

COMPRESSOR DEFINITION

Designation	NT 2178GK
Nominal Voltage/Frequency	220 V 50 Hz
Engineering Number	922EC04

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220 / 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-	[hp]
2 Displacement	17.39	[cm ³] (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)	16.4	[kg] (36.16 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	220 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	3ARR3B10A3	
3 Start capacitor	72-88(330)	[µF(VAC minimum)]
4 Run capacitor	10(440)	[µF(VAC minimum)]
5 Motor protection	T0645/G9	
6 Start winding resistance	9.24	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.35	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	-	[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	IMQ	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			EN12900LBP Fan		Evaporating temperature (Condensing temperature		-35°C (-31°F) 40°C (104°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]
1480	373	434	431	2.84	11.75	3.43	0.86	1.01

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			EN12900 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)	1244	314	365	371	2.66	9.27	3.34	0.84	0.98
-35	(-31)	1632	411	478	423	2.82	12.21	3.87	0.98	1.13
-30	(-22)	2154	543	631	477	3.00	16.17	4.53	1.14	1.33
-25	(-13)	2812	709	824	532	3.19	21.21	5.28	1.33	1.55
-20	(- 4)	3607	909	1057	588	3.40	27.40	6.12	1.54	1.79
-15	(+ 5)	4541	1144	1331	646	3.63	34.77	7.03	1.77	2.06
-10	(+14)	5617	1415	1646	704	3.87	43.40	7.99	2.01	2.34

TEST CONDITIONS: @220V50Hz			EN12900 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)	962	242	282	368	2.66	8.10	2.62	0.66	0.77
-35	(-31)	1306	329	383	434	2.86	11.08	3.02	0.76	0.88
-30	(-22)	1754	442	514	501	3.08	14.96	3.50	0.88	1.03
-25	(-13)	2307	581	676	568	3.32	19.79	4.06	1.02	1.19
-20	(- 4)	2967	748	869	635	3.58	25.64	4.67	1.18	1.37
-15	(+ 5)	3736	941	1095	703	3.86	32.56	5.31	1.34	1.56
-10	(+14)	4615	1163	1352	772	4.16	40.60	5.98	1.51	1.75

TEST CONDITIONS: @220V50Hz			EN12900 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)	672	169	197	353	2.63	6.66	1.91	0.48	0.56
-35	(-31)	977	246	286	434	2.87	9.71	2.24	0.56	0.66
-30	(-22)	1355	341	397	515	3.13	13.55	2.62	0.66	0.77
-25	(-13)	1808	456	530	595	3.41	18.21	3.04	0.77	0.89
-20	(- 4)	2338	589	685	674	3.72	23.76	3.48	0.88	1.02
-15	(+ 5)	2946	742	863	753	4.05	30.25	3.92	0.99	1.15
-10	(+14)	3634	916	1065	832	4.40	37.75	4.36	1.10	1.28

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		