

COMPRESSOR DEFINITION

Designation	NE U6214E
Nominal Voltage/Frequency	200-230 V 50 Hz / 208-230 V 60 Hz
Engineering Number	959SB51

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-422D		
3 Nominal voltage and frequency	200-230 / 50	[V / Hz]	
4 Application type	High Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-15°C to 10°C	(5°F to 50°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)	-	[kgf/cm ²]	/ °C - °F
9.2 Peak (gauge)	-	[kgf/cm ²]	
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	12.11	[cm ³] (0.739 cu.in)
2.1 Bore [mm]	27.775	
2.2 Stroke [mm]	20.000	
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)	11.62	[kg] (25.62 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	200-230 V 50 Hz / 208-230 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA4AL3C-649	
3 Start capacitor	108-130(330)	[µF(VAC minimum)]
4 Run capacitor	10(400)	[µF(VAC minimum)]
5 Motor protection	MRA38168-3261	
6 Start winding resistance	10.90	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	3.59	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	25.00/25.00	[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		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @V50Hz			ASHRAEHBP46 Fan		Evaporating temperature (Condensing temperature	7.2°C (44.96°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]
5745	1448	1683	727	3.95		7.90	1.99	2.31

TEST CONDITIONS: @V60Hz			ASHRAEHBP46 Fan		Evaporating temperature (Condensing temperature	7.2°C (44.96°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]
6618	1668	1939	909	4.52		7.28	1.83	2.13

E - PERFORMANCE - CURVES

TEST CONDITIONS: @V50Hz			ASHRAE46 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]
-15 (+5)	3146	793	922	405	2.52	0.00	7.78	1.96	2.28
-10 (+14)	3968	1000	1163	447	2.69	0.00	8.88	2.24	2.60
-5 (+23)	4914	1238	1440	494	2.89	0.00	9.95	2.51	2.92
0 (+32)	5985	1508	1754	544	3.11	0.00	11.00	2.77	3.22
+5 (+41)	7179	1809	2104	598	3.36	0.00	12.01	3.03	3.52
+10 (+50)	8499	2142	2490	656	3.63	0.00	12.96	3.27	3.80

TEST CONDITIONS: @V50Hz			ASHRAE46 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]
-15 (+5)	2769	698	811	438	2.66	0.00	6.32	1.59	1.85
-10 (+14)	3483	878	1021	486	2.86	0.00	7.17	1.81	2.10
-5 (+23)	4312	1087	1264	537	3.08	0.00	8.04	2.03	2.36
0 (+32)	5256	1325	1540	590	3.32	0.00	8.91	2.25	2.61
+5 (+41)	6316	1592	1851	647	3.58	0.00	9.77	2.46	2.86
+10 (+50)	7491	1888	2195	706	3.86	0.00	10.61	2.67	3.11

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 55°C (+131°F))					
@V50Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	2340	590	686	462	2.75	0.00	5.07	1.28	1.49
-10	(+14)	2947	743	864	520	3.00	0.00	5.67	1.43	1.66
-5	(+23)	3661	923	1073	580	3.27	0.00	6.31	1.59	1.85
0	(+32)	4480	1129	1313	642	3.55	0.00	6.98	1.76	2.04
+5	(+41)	5406	1362	1584	705	3.85	0.00	7.67	1.93	2.25
+10	(+50)	6439	1623	1887	770	4.17	0.00	8.37	2.11	2.45

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 35°C (+95°F))					
@V60Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	3715	936	1089	479	2.41	0.00	7.76	1.96	2.27
-10	(+14)	4619	1164	1354	536	2.70	0.00	8.62	2.17	2.53
-5	(+23)	5654	1425	1657	602	3.03	0.00	9.39	2.37	2.75
0	(+32)	6820	1719	1999	678	3.40	0.00	10.07	2.54	2.95
+5	(+41)	8118	2046	2379	763	3.81	0.00	10.65	2.68	3.12
+10	(+50)	9546	2406	2797	857	4.26	0.00	11.14	2.81	3.26

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 45°C (+113°F))					
@V60Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	3240	817	949	510	2.56	0.00	6.35	1.60	1.86
-10	(+14)	4049	1020	1187	573	2.86	0.00	7.07	1.78	2.07
-5	(+23)	4979	1255	1459	644	3.21	0.00	7.74	1.95	2.27
0	(+32)	6030	1520	1767	723	3.60	0.00	8.34	2.10	2.44
+5	(+41)	7201	1815	2110	811	4.03	0.00	8.88	2.24	2.60
+10	(+50)	8493	2140	2489	907	4.51	0.00	9.36	2.36	2.74

TEST CONDITIONS:		ASHRAE46			(Condensing temperature 55°C (+131°F))					
@V60Hz		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-15	(+ 5)	2736	689	802	535	2.68	0.00	5.12	1.29	1.50
-10	(+14)	3425	863	1004	607	3.03	0.00	5.64	1.42	1.65
-5	(+23)	4224	1065	1238	688	3.42	0.00	6.14	1.55	1.80
0	(+32)	5134	1294	1504	776	3.86	0.00	6.61	1.67	1.94
+5	(+41)	6154	1551	1803	872	4.34	0.00	7.05	1.78	2.07
+10	(+50)	7284	1836	2134	976	4.86	0.00	7.46	1.88	2.19

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		