

COMPRESSOR DEFINITION

Designation	F FU70AK
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513200591

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	Blend		
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	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	-	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	14.5	[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	6.36	[cm ³] (0.388 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	16.000	
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)	10.96	[kg] (24.16 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516272/213516583	
3 Start capacitor	189-227(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM762MFBZZ-53	
6 Start winding resistance	7.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.80	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	26.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

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 +/- 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]	
840	212	246	170	2.12	6.15	4.95	1.25	1.45	

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]	
840	212	246	170	2.12	6.15	4.95	1.25	1.45	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	512	129	150	123	1.81	3.73	4.18	1.05	1.22
-30	(-22)	646	163	189	138	1.90	4.71	4.70	1.18	1.38
-25	(-13)	828	209	243	155	2.00	6.05	5.36	1.35	1.57
-20	(- 4)	1055	266	309	173	2.12	7.74	6.11	1.54	1.79
-15	(+ 5)	1326	334	388	191	2.25	9.74	6.95	1.75	2.04
-10	(+14)	1635	412	479	209	2.38	12.06	7.84	1.97	2.30
-5	(+23)	1982	499	581	226	2.52	14.66	8.75	2.21	2.56

TEST CONDITIONS: @115V60Hz		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)	459	116	135	124	1.81	3.35	3.71	0.94	1.09
-30	(-22)	589	148	173	141	1.91	4.30	4.19	1.06	1.23
-25	(-13)	766	193	224	160	2.04	5.60	4.77	1.20	1.40
-20	(- 4)	987	249	289	181	2.18	7.23	5.43	1.37	1.59
-15	(+ 5)	1249	315	366	203	2.34	9.18	6.14	1.55	1.80
-10	(+14)	1549	390	454	226	2.51	11.43	6.87	1.73	2.01
-5	(+23)	1885	475	552	248	2.69	13.95	7.60	1.92	2.23

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz		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)	409	103	120	123	1.80	2.98	3.32	0.84	0.97
-30	(-22)	534	135	156	142	1.92	3.90	3.78	0.95	1.11
-25	(-13)	705	178	207	164	2.06	5.16	4.31	1.09	1.26
-20	(- 4)	919	232	269	188	2.23	6.74	4.88	1.23	1.43
-15	(+ 5)	1173	295	344	214	2.42	8.62	5.49	1.38	1.61
-10	(+14)	1463	369	429	241	2.63	10.79	6.09	1.53	1.78
-5	(+23)	1788	451	524	268	2.85	13.24	6.66	1.68	1.95

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	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		