

### COMPRESSOR DEFINITION

Designation	NE U3130Z
Nominal Voltage/Frequency	100 V 50 Hz 60 Hz
Engineering Number	279AQ71

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	100 / 50	[ V / Hz ]	
4 Application type	Low-Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	CSCR		
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 temperature			
9.1 Operating	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	12.11	[cm <sup>3</sup> ] (0.739 cu.in)
2.1 Bore [mm]	27.775	
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)	11.4	[kg] (25.13 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100 V 50/60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVAH7AA3C-571	
3 Start capacitor	340-408(250)	[µF(VAC minimum)]
4 Run capacitor	35(400)	[µF(VAC minimum)]
5 Motor protection	USP-529-83	
6 Start winding resistance	3.81	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	0.96	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	39.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			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]
1214	306	356	255	3.61	6.90	4.75	1.20	1.39

TEST CONDITIONS: @100V60Hz			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]
1424	359	417	288	3.01	8.09	4.94	1.24	1.45

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	694	175	203	181	2.91	3.93	3.84	0.97	1.12
-30	(-22)	985	248	288	202	3.08	5.58	4.88	1.23	1.43
-25	(-13)	1314	331	385	225	3.25	7.46	5.85	1.47	1.71
-20	(- 4)	1681	424	493	250	3.41	9.57	6.74	1.70	1.97
-15	(+ 5)	2087	526	612	276	3.57	11.92	7.56	1.90	2.21
-10	(+14)	2532	638	742	304	3.73	14.51	8.32	2.10	2.44
-5	(+23)	3015	760	883	333	3.87	17.35	9.03	2.28	2.65
0	(+32)	3536	891	1036	365	4.01	20.44	9.71	2.45	2.84

TEST CONDITIONS: @100V50Hz		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)	648	163	190	182	2.96	3.67	3.55	0.89	1.04
-30	(-22)	935	236	274	210	3.14	5.30	4.45	1.12	1.30
-25	(-13)	1258	317	368	238	3.32	7.14	5.29	1.33	1.55
-20	(- 4)	1616	407	473	267	3.51	9.20	6.07	1.53	1.78
-15	(+ 5)	2009	506	589	296	3.70	11.47	6.80	1.71	1.99
-10	(+14)	2439	615	715	326	3.90	13.97	7.50	1.89	2.20
-5	(+23)	2904	732	851	356	4.10	16.71	8.16	2.06	2.39
0	(+32)	3404	858	997	386	4.29	19.68	8.81	2.22	2.58

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	572	144	168	182	2.94	3.23	3.16	0.80	0.92
-30	(-22)	859	217	252	216	3.15	4.87	3.96	1.00	1.16
-25	(-13)	1180	297	346	249	3.38	6.70	4.72	1.19	1.38
-20	(- 4)	1533	386	449	281	3.61	8.72	5.44	1.37	1.59
-15	(+ 5)	1919	484	562	313	3.87	10.95	6.14	1.55	1.80
-10	(+14)	2337	589	685	343	4.13	13.39	6.81	1.72	2.00
-5	(+23)	2789	703	817	373	4.40	16.04	7.48	1.88	2.19
0	(+32)	3273	825	959	402	4.69	18.92	8.14	2.05	2.39

TEST CONDITIONS: @100V60Hz		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)	794	200	233	199	2.06	4.49	4.00	1.01	1.17
-30	(-22)	1208	305	354	233	2.35	6.85	5.16	1.30	1.51
-25	(-13)	1625	409	476	266	2.68	9.23	6.10	1.54	1.79
-20	(- 4)	2044	515	599	298	3.04	11.63	6.86	1.73	2.01
-15	(+ 5)	2464	621	722	330	3.44	14.07	7.48	1.88	2.19
-10	(+14)	2888	728	846	361	3.86	16.54	7.99	2.01	2.34
-5	(+23)	3313	835	971	391	4.31	19.06	8.45	2.13	2.48
0	(+32)	3741	943	1096	421	4.80	21.63	8.89	2.24	2.60

TEST CONDITIONS: @100V60Hz		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)	740	186	217	201	2.09	4.18	3.66	0.92	1.07
-30	(-22)	1143	288	335	239	2.41	6.48	4.73	1.19	1.39
-25	(-13)	1547	390	453	277	2.77	8.78	5.58	1.41	1.63
-20	(- 4)	1951	492	572	313	3.17	11.10	6.25	1.58	1.83
-15	(+ 5)	2355	593	690	348	3.61	13.44	6.79	1.71	1.99
-10	(+14)	2759	695	808	381	4.09	15.80	7.24	1.83	2.12
-5	(+23)	3163	797	927	413	4.60	18.19	7.64	1.93	2.24
0	(+32)	3567	899	1045	445	5.15	20.62	8.03	2.02	2.35

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		ASHRAE32 Fan			(Condensing temperature <b>55°C (+131°F)</b> )					
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)	663	167	194	203	2.11	3.75	3.28	0.83	0.96
-30	(-22)	1065	268	312	247	2.46	6.03	4.26	1.07	1.25
-25	(-13)	1464	369	429	290	2.86	8.31	5.04	1.27	1.48
-20	(- 4)	1861	469	545	330	3.31	10.59	5.65	1.42	1.66
-15	(+ 5)	2257	569	661	369	3.80	12.88	6.13	1.55	1.80
-10	(+14)	2650	668	776	405	4.34	15.18	6.54	1.65	1.92
-5	(+23)	3040	766	891	440	4.92	17.49	6.89	1.74	2.02
0	(+32)	3429	864	1005	473	5.55	19.82	7.25	1.83	2.12

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	6.45 +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		