

COMPRESSOR DEFINITION

Designation	NE U2178GKA
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	955BA76

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low Back Pressure R404A		
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	25.2	[kgf/cm ²] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm ²] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	15.71	[cm ³] (0.959 cu.in)
2.1 Bore [mm]	30.157	
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)	11.03	[kg] (24.32 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	2284001	
3 Start capacitor	108-130(330)	[µF(VAC minimum)]
4 Run capacitor	12.5(450)	[µF(VAC minimum)]
5 Motor protection	USP-M1E-83	
6 Start winding resistance	11.58	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.33	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	25.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	3.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - 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]
3007	758	881	601	2.86	20.39	5.01	1.26	1.47

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)	1397	352	409	351	1.81	9.39	3.98	1.00	1.16
-35	(-31)	1859	468	545	404	2.03	12.53	4.61	1.16	1.35
-30	(-22)	2439	615	715	459	2.26	16.50	5.33	1.34	1.56
-25	(-13)	3138	791	920	515	2.51	21.32	6.10	1.54	1.79
-20	(- 4)	3956	997	1159	573	2.77	27.01	6.91	1.74	2.02
-15	(+ 5)	4892	1233	1433	632	3.04	33.61	7.74	1.95	2.27
-10	(+14)	5946	1498	1742	693	3.33	41.13	8.58	2.16	2.51

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)	1244	313	365	351	1.80	8.34	3.54	0.89	1.04
-35	(-31)	1701	429	498	413	2.05	11.45	4.12	1.04	1.21
-30	(-22)	2272	572	666	478	2.32	15.34	4.74	1.20	1.39
-25	(-13)	2955	745	866	546	2.62	20.04	5.40	1.36	1.58
-20	(- 4)	3753	946	1100	617	2.94	25.58	6.08	1.53	1.78
-15	(+ 5)	4663	1175	1366	691	3.28	31.97	6.75	1.70	1.98
-10	(+14)	5687	1433	1666	768	3.64	39.26	7.41	1.87	2.17

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]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1066	269	312	344	1.83	7.13	3.11	0.78	0.91
-35	(-31)	1515	382	444	416	2.11	10.17	3.64	0.92	1.07
-30	(-22)	2071	522	607	492	2.42	13.96	4.21	1.06	1.23
-25	(-13)	2736	690	802	573	2.77	18.52	4.78	1.20	1.40
-20	(- 4)	3510	884	1028	658	3.14	23.87	5.34	1.35	1.56
-15	(+ 5)	4391	1106	1287	748	3.55	30.05	5.88	1.48	1.72
-10	(+14)	5380	1356	1577	842	3.99	37.07	6.38	1.61	1.87

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		