

COMPRESSOR DEFINITION

Designation	NB 5165E
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	294QG71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-22		
3 Nominal voltage and frequency	115 / 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	RSIR		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
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 - ELETRICAL 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-63	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRT24AIN-3259	
6 Start winding resistance	13.55	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	35.00	[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)	6.30	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]
3120	786	914	522	6.18	19.27	5.98	1.51	1.75

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V50Hz		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	275	4.01	7.38	5.11	1.29	1.50
-10	(+14)	1732	437	508	298	4.18	9.13	5.81	1.46	1.70
-5	(+23)	2124	535	622	321	4.32	11.25	6.62	1.67	1.94
0	(+32)	2580	650	756	343	4.45	13.75	7.52	1.90	2.20
+5	(+41)	3101	782	909	365	4.57	16.63	8.50	2.14	2.49
+10	(+50)	3687	929	1080	386	4.69	19.92	9.55	2.41	2.80

TEST CONDITIONS: @115V50Hz		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	286	4.09	7.05	4.40	1.11	1.29
-10	(+14)	1552	391	455	313	4.28	8.74	4.95	1.25	1.45
-5	(+23)	1906	480	559	341	4.46	10.79	5.58	1.41	1.64
0	(+32)	2319	584	679	369	4.62	13.21	6.28	1.58	1.84
+5	(+41)	2790	703	818	397	4.79	16.00	7.03	1.77	2.06
+10	(+50)	3320	837	973	425	4.96	19.20	7.82	1.97	2.29

TEST CONDITIONS: @115V50Hz		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	297	4.13	6.66	3.71	0.93	1.09
-10	(+14)	1365	344	400	330	4.36	8.28	4.14	1.04	1.21
-5	(+23)	1679	423	492	363	4.58	10.24	4.63	1.17	1.36
0	(+32)	2046	516	599	396	4.80	12.55	5.16	1.30	1.51
+5	(+41)	2465	621	722	431	5.02	15.24	5.72	1.44	1.68
+10	(+50)	2937	740	861	466	5.26	18.32	6.30	1.59	1.85

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	1644	414	482	321	4.89	8.63	5.12	1.29	1.50	
-10 (+14)	2027	511	594	348	5.05	10.69	5.82	1.47	1.71	
-5 (+23)	2485	626	728	375	5.20	13.16	6.63	1.67	1.94	
0 (+32)	3019	761	885	401	5.35	16.08	7.53	1.90	2.21	
+5 (+41)	3629	914	1063	426	5.50	19.46	8.51	2.15	2.49	
+10 (+50)	4313	1087	1264	451	5.66	23.31	9.56	2.41	2.80	

TEST CONDITIONS: @115V60Hz		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)	1471	371	431	334	4.94	8.25	4.41	1.11	1.29	
-10 (+14)	1816	458	532	367	5.15	10.23	4.95	1.25	1.45	
-5 (+23)	2230	562	654	399	5.36	12.63	5.58	1.41	1.64	
0 (+32)	2713	684	795	432	5.57	15.45	6.27	1.58	1.84	
+5 (+41)	3264	823	956	465	5.78	18.72	7.02	1.77	2.06	
+10 (+50)	3884	979	1138	497	5.99	22.46	7.82	1.97	2.29	

TEST CONDITIONS: @115V60Hz		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)	1291	325	378	348	4.98	7.79	3.71	0.93	1.09	
-10 (+14)	1597	402	468	386	5.25	9.68	4.14	1.04	1.21	
-5 (+23)	1965	495	576	424	5.52	11.98	4.63	1.17	1.36	
0 (+32)	2394	603	701	464	5.79	14.69	5.16	1.30	1.51	
+5 (+41)	2884	727	845	504	6.06	17.83	5.72	1.44	1.68	
+10 (+50)	3436	866	1007	545	6.33	21.43	6.30	1.59	1.85	

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		