

COMPRESSOR DEFINITION

Designation	NT 2178GK
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	922ED04

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 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)	17	[kg] (37.48 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	208-230 V 60 Hz 1~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRPH-0052-59	
3 Start capacitor	72-88(330)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	T0748/G9	
6 Start winding resistance	6.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.58	[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	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]
3484	878	1021	798	5.25	23.62	4.37	1.10	1.28

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]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1653	417	484	448	4.04	11.11	3.68	0.93	1.08
-35	(-31)	2262	570	663	538	4.32	15.25	4.21	1.06	1.23
-30	(-22)	2997	755	878	623	4.60	20.28	4.82	1.21	1.41
-25	(-13)	3860	973	1131	703	4.89	26.22	5.50	1.39	1.61
-20	(- 4)	4852	1223	1422	779	5.19	33.13	6.24	1.57	1.83
-15	(+ 5)	5975	1506	1751	851	5.49	41.05	7.02	1.77	2.06
-10	(+14)	7229	1822	2118	918	5.80	50.01	7.85	1.98	2.30

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]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1359	342	398	432	4.04	9.11	3.15	0.79	0.92
-35	(-31)	1953	492	572	534	4.34	13.14	3.65	0.92	1.07
-30	(-22)	2678	675	785	634	4.67	18.09	4.21	1.06	1.23
-25	(-13)	3537	891	1036	733	5.02	23.99	4.80	1.21	1.41
-20	(- 4)	4530	1142	1327	831	5.40	30.88	5.44	1.37	1.59
-15	(+ 5)	5659	1426	1658	928	5.81	38.80	6.11	1.54	1.79
-10	(+14)	6925	1745	2029	1024	6.24	47.81	6.79	1.71	1.99

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]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1184	298	347	420	3.98	7.93	2.81	0.71	0.82
-35	(-31)	1716	432	503	530	4.31	11.53	3.25	0.82	0.95
-30	(-22)	2385	601	699	641	4.69	16.07	3.73	0.94	1.09
-25	(-13)	3192	804	935	755	5.10	21.60	4.24	1.07	1.24
-20	(- 4)	4139	1043	1213	871	5.57	28.15	4.76	1.20	1.39
-15	(+ 5)	5227	1317	1532	989	6.07	35.77	5.28	1.33	1.55
-10	(+14)	6458	1627	1892	1110	6.62	44.49	5.80	1.46	1.70

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		