

COMPRESSOR DEFINITION

Designation	NE 5160Z
Nominal Voltage/Frequency	200-240 V 50 Hz / 230 V 60 Hz
Engineering Number	261AN50

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	200-240 / 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	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	1/4	[hp]
2 Displacement	7.99	[cm ³] (0.488 cu.in)
2.1 Bore [mm]	27.775	
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)	10.3	[kg] (22.71 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	200-240 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	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	T0058/G5	
6 Start winding resistance	56.94	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.13	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	15.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.10	[A] - Measured according to UL 984
11 Approval boards certification	IMQ	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @230V60Hz			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]
2778	700	814	354	2.26	18.01	7.85	1.98	2.30

E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V50Hz			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)	1149	289	337	181	1.46	6.22	6.31	1.59	1.85
-10	(+14)	1400	353	410	198	1.52	7.59	7.09	1.79	2.08
-5	(+23)	1766	445	517	215	1.58	9.61	8.23	2.07	2.41
0	(+32)	2247	566	659	232	1.65	12.29	9.68	2.44	2.84
+5	(+41)	2844	717	833	250	1.72	15.65	11.37	2.86	3.33
+10	(+50)	3556	896	1042	269	1.80	19.70	13.25	3.34	3.88

TEST CONDITIONS: @230V50Hz			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)	890	224	261	178	1.46	5.19	5.00	1.26	1.47
-10	(+14)	1168	294	342	202	1.54	6.85	5.79	1.46	1.70
-5	(+23)	1529	385	448	225	1.62	9.01	6.79	1.71	1.99
0	(+32)	1971	497	578	248	1.71	11.68	7.95	2.00	2.33
+5	(+41)	2496	629	731	271	1.81	14.86	9.21	2.32	2.70
+10	(+50)	3103	782	909	295	1.91	18.58	10.52	2.65	3.08

TEST CONDITIONS: @230V50Hz			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)	623	157	182	175	1.46	3.97	3.59	0.90	1.05
-10	(+14)	927	234	272	206	1.56	5.93	4.47	1.13	1.31
-5	(+23)	1280	323	375	235	1.66	8.22	5.42	1.37	1.59
0	(+32)	1682	424	493	264	1.77	10.86	6.40	1.61	1.87
+5	(+41)	2133	537	625	292	1.89	13.86	7.33	1.85	2.15
+10	(+50)	2633	663	771	321	2.02	17.25	8.16	2.06	2.39

E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V60Hz		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)	1343	339	394	210	1.69	7.28	6.36	1.60	1.86
-10	(+14)	1638	413	480	230	1.76	8.89	7.15	1.80	2.10
-5	(+23)	2067	521	606	249	1.83	11.25	8.31	2.09	2.43
0	(+32)	2630	663	771	269	1.91	14.38	9.76	2.46	2.86
+5	(+41)	3328	839	975	290	2.00	18.31	11.47	2.89	3.36
+10	(+50)	4160	1048	1219	312	2.10	23.04	13.37	3.37	3.92

TEST CONDITIONS: @230V60Hz		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)	1041	262	305	206	1.69	6.07	5.06	1.27	1.48
-10	(+14)	1367	345	401	234	1.78	8.02	5.84	1.47	1.71
-5	(+23)	1789	451	524	261	1.88	10.54	6.85	1.73	2.01
0	(+32)	2307	581	676	288	1.99	13.66	8.02	2.02	2.35
+5	(+41)	2920	736	856	314	2.10	17.38	9.29	2.34	2.72
+10	(+50)	3630	915	1064	342	2.22	21.74	10.62	2.68	3.11

TEST CONDITIONS: @230V60Hz		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)	728	184	213	203	1.69	4.65	3.62	0.91	1.06
-10	(+14)	1084	273	318	239	1.81	6.94	4.51	1.14	1.32
-5	(+23)	1497	377	439	273	1.93	9.61	5.47	1.38	1.60
0	(+32)	1968	496	577	306	2.05	12.70	6.45	1.62	1.89
+5	(+41)	2495	629	731	339	2.19	16.22	7.39	1.86	2.17
+10	(+50)	3080	776	903	372	2.34	20.18	8.25	2.08	2.42

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		