

COMPRESSOR DEFINITION

Designation	F FU80AK
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513200890

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
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	187 to 255 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	187 to 255 V	187 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	1/4+	[hp]
2 Displacement	6.76	[cm ³] (0.413 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	17.000	
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)	10.8	[kg] (23.81 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	213516078/213516086	
3 Start capacitor	108-130(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	30.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.52	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	15.20/14.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.90/1.66	[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]	
750	189	220	158	1.34	5.49	4.74	1.19	1.39	

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]	
750	189	220	158	1.34	5.49	4.74	1.19	1.39	

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]	
910	229	267	184	1.26	6.66	4.95	1.25	1.45	

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]	
910	229	267	184	1.26	6.66	4.95	1.25	1.45	

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]
-35	(-31)	468	118	137	128	1.30	3.41	3.66	0.92	1.07
-30	(-22)	585	147	171	137	1.31	4.27	4.28	1.08	1.25
-25	(-13)	733	185	215	148	1.33	5.36	4.95	1.25	1.45
-20	(- 4)	919	232	269	161	1.36	6.74	5.70	1.44	1.67
-15	(+ 5)	1150	290	337	175	1.39	8.46	6.56	1.65	1.92
-10	(+14)	1435	362	420	190	1.43	10.58	7.55	1.90	2.21
-5	(+23)	1780	448	521	204	1.48	13.17	8.70	2.19	2.55

E - PERFORMANCE - CURVES

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)	418	105	123	123	1.28	3.05	3.40	0.86	0.99	
-30 (-22)	540	136	158	137	1.31	3.95	3.94	0.99	1.15	
-25 (-13)	690	174	202	153	1.34	5.05	4.51	1.14	1.32	
-20 (- 4)	875	221	256	170	1.39	6.41	5.13	1.29	1.50	
-15 (+ 5)	1103	278	323	189	1.43	8.11	5.83	1.47	1.71	
-10 (+14)	1380	348	404	208	1.49	10.18	6.64	1.67	1.95	
-5 (+23)	1716	432	503	227	1.55	12.70	7.58	1.91	2.22	

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]	[W/W]
-35 (-31)	367	92	108	122	1.27	2.67	3.01	0.76	0.88	
-30 (-22)	492	124	144	139	1.31	3.59	3.53	0.89	1.04	
-25 (-13)	642	162	188	158	1.36	4.69	4.06	1.02	1.19	
-20 (- 4)	824	208	241	179	1.41	6.04	4.61	1.16	1.35	
-15 (+ 5)	1046	264	306	201	1.47	7.69	5.22	1.32	1.53	
-10 (+14)	1315	331	385	223	1.54	9.70	5.90	1.49	1.73	
-5 (+23)	1640	413	480	245	1.61	12.14	6.68	1.68	1.96	

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]	[W/W]
-35 (-31)	537	135	157	133	1.12	3.92	4.05	1.02	1.19	
-30 (-22)	701	177	205	151	1.17	5.12	4.63	1.17	1.36	
-25 (-13)	898	226	263	170	1.22	6.57	5.28	1.33	1.55	
-20 (- 4)	1132	285	332	189	1.28	8.30	5.99	1.51	1.75	
-15 (+ 5)	1408	355	413	208	1.35	10.35	6.77	1.71	1.98	
-10 (+14)	1731	436	507	227	1.42	12.76	7.63	1.92	2.24	
-5 (+23)	2106	531	617	246	1.49	15.58	8.56	2.16	2.51	

E - PERFORMANCE - CURVES

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]	[W/W]
-35	(-31)	482	122	141	133	1.11	3.51	3.64	0.92	1.07
-30	(-22)	640	161	187	154	1.17	4.67	4.15	1.05	1.22
-25	(-13)	831	209	244	176	1.24	6.08	4.71	1.19	1.38
-20	(- 4)	1061	267	311	199	1.32	7.78	5.33	1.34	1.56
-15	(+ 5)	1335	336	391	222	1.40	9.81	6.00	1.51	1.76
-10	(+14)	1657	418	486	246	1.49	12.22	6.73	1.70	1.97
-5	(+23)	2031	512	595	271	1.59	15.03	7.52	1.89	2.20

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)	434	109	127	130	1.10	3.17	3.33	0.84	0.98
-30	(-22)	582	147	171	154	1.17	4.25	3.78	0.95	1.11
-25	(-13)	765	193	224	180	1.25	5.60	4.26	1.07	1.25
-20	(- 4)	988	249	290	207	1.34	7.24	4.78	1.20	1.40
-15	(+ 5)	1256	316	368	235	1.44	9.23	5.34	1.35	1.56
-10	(+14)	1573	396	461	264	1.56	11.60	5.95	1.50	1.74
-5	(+23)	1944	490	570	294	1.68	14.39	6.60	1.66	1.93

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		