

COMPRESSOR DEFINITION

Designation	NB 5144Z
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	294AG70

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115 / 60	[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	RSIR		
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)	-	-	-
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)	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	1/5-	[hp]
2 Displacement	6.05	[cm ³] (0.369 cu.in)
2.1 Bore [mm]	21.996	
2.2 Stroke [mm]	15.920	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10	[kg] (22.05 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	115 V 60 Hz 1~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-0029	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0606/G9	
6 Start winding resistance	13.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	23.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.80	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]
2112	532	619	350	3.76	13.69	6.03	1.52	1.77

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V50Hz		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]
-15 (+5)	904	228	265	167	2.34	4.89	5.40	1.36	1.58
-10 (+14)	1131	285	331	187	2.40	6.14	6.06	1.53	1.78
-5 (+23)	1402	353	411	208	2.49	7.64	6.74	1.70	1.97
0 (+32)	1717	433	503	231	2.63	9.39	7.43	1.87	2.18
+5 (+41)	2075	523	608	255	2.80	11.42	8.13	2.05	2.38
+10 (+50)	2478	624	726	281	3.02	13.72	8.82	2.22	2.58

TEST CONDITIONS: @115V50Hz		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]
-15 (+5)	799	201	234	171	2.34	4.67	4.68	1.18	1.37
-10 (+14)	1009	254	296	192	2.42	5.92	5.24	1.32	1.54
-5 (+23)	1258	317	369	216	2.54	7.41	5.82	1.47	1.70
0 (+32)	1546	390	453	242	2.70	9.15	6.39	1.61	1.87
+5 (+41)	1874	472	549	270	2.90	11.15	6.95	1.75	2.04
+10 (+50)	2241	565	657	299	3.15	13.43	7.49	1.89	2.20

TEST CONDITIONS: @115V50Hz		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]
-15 (+5)	690	174	202	174	2.34	4.40	3.96	1.00	1.16
-10 (+14)	882	222	258	198	2.45	5.64	4.45	1.12	1.30
-5 (+23)	1108	279	325	224	2.59	7.12	4.94	1.24	1.45
0 (+32)	1369	345	401	253	2.78	8.84	5.41	1.36	1.58
+5 (+41)	1665	420	488	284	3.00	10.82	5.86	1.48	1.72
+10 (+50)	1995	503	585	318	3.28	13.07	6.27	1.58	1.84

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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]
-15 (+5)	1057	266	310	196	2.82	5.72	5.39	1.36	1.58	
-10 (+14)	1323	333	388	219	2.89	7.18	6.05	1.53	1.77	
-5 (+23)	1640	413	481	243	3.00	8.93	6.74	1.70	1.97	
0 (+32)	2008	506	588	270	3.17	10.99	7.43	1.87	2.18	
+5 (+41)	2428	612	711	299	3.38	13.36	8.13	2.05	2.38	
+10 (+50)	2899	731	849	329	3.65	16.05	8.81	2.22	2.58	

TEST CONDITIONS: @115V60Hz		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]
-15 (+5)	935	236	274	200	2.82	5.46	4.68	1.18	1.37	
-10 (+14)	1180	297	346	225	2.92	6.92	5.24	1.32	1.54	
-5 (+23)	1472	371	431	253	3.06	8.67	5.82	1.47	1.71	
0 (+32)	1809	456	530	283	3.26	10.71	6.39	1.61	1.87	
+5 (+41)	2193	553	642	315	3.50	13.05	6.96	1.75	2.04	
+10 (+50)	2622	661	768	350	3.80	15.71	7.49	1.89	2.20	

TEST CONDITIONS: @115V60Hz		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]
-15 (+5)	808	204	237	204	2.82	5.15	3.96	1.00	1.16	
-10 (+14)	1032	260	302	232	2.95	6.60	4.45	1.12	1.30	
-5 (+23)	1297	327	380	263	3.12	8.33	4.93	1.24	1.45	
0 (+32)	1602	404	469	296	3.35	10.35	5.41	1.36	1.58	
+5 (+41)	1947	491	571	333	3.62	12.66	5.86	1.48	1.72	
+10 (+50)	2334	588	684	372	3.95	15.28	6.27	1.58	1.84	

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.03 +0.07/+0.00	[mm]	(0.316" +0.003"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	6.45 +0.10/+0.00	[mm]	(0.254" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.45 +0.10/+0.00	[mm]	(0.254" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		