

COMPRESSOR DEFINITION

Designation	NE U2155GK
Nominal Voltage/Frequency	100 V 50-60 Hz
Engineering Number	954BQ71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	100 / 50-60	[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 - High 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	1/2	[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)	11.25	[kg] (24.80 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVAH7AA3C-571	
3 Start capacitor	243-292(330)	[µF(VAC minimum)]
4 Run capacitor	30(400)	[µF(VAC minimum)]
5 Motor protection	MRA 38169-3266	
6 Start winding resistance	3.81	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	0.96	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	37.00	[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: @100V50Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°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]
2216	558	649	464	5.56	15.02	4.77	1.20	1.40

TEST CONDITIONS: @100V60Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°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]
2613	658	766	540	5.72	17.71	4.84	1.22	1.42

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 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]
-40	(-40)	1066	269	312	283	4.42	7.17	3.77	0.95	1.10
-35	(-31)	1418	357	416	321	4.64	9.56	4.42	1.11	1.29
-30	(-22)	1853	467	543	361	4.89	12.54	5.13	1.29	1.50
-25	(-13)	2372	598	695	403	5.16	16.11	5.88	1.48	1.72
-20	(- 4)	2973	749	871	448	5.47	20.30	6.65	1.68	1.95
-15	(+ 5)	3658	922	1072	494	5.80	25.13	7.41	1.87	2.17
-10	(+14)	4426	1115	1297	543	6.16	30.62	8.14	2.05	2.39

TEST CONDITIONS: @100V50Hz		ASHRAE32 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]
-40	(-40)	971	245	285	289	4.41	6.51	3.36	0.85	0.98
-35	(-31)	1295	326	379	333	4.69	8.71	3.90	0.98	1.14
-30	(-22)	1709	431	501	379	5.01	11.54	4.51	1.14	1.32
-25	(-13)	2215	558	649	428	5.38	15.02	5.18	1.30	1.52
-20	(- 4)	2811	708	824	479	5.80	19.16	5.87	1.48	1.72
-15	(+ 5)	3499	882	1025	533	6.26	23.99	6.57	1.66	1.93
-10	(+14)	4278	1078	1253	589	6.77	29.53	7.26	1.83	2.13

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V50Hz		ASHRAE32 Fan			(Condensing temperature 55°C (+131°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]
-40 (-40)	859	217	252	284	4.37	5.75	3.02	0.76	0.89	
-35 (-31)	1160	292	340	336	4.69	7.79	3.46	0.87	1.01	
-30 (-22)	1559	393	457	392	5.07	10.50	3.98	1.00	1.17	
-25 (-13)	2057	518	603	450	5.52	13.92	4.56	1.15	1.34	
-20 (- 4)	2653	669	777	511	6.03	18.05	5.19	1.31	1.52	
-15 (+ 5)	3349	844	981	574	6.61	22.92	5.84	1.47	1.71	
-10 (+14)	4143	1044	1214	640	7.25	28.55	6.48	1.63	1.90	

TEST CONDITIONS: @100V60Hz		ASHRAE32 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]
-40 (-40)	1260	317	369	307	3.49	8.47	4.10	1.03	1.20	
-35 (-31)	1649	416	483	356	3.93	11.12	4.65	1.17	1.36	
-30 (-22)	2153	542	631	410	4.44	14.56	5.26	1.33	1.54	
-25 (-13)	2772	698	812	469	5.01	18.83	5.91	1.49	1.73	
-20 (- 4)	3505	883	1027	532	5.65	23.94	6.58	1.66	1.93	
-15 (+ 5)	4354	1097	1276	601	6.36	29.92	7.25	1.83	2.12	
-10 (+14)	5318	1340	1558	674	7.14	36.78	7.90	1.99	2.31	

TEST CONDITIONS: @100V60Hz		ASHRAE32 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]
-40 (-40)	1152	290	338	313	3.50	7.73	3.68	0.93	1.08	
-35 (-31)	1534	387	450	368	4.03	10.33	4.17	1.05	1.22	
-30 (-22)	2022	510	593	429	4.63	13.65	4.72	1.19	1.38	
-25 (-13)	2616	659	767	495	5.29	17.74	5.28	1.33	1.55	
-20 (- 4)	3316	836	972	567	6.02	22.60	5.85	1.47	1.71	
-15 (+ 5)	4121	1039	1208	644	6.81	28.26	6.40	1.61	1.88	
-10 (+14)	5032	1268	1475	727	7.67	34.74	6.92	1.74	2.03	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @100V60Hz		ASHRAE32 Fan			(Condensing temperature 55°C (+131°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]
-40	(-40)	994	250	291	306	3.40	6.65	3.26	0.82	0.96
-35	(-31)	1379	348	404	370	4.04	9.27	3.72	0.94	1.09
-30	(-22)	1862	469	546	441	4.74	12.55	4.22	1.06	1.24
-25	(-13)	2441	615	715	517	5.51	16.52	4.71	1.19	1.38
-20	(- 4)	3117	786	913	600	6.33	21.20	5.20	1.31	1.52
-15	(+ 5)	3890	980	1140	689	7.22	26.62	5.66	1.43	1.66
-10	(+14)	4760	1200	1395	784	8.18	32.80	6.06	1.53	1.78

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		