

COMPRESSOR DEFINITION

Designation	NB 2121GK
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	995BG70

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	115 / 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	CSIR		
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 pressures/temperature			
9.1 Operating (gauge)	25.7	[kgf/cm ²] (365 psig)	/ °C - °F
9.2 Peak (gauge)	28.7	[kgf/cm ²] (408 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	6.05	[cm ³] (0.369 cu.in)
2.1 Bore [mm]	21.996	
2.2 Stroke [mm]	15.920	
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	[kg] (24.25 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	115 V 60 Hz 1~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRPH-58	
3 Start capacitor	145-175(165)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0540/G8	
6 Start winding resistance	8.60	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.04	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	34.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	4.80	[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: @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]
934	235	274	255	3.95	6.33	3.66	0.92	1.07

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)	408	103	120	169	3.63	2.74	2.40	0.61	0.70
-35	(-31)	585	147	171	191	3.69	3.94	3.08	0.78	0.90
-30	(-22)	784	198	230	214	3.79	5.31	3.68	0.93	1.08
-25	(-13)	1012	255	297	239	3.92	6.88	4.23	1.07	1.24
-20	(- 4)	1275	321	373	267	4.08	8.71	4.76	1.20	1.40
-15	(+ 5)	1577	397	462	297	4.24	10.84	5.30	1.34	1.55
-10	(+14)	1926	485	564	329	4.41	13.32	5.87	1.48	1.72

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)	330	83	97	155	3.59	2.22	2.12	0.54	0.62
-35	(-31)	510	128	149	183	3.66	3.43	2.79	0.70	0.82
-30	(-22)	708	178	208	211	3.78	4.78	3.36	0.85	0.98
-25	(-13)	932	235	273	241	3.93	6.32	3.87	0.98	1.13
-20	(- 4)	1187	299	348	273	4.10	8.09	4.35	1.10	1.28
-15	(+ 5)	1480	373	434	306	4.29	10.15	4.83	1.22	1.41
-10	(+14)	1815	457	532	341	4.48	12.53	5.32	1.34	1.56

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)	255	64	75	143	3.57	1.70	1.79	0.45	0.53
-35	(-31)	437	110	128	176	3.65	2.93	2.46	0.62	0.72
-30	(-22)	635	160	186	209	3.78	4.28	3.03	0.76	0.89
-25	(-13)	855	215	251	243	3.94	5.79	3.52	0.89	1.03
-20	(- 4)	1103	278	323	278	4.13	7.50	3.97	1.00	1.16
-15	(+ 5)	1386	349	406	315	4.34	9.48	4.41	1.11	1.29
-10	(+14)	1708	430	500	352	4.55	11.77	4.85	1.22	1.42

E - PERFORMANCE - CURVES

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]
-40	(-40)	478	120	140	198	4.21	3.21	2.41	0.61	0.70
-35	(-31)	685	173	201	223	4.28	4.62	3.08	0.78	0.90
-30	(-22)	918	231	269	251	4.40	6.21	3.67	0.93	1.08
-25	(-13)	1184	298	347	280	4.55	8.05	4.23	1.07	1.24
-20	(- 4)	1491	376	437	312	4.73	10.18	4.76	1.20	1.40
-15	(+ 5)	1845	465	541	347	4.92	12.68	5.30	1.34	1.55
-10	(+14)	2254	568	660	385	5.12	15.59	5.87	1.48	1.72

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]
-40	(-40)	387	97	113	182	4.17	2.59	2.12	0.53	0.62
-35	(-31)	596	150	175	214	4.25	4.01	2.78	0.70	0.81
-30	(-22)	829	209	243	248	4.39	5.60	3.35	0.85	0.98
-25	(-13)	1091	275	320	282	4.56	7.39	3.87	0.98	1.13
-20	(- 4)	1389	350	407	319	4.76	9.47	4.35	1.10	1.28
-15	(+ 5)	1731	436	507	358	4.98	11.87	4.83	1.22	1.42
-10	(+14)	2124	535	622	399	5.20	14.66	5.32	1.34	1.56

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]
-40	(-40)	298	75	87	167	4.13	1.99	1.80	0.45	0.53
-35	(-31)	511	129	150	206	4.23	3.43	2.46	0.62	0.72
-30	(-22)	742	187	218	245	4.38	5.00	3.03	0.76	0.89
-25	(-13)	1000	252	293	284	4.57	6.77	3.53	0.89	1.03
-20	(- 4)	1291	325	378	325	4.79	8.78	3.98	1.00	1.17
-15	(+ 5)	1621	409	475	368	5.04	11.09	4.41	1.11	1.29
-10	(+14)	1998	504	586	412	5.28	13.77	4.84	1.22	1.42

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.03 +0.07/+0.00	[mm]	(0.316" +0.003"/+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		