

COMPRESSOR DEFINITION

Designation	NT 2170U
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	842BD04

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	CSIR		
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	3/4	[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	[kg] (37.48 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	Current Relay	
2.1 Starting device	MTRPH61-65	
3 Start capacitor	64-77(330)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	T0748/J5	
6 Start winding resistance	10.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.75	[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)	-	[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 - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @208V60Hz			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]	
3142	792	921	707	4.54	9.35	4.44	1.12	1.30	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @208V60Hz			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)	1638	413	480	421	3.46	4.84	3.88	0.98	1.14
-35	(-31)	2075	523	608	476	3.64	6.14	4.37	1.10	1.28
-30	(-22)	2659	670	779	537	3.86	7.89	4.95	1.25	1.45
-25	(-13)	3389	854	993	604	4.12	10.08	5.60	1.41	1.64
-20	(- 4)	4266	1075	1250	677	4.41	12.73	6.30	1.59	1.85
-15	(+ 5)	5291	1333	1550	756	4.75	15.85	7.00	1.76	2.05
-10	(+14)	6465	1629	1894	841	5.12	19.45	7.69	1.94	2.25

TEST CONDITIONS: @208V60Hz			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)	1447	365	424	433	3.49	4.27	3.36	0.85	0.99
-35	(-31)	1867	471	547	494	3.70	5.52	3.79	0.95	1.11
-30	(-22)	2426	611	711	563	3.96	7.19	4.30	1.08	1.26
-25	(-13)	3123	787	915	640	4.26	9.29	4.87	1.23	1.43
-20	(- 4)	3961	998	1161	724	4.61	11.82	5.47	1.38	1.60
-15	(+ 5)	4939	1245	1447	815	5.00	14.79	6.06	1.53	1.78
-10	(+14)	6057	1526	1775	915	5.45	18.22	6.62	1.67	1.94

TEST CONDITIONS: @208V60Hz			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)	1334	336	391	444	3.51	3.94	2.99	0.75	0.88
-35	(-31)	1720	433	504	513	3.76	5.09	3.35	0.85	0.98
-30	(-22)	2237	564	655	590	4.05	6.63	3.79	0.95	1.11
-25	(-13)	2885	727	845	676	4.40	8.58	4.27	1.08	1.25
-20	(- 4)	3665	924	1074	771	4.81	10.93	4.76	1.20	1.39
-15	(+ 5)	4578	1154	1341	876	5.27	13.71	5.24	1.32	1.53
-10	(+14)	5624	1417	1648	990	5.79	16.92	5.67	1.43	1.66

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		