

COMPRESSOR DEFINITION

Designation	NE K2150GK
Nominal Voltage/Frequency	100 V 50 Hz 60 Hz
Engineering Number	959AQ71

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)	Fan	-	-
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)	11.6	[kg] (25.57 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	RVA7AC3C-115	
3 Start capacitor	243-292(165)	[µF(VAC minimum)]
4 Run capacitor	30(440)	[µF(VAC minimum)]
5 Motor protection	T0736/J5	
6 Start winding resistance	3.42	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	0.67	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	44.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	7.50	[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]
1984	500	581	509	7.97	13.45	3.90	0.98	1.14

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]
2376	599	696	530	6.05	16.11	4.48	1.13	1.31

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)	929	234	272	340	7.39	6.25	2.73	0.69	0.80
-35	(-31)	1237	312	363	377	7.45	8.34	3.28	0.83	0.96
-30	(-22)	1630	411	478	415	7.55	11.03	3.93	0.99	1.15
-25	(-13)	2107	531	617	455	7.69	14.31	4.63	1.17	1.36
-20	(- 4)	2667	672	782	496	7.88	18.22	5.38	1.36	1.58
-15	(+ 5)	3312	835	970	538	8.10	22.75	6.16	1.55	1.80
-10	(+14)	4039	1018	1184	582	8.37	27.94	6.94	1.75	2.03

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)	840	212	246	342	7.42	5.64	2.46	0.62	0.72
-35	(-31)	1132	285	332	384	7.48	7.62	2.96	0.74	0.87
-30	(-22)	1508	380	442	428	7.59	10.18	3.52	0.89	1.03
-25	(-13)	1968	496	577	474	7.76	13.34	4.14	1.04	1.21
-20	(- 4)	2512	633	736	523	7.99	17.12	4.80	1.21	1.41
-15	(+ 5)	3139	791	920	575	8.28	21.52	5.46	1.38	1.60
-10	(+14)	3849	970	1128	629	8.63	26.57	6.12	1.54	1.79

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)	738	186	216	339	7.46	4.94	2.17	0.55	0.64
-35	(-31)	1012	255	297	386	7.52	6.80	2.63	0.66	0.77
-30	(-22)	1371	345	402	436	7.66	9.24	3.14	0.79	0.92
-25	(-13)	1813	457	531	490	7.87	12.27	3.70	0.93	1.08
-20	(- 4)	2339	589	685	547	8.17	15.91	4.28	1.08	1.25
-15	(+ 5)	2948	743	864	607	8.54	20.17	4.86	1.22	1.42
-10	(+14)	3639	917	1066	671	8.99	25.07	5.42	1.37	1.59

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)	1122	283	329	309	4.16	7.54	3.62	0.91	1.06
-35	(-31)	1491	376	437	358	4.51	10.06	4.16	1.05	1.22
-30	(-22)	1943	490	569	410	4.95	13.15	4.74	1.20	1.39
-25	(-13)	2478	624	726	464	5.46	16.84	5.34	1.35	1.57
-20	(- 4)	3096	780	907	520	6.04	21.14	5.96	1.50	1.75
-15	(+ 5)	3796	957	1112	579	6.70	26.08	6.56	1.65	1.92
-10	(+14)	4579	1154	1342	640	7.44	31.68	7.15	1.80	2.09

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)	1005	253	295	308	4.19	6.74	3.27	0.82	0.96
-35	(-31)	1366	344	400	364	4.59	9.19	3.75	0.95	1.10
-30	(-22)	1813	457	531	424	5.06	12.24	4.27	1.08	1.25
-25	(-13)	2346	591	687	487	5.61	15.91	4.81	1.21	1.41
-20	(- 4)	2965	747	869	553	6.24	20.21	5.36	1.35	1.57
-15	(+ 5)	3670	925	1075	623	6.93	25.17	5.89	1.48	1.73
-10	(+14)	4461	1124	1307	697	7.70	30.80	6.41	1.61	1.88

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)	893	225	262	302	4.11	5.98	2.95	0.74	0.86
-35	(-31)	1230	310	360	364	4.60	8.26	3.38	0.85	0.99
-30	(-22)	1657	417	485	431	5.16	11.16	3.85	0.97	1.13
-25	(-13)	2173	548	637	502	5.80	14.70	4.33	1.09	1.27
-20	(- 4)	2779	700	814	578	6.50	18.90	4.81	1.21	1.41
-15	(+ 5)	3473	875	1018	658	7.28	23.77	5.28	1.33	1.55
-10	(+14)	4257	1073	1247	743	8.13	29.33	5.72	1.44	1.68

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		