

### COMPRESSOR DEFINITION

Designation	F FU130UAX
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513200922

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
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	CSIR		
6 Starting torque	HST - Hight starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Fan	187 to 255 V	187 to 255 V
8.2 LBP (43°C Ambient temperature)	Fan	187 to 255 V	187 to 255 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/3+	[hp]
2 Displacement	6.76	[cm <sup>3</sup> ] (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	[kg] (22.05 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	213516043	
3 Start capacitor	145-175(280)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757LFBYY-53	
6 Start winding resistance	8.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.40	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	18.00/19.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.55/2.20	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	2.95/2.60	[A] - Measured according to UL 984
11 Approval boards certification	CCC - TUV - UL - VDE	

### D - PERFORMANCE - CHECK POINT DATA

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]
1090	275	319	214	1.66	3.24	5.10	1.29	1.49

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]
1360	343	399	257	1.61	4.05	5.28	1.33	1.55

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan			(Condensing temperature 35°C (+95°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)	691	174	203	153	1.53	2.05	4.50	1.13	1.32
-30	(-22)	879	221	257	170	1.56	2.61	5.16	1.30	1.51
-25	(-13)	1129	285	331	187	1.60	3.36	6.03	1.52	1.77
-20	(- 4)	1440	363	422	203	1.65	4.30	7.10	1.79	2.08
-15	(+ 5)	1808	456	530	218	1.68	5.42	8.35	2.11	2.45
-10	(+14)	2230	562	653	230	1.72	6.71	9.78	2.46	2.87
-5	(+23)	2704	681	792	238	1.74	8.18	11.37	2.86	3.33

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan			(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)	654	165	192	161	1.54	1.94	4.09	1.03	1.20
-30	(-22)	823	207	241	179	1.57	2.44	4.60	1.16	1.35
-25	(-13)	1055	266	309	198	1.62	3.14	5.28	1.33	1.55
-20	(- 4)	1348	340	395	218	1.67	4.02	6.14	1.55	1.80
-15	(+ 5)	1699	428	498	237	1.73	5.09	7.14	1.80	2.09
-10	(+14)	2106	531	617	255	1.78	6.34	8.28	2.09	2.43
-5	(+23)	2565	646	752	269	1.83	7.76	9.54	2.40	2.79

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan			(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)	620	156	182	169	1.55	1.83	3.72	0.94	1.09	
-30 (-22)	766	193	224	188	1.59	2.27	4.12	1.04	1.21	
-25 (-13)	977	246	286	209	1.64	2.90	4.67	1.18	1.37	
-20 (- 4)	1250	315	366	233	1.71	3.73	5.35	1.35	1.57	
-15 (+ 5)	1582	399	463	256	1.78	4.74	6.14	1.55	1.80	
-10 (+14)	1970	496	577	280	1.85	5.93	7.03	1.77	2.06	
-5 (+23)	2411	608	707	301	1.93	7.29	8.01	2.02	2.35	

TEST CONDITIONS: @220V50Hz		ASHRAE32 Fan			(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)	606	153	178	176	1.57	1.79	3.39	0.85	0.99	
-30 (-22)	728	183	213	196	1.61	2.16	3.74	0.94	1.09	
-25 (-13)	915	230	268	220	1.67	2.72	4.19	1.06	1.23	
-20 (- 4)	1164	293	341	247	1.75	3.47	4.73	1.19	1.39	
-15 (+ 5)	1474	372	432	276	1.84	4.41	5.35	1.35	1.57	
-10 (+14)	1841	464	540	305	1.94	5.54	6.04	1.52	1.77	
-5 (+23)	2263	570	663	334	2.04	6.84	6.77	1.71	1.98	

TEST CONDITIONS: @220V60Hz		ASHRAE32 Fan			(Condensing temperature 35°C (+95°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)	876	221	257	176	1.33	2.59	4.98	1.25	1.46	
-30 (-22)	1128	284	331	194	1.39	3.35	5.77	1.46	1.69	
-25 (-13)	1400	353	410	213	1.46	4.17	6.58	1.66	1.93	
-20 (- 4)	1710	431	501	231	1.52	5.10	7.43	1.87	2.18	
-15 (+ 5)	2072	522	607	249	1.58	6.21	8.35	2.11	2.45	
-10 (+14)	2504	631	734	267	1.65	7.54	9.40	2.37	2.76	
-5 (+23)	3023	762	886	284	1.71	9.14	10.61	2.67	3.11	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		ASHRAE32 Fan			(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)	845	213	248	189	1.38	2.50	4.46	1.12	1.31
-30	(-22)	1081	273	317	209	1.44	3.21	5.14	1.30	1.51
-25	(-13)	1340	338	393	230	1.51	3.99	5.83	1.47	1.71
-20	(- 4)	1638	413	480	250	1.58	4.89	6.56	1.65	1.92
-15	(+ 5)	1991	502	583	270	1.65	5.96	7.38	1.86	2.16
-10	(+14)	2417	609	708	291	1.73	7.27	8.32	2.10	2.44
-5	(+23)	2931	738	859	311	1.81	8.86	9.42	2.37	2.76

TEST CONDITIONS: @220V60Hz		ASHRAE32 Fan			(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)	784	198	230	196	1.41	2.32	3.99	1.00	1.17
-30	(-22)	1005	253	295	221	1.48	2.98	4.53	1.14	1.33
-25	(-13)	1251	315	367	246	1.56	3.72	5.08	1.28	1.49
-20	(- 4)	1539	388	451	272	1.65	4.59	5.67	1.43	1.66
-15	(+ 5)	1884	475	552	297	1.75	5.64	6.35	1.60	1.86
-10	(+14)	2303	580	675	322	1.85	6.93	7.15	1.80	2.10
-5	(+23)	2814	709	824	348	1.96	8.51	8.12	2.05	2.38

TEST CONDITIONS: @220V60Hz		ASHRAE32 Fan			(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)	738	186	216	197	1.42	2.18	3.75	0.95	1.10
-30	(-22)	945	238	277	230	1.52	2.80	4.12	1.04	1.21
-25	(-13)	1179	297	346	262	1.63	3.51	4.50	1.13	1.32
-20	(- 4)	1457	367	427	296	1.75	4.35	4.92	1.24	1.44
-15	(+ 5)	1795	452	526	329	1.88	5.37	5.44	1.37	1.59
-10	(+14)	2209	557	647	362	2.02	6.65	6.07	1.53	1.78
-5	(+23)	2717	685	796	396	2.17	8.21	6.87	1.73	2.01

### 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		