

COMPRESSOR DEFINITION

Designation	NE U2168U
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	863ID71

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 - 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	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	AB / ISO32	
4 Weight (with oil charge)	11.5	[kg] (25.35 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	Voltage Relay	
2.1 Starting device	RVA2AM3C-104	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	10(400)	[µF(VAC minimum)]
5 Motor protection	T0645/G9	
6 Start winding resistance	9.27	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.39	[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	

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]
2551	643	748	618	3.18	10.36	4.13	1.04	1.21

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)	1410	355	413	398	2.51	4.89	3.54	0.89	1.04
-35	(-31)	1827	460	535	452	2.66	6.36	4.04	1.02	1.19
-30	(-22)	2351	593	689	507	2.82	8.22	4.64	1.17	1.36
-25	(-13)	2983	752	874	561	3.00	10.47	5.31	1.34	1.56
-20	(- 4)	3722	938	1091	617	3.19	13.14	6.04	1.52	1.77
-15	(+ 5)	4567	1151	1338	672	3.39	16.24	6.80	1.71	1.99
-10	(+14)	5519	1391	1617	728	3.61	19.79	7.58	1.91	2.22

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)	1164	293	341	407	2.53	4.46	2.87	0.72	0.84
-35	(-31)	1523	384	446	464	2.70	5.85	3.29	0.83	0.96
-30	(-22)	1980	499	580	523	2.89	7.64	3.78	0.95	1.11
-25	(-13)	2535	639	743	585	3.09	9.83	4.32	1.09	1.27
-20	(- 4)	3186	803	934	649	3.32	12.44	4.90	1.24	1.44
-15	(+ 5)	3934	991	1153	715	3.57	15.48	5.50	1.39	1.61
-10	(+14)	4779	1204	1400	784	3.84	18.97	6.10	1.54	1.79

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)	953	240	279	416	2.54	4.09	2.28	0.58	0.67
-35	(-31)	1254	316	367	476	2.72	5.41	2.64	0.66	0.77
-30	(-22)	1643	414	481	540	2.93	7.13	3.04	0.77	0.89
-25	(-13)	2119	534	621	608	3.16	9.25	3.48	0.88	1.02
-20	(- 4)	2682	676	786	681	3.43	11.79	3.94	0.99	1.15
-15	(+ 5)	3332	840	976	759	3.72	14.77	4.40	1.11	1.29
-10	(+14)	4069	1025	1192	841	4.04	18.21	4.84	1.22	1.42

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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	6.45 +0.10/+0.00	[mm]	(0.254" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.45 +0.10/+0.00	[mm]	(0.254" +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		