

COMPRESSOR DEFINITION

Designation	NE U2168U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	863IA51

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 Pressuure 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 Expantion 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 pressures/temperature			
9.1 Operating (gauge)	19,1	[kgf/cm ²] (272 psig)	/ °C - °F
9.2 Peak (gauge)	21,2	[kgf/cm ²] (301 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	3/4	[hp]
2 Displacement	16,80	[cm ³] (1.025 cu.in)
2.1 Bore [mm]	31,190	
2.2 Stroke [mm]	22,000	
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)	11,6	[kg] (25.57 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL 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	RVA3AN3C-575	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	10(400)	[µF(VAC minimum)]
5 Motor protection	MST30AMK-3261	
6 Start winding resistance	11.03	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.15	[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)	3.25	[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 +/- 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]
2690	678	788	516	2,45	8,01	5,21	1,31	1,53

TEST CONDITIONS: @220V50Hz			EN12900LBP_HH Fan		Evaporating temperature (Condensing temperature	-35°C (-31°F) 40°C (104°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]
1558	393	457	359	1,76	4,93	4,34	1,09	1,27

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)	1297	327	380	306	1,51	3,83	4,22	1,06	1,24
-35 (-31)	1676	422	491	347	1,69	4,96	4,84	1,22	1,42
-30 (-22)	2162	545	633	388	1,88	6,41	5,58	1,41	1,63
-25 (-13)	2754	694	807	430	2,07	8,19	6,40	1,61	1,88
-20 (- 4)	3452	870	1012	473	2,26	10,30	7,30	1,84	2,14
-15 (+ 5)	4256	1073	1247	517	2,46	12,75	8,24	2,08	2,41
-10 (+14)	5166	1302	1514	561	2,66	15,55	9,21	2,32	2,70

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)	1221	308	358	319	1,59	3,60	3,84	0,97	1,13
-35 (-31)	1594	402	467	364	1,79	4,72	4,39	1,11	1,29
-30 (-22)	2068	521	606	411	2,00	6,13	5,02	1,26	1,47
-25 (-13)	2641	666	774	461	2,22	7,85	5,72	1,44	1,67
-20 (- 4)	3314	835	971	513	2,46	9,89	6,45	1,63	1,89
-15 (+ 5)	4087	1030	1198	567	2,70	12,24	7,21	1,82	2,11
-10 (+14)	4960	1250	1453	623	2,96	14,92	7,96	2,01	2,33

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)	1136	286	333	329	1,62	3,35	3,45	0,87	1,01
-35	(-31)	1492	376	437	379	1,84	4,41	3,93	0,99	1,15
-30	(-22)	1941	489	569	433	2,08	5,76	4,48	1,13	1,31
-25	(-13)	2484	626	728	491	2,34	7,38	5,06	1,27	1,48
-20	(- 4)	3120	786	914	553	2,62	9,31	5,65	1,42	1,66
-15	(+ 5)	3849	970	1128	618	2,92	11,53	6,24	1,57	1,83
-10	(+14)	4671	1177	1369	687	3,24	14,05	6,79	1,71	1,99

TEST CONDITIONS: @220V50Hz		EN12900HH 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)	1270	320	372	305	1,52	3,84	4,16	1,05	1,22
-35	(-31)	1657	417	485	346	1,69	5,02	4,79	1,21	1,40
-30	(-22)	2138	539	626	388	1,87	6,49	5,51	1,39	1,62
-25	(-13)	2713	684	795	430	2,06	8,26	6,31	1,59	1,85
-20	(- 4)	3384	853	991	473	2,25	10,34	7,15	1,80	2,10
-15	(+ 5)	4148	1045	1215	517	2,45	12,73	8,03	2,02	2,35
-10	(+14)	5007	1262	1467	562	2,65	15,43	8,91	2,24	2,61

TEST CONDITIONS: @220V50Hz		EN12900HH 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)	1088	274	319	321	1,58	3,59	3,40	0,86	1,00
-35	(-31)	1420	358	416	366	1,78	4,69	3,88	0,98	1,14
-30	(-22)	1841	464	540	413	1,98	6,10	4,45	1,12	1,30
-25	(-13)	2353	593	689	463	2,20	7,82	5,07	1,28	1,49
-20	(- 4)	2953	744	865	514	2,44	9,85	5,74	1,45	1,68
-15	(+ 5)	3644	918	1068	568	2,68	12,21	6,42	1,62	1,88
-10	(+14)	4424	1115	1296	624	2,93	14,90	7,10	1,79	2,08

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		EN12900HH 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)	924	233	271	331	1,63	3,37	2,79	0,70	0,82
-35	(-31)	1195	301	350	381	1,85	4,37	3,14	0,79	0,92
-30	(-22)	1552	391	455	435	2,09	5,69	3,57	0,90	1,04
-25	(-13)	1994	502	584	493	2,34	7,33	4,04	1,02	1,18
-20	(- 4)	2520	635	738	554	2,61	9,31	4,55	1,15	1,33
-15	(+ 5)	3131	789	917	618	2,90	11,62	5,07	1,28	1,49
-10	(+14)	3827	964	1121	686	3,21	14,28	5,57	1,40	1,63

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		