

COMPRESSOR DEFINITION

Designation	NE K2150U
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	863AG71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	115 / 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	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	13.54	[cm ³] (0.826 cu.in)
2.1 Bore [mm]	29.362	
2.2 Stroke [mm]	20.000	
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)	11.3	[kg] (24.91 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 V 60 Hz 1~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA9AD3C-121	
3 Start capacitor	189-227(250)	[µF(VAC minimum)]
4 Run capacitor	25(400)	[µF(VAC minimum)]
5 Motor protection	T0793/G9	
6 Start winding resistance	4.50	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	0.77	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	41.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	6.74	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	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]
1888	476	553	500	5.46	7.67	3.78	0.95	1.11

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)	1025	258	300	320	4.05	3.55	3.19	0.80	0.94
-35	(-31)	1314	331	385	360	4.40	4.58	3.66	0.92	1.07
-30	(-22)	1695	427	497	401	4.74	5.92	4.23	1.07	1.24
-25	(-13)	2168	546	635	442	5.08	7.61	4.91	1.24	1.44
-20	(- 4)	2733	689	801	483	5.43	9.65	5.66	1.43	1.66
-15	(+ 5)	3390	854	993	523	5.80	12.05	6.49	1.63	1.90
-10	(+14)	4139	1043	1213	562	6.20	14.84	7.36	1.85	2.16

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)	877	221	257	334	4.11	3.35	2.63	0.66	0.77
-35	(-31)	1131	285	331	376	4.49	4.35	3.01	0.76	0.88
-30	(-22)	1463	369	429	420	4.87	5.65	3.48	0.88	1.02
-25	(-13)	1872	472	549	466	5.24	7.27	4.01	1.01	1.17
-20	(- 4)	2360	595	692	514	5.62	9.22	4.58	1.15	1.34
-15	(+ 5)	2926	737	857	564	6.02	11.52	5.19	1.31	1.52
-10	(+14)	3571	900	1046	615	6.44	14.17	5.82	1.47	1.70

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)	704	177	206	349	4.16	3.03	2.02	0.51	0.59
-35	(-31)	923	233	270	391	4.59	3.98	2.36	0.59	0.69
-30	(-22)	1206	304	353	438	5.00	5.23	2.75	0.69	0.81
-25	(-13)	1553	391	455	489	5.41	6.77	3.17	0.80	0.93
-20	(- 4)	1964	495	576	545	5.83	8.63	3.61	0.91	1.06
-15	(+ 5)	2440	615	715	604	6.26	10.82	4.05	1.02	1.19
-10	(+14)	2980	751	873	666	6.72	13.34	4.46	1.12	1.31

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		