

COMPRESSOR DEFINITION

Designation	NT 2160U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	842AA04

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50	[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 - 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 pressures/temperature			
9.1 Operating (gauge)	19.1	[kgf/cm ²] (272 psig)	/ °C - °F
9.2 Peak (gauge)	21.2	[kgf/cm ²] (301 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	3/4	[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)	17.2	[kg] (37.92 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL 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	RVA2L3C	
3 Start capacitor	53-64(330)	[µF(VAC minimum)]
4 Run capacitor	10(440)	[µF(VAC minimum)]
5 Motor protection	T0916/G9	
6 Start winding resistance	13.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.70	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			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]
2398	604	703	487	2.50	7.14	4.92	1.24	1.44

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	1169	295	343	296	1.70	3.45	3.94	0.99	1.16
-35	(-31)	1557	392	456	341	1.88	4.61	4.57	1.15	1.34
-30	(-22)	2043	515	599	385	2.06	6.06	5.31	1.34	1.55
-25	(-13)	2628	662	770	428	2.24	7.82	6.14	1.55	1.80
-20	(- 4)	3312	835	971	470	2.42	9.88	7.05	1.78	2.07
-15	(+ 5)	4096	1032	1200	510	2.59	12.27	8.03	2.02	2.35
-10	(+14)	4981	1255	1460	550	2.77	14.99	9.05	2.28	2.65

TEST CONDITIONS: @220V50Hz			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)	1038	262	304	299	1.71	3.06	3.48	0.88	1.02
-35	(-31)	1401	353	411	349	1.91	4.15	4.02	1.01	1.18
-30	(-22)	1859	468	545	399	2.12	5.51	4.65	1.17	1.36
-25	(-13)	2411	608	707	450	2.33	7.17	5.35	1.35	1.57
-20	(- 4)	3059	771	896	500	2.55	9.13	6.11	1.54	1.79
-15	(+ 5)	3802	958	1114	551	2.77	11.39	6.90	1.74	2.02
-10	(+14)	4641	1169	1360	602	3.00	13.96	7.72	1.94	2.26

TEST CONDITIONS: @220V50Hz			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)	882	222	258	292	1.68	2.60	3.02	0.76	0.88
-35	(-31)	1229	310	360	349	1.91	3.64	3.52	0.89	1.03
-30	(-22)	1667	420	488	407	2.15	4.94	4.09	1.03	1.20
-25	(-13)	2194	553	643	466	2.40	6.52	4.70	1.18	1.38
-20	(- 4)	2813	709	824	527	2.66	8.39	5.34	1.35	1.57
-15	(+ 5)	3523	888	1032	588	2.93	10.55	5.99	1.51	1.76
-10	(+14)	4324	1090	1267	651	3.21	13.01	6.64	1.67	1.95

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		