

COMPRESSOR DEFINITION

Designation	F F7,5BK
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513200181

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°F)	
5 Motor type	RSIR/CSIR		
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)	Static	198 to 255 V	-
8.2 LBP (43°C Ambient temperature)	Static	198 to 255 V	-
8.3 HBP (32°C Ambient temperature)	Fan	198 to 255 V	-
8.4 HBP (43°C Ambient temperature)	Fan	198 to 255 V	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	14.5	[kgf/cm ²] (206 psig)	/ °C - °F
9.2 Peak (gauge)	18.2	[kgf/cm ²] (259 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5+	[hp]
2 Displacement	6.92	[cm ³] (0.422 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	MINERAL / ISO32	
4 Weight (with oil charge)	10.5	[kg] (23.15 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	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516116/213516337	
3 Start capacitor	88-108(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRA58094-5590	
6 Start winding resistance	39.14	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	12.41	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	10.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAEHBP32 Static		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]
2135	538	626	292	1.50	15.99	7.31	1.84	2.14

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		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]
627	158	184	158	0.97	4.59	3.97	1.00	1.16

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(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]
-35	(-31)	367	92	108	111	1.03	2.67	3.32	0.84	0.97
-30	(-22)	495	125	145	127	0.82	3.62	3.88	0.98	1.14
-25	(-13)	644	162	189	145	0.79	4.72	4.44	1.12	1.30
-20	(- 4)	818	206	240	164	0.89	6.00	5.00	1.26	1.47
-15	(+ 5)	1022	258	299	183	1.07	7.51	5.60	1.41	1.64
-10	(+14)	1261	318	369	202	1.28	9.29	6.25	1.57	1.83
-5	(+23)	1540	388	451	221	1.49	11.39	6.96	1.75	2.04
0	(+32)	1863	470	546	240	1.64	13.85	7.77	1.96	2.28
+5	(+41)	2237	564	655	258	1.70	16.71	8.68	2.19	2.54
+10	(+50)	2664	671	781	274	1.60	20.03	9.72	2.45	2.85
+15	(+59)	3152	794	924	289	1.32	23.83	10.90	2.75	3.20

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(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]
-35	(-31)	336	85	99	112	1.08	2.45	2.98	0.75	0.87
-30	(-22)	460	116	135	130	0.95	3.36	3.51	0.88	1.03
-25	(-13)	600	151	176	149	0.95	4.40	3.99	1.01	1.17
-20	(- 4)	762	192	223	171	1.04	5.59	4.45	1.12	1.30
-15	(+ 5)	952	240	279	193	1.17	6.99	4.92	1.24	1.44
-10	(+14)	1173	296	344	217	1.30	8.64	5.40	1.36	1.58
-5	(+23)	1432	361	419	242	1.38	10.59	5.91	1.49	1.73
0	(+32)	1732	436	507	266	1.36	12.87	6.48	1.63	1.90
+5	(+41)	2078	524	609	291	1.21	15.53	7.13	1.80	2.09
+10	(+50)	2476	624	726	315	0.87	18.61	7.87	1.98	2.31
+15	(+59)	2931	739	859	338	0.29	22.16	8.72	2.20	2.56

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-35	(-31)	281	71	82	110	0.82	2.05	2.59	0.65	0.76
-30	(-22)	409	103	120	129	0.87	2.99	3.14	0.79	0.92
-25	(-13)	550	139	161	151	1.03	4.04	3.62	0.91	1.06
-20	(- 4)	711	179	208	176	1.22	5.22	4.05	1.02	1.19
-15	(+ 5)	895	226	262	203	1.42	6.58	4.45	1.12	1.30
-10	(+14)	1109	279	325	231	1.58	8.17	4.82	1.22	1.41
-5	(+23)	1356	342	397	261	1.65	10.03	5.21	1.31	1.53
0	(+32)	1642	414	481	292	1.58	12.20	5.61	1.41	1.64
+5	(+41)	1971	497	578	324	1.33	14.73	6.06	1.53	1.78
+10	(+50)	2349	592	688	356	0.85	17.66	6.56	1.65	1.92
+15	(+59)	2780	701	815	388	0.10	21.03	7.15	1.80	2.09

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper plated steel		
3.1.2 Shape	Slanted		
3.2 DISCHARGE	5 +0.18/-0.06	[mm]	(0.197" +0.007"/-0.002")
3.2.1 Material	Copper plated steel		
3.2.2 Shape	Slanted		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper plated steel		
3.3.2 Shape	Slanted		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		