

COMPRESSOR DEFINITION

Designation	NT 2210U
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	843BD02

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	208-230 / 60	[V / Hz]	
4 Application type	Low Back Pressure R290		
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	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	27.80	[cm ³] (1.696 cu.in)
2.1 Bore [mm]	38.100	
2.2 Stroke [mm]	24.400	
3 Lubricant charge	450	[ml] (15.22 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	AB / ISO32	
4 Weight (with oil charge)	17.7	[kg] (39.02 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

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	RVA2AI3C-124	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	17.5(400)	[µF(VAC minimum)]
5 Motor protection	15HM1971-247	
6 Start winding resistance	3.73	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.44	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[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: @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]
3584	903	1050	936	4.51	14.56	3.83	0.97	1.12

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)	1976	498	579	584	3.17	6.86	3.37	0.85	0.99
-35	(-31)	2491	628	730	657	3.43	8.67	3.80	0.96	1.11
-30	(-22)	3210	809	941	740	3.75	11.21	4.34	1.09	1.27
-25	(-13)	4132	1041	1211	833	4.11	14.50	4.95	1.25	1.45
-20	(- 4)	5258	1325	1541	935	4.52	18.57	5.61	1.41	1.64
-15	(+ 5)	6588	1660	1930	1046	4.98	23.43	6.29	1.59	1.84
-10	(+14)	8121	2046	2380	1167	5.49	29.11	6.97	1.76	2.04

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)	1676	422	491	599	3.24	6.40	2.79	0.70	0.82
-35	(-31)	2117	534	620	678	3.52	8.14	3.13	0.79	0.92
-30	(-22)	2725	687	799	766	3.85	10.52	3.56	0.90	1.04
-25	(-13)	3500	882	1025	866	4.24	13.59	4.04	1.02	1.18
-20	(- 4)	4441	1119	1301	975	4.68	17.35	4.55	1.15	1.33
-15	(+ 5)	5548	1398	1626	1095	5.17	21.83	5.07	1.28	1.49
-10	(+14)	6822	1719	1999	1225	5.72	27.07	5.56	1.40	1.63

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)	1363	344	400	620	3.31	5.86	2.21	0.56	0.65
-35	(-31)	1759	443	516	704	3.62	7.59	2.49	0.63	0.73
-30	(-22)	2285	576	670	800	3.99	9.91	2.85	0.72	0.83
-25	(-13)	2940	741	861	906	4.41	12.82	3.24	0.82	0.95
-20	(- 4)	3724	939	1091	1024	4.88	16.37	3.65	0.92	1.07
-15	(+ 5)	4638	1169	1359	1153	5.42	20.56	4.04	1.02	1.18
-10	(+14)	5682	1432	1665	1293	6.02	25.43	4.38	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		