

COMPRESSOR DEFINITION

Designation	NE U2140U
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	862MI51

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50-60	[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	1/2	[hp]
2 Displacement	9.99	[cm ³] (0.610 cu.in)
2.1 Bore [mm]	26.497	
2.2 Stroke [mm]	18.120	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10.82	[kg] (23.85 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-0028/MTRPH-0028	
3 Start capacitor	64-77(230)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	URP-011-83	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	14.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 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]
1655	417	485	332	2.20	4.93	4.98	1.25	1.46

TEST CONDITIONS: @220V60Hz			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]
1985	500	582	393	2.24	5.91	5.06	1.28	1.48

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)	847	214	248	208	1.86	2.50	4.06	1.02	1.19
-35 (-31)	1076	271	315	233	1.92	3.18	4.62	1.16	1.35
-30 (-22)	1369	345	401	258	1.98	4.06	5.31	1.34	1.56
-25 (-13)	1726	435	506	282	2.05	5.13	6.13	1.54	1.80
-20 (- 4)	2146	541	629	305	2.12	6.41	7.04	1.77	2.06
-15 (+ 5)	2631	663	771	328	2.19	7.88	8.03	2.02	2.35
-10 (+14)	3179	801	932	350	2.26	9.57	9.07	2.29	2.66

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)	794	200	233	215	1.89	2.34	3.70	0.93	1.09
-35 (-31)	1012	255	297	245	1.95	2.99	4.14	1.04	1.21
-30 (-22)	1293	326	379	274	2.02	3.83	4.71	1.19	1.38
-25 (-13)	1637	412	480	304	2.10	4.87	5.38	1.36	1.58
-20 (- 4)	2044	515	599	333	2.19	6.10	6.14	1.55	1.80
-15 (+ 5)	2515	634	737	362	2.29	7.53	6.95	1.75	2.04
-10 (+14)	3048	768	893	391	2.40	9.17	7.81	1.97	2.29

E - PERFORMANCE - CURVES

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)	735	185	215	218	1.91	2.17	3.36	0.85	0.98
-35	(-31)	940	237	275	253	1.98	2.78	3.72	0.94	1.09
-30	(-22)	1207	304	354	288	2.07	3.58	4.19	1.06	1.23
-25	(-13)	1536	387	450	323	2.17	4.57	4.76	1.20	1.39
-20	(- 4)	1928	486	565	358	2.28	5.75	5.39	1.36	1.58
-15	(+ 5)	2382	600	698	393	2.41	7.13	6.06	1.53	1.78
-10	(+14)	2899	731	850	429	2.55	8.72	6.76	1.70	1.98

TEST CONDITIONS: @220V60Hz		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)	1028	259	301	235	1.64	3.04	4.36	1.10	1.28
-35	(-31)	1307	329	383	269	1.76	3.87	4.87	1.23	1.43
-30	(-22)	1660	418	486	301	1.89	4.92	5.51	1.39	1.62
-25	(-13)	2086	526	611	334	2.01	6.20	6.25	1.58	1.83
-20	(- 4)	2585	651	757	366	2.13	7.71	7.07	1.78	2.07
-15	(+ 5)	3157	796	925	397	2.26	9.46	7.95	2.00	2.33
-10	(+14)	3803	958	1114	429	2.39	11.44	8.86	2.23	2.60

TEST CONDITIONS: @220V60Hz		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)	951	240	279	243	1.69	2.81	3.93	0.99	1.15
-35	(-31)	1219	307	357	280	1.81	3.61	4.36	1.10	1.28
-30	(-22)	1560	393	457	318	1.94	4.63	4.90	1.23	1.44
-25	(-13)	1974	498	579	357	2.09	5.87	5.51	1.39	1.61
-20	(- 4)	2461	620	721	399	2.25	7.34	6.17	1.55	1.81
-15	(+ 5)	3022	761	885	441	2.43	9.05	6.86	1.73	2.01
-10	(+14)	3655	921	1071	485	2.62	11.00	7.55	1.90	2.21

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	884	223	259	252	1.72	2.61	3.50	0.88	1.03
-35	(-31)	1132	285	332	291	1.84	3.35	3.90	0.98	1.14
-30	(-22)	1452	366	426	334	1.99	4.31	4.36	1.10	1.28
-25	(-13)	1846	465	541	379	2.17	5.49	4.87	1.23	1.43
-20	(- 4)	2312	583	677	428	2.37	6.90	5.40	1.36	1.58
-15	(+ 5)	2851	718	835	481	2.61	8.54	5.93	1.50	1.74
-10	(+14)	3463	873	1015	536	2.87	10.42	6.45	1.62	1.89

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.1 +0.10/+0.00	[mm]	(0.319" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		