

COMPRESSOR DEFINITION

Designation	NE 2121Z
Nominal Voltage/Frequency	200-220 V 50 Hz / 230 V 60 Hz
Engineering Number	263BK50

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	200-220 / 50	[V / Hz]	
4 Application type	Low Back Pressure R134a		
4.1 Evaporating temperature range	-30°C to -5°C	(-22°F to 23°F)	
5 Motor type	CSIR		
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 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	1/4	[hp]
2 Displacement	9.26	[cm ³] (0.565 cu.in)
2.1 Bore [mm]	24.282	
2.2 Stroke [mm]	20.000	
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)	11.65	[kg] (25.68 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	200-220 V 50 Hz / 230 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-0027	
3 Start capacitor	64-77(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743LFBYY-53	
6 Start winding resistance	18.22	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.73	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - IMQ	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @230V60Hz			ASHRAELBP32 Fan		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]
1010	255	296	232	4.39	5.74	4.35	1.10	1.27

E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V50Hz		ASHRAE32 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]
-35	(-31)	514	130	151	142	1.49	2.91	3.60	0.91	1.05
-30	(-22)	682	172	200	162	1.56	3.87	4.21	1.06	1.23
-25	(-13)	899	227	263	183	1.63	5.11	4.91	1.24	1.44
-20	(- 4)	1166	294	342	205	1.70	6.64	5.69	1.43	1.67
-15	(+ 5)	1482	373	434	227	1.77	8.46	6.52	1.64	1.91
-10	(+14)	1847	465	541	251	1.85	10.58	7.37	1.86	2.16

TEST CONDITIONS: @230V50Hz		ASHRAE32 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]
-35	(-31)	471	119	138	139	1.53	2.66	3.34	0.84	0.98
-30	(-22)	630	159	185	162	1.58	3.57	3.89	0.98	1.14
-25	(-13)	840	212	246	186	1.64	4.77	4.52	1.14	1.32
-20	(- 4)	1100	277	322	211	1.71	6.26	5.21	1.31	1.53
-15	(+ 5)	1411	356	414	238	1.79	8.06	5.93	1.49	1.74
-10	(+14)	1773	447	519	266	1.89	10.16	6.66	1.68	1.95

TEST CONDITIONS: @230V50Hz		ASHRAE32 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]
-35	(-31)	429	108	126	137	1.57	2.42	3.07	0.77	0.90
-30	(-22)	580	146	170	162	1.60	3.29	3.58	0.90	1.05
-25	(-13)	783	197	229	189	1.65	4.44	4.15	1.05	1.22
-20	(- 4)	1037	261	304	217	1.72	5.90	4.77	1.20	1.40
-15	(+ 5)	1343	338	394	248	1.81	7.67	5.42	1.36	1.59
-10	(+14)	1701	429	498	281	1.93	9.74	6.06	1.53	1.77

E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V60Hz		ASHRAE32 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]
-35	(-31)	601	152	176	167	1.74	3.40	3.58	0.90	1.05
-30	(-22)	798	201	234	190	1.81	4.52	4.20	1.06	1.23
-25	(-13)	1052	265	308	214	1.89	5.97	4.91	1.24	1.44
-20	(- 4)	1364	344	400	240	1.97	7.76	5.69	1.43	1.67
-15	(+ 5)	1734	437	508	266	2.06	9.90	6.52	1.64	1.91
-10	(+14)	2161	545	633	293	2.15	12.38	7.37	1.86	2.16

TEST CONDITIONS: @230V60Hz		ASHRAE32 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]
-35	(-31)	551	139	161	164	1.78	3.11	3.32	0.84	0.97
-30	(-22)	737	186	216	190	1.83	4.18	3.88	0.98	1.14
-25	(-13)	983	248	288	218	1.90	5.58	4.51	1.14	1.32
-20	(- 4)	1287	324	377	247	1.98	7.33	5.20	1.31	1.52
-15	(+ 5)	1651	416	484	279	2.08	9.42	5.92	1.49	1.74
-10	(+14)	2074	523	608	312	2.19	11.88	6.66	1.68	1.95

TEST CONDITIONS: @230V60Hz		ASHRAE32 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]
-35	(-31)	503	127	147	162	1.83	2.84	3.05	0.77	0.89
-30	(-22)	679	171	199	190	1.86	3.85	3.57	0.90	1.05
-25	(-13)	916	231	268	221	1.91	5.20	4.15	1.05	1.22
-20	(- 4)	1213	306	356	254	1.99	6.90	4.77	1.20	1.40
-15	(+ 5)	1571	396	460	290	2.10	8.97	5.41	1.36	1.59
-10	(+14)	1990	501	583	329	2.24	11.40	6.05	1.53	1.77

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.1 +0.10/+0.00	[mm]	(0.319" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
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		