

COMPRESSOR DEFINITION

Designation	F F8,5BX
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513200590

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
3 Nominal voltage and frequency	115 / 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	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)	Static	-	103 to 127 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 127 V
8.3 HBP (32°C Ambient temperature)	Fan	-	103 to 127 V
8.4 HBP (43°C Ambient temperature)	Fan	-	103 to 127 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	1/4	[hp]
2 Displacement	7.95	[cm ³] (0.485 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	280	[ml] (9.47 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO32	
4 Weight (with oil charge)	10.72	[kg] (23.63 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	213516175	
3 Start capacitor	270-324(115)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRT26ADK-5590	
6 Start winding resistance	6.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.70	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	29.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	5.82	[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: @115V60Hz			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]
2860	721	838	430	4.72	21.41	6.65	1.68	1.95

TEST CONDITIONS: @115V60Hz			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]
850	214	249	235	3.34	6.22	3.62	0.91	1.06

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			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)	469	118	137	156	3.13	3.41	3.03	0.76	0.89
-30 (-22)	629	159	184	189	3.19	4.60	3.33	0.84	0.98
-25 (-13)	810	204	237	221	3.28	5.93	3.66	0.92	1.07
-20 (- 4)	1019	257	299	252	3.39	7.47	4.05	1.02	1.19
-15 (+ 5)	1266	319	371	282	3.53	9.30	4.50	1.13	1.32
-10 (+14)	1559	393	457	311	3.70	11.49	5.03	1.27	1.47
-5 (+23)	1907	481	559	338	3.90	14.11	5.65	1.42	1.65
0 (+32)	2319	584	680	365	4.12	17.24	6.36	1.60	1.86
+5 (+41)	2803	706	821	390	4.37	20.95	7.18	1.81	2.10
+10 (+50)	3369	849	987	414	4.64	25.32	8.13	2.05	2.38
+15 (+59)	4025	1014	1179	437	4.94	30.43	9.20	2.32	2.70

TEST CONDITIONS: @115V60Hz			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)	465	117	136	162	3.09	3.39	2.85	0.72	0.84
-30 (-22)	617	156	181	194	3.19	4.52	3.15	0.79	0.92
-25 (-13)	787	198	231	226	3.31	5.76	3.46	0.87	1.01
-20 (- 4)	982	247	288	258	3.46	7.20	3.80	0.96	1.11
-15 (+ 5)	1212	305	355	291	3.63	8.90	4.18	1.05	1.23
-10 (+14)	1486	374	435	323	3.83	10.94	4.62	1.16	1.35
-5 (+23)	1811	456	531	355	4.06	13.40	5.11	1.29	1.50
0 (+32)	2198	554	644	387	4.30	16.33	5.68	1.43	1.66
+5 (+41)	2654	669	778	418	4.58	19.84	6.33	1.60	1.86
+10 (+50)	3189	804	934	450	4.88	23.97	7.08	1.79	2.08
+15 (+59)	3811	960	1117	481	5.20	28.82	7.94	2.00	2.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	405	102	119	160	3.08	2.95	2.53	0.64	0.74
-30	(-22)	554	140	162	194	3.21	4.06	2.82	0.71	0.83
-25	(-13)	717	181	210	230	3.37	5.26	3.11	0.78	0.91
-20	(- 4)	904	228	265	267	3.55	6.63	3.40	0.86	1.00
-15	(+ 5)	1122	283	329	305	3.75	8.25	3.71	0.94	1.09
-10	(+14)	1382	348	405	343	3.98	10.18	4.05	1.02	1.19
-5	(+23)	1690	426	495	383	4.23	12.50	4.42	1.11	1.30
0	(+32)	2057	518	603	424	4.50	15.29	4.85	1.22	1.42
+5	(+41)	2491	628	730	465	4.80	18.62	5.33	1.34	1.56
+10	(+50)	3000	756	879	508	5.12	22.56	5.88	1.48	1.72
+15	(+59)	3594	906	1053	551	5.46	27.18	6.52	1.64	1.91

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		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		