

COMPRESSOR DEFINITION

Designation	NT 2178GK
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	922EA09

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220-240 / 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	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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRPH55-59	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0588/G6	
6 Start winding resistance	10.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.40	[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 - IRAM	

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]
1409	355	413	419	3.22	11.18	3.36	0.85	0.98

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)	1103	278	323	347	3.04	8.21	3.17	0.80	0.93
-35	(-31)	1541	388	452	415	3.24	11.53	3.73	0.94	1.09
-30	(-22)	2102	530	616	483	3.45	15.78	4.35	1.10	1.28
-25	(-13)	2783	701	815	553	3.67	21.00	5.03	1.27	1.47
-20	(- 4)	3584	903	1050	623	3.90	27.23	5.75	1.45	1.68
-15	(+ 5)	4506	1135	1320	694	4.14	34.50	6.50	1.64	1.90
-10	(+14)	5547	1398	1625	764	4.39	42.85	7.26	1.83	2.13

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)	917	231	269	358	3.04	7.73	2.56	0.64	0.75
-35	(-31)	1264	319	370	427	3.25	10.73	2.96	0.75	0.87
-30	(-22)	1707	430	500	501	3.48	14.56	3.41	0.86	1.00
-25	(-13)	2245	566	658	578	3.74	19.26	3.88	0.98	1.14
-20	(- 4)	2878	725	843	659	4.02	24.87	4.37	1.10	1.28
-15	(+ 5)	3607	909	1057	743	4.33	31.43	4.86	1.22	1.42
-10	(+14)	4429	1116	1298	829	4.65	38.97	5.34	1.35	1.57

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)	655	165	192	352	3.05	6.49	1.87	0.47	0.55
-35	(-31)	937	236	275	429	3.26	9.33	2.18	0.55	0.64
-30	(-22)	1291	325	378	512	3.52	12.90	2.51	0.63	0.74
-25	(-13)	1714	432	502	603	3.82	17.26	2.84	0.72	0.83
-20	(- 4)	2208	556	647	700	4.15	22.43	3.16	0.80	0.93
-15	(+ 5)	2771	698	812	803	4.53	28.45	3.46	0.87	1.01
-10	(+14)	3402	857	997	912	4.94	35.35	3.72	0.94	1.09

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
2 Tray holder	No
3 Connectors	
3.1 SUCTION	12.7 +0.25/-0.25 [mm] (0.500" +0.010"/-0.010")
3.1.1 Material	Steel
3.1.2 Shape	ROTOLOCK(Ex. thr. 1"-14UNS-2A)
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