COMPRESSOR DEFINITION

Designation	**NE X4160UA**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513308304**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial - Curves until T.Evap -		
4.1 Evaporating temperature range	-40°C to 0°C	(-40°F to 32°F)	
5 Motor type	CSCR		
6 Starting torque	HST - Hight starting torque		
7 Expantion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	-	-	-
8.2 LBP (43ºC Ambient temperature)	-	-	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm²] (262 psig)	/ ºC - ºF
9.2 Peak	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	14.28	[cm³] (0.871 cu.in)
2.1 Bore [mm]	30.157	
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)	11.6	[kg] (25.57 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (2.84 to 4.27 psig)

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVAH7AA3C-571	
3 Start capacitor	243-292(165)	[µF(VAC minimum)]
4 Run capacitor	30(400)	[µF(VAC minimum)]
5 Motor protection	USP-529-83	
6 Start winding resistance	3.81	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	0.96	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	46.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	7.30	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS:			**ASHRAELBP32**			Evaporating temperature		**-23.3°C (-9.94°F)**
@115V60Hz			**Fan**			(Condensing temperature		**54.4°C (129.92°F))**
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
2901	731	850	500	4.65	8.63	5.80	1.46	1.70

E - PERFORMANCE - CURVES

TEST CONDITIONS:		**ASHRAE32**					(Condensing temperature **35ºC (+95ºF))**			
@115V60Hz		**Fan**								
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	**(°F)**	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	**(-40)**	1490	376	437	303	3.14	4.40	4.80	1.21	1.41
-35	**(-31)**	1815	457	532	347	3.47	5.37	5.25	1.32	1.54
-30	**(-22)**	2290	577	671	391	3.82	6.79	5.90	1.49	1.73
-25	**(-13)**	2911	734	853	434	4.17	8.66	6.73	1.70	1.97
-20	**(- 4)**	3673	926	1076	476	4.52	10.96	7.73	1.95	2.26
-15	**(+ 5)**	4571	1152	1339	516	4.85	13.69	8.88	2.24	2.60
-10	**(+14)**	5599	1411	1641	552	5.16	16.85	10.17	2.56	2.98
-5	**(+23)**	6754	1702	1979	584	5.44	20.43	11.59	2.92	3.40
0	**(+32)**	8031	2024	2353	611	5.68	24.42	13.12	3.31	3.84

TEST CONDITIONS:		**ASHRAE32**					(Condensing temperature **45ºC (+113ºF))**			
@115V60Hz		**Fan**								
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	**(°F)**	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	**(-40)**	1154	291	338	303	3.15	3.40	3.90	0.98	1.14
-35	**(-31)**	1496	377	438	355	3.54	4.43	4.34	1.09	1.27
-30	**(-22)**	1985	500	582	408	3.96	5.89	4.93	1.24	1.44
-25	**(-13)**	2616	659	767	461	4.39	7.78	5.67	1.43	1.66
-20	**(- 4)**	3383	853	991	513	4.83	10.10	6.53	1.65	1.91
-15	**(+ 5)**	4283	1079	1255	564	5.26	12.83	7.52	1.89	2.20
-10	**(+14)**	5309	1338	1556	613	5.68	15.98	8.60	2.17	2.52
-5	**(+23)**	6457	1627	1892	659	6.08	19.53	9.78	2.46	2.86
0	**(+32)**	7722	1946	2263	700	6.45	23.48	11.03	2.78	3.23

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@115V60Hz **Fan**

Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	**(°F)**	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	**(-40)**	1167	294	342	300	3.12	3.45	3.79	0.95	1.11
-35	**(-31)**	1494	376	438	358	3.57	4.42	4.19	1.06	1.23
-30	**(-22)**	1962	494	575	419	4.05	5.82	4.71	1.19	1.38
-25	**(-13)**	2568	647	753	482	4.56	7.64	5.34	1.35	1.56
-20	**(- 4)**	3307	833	969	545	5.09	9.86	6.06	1.53	1.78
-15	**(+ 5)**	4173	1052	1223	607	5.63	12.50	6.86	1.73	2.01
-10	**(+14)**	5163	1301	1513	668	6.16	15.53	7.73	1.95	2.26
-5	**(+23)**	6270	1580	1837	726	6.68	18.96	8.65	2.18	2.53
0	**(+32)**	7490	1888	2195	782	7.18	22.76	9.60	2.42	2.81

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		