

COMPRESSOR DEFINITION

Designation	NE K2150GK
Nominal Voltage/Frequency	100 V 50 Hz 60 Hz
Engineering Number	959RQ71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	100 / 50	[V / Hz]	
4 Application type	Low Back Pressure R404A		
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	25.2	[kgf/cm ²] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm ²] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	12.11	[cm ³] (0.739 cu.in)
2.1 Bore [mm]	27.775	
2.2 Stroke [mm]	20.000	
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)	11.5	[kg] (25.35 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100 V 50/60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVAH7AA3C-571	
3 Start capacitor	189-227(250)	[µF(VAC minimum)]
4 Run capacitor	30(250)	[µF(VAC minimum)]
5 Motor protection	MRA 38165-3266	
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 (50/60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @100V50Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 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]
2062	520	604	473	6.11	13.98	4.36	1.10	1.28

TEST CONDITIONS: @100V60Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 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]
2427	612	711	528	5.62	16.45	4.60	1.16	1.35

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	991	250	290	287	4.91	6.66	3.45	0.87	1.01
-35	(-31)	1294	326	379	327	5.14	8.73	3.97	1.00	1.16
-30	(-22)	1687	425	494	367	5.40	11.41	4.60	1.16	1.35
-25	(-13)	2170	547	636	408	5.67	14.74	5.32	1.34	1.56
-20	(- 4)	2743	691	804	449	5.96	18.73	6.10	1.54	1.79
-15	(+ 5)	3405	858	998	491	6.28	23.39	6.94	1.75	2.03
-10	(+14)	4157	1048	1218	533	6.61	28.76	7.80	1.96	2.28

TEST CONDITIONS: @100V50Hz		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)	899	226	263	294	5.00	6.03	3.06	0.77	0.90
-35	(-31)	1196	301	350	339	5.23	8.05	3.53	0.89	1.04
-30	(-22)	1578	398	462	385	5.51	10.66	4.09	1.03	1.20
-25	(-13)	2046	516	600	433	5.83	13.87	4.72	1.19	1.38
-20	(- 4)	2599	655	761	483	6.20	17.71	5.38	1.35	1.58
-15	(+ 5)	3236	816	948	535	6.62	22.19	6.06	1.53	1.77
-10	(+14)	3959	998	1160	588	7.09	27.33	6.74	1.70	1.97

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		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)	785	198	230	294	5.03	5.25	2.67	0.67	0.78	
-35 (-31)	1073	270	314	343	5.26	7.21	3.13	0.79	0.92	
-30 (-22)	1441	363	422	396	5.56	9.71	3.64	0.92	1.07	
-25 (-13)	1890	476	554	452	5.94	12.79	4.18	1.05	1.23	
-20 (- 4)	2419	610	709	511	6.39	16.45	4.74	1.19	1.39	
-15 (+ 5)	3029	763	888	573	6.91	20.73	5.29	1.33	1.55	
-10 (+14)	3719	937	1090	639	7.50	25.62	5.81	1.46	1.70	

TEST CONDITIONS: @100V60Hz		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)	1067	269	313	302	3.44	7.17	3.52	0.89	1.03	
-35 (-31)	1486	375	436	349	3.89	10.02	4.25	1.07	1.25	
-30 (-22)	1983	500	581	400	4.38	13.42	4.97	1.25	1.46	
-25 (-13)	2564	646	751	452	4.90	17.42	5.67	1.43	1.66	
-20 (- 4)	3235	815	948	508	5.45	22.09	6.37	1.60	1.87	
-15 (+ 5)	4003	1009	1173	567	6.05	27.50	7.06	1.78	2.07	
-10 (+14)	4874	1228	1428	628	6.68	33.71	7.76	1.96	2.27	

TEST CONDITIONS: @100V60Hz		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)	1038	262	304	306	3.49	6.96	3.39	0.85	0.99	
-35 (-31)	1416	357	415	360	3.99	9.53	3.94	0.99	1.16	
-30 (-22)	1869	471	548	418	4.56	12.62	4.48	1.13	1.31	
-25 (-13)	2404	606	704	481	5.19	16.30	5.01	1.26	1.47	
-20 (- 4)	3027	763	887	548	5.90	20.63	5.52	1.39	1.62	
-15 (+ 5)	3744	943	1097	620	6.68	25.67	6.03	1.52	1.77	
-10 (+14)	4562	1150	1337	696	7.53	31.50	6.54	1.65	1.92	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		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)	936	236	274	302	3.45	6.26	3.10	0.78	0.91
-35	(-31)	1293	326	379	363	3.99	8.68	3.56	0.90	1.04
-30	(-22)	1722	434	505	429	4.64	11.61	4.00	1.01	1.17
-25	(-13)	2231	562	654	503	5.39	15.09	4.43	1.12	1.30
-20	(- 4)	2825	712	828	582	6.24	19.21	4.84	1.22	1.42
-15	(+ 5)	3511	885	1029	668	7.20	24.03	5.25	1.32	1.54
-10	(+14)	4296	1083	1259	761	8.26	29.60	5.66	1.43	1.66

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		