

COMPRESSOR DEFINITION

Designation	F FU100HAK
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513200511

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 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	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	-	98 to 140 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	-	98 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm²] (226 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	ESTER / ISO10	
4 Weight (with oil charge)	10.9	[kg] (24.03 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516094	
3 Start capacitor	233-280(120)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM 771NFBZZ-53	
6 Start winding resistance	7.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.90	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	-	[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 - TUV - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F))	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
985	248	289	197	2.66	5.60	5.00	1.26	1.47

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 45°C (+113°F))				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	539	136	158	126	2.35	3.05	4.27	1.08	1.25
-30	(-22)	748	188	219	163	2.48	4.24	4.61	1.16	1.35
-25	(-13)	993	250	291	192	2.61	5.64	5.19	1.31	1.52
-20	(- 4)	1283	323	376	216	2.75	7.30	5.95	1.50	1.74
-15	(+ 5)	1630	411	478	238	2.91	9.31	6.83	1.72	2.00
-10	(+14)	2044	515	599	262	3.07	11.71	7.77	1.96	2.28
-5	(+23)	2535	639	743	291	3.25	14.58	8.70	2.19	2.55

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 55°C (+131°F))				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	476	120	140	130	2.36	2.69	3.67	0.93	1.08
-30	(-22)	678	171	199	166	2.49	3.84	4.07	1.03	1.19
-25	(-13)	915	231	268	195	2.63	5.20	4.68	1.18	1.37
-20	(- 4)	1199	302	351	220	2.78	6.82	5.44	1.37	1.59
-15	(+ 5)	1540	388	451	245	2.94	8.79	6.29	1.58	1.84
-10	(+14)	1948	491	571	272	3.11	11.16	7.16	1.80	2.10
-5	(+23)	2434	613	713	305	3.30	14.00	7.99	2.01	2.34

TEST CONDITIONS: @115V60Hz		ASHRAE32 Static				(Condensing temperature 65°C (+149°F))				
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	410	103	120	129	2.36	2.32	3.17	0.80	0.93
-30	(-22)	602	152	176	166	2.50	3.41	3.61	0.91	1.06
-25	(-13)	831	209	244	196	2.65	4.72	4.24	1.07	1.24
-20	(- 4)	1107	279	324	223	2.81	6.30	4.98	1.25	1.46
-15	(+ 5)	1441	363	422	250	2.98	8.22	5.78	1.46	1.69
-10	(+14)	1842	464	540	281	3.17	10.55	6.57	1.65	1.92
-5	(+23)	2321	585	680	318	3.37	13.35	7.29	1.84	2.14

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