

### COMPRESSOR DEFINITION

Designation	NT 2178GK 2
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	923RD04

### 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	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 <sup>2</sup> ] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm <sup>2</sup> ] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	17.39	[cm <sup>3</sup> ] (1.061 cu.in)
2.1 Bore [mm]	34.120	
2.2 Stroke [mm]	19.030	
3 Lubricant charge	450	[ml] (15.22 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	16.87	[kg] (37.19 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	208-230 V 60 Hz 1~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA2AM3C-104	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	15(450)	[µF(VAC minimum)]
5 Motor protection	T0843/G6	
6 Start winding resistance	5.62	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.07	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	35.50	[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	KC	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @230V60Hz			ARILBP Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 48.9°C (120.02°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]
2559	645	750	831	3.93	26.49	3.08	0.78	0.90

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V60Hz			ARI4 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)	1312	331	384	520	2.67	10.78	2.52	0.63	0.74
-35	(-31)	1843	464	540	604	2.99	15.27	3.05	0.77	0.89
-30	(-22)	2492	628	730	686	3.30	20.76	3.63	0.91	1.06
-25	(-13)	3259	821	955	766	3.60	27.33	4.26	1.07	1.25
-20	(- 4)	4145	1045	1215	841	3.91	35.05	4.94	1.24	1.45
-15	(+ 5)	5149	1298	1509	911	4.22	43.99	5.66	1.43	1.66
-10	(+14)	6272	1580	1838	974	4.54	54.22	6.42	1.62	1.88

TEST CONDITIONS: @230V60Hz			ARI4 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)	957	241	281	525	2.65	9.08	1.84	0.46	0.54
-35	(-31)	1398	352	410	614	3.01	13.33	2.27	0.57	0.67
-30	(-22)	1944	490	570	704	3.36	18.62	2.75	0.69	0.80
-25	(-13)	2594	654	760	794	3.72	25.05	3.25	0.82	0.95
-20	(- 4)	3349	844	981	882	4.08	32.68	3.79	0.96	1.11
-15	(+ 5)	4209	1061	1233	967	4.45	41.58	4.36	1.10	1.28
-10	(+14)	5174	1304	1516	1047	4.84	51.84	4.95	1.25	1.45

TEST CONDITIONS: @230V60Hz			ARI4 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)	701	177	205	533	2.67	7.94	1.30	0.33	0.38
-35	(-31)	1017	256	298	626	3.05	11.60	1.63	0.41	0.48
-30	(-22)	1425	359	417	723	3.42	16.37	1.98	0.50	0.58
-25	(-13)	1923	485	564	822	3.81	22.33	2.34	0.59	0.69
-20	(- 4)	2513	633	736	922	4.21	29.54	2.73	0.69	0.80
-15	(+ 5)	3194	805	936	1022	4.62	38.08	3.13	0.79	0.92
-10	(+14)	3966	999	1162	1119	5.05	48.03	3.54	0.89	1.04

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	9.6 +0.07/+0.00	[mm]	(0.378" +0.003"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Vertical		
3.2 DISCHARGE	6.42 +0.08/+0.00	[mm]	(0.253" +0.003"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Vertical		
3.3 PROCESS	6.42 +0.08/+0.00	[mm]	(0.253" +0.003"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Vertical		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		