

COMPRESSOR DEFINITION

Designation	NE U2140U
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	861KE92

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		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°F)	
5 Motor type	CSIR		
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 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	9.99	[cm ³] (0.610 cu.in)
2.1 Bore [mm]	26.497	
2.2 Stroke [mm]	18.120	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	AB / ISO32	
4 Weight (with oil charge)	10	[kg] (22.05 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (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	Current Relay	
2.1 Starting device	MTRPH-60-59	
3 Start capacitor	189-227(250)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0808/G9	
6 Start winding resistance	7.19	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.57	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	30.00	[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: @127V60Hz			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]
1534	387	449	394	4.71	6.23	3.89	0.98	1.14

E - PERFORMANCE - CURVES

TEST CONDITIONS: @127V60Hz			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)	801	202	235	257	4.16	2.78	3.12	0.79	0.91
-35	(-31)	1072	270	314	290	4.27	3.73	3.69	0.93	1.08
-30	(-22)	1408	355	413	323	4.40	4.92	4.35	1.09	1.27
-25	(-13)	1810	456	530	356	4.54	6.36	5.08	1.28	1.49
-20	(- 4)	2277	574	667	388	4.69	8.04	5.87	1.48	1.72
-15	(+ 5)	2810	708	823	420	4.86	9.99	6.71	1.69	1.96
-10	(+14)	3407	859	998	450	5.04	12.21	7.57	1.91	2.22

TEST CONDITIONS: @127V60Hz			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)	698	176	204	268	4.19	2.67	2.61	0.66	0.77
-35	(-31)	904	228	265	302	4.30	3.47	3.00	0.76	0.88
-30	(-22)	1174	296	344	338	4.44	4.53	3.47	0.87	1.02
-25	(-13)	1506	380	441	375	4.61	5.84	4.01	1.01	1.17
-20	(- 4)	1903	479	558	413	4.80	7.43	4.60	1.16	1.35
-15	(+ 5)	2362	595	692	453	5.02	9.30	5.22	1.31	1.53
-10	(+14)	2885	727	845	493	5.27	11.46	5.85	1.48	1.72

TEST CONDITIONS: @127V60Hz			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)	599	151	176	275	4.22	2.57	2.16	0.55	0.63
-35	(-31)	753	190	221	310	4.33	3.25	2.44	0.61	0.71
-30	(-22)	968	244	284	348	4.48	4.20	2.78	0.70	0.82
-25	(-13)	1244	314	365	390	4.68	5.43	3.19	0.80	0.93
-20	(- 4)	1582	399	464	435	4.91	6.96	3.64	0.92	1.07
-15	(+ 5)	1981	499	580	482	5.19	8.78	4.11	1.04	1.20
-10	(+14)	2441	615	715	532	5.50	10.92	4.59	1.16	1.35

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		