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]
8692	2190	2547	875	1.62	56.36	9.93	2.50	2.91

TEST CONDITIONS: <b>@V60Hz</b>			<b>ASHRAEHBP46 Fan</b>		Evaporating temperature (Condensing temperature	<b>7.2°C (44.96°F) 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]
10169	2563	2980	1021	1.65	65.93	9.96	2.51	2.92

**E - PERFORMANCE - CURVES**

TEST CONDITIONS: <b>@V50Hz</b>			<b>ASHRAE46 Fan</b>		(Condensing temperature <b>35°C (+95°F)</b> )				
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]
-15 (+5)	3918	987	1148	476	1.07	21.22	8.20	2.07	2.40
-10 (+14)	4851	1222	1421	534	1.16	26.32	9.12	2.30	2.67
-5 (+23)	6149	1550	1802	590	1.24	33.47	10.45	2.63	3.06
0 (+32)	7814	1969	2290	642	1.31	42.73	12.15	3.06	3.56
+5 (+41)	9844	2481	2885	692	1.37	54.16	14.21	3.58	4.16
+10 (+50)	12240	3085	3587	738	1.41	67.79	16.59	4.18	4.86

TEST CONDITIONS: <b>@V50Hz</b>			<b>ASHRAE46 Fan</b>		(Condensing temperature <b>45°C (+113°F)</b> )				
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]
-15 (+5)	3287	828	963	484	1.10	19.16	6.81	1.72	2.00
-10 (+14)	4321	1089	1266	557	1.20	25.35	7.76	1.96	2.27
-5 (+23)	5605	1412	1642	628	1.29	33.04	8.91	2.24	2.61
0 (+32)	7141	1799	2092	697	1.38	42.29	10.22	2.58	3.00
+5 (+41)	8928	2250	2616	763	1.46	53.15	11.69	2.95	3.43
+10 (+50)	10965	2763	3213	828	1.54	65.66	13.27	3.34	3.89

**E - PERFORMANCE - CURVES**

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 55°C (+131°F))					
@V50Hz		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]
-15	(+ 5)	2638	665	773	492	1.13	16.83	5.37	1.35	1.57
-10	(+14)	3767	949	1104	581	1.23	24.09	6.45	1.63	1.89
-5	(+23)	5032	1268	1475	668	1.34	32.31	7.52	1.90	2.20
0	(+32)	6434	1621	1885	754	1.45	41.53	8.56	2.16	2.51
+5	(+41)	7972	2009	2336	838	1.56	51.81	9.55	2.41	2.80
+10	(+50)	9646	2431	2827	921	1.68	63.20	10.44	2.63	3.06

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 35°C (+95°F))					
@V60Hz		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]
-15	(+ 5)	4584	1155	1343	572	1.09	24.82	7.98	2.01	2.34
-10	(+14)	5676	1430	1663	636	1.19	30.79	8.96	2.26	2.63
-5	(+23)	7195	1813	2108	697	1.27	39.16	10.34	2.61	3.03
0	(+32)	9142	2304	2679	755	1.34	50.00	12.09	3.05	3.54
+5	(+41)	11517	2902	3375	811	1.39	63.36	14.19	3.58	4.16
+10	(+50)	14321	3609	4196	863	1.43	79.31	16.60	4.18	4.86

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 45°C (+113°F))					
@V60Hz		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]
-15	(+ 5)	3846	969	1127	584	1.12	22.41	6.61	1.66	1.94
-10	(+14)	5055	1274	1481	665	1.22	29.66	7.61	1.92	2.23
-5	(+23)	6558	1653	1922	743	1.32	38.66	8.80	2.22	2.58
0	(+32)	8355	2106	2448	820	1.41	49.48	10.17	2.56	2.98
+5	(+41)	10446	2632	3061	894	1.49	62.18	11.68	2.94	3.42
+10	(+50)	12830	3233	3759	966	1.57	76.83	13.31	3.35	3.90

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 55°C (+131°F))					
@V60Hz		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]
-15	(+ 5)	3087	778	904	596	1.15	19.69	5.19	1.31	1.52
-10	(+14)	4407	1111	1291	695	1.26	28.19	6.31	1.59	1.85
-5	(+23)	5888	1484	1725	792	1.37	37.81	7.43	1.87	2.18
0	(+32)	7528	1897	2206	887	1.48	48.60	8.51	2.15	2.49
+5	(+41)	9327	2351	2733	981	1.60	60.62	9.54	2.40	2.80
+10	(+50)	11287	2844	3307	1073	1.72	73.95	10.49	2.64	3.07

**F - EXTERNAL CHARACTERISTICS**

1 Base plate	American Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	9.6 +0.07/+0.00	[mm]	(0.378" +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	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		