

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	CSIR		
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	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	AB / ISO32	
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	Current Relay	
2.1 Starting device	MTRPH-55	
3 Start capacitor	64-77(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0819/G6	
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)	21.00	[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 (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]
2398	604	703	518	3.35	7.14	4.63	1.17	1.36

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	1185	299	347	308	2.72	3.50	3.82	0.96	1.12
-35	(-31)	1537	387	451	358	2.85	4.55	4.31	1.09	1.26
-30	(-22)	1998	504	586	406	2.99	5.93	4.93	1.24	1.44
-25	(-13)	2567	647	752	453	3.15	7.64	5.66	1.43	1.66
-20	(- 4)	3244	817	951	500	3.31	9.68	6.49	1.63	1.90
-15	(+ 5)	4028	1015	1180	545	3.48	12.07	7.38	1.86	2.16
-10	(+14)	4919	1240	1441	590	3.66	14.80	8.33	2.10	2.44

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	1015	256	297	309	2.74	3.00	3.29	0.83	0.96
-35	(-31)	1376	347	403	366	2.89	4.07	3.77	0.95	1.10
-30	(-22)	1832	462	537	422	3.05	5.43	4.34	1.09	1.27
-25	(-13)	2381	600	698	478	3.24	7.08	4.97	1.25	1.46
-20	(- 4)	3025	762	886	535	3.44	9.02	5.65	1.42	1.65
-15	(+ 5)	3762	948	1102	592	3.66	11.27	6.35	1.60	1.86
-10	(+14)	4592	1157	1346	651	3.89	13.81	7.07	1.78	2.07

TEST CONDITIONS: @220V50Hz			ASHRAE32 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)	844	213	247	303	2.72	2.49	2.79	0.70	0.82
-35	(-31)	1208	304	354	367	2.89	3.57	3.28	0.83	0.96
-30	(-22)	1653	417	484	432	3.09	4.90	3.82	0.96	1.12
-25	(-13)	2179	549	638	499	3.31	6.48	4.37	1.10	1.28
-20	(- 4)	2784	702	816	567	3.56	8.30	4.92	1.24	1.44
-15	(+ 5)	3469	874	1017	638	3.83	10.39	5.45	1.37	1.60
-10	(+14)	4234	1067	1241	710	4.13	12.74	5.94	1.50	1.74

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		