

COMPRESSOR DEFINITION

Designation	NB 5128Z
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	293BG70

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	1/8+	[hp]
2 Displacement	4.51	[cm ³] (0.275 cu.in)
2.1 Bore [mm]	20.873	
2.2 Stroke [mm]	13.200	
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	MTRPH-0028	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0546/G9	
6 Start winding resistance	14.85	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.20	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	17.00	[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)	2.55	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			ASHRAEHBP46 Static		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]
1249	315	366	188	2.13	8.10	6.64	1.67	1.95

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE46 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]
-15	(+5)	595	150	174	111	1.62	3.22	5.35	1.35	1.57
-10	(+14)	762	192	223	123	1.69	4.14	6.21	1.56	1.82
-5	(+23)	967	244	283	134	1.75	5.27	7.22	1.82	2.11
0	(+32)	1209	305	354	145	1.81	6.61	8.35	2.10	2.45
+5	(+41)	1488	375	436	155	1.87	8.19	9.58	2.41	2.81
+10	(+50)	1804	455	529	166	1.94	9.99	10.88	2.74	3.19

TEST CONDITIONS: @100V50Hz		ASHRAE46 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]
-15	(+5)	515	130	151	113	1.61	3.01	4.57	1.15	1.34
-10	(+14)	663	167	194	126	1.70	3.89	5.25	1.32	1.54
-5	(+23)	846	213	248	140	1.78	4.98	6.04	1.52	1.77
0	(+32)	1064	268	312	153	1.86	6.30	6.93	1.75	2.03
+5	(+41)	1317	332	386	167	1.94	7.84	7.88	1.99	2.31
+10	(+50)	1605	404	470	181	2.03	9.62	8.87	2.23	2.60

TEST CONDITIONS: @100V50Hz		ASHRAE46 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]
-15	(+5)	431	109	126	115	1.61	2.75	3.75	0.95	1.10
-10	(+14)	559	141	164	130	1.72	3.58	4.30	1.08	1.26
-5	(+23)	720	181	211	146	1.82	4.62	4.92	1.24	1.44
0	(+32)	913	230	268	163	1.92	5.90	5.61	1.41	1.64
+5	(+41)	1139	287	334	180	2.02	7.41	6.33	1.60	1.85
+10	(+50)	1398	352	410	198	2.13	9.15	7.06	1.78	2.07

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		ASHRAE46 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]
-15	(+5)	696	175	204	130	1.96	3.76	5.36	1.35	1.57
-10	(+14)	892	225	261	143	2.04	4.84	6.22	1.57	1.82
-5	(+23)	1131	285	331	157	2.11	6.16	7.21	1.82	2.11
0	(+32)	1414	356	414	170	2.19	7.74	8.33	2.10	2.44
+5	(+41)	1741	439	510	182	2.26	9.58	9.56	2.41	2.80
+10	(+50)	2111	532	619	194	2.34	11.69	10.88	2.74	3.19

TEST CONDITIONS: @100V60Hz		ASHRAE46 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]
-15	(+5)	603	152	177	132	1.95	3.52	4.57	1.15	1.34
-10	(+14)	776	196	227	148	2.05	4.55	5.25	1.32	1.54
-5	(+23)	990	249	290	164	2.15	5.83	6.04	1.52	1.77
0	(+32)	1245	314	365	180	2.25	7.37	6.91	1.74	2.03
+5	(+41)	1541	388	452	196	2.35	9.17	7.86	1.98	2.30
+10	(+50)	1878	473	550	212	2.45	11.26	8.86	2.23	2.60

TEST CONDITIONS: @100V60Hz		ASHRAE46 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]
-15	(+5)	505	127	148	135	1.94	3.22	3.74	0.94	1.10
-10	(+14)	654	165	192	152	2.07	4.18	4.30	1.08	1.26
-5	(+23)	842	212	247	171	2.19	5.41	4.93	1.24	1.45
0	(+32)	1068	269	313	190	2.32	6.90	5.62	1.42	1.65
+5	(+41)	1333	336	391	210	2.44	8.67	6.34	1.60	1.86
+10	(+50)	1636	412	479	231	2.57	10.71	7.08	1.79	2.08

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		