

COMPRESSOR DEFINITION

Designation	NE U2155U
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	863PI51

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	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	13.54	[cm ³] (0.826 cu.in)
2.1 Bore [mm]	29.362	
2.2 Stroke [mm]	20.000	
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)	11.3	[kg] (24.91 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	Voltage Relay	
2.1 Starting device	RVA2AE3C-105	
3 Start capacitor	108-130(330)	[µF(VAC minimum)]
4 Run capacitor	10(400)	[µF(VAC minimum)]
5 Motor protection	USP-Y01-83	
6 Start winding resistance	7.82	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.18	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[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 (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]	
2197	554	644	415	2.15	6.54	5.30	1.34	1.55	

TEST CONDITIONS: @220V60Hz			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]	
2658	670	779	500	2.33	7.91	5.32	1.34	1.56	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	1125	283	330	254	1.52	3.32	4.43	1.12	1.30
-35	(-31)	1441	363	422	288	1.64	4.26	5.01	1.26	1.47
-30	(-22)	1840	464	539	322	1.77	5.46	5.72	1.44	1.68
-25	(-13)	2323	585	681	355	1.90	6.91	6.54	1.65	1.92
-20	(- 4)	2888	728	846	388	2.03	8.62	7.44	1.88	2.18
-15	(+ 5)	3537	891	1036	421	2.17	10.60	8.41	2.12	2.46
-10	(+14)	4269	1076	1251	453	2.30	12.84	9.42	2.37	2.76

TEST CONDITIONS: @220V50Hz		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)	1058	267	310	267	1.55	3.12	3.98	1.00	1.16
-35	(-31)	1355	341	397	304	1.69	4.01	4.47	1.13	1.31
-30	(-22)	1733	437	508	342	1.84	5.14	5.06	1.28	1.48
-25	(-13)	2194	553	643	381	2.00	6.52	5.75	1.45	1.68
-20	(- 4)	2736	690	802	421	2.16	8.16	6.49	1.64	1.90
-15	(+ 5)	3361	847	985	462	2.34	10.07	7.27	1.83	2.13
-10	(+14)	4067	1025	1192	505	2.52	12.24	8.07	2.03	2.37

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]	[Btu/Wh]	[kcal/Wh]
-40	(-40)	981	247	288	274	1.60	2.90	3.58	0.90	1.05
-35	(-31)	1255	316	368	314	1.75	3.71	4.00	1.01	1.17
-30	(-22)	1609	406	472	357	1.91	4.77	4.51	1.14	1.32
-25	(-13)	2044	515	599	402	2.09	6.08	5.08	1.28	1.49
-20	(- 4)	2560	645	750	450	2.28	7.64	5.69	1.43	1.67
-15	(+ 5)	3157	796	925	501	2.49	9.45	6.31	1.59	1.85
-10	(+14)	3834	966	1124	554	2.71	11.53	6.92	1.74	2.03

TEST CONDITIONS: @220V60Hz		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]	[Btu/Wh]	[kcal/Wh]
-40	(-40)	1339	337	392	291	1.36	3.95	4.60	1.16	1.35
-35	(-31)	1717	433	503	333	1.55	5.08	5.16	1.30	1.51
-30	(-22)	2189	552	641	377	1.74	6.49	5.81	1.46	1.70
-25	(-13)	2755	694	807	421	1.95	8.19	6.55	1.65	1.92
-20	(- 4)	3415	861	1001	466	2.16	10.19	7.34	1.85	2.15
-15	(+ 5)	4169	1051	1222	511	2.38	12.49	8.16	2.06	2.39
-10	(+14)	5018	1264	1470	557	2.61	15.10	9.01	2.27	2.64

TEST CONDITIONS: @220V60Hz		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]	[Btu/Wh]	[kcal/Wh]
-40	(-40)	1258	317	368	303	1.41	3.71	4.16	1.05	1.22
-35	(-31)	1617	407	474	350	1.63	4.78	4.63	1.17	1.36
-30	(-22)	2069	521	606	400	1.86	6.13	5.17	1.30	1.51
-25	(-13)	2614	659	766	452	2.10	7.77	5.77	1.45	1.69
-20	(- 4)	3251	819	953	506	2.36	9.70	6.41	1.62	1.88
-15	(+ 5)	3982	1003	1167	563	2.64	11.93	7.07	1.78	2.07
-10	(+14)	4805	1211	1408	622	2.92	14.45	7.73	1.95	2.26

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	1156	291	339	308	1.44	3.41	3.75	0.95	1.10
-35	(-31)	1490	376	437	360	1.68	4.41	4.14	1.04	1.21
-30	(-22)	1917	483	562	417	1.94	5.68	4.60	1.16	1.35
-25	(-13)	2435	614	713	478	2.23	7.24	5.09	1.28	1.49
-20	(- 4)	3044	767	892	543	2.53	9.08	5.61	1.41	1.64
-15	(+ 5)	3745	944	1097	613	2.85	11.22	6.12	1.54	1.79
-10	(+14)	4538	1143	1330	686	3.19	13.65	6.61	1.67	1.94

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		