

COMPRESSOR DEFINITION

Designation	F FU100AK
Nominal Voltage/Frequency	220 V 50-60 Hz
Engineering Number	513200553

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
3 Nominal voltage and frequency	220 / 50-60	[V / Hz]	
4 Application type	Low-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°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 242 V	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	198 to 242 V	198 to 242 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
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	1/3	[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)	10.65	[kg] (23.48 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 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516035/213516043	
3 Start capacitor	53-64(230)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757KFBYY-53	
6 Start winding resistance	28.15	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.15	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	18.00/17.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.50/2.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - IRAM - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

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]	
860	217	252	195	1.73	6.30	4.40	1.11	1.29	

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]	
860	217	252	195	1.73	6.30	4.40	1.11	1.29	

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]	
1050	265	308	219	1.54	7.69	4.80	1.21	1.41	

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]	
1050	265	308	219	1.54	7.69	4.80	1.21	1.41	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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)	517	130	151	145	1.61	3.77	3.57	0.90	1.05
-30	(-22)	677	171	198	161	1.66	4.94	4.21	1.06	1.23
-25	(-13)	870	219	255	178	1.69	6.36	4.89	1.23	1.43
-20	(- 4)	1100	277	322	196	1.72	8.06	5.61	1.41	1.64
-15	(+ 5)	1373	346	402	214	1.75	10.09	6.39	1.61	1.87
-10	(+14)	1693	427	496	233	1.79	12.48	7.25	1.83	2.12
-5	(+23)	2066	521	605	252	1.86	15.29	8.21	2.07	2.41

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-35	(-31)	464	117	136	150	1.63	3.39	3.11	0.78	0.91
-30	(-22)	635	160	186	168	1.68	4.64	3.79	0.96	1.11
-25	(-13)	833	210	244	187	1.71	6.09	4.46	1.12	1.31
-20	(- 4)	1063	268	311	207	1.74	7.79	5.13	1.29	1.50
-15	(+ 5)	1330	335	390	229	1.77	9.77	5.81	1.47	1.70
-10	(+14)	1639	413	480	250	1.82	12.08	6.54	1.65	1.92
-5	(+23)	1995	503	585	273	1.90	14.76	7.31	1.84	2.14

TEST CONDITIONS: @220V50Hz		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]
-35	(-31)	398	100	117	152	1.65	2.90	2.61	0.66	0.77
-30	(-22)	584	147	171	173	1.70	4.27	3.36	0.85	0.98
-25	(-13)	791	199	232	195	1.73	5.79	4.04	1.02	1.18
-20	(- 4)	1025	258	300	219	1.76	7.52	4.68	1.18	1.37
-15	(+ 5)	1291	325	378	244	1.79	9.49	5.30	1.33	1.55
-10	(+14)	1593	401	467	270	1.85	11.75	5.90	1.49	1.73
-5	(+23)	1937	488	568	297	1.94	14.34	6.51	1.64	1.91

TEST CONDITIONS: @220V60Hz		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)	612	154	179	156	1.35	4.46	3.91	0.98	1.14
-30	(-22)	811	204	237	179	1.41	5.92	4.54	1.14	1.33
-25	(-13)	1040	262	305	201	1.47	7.61	5.18	1.30	1.52
-20	(- 4)	1312	331	384	225	1.55	9.61	5.84	1.47	1.71
-15	(+ 5)	1635	412	479	249	1.63	12.01	6.56	1.65	1.92
-10	(+14)	2020	509	592	274	1.72	14.90	7.35	1.85	2.15
-5	(+23)	2478	625	726	300	1.82	18.34	8.25	2.08	2.42

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	555	140	163	160	1.35	4.04	3.48	0.88	1.02
-30	(-22)	761	192	223	185	1.42	5.55	4.10	1.03	1.20
-25	(-13)	992	250	291	211	1.50	7.25	4.69	1.18	1.37
-20	(- 4)	1258	317	369	239	1.59	9.22	5.27	1.33	1.54
-15	(+ 5)	1571	396	460	267	1.69	11.55	5.88	1.48	1.72
-10	(+14)	1940	489	568	297	1.80	14.31	6.53	1.65	1.91
-5	(+23)	2376	599	696	328	1.92	17.58	7.26	1.83	2.13

TEST CONDITIONS: @220V60Hz		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)	513	129	150	163	1.35	3.74	3.14	0.79	0.92
-30	(-22)	723	182	212	191	1.43	5.28	3.75	0.95	1.10
-25	(-13)	952	240	279	221	1.53	6.97	4.31	1.09	1.26
-20	(- 4)	1211	305	355	252	1.63	8.88	4.82	1.22	1.41
-15	(+ 5)	1511	381	443	284	1.75	11.11	5.33	1.34	1.56
-10	(+14)	1861	469	545	318	1.88	13.73	5.86	1.48	1.72
-5	(+23)	2272	573	666	353	2.02	16.82	6.43	1.62	1.88

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	Straight		
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	Straight		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		