

### COMPRESSOR DEFINITION

Designation	NE U2178U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	8630E44

### 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 Back Pressure R290 Extended		
4.1 Evaporating temperature range	-40°C to -5°C	(-40°F to 23°F)	
5 Motor type	CSCR		
6 Starting torque	HST - High 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 <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	18.70	[cm <sup>3</sup> ] (1.141 cu.in)
2.1 Bore [mm]	32.186	
2.2 Stroke [mm]	23.000	
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 <sup>2</sup> ]

### 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(250)	[µF(VAC minimum)]
4 Run capacitor	40(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)	51.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[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: @115V60Hz			ARILBP Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 48.9°C (120.02°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]	
2871	723	841	694	6.29	11.66	4.14	1.04	1.21	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ARI4 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]
-40	(-40)	1555	392	456	419	3.99	5.38	3.70	0.93	1.08
-35	(-31)	2029	511	594	476	4.45	7.07	4.26	1.07	1.25
-30	(-22)	2609	657	764	539	4.98	9.12	4.84	1.22	1.42
-25	(-13)	3295	830	965	607	5.56	11.57	5.43	1.37	1.59
-20	(- 4)	4086	1030	1197	678	6.18	14.43	6.03	1.52	1.77
-15	(+ 5)	4982	1255	1460	751	6.82	17.71	6.63	1.67	1.94
-10	(+14)	5982	1507	1753	826	7.47	21.44	7.25	1.83	2.12
-5	(+23)	7086	1786	2076	900	8.10	25.64	7.86	1.98	2.30

TEST CONDITIONS: @115V60Hz		ARI4 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]
-40	(-40)	1336	337	392	439	4.16	5.12	3.04	0.77	0.89
-35	(-31)	1749	441	512	502	4.66	6.72	3.49	0.88	1.02
-30	(-22)	2257	569	661	571	5.25	8.71	3.95	1.00	1.16
-25	(-13)	2860	721	838	647	5.90	11.09	4.42	1.11	1.29
-20	(- 4)	3558	897	1043	726	6.60	13.89	4.89	1.23	1.43
-15	(+ 5)	4351	1096	1275	809	7.33	17.12	5.37	1.35	1.57
-10	(+14)	5238	1320	1535	894	8.08	20.80	5.86	1.48	1.72
-5	(+23)	6218	1567	1822	980	8.83	24.95	6.35	1.60	1.86

TEST CONDITIONS: @115V60Hz		ARI4 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]
-40	(-40)	1098	277	322	446	4.21	4.72	2.46	0.62	0.72
-35	(-31)	1447	365	424	519	4.79	6.24	2.80	0.70	0.82
-30	(-22)	1881	474	551	599	5.46	8.16	3.14	0.79	0.92
-25	(-13)	2400	605	703	686	6.22	10.47	3.50	0.88	1.03
-20	(- 4)	3004	757	880	778	7.04	13.20	3.86	0.97	1.13
-15	(+ 5)	3692	931	1082	875	7.90	16.37	4.22	1.06	1.24
-10	(+14)	4464	1125	1308	974	8.79	19.99	4.58	1.15	1.34
-5	(+23)	5319	1341	1559	1076	9.69	24.09	4.95	1.25	1.45

### 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		