

COMPRESSOR DEFINITION

Designation	F FU100HAK
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513200512

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 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 255 V	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	198 to 255 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	14.2	[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	1/3	[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 - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 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]
815	205	239	178	1.69	4.63	4.58	1.15	1.34

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]
985	248	289	196	1.48	5.60	5.02	1.27	1.47

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	455	115	133	130	1.60	2.58	3.52	0.89	1.03
-30 (-22)	619	156	182	146	1.61	3.51	4.26	1.07	1.25
-25 (-13)	818	206	240	162	1.64	4.65	5.05	1.27	1.48
-20 (- 4)	1060	267	310	179	1.67	6.03	5.90	1.49	1.73
-15 (+ 5)	1351	340	396	198	1.71	7.71	6.81	1.72	2.00
-10 (+14)	1699	428	498	218	1.76	9.74	7.77	1.96	2.28
-5 (+23)	2113	532	619	241	1.83	12.15	8.77	2.21	2.57

TEST CONDITIONS: @220V50Hz			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)	393	99	115	127	1.61	2.23	3.07	0.77	0.90
-30 (-22)	559	141	164	149	1.63	3.17	3.74	0.94	1.10
-25 (-13)	757	191	222	170	1.66	4.30	4.44	1.12	1.30
-20 (- 4)	995	251	292	192	1.71	5.66	5.18	1.30	1.52
-15 (+ 5)	1280	323	375	215	1.76	7.31	5.95	1.50	1.74
-10 (+14)	1620	408	475	240	1.82	9.28	6.75	1.70	1.98
-5 (+23)	2023	510	593	267	1.90	11.63	7.58	1.91	2.22

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		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]
-35	(-31)	326	82	95	122	1.59	1.84	2.68	0.68	0.79
-30	(-22)	497	125	146	147	1.62	2.82	3.35	0.84	0.98
-25	(-13)	698	176	204	172	1.66	3.96	4.04	1.02	1.18
-20	(- 4)	936	236	274	198	1.71	5.32	4.75	1.20	1.39
-15	(+ 5)	1218	307	357	224	1.77	6.95	5.46	1.38	1.60
-10	(+14)	1553	391	455	251	1.84	8.90	6.19	1.56	1.81
-5	(+23)	1949	491	571	281	1.92	11.21	6.93	1.75	2.03

TEST CONDITIONS: @220V60Hz		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]
-35	(-31)	537	135	157	123	1.31	3.04	4.36	1.10	1.28
-30	(-22)	744	188	218	150	1.36	4.22	4.94	1.25	1.45
-25	(-13)	990	249	290	181	1.41	5.62	5.49	1.38	1.61
-20	(- 4)	1282	323	376	213	1.48	7.30	6.04	1.52	1.77
-15	(+ 5)	1630	411	478	246	1.57	9.30	6.63	1.67	1.94
-10	(+14)	2042	515	598	279	1.66	11.70	7.32	1.84	2.14
-5	(+23)	2529	637	741	311	1.76	14.55	8.14	2.05	2.39

TEST CONDITIONS: @220V60Hz		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]
-35	(-31)	469	118	137	128	1.29	2.65	3.66	0.92	1.07
-30	(-22)	672	169	197	156	1.35	3.81	4.30	1.08	1.26
-25	(-13)	913	230	268	187	1.42	5.18	4.89	1.23	1.43
-20	(- 4)	1199	302	351	220	1.51	6.83	5.45	1.37	1.60
-15	(+ 5)	1541	388	452	255	1.62	8.80	6.04	1.52	1.77
-10	(+14)	1947	491	570	290	1.74	11.15	6.69	1.69	1.96
-5	(+23)	2425	611	711	325	1.88	13.95	7.47	1.88	2.19

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	398	100	117	136	1.30	2.25	2.93	0.74	0.86
-30	(-22)	594	150	174	163	1.36	3.37	3.63	0.91	1.06
-25	(-13)	826	208	242	195	1.43	4.69	4.24	1.07	1.24
-20	(- 4)	1104	278	324	230	1.53	6.28	4.82	1.21	1.41
-15	(+ 5)	1436	362	421	266	1.65	8.20	5.39	1.36	1.58
-10	(+14)	1831	461	537	304	1.78	10.49	6.02	1.52	1.76
-5	(+23)	2299	579	674	341	1.93	13.22	6.74	1.70	1.98

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		