

COMPRESSOR DEFINITION

Designation	FF US100HAK
Nominal Voltage/Frequency	115-127 V 60 Hz
Engineering Number	513200942

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 60	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°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	-	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[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	230	[ml] (7.78 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10.45	[kg] (23.04 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	213516248/213516264	
3 Start capacitor	233-280(110)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM 771NFBZZ-53	
6 Start winding resistance	14.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	30.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	3.68	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	4.35	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - TUV - UKCA - UL	

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]
1012	255	297	202	2.82	5.75	5.01	1.26	1.47

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V60Hz			ASHRAE32 Static		(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)	588	148	172	131	2.48	3.32	4.48	1.13	1.31
-30	(-22)	803	202	235	151	2.54	4.55	5.28	1.33	1.55
-25	(-13)	1050	265	308	172	2.63	5.96	6.11	1.54	1.79
-20	(- 4)	1345	339	394	193	2.75	7.66	7.00	1.76	2.05
-15	(+ 5)	1703	429	499	214	2.87	9.72	7.99	2.01	2.34
-10	(+14)	2139	539	627	236	3.01	12.25	9.10	2.29	2.67
-5	(+23)	2667	672	782	258	3.16	15.35	10.36	2.61	3.04
0	(+32)	3304	833	968	279	3.32	19.10	11.80	2.97	3.46

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)	528	133	155	139	2.58	2.99	3.82	0.96	1.12
-30	(-22)	740	187	217	160	2.63	4.20	4.58	1.16	1.34
-25	(-13)	984	248	288	183	2.72	5.59	5.35	1.35	1.57
-20	(- 4)	1275	321	374	207	2.84	7.26	6.13	1.55	1.80
-15	(+ 5)	1627	410	477	233	2.99	9.29	6.97	1.76	2.04
-10	(+14)	2057	518	603	260	3.17	11.78	7.90	1.99	2.31
-5	(+23)	2578	650	755	289	3.37	14.83	8.94	2.25	2.62
0	(+32)	3206	808	940	317	3.59	18.54	10.12	2.55	2.97

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)	458	115	134	142	2.66	2.59	3.24	0.82	0.95
-30	(-22)	667	168	195	165	2.69	3.78	4.02	1.01	1.18
-25	(-13)	907	228	266	190	2.77	5.15	4.75	1.20	1.39
-20	(- 4)	1192	300	349	218	2.90	6.78	5.46	1.38	1.60
-15	(+ 5)	1538	387	451	248	3.08	8.77	6.19	1.56	1.81
-10	(+14)	1959	494	574	281	3.30	11.22	6.97	1.76	2.04
-5	(+23)	2472	623	724	316	3.56	14.22	7.83	1.97	2.29
0	(+32)	3091	779	906	352	3.85	17.87	8.79	2.21	2.58

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)	380	96	111	142	2.73	2.15	2.68	0.67	0.78
-30	(-22)	584	147	171	165	2.74	3.31	3.49	0.88	1.02
-25	(-13)	818	206	240	193	2.82	4.65	4.23	1.07	1.24
-20	(- 4)	1097	276	321	225	2.96	6.24	4.91	1.24	1.44
-15	(+ 5)	1435	362	420	259	3.16	8.19	5.57	1.40	1.63
-10	(+14)	1848	466	542	298	3.42	10.59	6.23	1.57	1.83
-5	(+23)	2351	593	689	339	3.73	13.53	6.94	1.75	2.03
0	(+32)	2960	746	867	383	4.09	17.11	7.71	1.94	2.26

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		