

COMPRESSOR DEFINITION

Designation	NE X4170UA
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513308301

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 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 temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 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)	11.6	[kg] (25.57 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	340-408(165)	[µF(VAC minimum)]
4 Run capacitor	30(400)	[µF(VAC minimum)]
5 Motor protection	USP-577-83	
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 (60 Hz)	49.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	9.00	[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 - CE - EAC - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ARILBP Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 48.9°C (120.02°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]
2694	679	789	589	5.40	10.94	4.57	1.15	1.34

TEST CONDITIONS: @115V60Hz			ARIMBP Fan		Evaporating temperature (Condensing temperature		-6.7°C (19.94°F) 48.9°C (120.02°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]
5327	1342	1561	835	7.60	22.26	6.38	1.61	1.87

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ARI4 Fan		(Condensing temperature 35°C (+95°F))				
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)	1444	364	423	354	3.52	4.99	4.06	1.02	1.19
-35 (-31)	1883	474	552	413	4.00	6.56	4.58	1.15	1.34
-30 (-22)	2439	615	715	471	4.48	8.54	5.20	1.31	1.52
-25 (-13)	3112	784	912	528	4.98	10.93	5.90	1.49	1.73
-20 (- 4)	3903	984	1144	585	5.48	13.78	6.68	1.68	1.96
-15 (+ 5)	4812	1213	1410	641	5.97	17.11	7.51	1.89	2.20
-10 (+14)	5839	1471	1711	696	6.46	20.93	8.39	2.11	2.46
-5 (+23)	6984	1760	2046	752	6.94	25.28	9.29	2.34	2.72
0 (+32)	8248	2078	2417	806	7.40	30.17	10.22	2.57	2.99

TEST CONDITIONS: @115V60Hz			ARI4 Fan		(Condensing temperature 45°C (+113°F))				
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)	1217	307	357	358	3.58	4.66	3.39	0.85	0.99
-35 (-31)	1597	402	468	423	4.09	6.15	3.78	0.95	1.11
-30 (-22)	2082	525	610	489	4.63	8.04	4.25	1.07	1.25
-25 (-13)	2671	673	783	555	5.18	10.36	4.79	1.21	1.40
-20 (- 4)	3364	848	986	622	5.76	13.13	5.39	1.36	1.58
-15 (+ 5)	4163	1049	1220	689	6.34	16.37	6.03	1.52	1.77
-10 (+14)	5068	1277	1485	757	6.93	20.12	6.70	1.69	1.96
-5 (+23)	6077	1532	1781	825	7.53	24.39	7.38	1.86	2.16
0 (+32)	7193	1813	2108	894	8.12	29.21	8.06	2.03	2.36

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ARI4 Fan			(Condensing temperature 55°C (+131°F))					
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)	966	243	283	361	2.65	4.15	2.68	0.67	0.78
-35	(-31)	1286	324	377	433	3.00	5.56	2.98	0.75	0.87
-30	(-22)	1699	428	498	506	3.39	7.36	3.36	0.85	0.98
-25	(-13)	2203	555	646	580	3.81	9.60	3.79	0.95	1.11
-20	(- 4)	2800	706	820	657	4.26	12.29	4.26	1.07	1.25
-15	(+ 5)	3489	879	1022	734	4.74	15.46	4.75	1.20	1.39
-10	(+14)	4271	1076	1251	814	5.23	19.13	5.26	1.33	1.54
-5	(+23)	5145	1297	1508	895	5.74	23.32	5.76	1.45	1.69
0	(+32)	6113	1540	1791	977	6.26	28.07	6.25	1.57	1.83

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		