

COMPRESSOR DEFINITION

Designation	F F7,5HBKW
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513200674

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50-60	[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/Fan	198 to 255 V	198 to 255 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	198 to 255 V	198 to 255 V
8.3 HBP (32°C Ambient temperature)	Fan	198 to 255 V	198 to 255 V
8.4 HBP (43°C Ambient temperature)	Fan	198 to 255 V	198 to 255 V
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 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	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10.74	[kg] (23.68 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 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516078/213516086	
3 Start capacitor	108-130(140)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743LDBYY-53	
6 Start winding resistance	32.31	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.61	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	16.70/15.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.00/1.82	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.28/2.13	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V60Hz			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]
2828	713	829	372	2.02		7.60	1.92	2.23

TEST CONDITIONS: @220V60Hz			ASHRAEHBP32 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]
2901	731	850	371	2.02		7.82	1.97	2.29

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]
510	129	149	149	1.41	2.90	3.42	0.86	1.00

TEST CONDITIONS: @220V50Hz			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]
527	133	154	155	1.42	2.99	3.40	0.86	1.00

TEST CONDITIONS: @220V60Hz			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]
691	174	202	174	1.27	3.93	3.97	1.00	1.16

TEST CONDITIONS: @220V60Hz			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]
702	177	206	178	1.29	3.99	3.94	0.99	1.15

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V50Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	266	67	78	110	1.35	1.50	2.44	0.62	0.72
-30	(-22)	396	100	116	124	1.37	2.25	3.18	0.80	0.93
-25	(-13)	553	139	162	141	1.40	3.15	3.90	0.98	1.14
-20	(- 4)	744	187	218	160	1.43	4.23	4.62	1.17	1.35
-15	(+ 5)	972	245	285	180	1.48	5.54	5.38	1.36	1.58
-10	(+14)	1244	313	365	201	1.53	7.12	6.19	1.56	1.81
-5	(+23)	1565	394	459	221	1.59	9.00	7.09	1.79	2.08
0	(+32)	1941	489	569	241	1.64	11.22	8.10	2.04	2.37
+5	(+41)	2376	599	696	258	1.69	13.83	9.24	2.33	2.71
+10	(+50)	2876	725	843	274	1.74	16.86	10.55	2.66	3.09
+15	(+59)	3447	869	1010	285	1.78	20.35	12.05	3.04	3.53

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V50Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	236	60	69	107	1.34	1.33	2.22	0.56	0.65
-30	(-22)	358	90	105	124	1.35	2.04	2.90	0.73	0.85
-25	(-13)	506	127	148	143	1.39	2.88	3.53	0.89	1.04
-20	(- 4)	685	173	201	165	1.43	3.90	4.15	1.04	1.21
-15	(+ 5)	901	227	264	189	1.49	5.14	4.76	1.20	1.40
-10	(+14)	1159	292	340	214	1.55	6.63	5.41	1.36	1.58
-5	(+23)	1465	369	429	239	1.63	8.42	6.11	1.54	1.79
0	(+32)	1824	460	534	264	1.70	10.54	6.90	1.74	2.02
+5	(+41)	2241	565	657	287	1.78	13.04	7.79	1.96	2.28
+10	(+50)	2722	686	798	309	1.86	15.95	8.82	2.22	2.59
+15	(+59)	3272	825	959	327	1.93	19.32	10.02	2.52	2.93

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V50Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	174	44	51	103	1.34	0.98	1.68	0.42	0.49
-30	(-22)	289	73	85	122	1.36	1.65	2.36	0.59	0.69
-25	(-13)	429	108	126	145	1.39	2.45	2.96	0.75	0.87
-20	(- 4)	599	151	175	172	1.45	3.41	3.51	0.88	1.03
-15	(+ 5)	804	203	236	200	1.52	4.58	4.04	1.02	1.18
-10	(+14)	1050	265	308	230	1.60	6.00	4.57	1.15	1.34
-5	(+23)	1342	338	393	261	1.69	7.71	5.13	1.29	1.50
0	(+32)	1686	425	494	292	1.79	9.74	5.75	1.45	1.68
+5	(+41)	2086	526	611	322	1.90	12.14	6.44	1.62	1.89
+10	(+50)	2549	642	747	351	2.01	14.94	7.25	1.83	2.12
+15	(+59)	3079	776	902	377	2.12	18.18	8.19	2.06	2.40

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	323	81	95	113	1.10	1.83	2.88	0.72	0.84
-30	(-22)	477	120	140	136	1.15	2.70	3.53	0.89	1.03
-25	(-13)	663	167	194	159	1.22	3.76	4.17	1.05	1.22
-20	(- 4)	885	223	259	183	1.30	5.04	4.83	1.22	1.41
-15	(+ 5)	1148	289	336	209	1.38	6.56	5.49	1.38	1.61
-10	(+14)	1459	368	427	235	1.48	8.36	6.19	1.56	1.81
-5	(+23)	1821	459	534	263	1.58	10.48	6.92	1.74	2.03
0	(+32)	2241	565	657	294	1.68	12.95	7.69	1.94	2.25
+5	(+41)	2724	686	798	326	1.78	15.80	8.52	2.15	2.50
+10	(+50)	3274	825	959	362	1.89	19.08	9.41	2.37	2.76
+15	(+59)	3897	982	1142	400	1.99	22.81	10.38	2.62	3.04

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	268	68	79	107	1.10	1.52	2.48	0.63	0.73
-30	(-22)	413	104	121	132	1.16	2.34	3.11	0.78	0.91
-25	(-13)	588	148	172	159	1.22	3.34	3.70	0.93	1.08
-20	(- 4)	799	201	234	187	1.31	4.55	4.28	1.08	1.25
-15	(+ 5)	1050	265	308	217	1.41	6.00	4.84	1.22	1.42
-10	(+14)	1348	340	395	249	1.52	7.72	5.41	1.36	1.58
-5	(+23)	1696	427	497	284	1.64	9.76	5.98	1.51	1.75
0	(+32)	2101	529	616	322	1.77	12.14	6.58	1.66	1.93
+5	(+41)	2568	647	752	362	1.90	14.90	7.21	1.82	2.11
+10	(+50)	3101	781	909	407	2.04	18.07	7.87	1.98	2.31
+15	(+59)	3707	934	1086	455	2.18	21.69	8.58	2.16	2.52

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V60Hz		Static								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	194	49	57	99	1.08	1.10	1.97	0.50	0.58
-30	(-22)	333	84	98	127	1.14	1.89	2.61	0.66	0.76
-25	(-13)	501	126	147	157	1.22	2.84	3.19	0.80	0.93
-20	(- 4)	703	177	206	189	1.32	4.00	3.73	0.94	1.09
-15	(+ 5)	945	238	277	224	1.44	5.40	4.23	1.07	1.24
-10	(+14)	1232	311	361	262	1.57	7.06	4.71	1.19	1.38
-5	(+23)	1570	396	460	303	1.72	9.03	5.17	1.30	1.52
0	(+32)	1962	495	575	348	1.88	11.34	5.63	1.42	1.65
+5	(+41)	2416	609	708	397	2.05	14.02	6.09	1.53	1.78
+10	(+50)	2935	740	860	450	2.23	17.11	6.57	1.65	1.92
+15	(+59)	3526	889	1033	508	2.41	20.64	7.07	1.78	2.07

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper plated steel		
3.1.2 Shape	Slanted		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
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)	6.5 +0.09/-0.09	[mm]	(0.256" +0.004"/-0.004")
3.5 Connector sealing	Rubber Plugs		