

### COMPRESSOR DEFINITION

Designation	<b>NB 1116Z</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>294SA42</b>

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50	[ V / Hz ]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°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)	Static	198 to 254 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 254 V	-
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 <sup>2</sup> ] (230 psig)	/ °C - °F
9.2 Peak (gauge)	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	8.39	[cm <sup>3</sup> ] (0.512 cu.in)
2.1 Bore [mm]	24.282	
2.2 Stroke [mm]	18.120	
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	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	27R205/F	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	AD19BJ10	
6 Start winding resistance	55.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	11.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	9.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.14	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	IMQ	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°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]
611	154	179	169	1.14	3.47	3.61	0.91	1.06

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 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]
-35	(-31)	359	91	105	116	0.99	2.03	3.09	0.78	0.91
-30	(-22)	492	124	144	134	1.04	2.79	3.69	0.93	1.08
-25	(-13)	654	165	192	154	1.10	3.71	4.26	1.07	1.25
-20	(- 4)	850	214	249	177	1.18	4.84	4.82	1.21	1.41
-15	(+ 5)	1084	273	318	201	1.27	6.19	5.39	1.36	1.58
-10	(+14)	1362	343	399	228	1.37	7.80	5.97	1.50	1.75

TEST CONDITIONS: @220V50Hz		ASHRAE32 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]
-35	(-31)	313	79	92	115	0.99	1.77	2.72	0.69	0.80
-30	(-22)	443	112	130	135	1.05	2.51	3.28	0.83	0.96
-25	(-13)	601	151	176	158	1.12	3.41	3.80	0.96	1.11
-20	(- 4)	791	199	232	184	1.21	4.50	4.29	1.08	1.26
-15	(+ 5)	1016	256	298	212	1.31	5.80	4.77	1.20	1.40
-10	(+14)	1282	323	376	244	1.43	7.35	5.25	1.32	1.54

TEST CONDITIONS: @220V50Hz		ASHRAE32 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]
-35	(-31)	272	68	80	111	0.98	1.54	2.45	0.62	0.72
-30	(-22)	399	100	117	133	1.04	2.26	2.99	0.75	0.88
-25	(-13)	551	139	161	159	1.12	3.13	3.46	0.87	1.01
-20	(- 4)	732	185	215	188	1.22	4.17	3.89	0.98	1.14
-15	(+ 5)	948	239	278	221	1.35	5.41	4.28	1.08	1.26
-10	(+14)	1202	303	352	258	1.49	6.89	4.67	1.18	1.37

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-35	(-31)	228	57	67	104	0.94	1.29	2.19	0.55	0.64
-30	(-22)	350	88	103	129	1.01	1.98	2.70	0.68	0.79
-25	(-13)	495	125	145	158	1.11	2.81	3.13	0.79	0.92
-20	(- 4)	668	168	196	191	1.22	3.80	3.50	0.88	1.03
-15	(+ 5)	872	220	256	229	1.37	4.98	3.83	0.96	1.12
-10	(+14)	1113	281	326	271	1.54	6.38	4.12	1.04	1.21

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted parallel to Base Plate		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +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		