

COMPRESSOR DEFINITION

Designation	NB 6165E
Nominal Voltage/Frequency	208-230 V 60 Hz
Engineering Number	294ND71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-22		
3 Nominal voltage and frequency	208-230 / 60	[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	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)	21.7	[kgf/cm ²] (309 psig)	/ °C - °F
9.2 Peak (gauge)	24.2	[kgf/cm ²] (344 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	ALQUILB / ISO46	
4 Weight (with oil charge)	10	[kg] (22.05 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	208-230 V 60 Hz 1~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-0030	
3 Start capacitor	53-64(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0741/G9	
6 Start winding resistance	20.72	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.28	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	15.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	3.10	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @200V50Hz			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]
2446	616	717	452	2.66	15.11	5.41	1.36	1.59

E - PERFORMANCE - CURVES

TEST CONDITIONS: @200V50Hz			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)	1405	354	412	255	1.78	7.38	5.51	1.39	1.61
-10	(+14)	1732	437	508	281	1.87	9.13	6.16	1.55	1.80
-5	(+23)	2124	535	622	308	1.97	11.25	6.89	1.74	2.02
0	(+32)	2580	650	756	335	2.08	13.75	7.69	1.94	2.25
+5	(+41)	3101	782	909	363	2.20	16.63	8.54	2.15	2.50
+10	(+50)	3687	929	1080	392	2.32	19.92	9.41	2.37	2.76

TEST CONDITIONS: @200V50Hz			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)	1257	317	368	266	1.82	7.05	4.73	1.19	1.39
-10	(+14)	1552	391	455	297	1.93	8.74	5.23	1.32	1.53
-5	(+23)	1906	480	559	329	2.06	10.79	5.79	1.46	1.70
0	(+32)	2319	584	679	363	2.20	13.21	6.39	1.61	1.87
+5	(+41)	2790	703	818	398	2.35	16.00	7.01	1.77	2.05
+10	(+50)	3320	837	973	435	2.51	19.20	7.64	1.92	2.24

TEST CONDITIONS: @200V50Hz			ASHRAE46 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]
-15	(+5)	1103	278	323	278	1.85	6.66	3.97	1.00	1.16
-10	(+14)	1365	344	400	313	1.98	8.28	4.36	1.10	1.28
-5	(+23)	1679	423	492	350	2.14	10.24	4.79	1.21	1.40
0	(+32)	2046	516	599	390	2.31	12.55	5.24	1.32	1.54
+5	(+41)	2465	621	722	433	2.51	15.24	5.69	1.43	1.67
+10	(+50)	2937	740	861	479	2.71	18.32	6.12	1.54	1.79

E - PERFORMANCE - CURVES

TEST CONDITIONS: @200V60Hz		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]
-15	(+ 5)	1644	414	482	307	2.15	8.63	5.35	1.35	1.57
-10	(+14)	2027	511	594	339	2.26	10.69	5.98	1.51	1.75
-5	(+23)	2485	626	728	371	2.38	13.16	6.69	1.69	1.96
0	(+32)	3019	761	885	404	2.51	16.08	7.47	1.88	2.19
+5	(+41)	3629	914	1063	438	2.65	19.46	8.29	2.09	2.43
+10	(+50)	4313	1087	1264	472	2.79	23.31	9.14	2.30	2.68

TEST CONDITIONS: @200V60Hz		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]
-15	(+ 5)	1471	371	431	321	2.19	8.25	4.59	1.16	1.34
-10	(+14)	1816	458	532	358	2.33	10.23	5.07	1.28	1.49
-5	(+23)	2230	562	654	397	2.48	12.63	5.61	1.41	1.65
0	(+32)	2713	684	795	437	2.65	15.45	6.20	1.56	1.82
+5	(+41)	3264	823	956	480	2.84	18.72	6.80	1.71	1.99
+10	(+50)	3884	979	1138	524	3.03	22.46	7.42	1.87	2.17

TEST CONDITIONS: @200V60Hz		ASHRAE46 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]
-15	(+ 5)	1291	325	378	335	2.23	7.79	3.85	0.97	1.13
-10	(+14)	1597	402	468	377	2.39	9.68	4.23	1.07	1.24
-5	(+23)	1965	495	576	422	2.58	11.98	4.65	1.17	1.36
0	(+32)	2394	603	701	470	2.79	14.69	5.09	1.28	1.49
+5	(+41)	2884	727	845	522	3.02	17.83	5.53	1.39	1.62
+10	(+50)	3436	866	1007	576	3.27	21.43	5.95	1.50	1.74

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		