COMPRESSOR DEFINITION

Designation	**F FU70AKW**
Nominal Voltage/Frequency	**220-240 V 50-60 Hz**
Engineering Number	**513200519**

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 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static/Fan	187 to 255 V	187 to 242 V
8.2 LBP (43ºC Ambient temperature)	Static/Fan	187 to 255 V	187 to 242 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.5	[kgf/cm²] (206 psig)	/ ºC - ºF
9.2 Peak	18.2	[kgf/cm²] (259 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	6.36	[cm³] (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)	11.46	[kg] (25.26 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (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	213516159/213516353	
3 Start capacitor	64-77(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM283NFBYY-53	
6 Start winding resistance	43.10	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	10.35	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	12.80/11.90	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.70/1.50	[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]
700	176	205	146	1.14	5.12	4.80	1.21	1.41

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]
700	176	205	146	1.14	5.12	4.80	1.21	1.41

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]
840	212	246	170	1.10	6.15	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]
840	212	246	170	1.10	6.15	4.95	1.25	1.45

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz**				**ASHRAE32 Static**			(Condensing temperature **45ºC (+113ºF))**				
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)**	410	103	120	108	1.05	2.99	3.80	0.96	1.11	
-30	**(-22)**	538	135	158	120	1.07	3.92	4.48	1.13	1.31	
-25	**(-13)**	692	174	203	133	1.10	5.06	5.22	1.31	1.53	
-20	**(- 4)**	878	221	257	146	1.13	6.44	6.02	1.52	1.76	
-15	**(+ 5)**	1101	277	323	160	1.17	8.09	6.90	1.74	2.02	
-10	**(+14)**	1365	344	400	173	1.22	10.06	7.86	1.98	2.30	
-5	**(+23)**	1675	422	491	187	1.27	12.39	8.94	2.25	2.62	

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V50Hz **Static**

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)**	371	93	109	110	1.05	2.70	3.38	0.85	0.99
-30	**(-22)**	495	125	145	124	1.08	3.62	3.99	1.01	1.17
-25	**(-13)**	644	162	189	139	1.12	4.71	4.63	1.17	1.36
-20	**(- 4)**	821	207	241	155	1.16	6.02	5.31	1.34	1.56
-15	**(+ 5)**	1032	260	302	171	1.21	7.59	6.03	1.52	1.77
-10	**(+14)**	1281	323	375	188	1.27	9.45	6.82	1.72	2.00
-5	**(+23)**	1573	396	461	205	1.33	11.64	7.67	1.93	2.25

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Static**

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)**	332	84	97	109	1.04	2.42	3.06	0.77	0.90
-30	**(-22)**	458	115	134	125	1.08	3.35	3.64	0.92	1.07
-25	**(-13)**	605	152	177	143	1.13	4.43	4.22	1.06	1.24
-20	**(- 4)**	778	196	228	162	1.19	5.70	4.80	1.21	1.41
-15	**(+ 5)**	981	247	287	182	1.25	7.21	5.40	1.36	1.58
-10	**(+14)**	1219	307	357	202	1.32	8.99	6.02	1.52	1.77
-5	**(+23)**	1497	377	439	224	1.40	11.08	6.69	1.69	1.96

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@220V60Hz **Static**

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	122	0.94	3.73	4.21	1.06	1.23
-30	**(-22)**	646	163	189	138	0.99	4.71	4.70	1.18	1.38
-25	**(-13)**	828	209	243	155	1.05	6.05	5.35	1.35	1.57
-20	**(- 4)**	1055	266	309	172	1.11	7.74	6.11	1.54	1.79
-15	**(+ 5)**	1326	334	388	190	1.18	9.74	6.96	1.75	2.04
-10	**(+14)**	1635	412	479	209	1.25	12.06	7.84	1.97	2.30
-5	**(+23)**	1982	499	581	228	1.32	14.66	8.71	2.19	2.55

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF))**
@220V60Hz **Static**

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	121	0.93	3.35	3.80	0.96	1.11
-30	**(-22)**	589	148	173	140	0.99	4.30	4.20	1.06	1.23
-25	**(-13)**	766	193	224	161	1.07	5.60	4.74	1.20	1.39
-20	**(- 4)**	987	249	289	183	1.15	7.23	5.39	1.36	1.58
-15	**(+ 5)**	1249	315	366	205	1.23	9.18	6.09	1.53	1.78
-10	**(+14)**	1549	390	454	228	1.32	11.43	6.80	1.71	1.99
-5	**(+23)**	1885	475	552	252	1.42	13.95	7.49	1.89	2.20

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V60Hz **Static**

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	119	0.93	2.98	3.43	0.86	1.01
-30	**(-22)**	534	135	156	142	1.00	3.90	3.79	0.95	1.11
-25	**(-13)**	705	178	207	165	1.09	5.16	4.27	1.08	1.25
-20	**(- 4)**	919	232	269	190	1.18	6.74	4.83	1.22	1.41
-15	**(+ 5)**	1173	295	344	216	1.28	8.62	5.42	1.37	1.59
-10	**(+14)**	1463	369	429	244	1.39	10.79	6.02	1.52	1.76
-5	**(+23)**	1788	451	524	272	1.51	13.24	6.57	1.65	1.92

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)	6.5 +0.09/-0.09	[mm]	(0.256" +0.004"/-0.004")
3.5 Connector sealing	Rubber Plugs		