

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	CSIR		
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	Current Relay	
2.1 Starting device	MTRPH-58	
3 Start capacitor	88-108(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T1052/J5	
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]
2510	633	735	668	4.27	10.19	3.76	0.95	1.10

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)	1342	338	393	417	3.70	4.65	3.21	0.81	0.94
-35	(-31)	1769	446	518	477	3.81	6.16	3.71	0.93	1.09
-30	(-22)	2294	578	672	537	3.94	8.02	4.27	1.08	1.25
-25	(-13)	2917	735	855	597	4.09	10.25	4.89	1.23	1.43
-20	(- 4)	3639	917	1066	658	4.26	12.85	5.54	1.40	1.62
-15	(+ 5)	4460	1124	1307	718	4.45	15.86	6.22	1.57	1.82
-10	(+14)	5379	1356	1576	778	4.65	19.28	6.90	1.74	2.02

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)	1130	285	331	432	3.72	4.33	2.62	0.66	0.77
-35	(-31)	1497	377	439	495	3.84	5.76	3.03	0.76	0.89
-30	(-22)	1956	493	573	561	3.99	7.55	3.48	0.88	1.02
-25	(-13)	2507	632	735	629	4.17	9.72	3.98	1.00	1.17
-20	(- 4)	3150	794	923	699	4.38	12.30	4.50	1.13	1.32
-15	(+ 5)	3884	979	1138	772	4.61	15.29	5.03	1.27	1.47
-10	(+14)	4710	1187	1380	848	4.87	18.70	5.57	1.40	1.63

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)	942	237	276	440	3.74	4.05	2.13	0.54	0.63
-35	(-31)	1235	311	362	507	3.86	5.33	2.44	0.62	0.72
-30	(-22)	1613	406	473	578	4.03	6.99	2.79	0.70	0.82
-25	(-13)	2076	523	608	655	4.24	9.06	3.17	0.80	0.93
-20	(- 4)	2624	661	769	736	4.49	11.53	3.57	0.90	1.04
-15	(+ 5)	3257	821	954	823	4.78	14.44	3.96	1.00	1.16
-10	(+14)	3975	1002	1165	915	5.11	17.79	4.34	1.09	1.27

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		