

COMPRESSOR DEFINITION

Designation	NT 2170U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	842BA09

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 - 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	20.44	[cm ³] (1.247 cu.in)
2.1 Bore [mm]	36.990	
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	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

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	RVA2AM3C-104	
3 Start capacitor	53-64(330)	[µF(VAC minimum)]
4 Run capacitor	12.5(440)	[µF(VAC minimum)]
5 Motor protection	T0634/G9	
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	CCC - 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]
2836	715	831	578	2.90	8.44	4.91	1.24	1.44

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)	1405	354	412	350	1.93	4.15	4.01	1.01	1.18
-35	(-31)	1856	468	544	403	2.15	5.49	4.61	1.16	1.35
-30	(-22)	2421	610	709	456	2.37	7.18	5.31	1.34	1.56
-25	(-13)	3100	781	908	507	2.59	9.22	6.11	1.54	1.79
-20	(- 4)	3893	981	1141	558	2.81	11.62	6.97	1.76	2.04
-15	(+ 5)	4800	1210	1406	609	3.03	14.38	7.88	1.99	2.31
-10	(+14)	5822	1467	1706	659	3.26	17.52	8.83	2.22	2.59

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)	1246	314	365	352	1.96	3.68	3.54	0.89	1.04
-35	(-31)	1679	423	492	412	2.20	4.97	4.07	1.03	1.19
-30	(-22)	2218	559	650	472	2.45	6.58	4.69	1.18	1.37
-25	(-13)	2865	722	840	533	2.70	8.52	5.37	1.35	1.57
-20	(- 4)	3620	912	1061	593	2.96	10.80	6.10	1.54	1.79
-15	(+ 5)	4482	1130	1313	654	3.23	13.43	6.85	1.73	2.01
-10	(+14)	5452	1374	1598	716	3.51	16.40	7.62	1.92	2.23

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)	1085	273	318	350	1.93	3.20	3.10	0.78	0.91
-35	(-31)	1492	376	437	417	2.21	4.41	3.58	0.90	1.05
-30	(-22)	2000	504	586	485	2.49	5.93	4.12	1.04	1.21
-25	(-13)	2609	657	764	554	2.79	7.76	4.71	1.19	1.38
-20	(- 4)	3318	836	972	625	3.10	9.90	5.31	1.34	1.56
-15	(+ 5)	4129	1040	1210	697	3.43	12.36	5.93	1.49	1.74
-10	(+14)	5040	1270	1477	771	3.77	15.16	6.53	1.64	1.91

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		