

COMPRESSOR DEFINITION

Designation	NE K2160U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	863FA51

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	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	3/4	[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	AB / ISO32	
4 Weight (with oil charge)	11.9	[kg] (26.23 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA2L3C	
3 Start capacitor	53-64(330)	[μF(VAC minimum)]
4 Run capacitor	10(440)	[μF(VAC minimum)]
5 Motor protection	T0660/G9	
6 Start winding resistance	11.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.96	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	18.00	[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	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°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]
2488	627	729	505	2.56	7.41	4.93	1.24	1.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	1245	314	365	308	1.70	3.68	4.04	1.02	1.18
-35	(-31)	1605	404	470	349	1.87	4.75	4.61	1.16	1.35
-30	(-22)	2062	520	604	391	2.05	6.12	5.28	1.33	1.55
-25	(-13)	2615	659	766	434	2.24	7.78	6.03	1.52	1.77
-20	(- 4)	3266	823	957	478	2.43	9.75	6.84	1.72	2.00
-15	(+ 5)	4013	1011	1176	523	2.63	12.02	7.67	1.93	2.25
-10	(+14)	4857	1224	1423	570	2.83	14.61	8.53	2.15	2.50

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	1163	293	341	317	1.75	3.43	3.66	0.92	1.07
-35	(-31)	1502	378	440	361	1.94	4.44	4.16	1.05	1.22
-30	(-22)	1934	487	567	408	2.14	5.74	4.74	1.19	1.39
-25	(-13)	2460	620	721	457	2.36	7.31	5.37	1.35	1.57
-20	(- 4)	3078	776	902	510	2.59	9.18	6.04	1.52	1.77
-15	(+ 5)	3790	955	1111	565	2.84	11.35	6.72	1.69	1.97
-10	(+14)	4596	1158	1347	623	3.10	13.83	7.38	1.86	2.16

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	1065	268	312	327	1.77	3.14	3.26	0.82	0.95
-35	(-31)	1387	349	406	374	1.97	4.10	3.71	0.93	1.09
-30	(-22)	1799	453	527	427	2.20	5.33	4.22	1.06	1.24
-25	(-13)	2301	580	674	483	2.45	6.84	4.76	1.20	1.39
-20	(- 4)	2892	729	848	545	2.72	8.63	5.32	1.34	1.56
-15	(+ 5)	3574	901	1047	610	3.02	10.70	5.86	1.48	1.72
-10	(+14)	4346	1095	1273	681	3.34	13.07	6.38	1.61	1.87

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		