

COMPRESSOR DEFINITION

Designation	F F10BX
Nominal Voltage/Frequency	115 V 60 Hz
Engineering Number	513208910

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	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	-	103 to 135 V
8.2 LBP (43°C Ambient temperature)	Static	-	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	14.5	[kgf/cm ²] (206 psig)	/ °C - °F
9.2 Peak	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	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	ALQUILB / ISO32	
4 Weight (with oil charge)	10.64	[kg] (23.46 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	213516175	
3 Start capacitor	270-324(150)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MRT16AHK-5590	
6 Start winding resistance	4.86	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.59	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	32.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	5.50	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			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]	
3200	806	938	480	5.30	23.96	6.67	1.68	1.95	

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]	
3200	806	938	480	5.30	23.96	6.67	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]	
915	231	268	265	3.75	6.70	3.45	0.87	1.01	

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]	
915	231	268	265	3.75	6.70	3.45	0.87	1.01	

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]
-35	(-31)	553	139	162	191	3.43	4.03	2.89	0.73	0.85
-30	(-22)	729	184	214	222	3.55	5.33	3.27	0.82	0.96
-25	(-13)	931	235	273	252	3.69	6.82	3.68	0.93	1.08
-20	(- 4)	1167	294	342	284	3.86	8.56	4.11	1.04	1.20
-15	(+ 5)	1443	364	423	316	4.05	10.60	4.57	1.15	1.34
-10	(+14)	1767	445	518	350	4.28	13.02	5.06	1.27	1.48
-5	(+23)	2146	541	629	385	4.53	15.87	5.58	1.41	1.63
0	(+32)	2586	652	758	422	4.82	19.22	6.13	1.54	1.80
+5	(+41)	3094	780	907	461	5.14	23.12	6.71	1.69	1.97
+10	(+50)	3677	927	1078	502	5.49	27.64	7.32	1.85	2.15
+15	(+59)	4343	1094	1273	545	5.88	32.83	7.97	2.01	2.34

E - PERFORMANCE - CURVES

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)	465	117	136	191	3.43	3.39	2.48	0.62	0.73
-30	(-22)	635	160	186	222	3.55	4.65	2.87	0.72	0.84
-25	(-13)	831	209	244	252	3.69	6.09	3.28	0.83	0.96
-20	(- 4)	1060	267	311	284	3.86	7.77	3.72	0.94	1.09
-15	(+ 5)	1328	335	389	316	4.05	9.76	4.19	1.06	1.23
-10	(+14)	1644	414	482	350	4.28	12.11	4.69	1.18	1.37
-5	(+23)	2012	507	590	385	4.53	14.89	5.22	1.31	1.53
0	(+32)	2442	615	715	422	4.82	18.15	5.78	1.46	1.69
+5	(+41)	2938	740	861	461	5.14	21.96	6.37	1.60	1.87
+10	(+50)	3510	884	1028	502	5.49	26.38	6.99	1.76	2.05
+15	(+59)	4162	1049	1220	545	5.88	31.47	7.64	1.93	2.24

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)	435	110	127	191	3.43	3.17	2.25	0.57	0.66
-30	(-22)	585	148	172	222	3.55	4.29	2.61	0.66	0.77
-25	(-13)	761	192	223	252	3.69	5.58	3.00	0.76	0.88
-20	(- 4)	969	244	284	284	3.86	7.11	3.42	0.86	1.00
-15	(+ 5)	1216	306	356	316	4.05	8.93	3.86	0.97	1.13
-10	(+14)	1508	380	442	350	4.28	11.11	4.33	1.09	1.27
-5	(+23)	1853	467	543	385	4.53	13.71	4.83	1.22	1.42
0	(+32)	2258	569	662	422	4.82	16.78	5.36	1.35	1.57
+5	(+41)	2730	688	800	461	5.14	20.40	5.93	1.49	1.74
+10	(+50)	3275	825	960	502	5.49	24.62	6.52	1.64	1.91
+15	(+59)	3900	983	1143	545	5.88	29.50	7.15	1.80	2.09

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
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		