

COMPRESSOR DEFINITION

Designation	NE K2150GK
Nominal Voltage/Frequency	208-230 V 60 Hz / 200 V 50 Hz
Engineering Number	959AD71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	208-230 / 60	[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	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)	25.7	[kgf/cm ²] (365 psig)	/ °C - °F
9.2 Peak (gauge)	28.7	[kgf/cm ²] (408 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 - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	208-230 V 60 Hz / 200 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-47	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0883/G9	
6 Start winding resistance	5.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[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: @208V60Hz			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]
2361	595	692	586	3.87	16.01	4.03	1.02	1.18

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V50Hz			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)	1025	258	300	292	2.66	6.89	3.50	0.88	1.03
-35	(-31)	1306	329	383	335	2.78	8.81	3.90	0.98	1.14
-30	(-22)	1677	423	491	381	2.92	11.34	4.39	1.11	1.29
-25	(-13)	2136	538	626	430	3.08	14.51	4.96	1.25	1.45
-20	(- 4)	2684	676	786	482	3.26	18.33	5.56	1.40	1.63
-15	(+ 5)	3321	837	973	537	3.46	22.82	6.19	1.56	1.81
-10	(+14)	4047	1020	1186	594	3.68	28.00	6.81	1.72	2.00

TEST CONDITIONS: @208V50Hz			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)	965	243	283	296	2.72	6.48	3.27	0.82	0.96
-35	(-31)	1225	309	359	346	2.84	8.24	3.56	0.90	1.04
-30	(-22)	1570	396	460	399	3.00	10.60	3.94	0.99	1.15
-25	(-13)	2002	505	587	456	3.18	13.57	4.39	1.11	1.29
-20	(- 4)	2521	635	739	516	3.40	17.18	4.88	1.23	1.43
-15	(+ 5)	3126	788	916	580	3.64	21.44	5.39	1.36	1.58
-10	(+14)	3818	962	1119	647	3.92	26.36	5.88	1.48	1.72

TEST CONDITIONS: @208V50Hz			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)	845	213	248	295	2.73	5.65	2.86	0.72	0.84
-35	(-31)	1096	276	321	352	2.86	7.36	3.11	0.78	0.91
-30	(-22)	1431	361	419	413	3.03	9.65	3.45	0.87	1.01
-25	(-13)	1851	466	542	478	3.24	12.52	3.86	0.97	1.13
-20	(- 4)	2354	593	690	548	3.48	16.01	4.30	1.08	1.26
-15	(+ 5)	2942	741	862	621	3.77	20.13	4.75	1.20	1.39
-10	(+14)	3614	911	1059	698	4.09	24.90	5.18	1.31	1.52

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V60Hz		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]
-40	(-40)	1199	302	351	342	3.11	8.06	3.50	0.88	1.02
-35	(-31)	1528	385	448	393	3.25	10.30	3.89	0.98	1.14
-30	(-22)	1961	494	575	446	3.41	13.27	4.39	1.11	1.29
-25	(-13)	2499	630	732	503	3.60	16.98	4.96	1.25	1.45
-20	(- 4)	3140	791	920	563	3.81	21.45	5.58	1.40	1.63
-15	(+ 5)	3886	979	1139	627	4.05	26.70	6.20	1.56	1.82
-10	(+14)	4736	1193	1388	697	4.31	32.76	6.81	1.71	1.99

TEST CONDITIONS: @208V60Hz		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]
-40	(-40)	1130	285	331	344	3.18	7.58	3.28	0.83	0.96
-35	(-31)	1433	361	420	404	3.32	9.64	3.56	0.90	1.04
-30	(-22)	1837	463	538	467	3.51	12.40	3.94	0.99	1.15
-25	(-13)	2343	590	686	534	3.72	15.88	4.39	1.11	1.29
-20	(- 4)	2950	743	864	605	3.98	20.10	4.87	1.23	1.43
-15	(+ 5)	3658	922	1072	682	4.26	25.08	5.37	1.35	1.57
-10	(+14)	4467	1126	1309	763	4.59	30.84	5.84	1.47	1.71

TEST CONDITIONS: @208V60Hz		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]
-40	(-40)	988	249	289	346	3.19	6.61	2.86	0.72	0.84
-35	(-31)	1282	323	376	412	3.35	8.61	3.11	0.78	0.91
-30	(-22)	1675	422	491	483	3.55	11.29	3.46	0.87	1.01
-25	(-13)	2165	546	635	559	3.79	14.65	3.86	0.97	1.13
-20	(- 4)	2755	694	807	640	4.08	18.74	4.31	1.09	1.26
-15	(+ 5)	3443	868	1009	726	4.41	23.56	4.75	1.20	1.39
-10	(+14)	4229	1066	1239	819	4.79	29.14	5.17	1.30	1.51

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.03 +0.07/+0.00	[mm]	(0.316" +0.003"/+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		