

COMPRESSOR DEFINITION

Designation	NT 2180UV
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	842LD02

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 - 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 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	22.37	[cm ³] (1.365 cu.in)
2.1 Bore [mm]	36.990	
2.2 Stroke [mm]	20.830	
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)	16.7	[kg] (36.82 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	208-230 V 60 Hz 1~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA4M3C-109	
3 Start capacitor	64-77(330)	[µF(VAC minimum)]
4 Run capacitor	12.5(400)	[µF(VAC minimum)]
5 Motor protection	15HM1962-247	
6 Start winding resistance	8.82	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.70	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	30.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.77	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - 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]
2867	722	840	729	3.45	11.64	3.93	0.99	1.15

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)	1588	400	465	481	2.45	5.51	3.29	0.83	0.96
-35	(-31)	2010	507	589	538	2.67	7.00	3.75	0.95	1.10
-30	(-22)	2594	654	760	603	2.94	9.06	4.31	1.09	1.26
-25	(-13)	3341	842	979	676	3.24	11.73	4.94	1.24	1.45
-20	(- 4)	4250	1071	1245	757	3.58	15.01	5.60	1.41	1.64
-15	(+ 5)	5321	1341	1559	846	3.97	18.92	6.29	1.58	1.84
-10	(+14)	6554	1652	1921	943	4.39	23.50	6.96	1.75	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)	1351	340	396	490	2.48	5.16	2.75	0.69	0.81
-35	(-31)	1728	435	506	555	2.74	6.64	3.12	0.79	0.91
-30	(-22)	2239	564	656	628	3.04	8.65	3.57	0.90	1.05
-25	(-13)	2885	727	845	708	3.37	11.20	4.07	1.03	1.19
-20	(- 4)	3664	923	1074	796	3.75	14.31	4.60	1.16	1.35
-15	(+ 5)	4577	1153	1341	892	4.16	18.01	5.14	1.29	1.51
-10	(+14)	5624	1417	1648	995	4.61	22.32	5.65	1.42	1.66

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)	1051	265	308	492	2.50	4.52	2.14	0.54	0.63
-35	(-31)	1385	349	406	566	2.79	5.98	2.44	0.62	0.72
-30	(-22)	1825	460	535	646	3.12	7.91	2.81	0.71	0.82
-25	(-13)	2371	597	695	734	3.48	10.34	3.23	0.81	0.95
-20	(- 4)	3022	762	886	830	3.87	13.28	3.65	0.92	1.07
-15	(+ 5)	3779	952	1107	932	4.30	16.76	4.07	1.02	1.19
-10	(+14)	4642	1170	1360	1042	4.77	20.78	4.44	1.12	1.30

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		