

COMPRESSOR DEFINITION

Designation	NT 2178ULT
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	840AA02

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-170		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Ultra Low Back Pressure		
4.1 Evaporating temperature range	-95°C to -65°C	(-139°F to -85°F)	
5 Motor type	CSCR		
6 Starting torque	HST - High starting torque		
7 Expantion 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	-	[hp]
2 Displacement	17,40	[cm ³] (1.062 cu.in)
2.1 Bore [mm]	34,130	
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)	17,75	[kg] (39.13 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA2AG3C-117	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	15(440)	[µF(VAC minimum)]
5 Motor protection	15HM1984-247	
6 Start winding resistance	5,29	Ω at 25°C (77°F) +/- 8%
7 Run winding resistance	2,78	Ω at 25°C (77°F) +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	21,5	[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		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ULBP Fan		Evaporating temperature (Condensing temperature		-85,0°C (-121,0°F) -30,0°C (-22,0°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]
1361	343	399	330	1,74	2,74	4,12	1,04	1,21

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz				ULOW Fan		(Condensing temperature -10°C (+14°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]
-80	(-112)	1446	389	453	415	2,11	3,24	3,48	0,94	1,09
-75	(-103)	2139	539	627	482	2,41	4,51	4,43	1,12	1,30
-65	(-85)	3886	979	1139	625	3,02	8,24	6,22	1,57	1,82

TEST CONDITIONS: @220V50Hz				ULOW Fan		(Condensing temperature -30°C (-22°F))				
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-95	(-139)	696	174	204	249	1,43	1,35	2,79	0,70	0,82
-85	(-121)	1368	345	401	329	1,75	2,75	4,16	1,05	1,22
-75	(-103)	2774	699	813	427	2,13	5,30	6,50	1,64	1,90

TEST CONDITIONS: @220V50Hz				ULOW Fan		(Condensing temperature -50°C (-58°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]
-95	(-139)	788	199	231	239	1,38	1,43	3,30	0,83	0,97

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		