

COMPRESSOR DEFINITION

Designation	NE U3140L
Nominal Voltage/Frequency	100 V 50 Hz 60 Hz
Engineering Number	279DQ46

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	HFO		
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	15.72	[kgf/cm ²] (224 psig)	/ °C - °F
9.2 Peak	19.82	[kgf/cm ²] (282 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	16.80	[cm ³] (1.025 cu.in)
2.1 Bore [mm]	31.190	
2.2 Stroke [mm]	22.000	
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)	11.8	[kg] (26.01 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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-577-83	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	46.00	[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]
1852	467	543	371	5.20	12.77	4.99	1.26	1.46

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]
2122	535	622	415	4.39	14.64	5.11	1.29	1.50

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)	1076	271	315	255	4.36	6.08	4.23	1.06	1.24
-30	(-22)	1471	371	431	289	4.67	8.27	5.09	1.28	1.49
-25	(-13)	1920	484	563	325	4.94	10.75	5.90	1.49	1.73
-20	(- 4)	2422	610	710	362	5.18	13.55	6.68	1.68	1.96
-15	(+ 5)	2977	750	872	401	5.38	16.66	7.42	1.87	2.17
-10	(+14)	3586	904	1051	441	5.55	20.09	8.12	2.05	2.38
-5	(+23)	4247	1070	1245	483	5.69	23.86	8.79	2.21	2.58
0	(+32)	4962	1250	1454	527	5.80	27.97	9.42	2.37	2.76

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)	1018	257	298	260	4.38	6.89	3.90	0.98	1.14
-30	(-22)	1393	351	408	300	4.75	9.58	4.64	1.17	1.36
-25	(-13)	1822	459	534	342	5.08	12.63	5.34	1.34	1.56
-20	(- 4)	2307	581	676	385	5.37	16.06	6.01	1.51	1.76
-15	(+ 5)	2847	717	834	429	5.61	19.86	6.65	1.68	1.95
-10	(+14)	3442	867	1009	474	5.81	24.06	7.26	1.83	2.13
-5	(+23)	4092	1031	1199	521	5.96	28.66	7.85	1.98	2.30
0	(+32)	4797	1209	1406	569	6.07	33.66	8.42	2.12	2.47

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)	927	234	272	263	4.54	6.41	3.53	0.89	1.04
-30	(-22)	1296	327	380	309	4.95	8.91	4.19	1.06	1.23
-25	(-13)	1723	434	505	356	5.31	11.83	4.83	1.22	1.42
-20	(- 4)	2207	556	647	405	5.61	15.19	5.45	1.37	1.60
-15	(+ 5)	2747	692	805	454	5.86	19.00	6.05	1.52	1.77
-10	(+14)	3345	843	980	504	6.06	23.26	6.63	1.67	1.94
-5	(+23)	3999	1008	1172	555	6.21	27.99	7.20	1.82	2.11
0	(+32)	4710	1187	1380	607	6.30	33.19	7.76	1.96	2.27

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)	1249	315	366	275	2.99	7.06	4.54	1.14	1.33
-30	(-22)	1694	427	496	320	3.51	9.52	5.30	1.33	1.55
-25	(-13)	2199	554	644	367	4.00	12.32	5.99	1.51	1.76
-20	(- 4)	2764	697	810	417	4.48	15.46	6.64	1.67	1.95
-15	(+ 5)	3390	854	993	469	4.94	18.96	7.24	1.82	2.12
-10	(+14)	4075	1027	1194	523	5.38	22.83	7.79	1.96	2.28
-5	(+23)	4821	1215	1413	579	5.80	27.08	8.32	2.10	2.44
0	(+32)	5627	1418	1649	638	6.20	31.72	8.82	2.22	2.58

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)	1168	294	342	282	3.00	7.90	4.15	1.05	1.22
-30	(-22)	1607	405	471	331	3.57	11.05	4.85	1.22	1.42
-25	(-13)	2107	531	617	383	4.13	14.60	5.49	1.38	1.61
-20	(- 4)	2665	672	781	438	4.67	18.55	6.08	1.53	1.78
-15	(+ 5)	3284	828	962	496	5.20	22.91	6.61	1.67	1.94
-10	(+14)	3962	998	1161	557	5.71	27.70	7.11	1.79	2.08
-5	(+23)	4699	1184	1377	621	6.20	32.91	7.57	1.91	2.22
0	(+32)	5497	1385	1611	687	6.69	38.58	8.01	2.02	2.35

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		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)	1107	279	324	282	3.07	7.66	3.92	0.99	1.15
-30	(-22)	1530	386	448	337	3.68	10.51	4.54	1.14	1.33
-25	(-13)	2013	507	590	395	4.28	13.82	5.10	1.28	1.49
-20	(- 4)	2554	644	748	457	4.87	17.58	5.60	1.41	1.64
-15	(+ 5)	3154	795	924	522	5.44	21.81	6.05	1.52	1.77
-10	(+14)	3814	961	1117	590	6.01	26.52	6.46	1.63	1.89
-5	(+23)	4532	1142	1328	662	6.56	31.72	6.84	1.72	2.00
0	(+32)	5309	1338	1556	738	7.10	37.41	7.19	1.81	2.11

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		