

Designation	<b>NEK2150U</b>
Nominal Voltage/Frequency	<b>220-240 V 50 Hz</b>
Engineering Number	<b>863AA51</b>

**A - APPLICATION / LIMIT WORKING CONDITIONS**

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50	[ 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 pressures/temperature			
9.1 Operating (gauge)	19.1	[kgf/cm <sup>2</sup> ] (272 psig)	/ °C - °F
9.2 Peak (gauge)	21.2	[kgf/cm <sup>2</sup> ] (301 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

**B - MECHANICAL DATA**

1 Commercial designation	1/2+	[hp]
2 Displacement	13.54	[cm <sup>3</sup> ] (0.826 cu.in)
2.1 Bore	29.362	
2.2 Stroke	10.000	
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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device		
3 Start capacitor	64-77(330)	[µf(VAC minimum)]
4 Run capacitor	-	[µf(VAC minimum)]
5 Motor protection (external)	T0347/G6	
6 Start winding resistance	30.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.20	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	19.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	VDE	

**D - PERFORMANCE - CHECK POINT DATA**

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		Evaporating temperature -23.3°C (-9.94°F) (Condensing temperature 54.4°C (129.92°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]
1985	500	582	444	2.98	5.91	4.47 1.13 1.31

**E - PERFORMANCE - CURVES**

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	952	240	279	273	2.45	2.81	3.49	0.88	1.02
-35	(-31)	1255	316	368	311	2.55	3.71	4.04	1.02	1.18
-30	(-22)	1637	413	480	348	2.66	4.86	4.70	1.18	1.38
-25	(-13)	2098	529	615	386	2.78	6.24	5.44	1.37	1.59
-20	(- 4)	2636	664	772	423	2.90	7.87	6.24	1.57	1.83
-15	(+ 5)	3252	820	953	459	3.03	9.74	7.09	1.79	2.08
-10	(+14)	3946	994	1156	495	3.17	11.87	7.96	2.01	2.33

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	902	227	264	279	2.47	2.66	3.24	0.82	0.95
-35	(-31)	1177	297	345	320	2.58	3.48	3.68	0.93	1.08
-30	(-22)	1531	386	449	363	2.71	4.54	4.22	1.06	1.24
-25	(-13)	1964	495	575	406	2.85	5.84	4.82	1.22	1.41
-20	(- 4)	2475	624	725	451	3.00	7.38	5.48	1.38	1.61
-15	(+ 5)	3065	772	898	497	3.18	9.18	6.17	1.56	1.81
-10	(+14)	3733	941	1094	544	3.36	11.23	6.87	1.73	2.01

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	852	215	250	285	2.49	2.52	2.98	0.75	0.87
-35	(-31)	1099	277	322	330	2.61	3.25	3.34	0.84	0.98
-30	(-22)	1425	359	417	377	2.75	4.22	3.79	0.95	1.11
-25	(-13)	1830	461	536	427	2.92	5.44	4.29	1.08	1.26
-20	(- 4)	2314	583	678	479	3.10	6.90	4.83	1.22	1.41
-15	(+ 5)	2878	725	843	535	3.32	8.62	5.38	1.36	1.58
-10	(+14)	3520	887	1031	593	3.55	10.59	5.94	1.50	1.74

**F - EXTERNAL CHARACTERISTICS**

1 Base plate	European Standard
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	6.1 +0.10/+0.00 [mm] (0.240" +0.004"/+0.000")
3.2.1 Material	Copper
3.2.2 Shape	Straight
3.3 PROCESS	6.1 +0.10/+0.00 [mm] (0.240" +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