

COMPRESSOR DEFINITION

Designation	F F10HBX
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513200648

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
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 - Hight 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)	Fan	-	103 to 135 V
8.2 LBP (43°C Ambient temperature)	Fan	-	103 to 135 V
8.3 HBP (32°C Ambient temperature)	Fan	-	103 to 135 V
8.4 HBP (43°C Ambient temperature)	Fan	-	103 to 135 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	1/4+	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
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)	11.31	[kg] (24.93 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	213516191	
3 Start capacitor	270-324(150)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRT20AGK-5590	
6 Start winding resistance	4.15	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.55	[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)	5.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	6.60	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - 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]
3650	920	1070	464	5.25		7.87	1.98	2.31

TEST CONDITIONS: @115V60Hz			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]
840	212	246	217	3.86	4.77	3.88	0.98	1.14

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 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]
-35 (-31)	421	106	123	171	3.84	2.38	2.47	0.62	0.72
-30 (-22)	635	160	186	192	3.91	3.61	3.26	0.82	0.96
-25 (-13)	876	221	257	216	4.00	4.99	4.00	1.01	1.17
-20 (- 4)	1155	291	338	245	4.12	6.57	4.69	1.18	1.38
-15 (+ 5)	1483	374	435	276	4.26	8.46	5.38	1.35	1.58
-10 (+14)	1872	472	549	310	4.42	10.71	6.07	1.53	1.78
-5 (+23)	2335	588	684	346	4.61	13.42	6.78	1.71	1.99
0 (+32)	2881	726	844	383	4.83	16.66	7.55	1.90	2.21
+5 (+41)	3523	888	1032	420	5.06	20.51	8.39	2.12	2.46
+10 (+50)	4273	1077	1252	458	5.33	25.05	9.33	2.35	2.73
+15 (+59)	5142	1296	1507	494	5.62	30.36	10.38	2.62	3.04

TEST CONDITIONS: @115V60Hz			ASHRAE32 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]
-35 (-31)	348	88	102	181	3.87	1.97	1.94	0.49	0.57
-30 (-22)	556	140	163	200	3.92	3.17	2.76	0.69	0.81
-25 (-13)	788	199	231	224	4.01	4.49	3.49	0.88	1.02
-20 (- 4)	1056	266	309	253	4.13	6.01	4.16	1.05	1.22
-15 (+ 5)	1371	345	402	286	4.29	7.82	4.81	1.21	1.41
-10 (+14)	1745	440	511	322	4.47	9.98	5.44	1.37	1.59
-5 (+23)	2189	552	641	361	4.69	12.58	6.07	1.53	1.78
0 (+32)	2715	684	796	403	4.94	15.70	6.74	1.70	1.98
+5 (+41)	3336	841	977	446	5.22	19.41	7.47	1.88	2.19
+10 (+50)	4061	1023	1190	490	5.54	23.80	8.27	2.08	2.42
+15 (+59)	4903	1236	1437	535	5.89	28.94	9.16	2.31	2.68

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Fan			(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)	262	66	77	177	3.85	1.47	1.54	0.39	0.45
-30	(-22)	466	117	136	196	3.91	2.65	2.37	0.60	0.69
-25	(-13)	692	174	203	221	4.00	3.94	3.10	0.78	0.91
-20	(- 4)	951	240	279	252	4.13	5.42	3.75	0.95	1.10
-15	(+ 5)	1256	316	368	288	4.31	7.16	4.35	1.10	1.27
-10	(+14)	1617	407	474	329	4.52	9.25	4.92	1.24	1.44
-5	(+23)	2046	516	600	374	4.78	11.76	5.48	1.38	1.60
0	(+32)	2556	644	749	423	5.08	14.77	6.05	1.52	1.77
+5	(+41)	3156	795	925	474	5.42	18.37	6.65	1.68	1.95
+10	(+50)	3860	973	1131	527	5.80	22.62	7.31	1.84	2.14
+15	(+59)	4679	1179	1371	582	6.22	27.62	8.05	2.03	2.36

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)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		