

COMPRESSOR DEFINITION

Designation	F FV7,5HAK
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513200441

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
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	187 to 255 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	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	14.2	[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	1/5+	[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	ESTER / ISO10	
4 Weight (with oil charge)	11.38	[kg] (25.09 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	213516159/213516353	
3 Start capacitor	64-77(220)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	4TM319KFBYY-53	
6 Start winding resistance	43.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.35	[Ω at 25°C (77°F)] +/- 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 - VDE	

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]
650	164	190	136	1.13	3.69	4.78	1.20	1.40

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]
765	193	224	153	1.03	4.35	5.00	1.26	1.47

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]	[W/W]
-35	(-31)	342	86	100	91	1.03	1.94	3.77	0.95	1.11
-30	(-22)	491	124	144	107	1.07	2.78	4.57	1.15	1.34
-25	(-13)	664	167	194	125	1.11	3.77	5.30	1.34	1.55
-20	(- 4)	868	219	254	144	1.15	4.94	6.04	1.52	1.77
-15	(+ 5)	1110	280	325	162	1.19	6.34	6.87	1.73	2.01
-10	(+14)	1397	352	409	178	1.23	8.00	7.87	1.98	2.30
-5	(+23)	1735	437	508	190	1.27	9.98	9.11	2.30	2.67

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)	292	74	86	86	1.02	1.65	3.38	0.85	0.99
-30	(-22)	430	108	126	103	1.06	2.43	4.15	1.05	1.22
-25	(-13)	592	149	173	123	1.10	3.36	4.81	1.21	1.41
-20	(- 4)	787	198	230	146	1.15	4.48	5.41	1.36	1.59
-15	(+ 5)	1020	257	299	169	1.20	5.82	6.06	1.53	1.77
-10	(+14)	1299	327	381	191	1.26	7.44	6.81	1.72	2.00
-5	(+23)	1631	411	478	210	1.32	9.38	7.76	1.96	2.27

E - PERFORMANCE - CURVES

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]
-35	(-31)	204	52	60	80	1.02	1.16	2.58	0.65	0.76
-30	(-22)	342	86	100	98	1.05	1.94	3.49	0.88	1.02
-25	(-13)	506	128	148	120	1.10	2.87	4.21	1.06	1.23
-20	(- 4)	703	177	206	145	1.15	4.00	4.84	1.22	1.42
-15	(+ 5)	940	237	275	172	1.22	5.37	5.45	1.37	1.60
-10	(+14)	1223	308	359	200	1.29	7.01	6.11	1.54	1.79
-5	(+23)	1560	393	457	226	1.38	8.97	6.92	1.74	2.03

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]
-35	(-31)	386	97	113	97	0.86	2.18	3.96	1.00	1.16
-30	(-22)	559	141	164	118	0.93	3.17	4.70	1.19	1.38
-25	(-13)	769	194	225	142	1.00	4.37	5.43	1.37	1.59
-20	(- 4)	1024	258	300	166	1.08	5.83	6.18	1.56	1.81
-15	(+ 5)	1334	336	391	191	1.16	7.61	7.00	1.76	2.05
-10	(+14)	1706	430	500	215	1.25	9.78	7.93	2.00	2.32
-5	(+23)	2150	542	630	239	1.35	12.37	9.01	2.27	2.64

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]
-35	(-31)	328	83	96	95	0.86	1.86	3.50	0.88	1.03
-30	(-22)	489	123	143	116	0.93	2.77	4.23	1.07	1.24
-25	(-13)	687	173	201	140	1.00	3.90	4.90	1.24	1.44
-20	(- 4)	929	234	272	167	1.09	5.29	5.56	1.40	1.63
-15	(+ 5)	1226	309	359	196	1.19	7.00	6.24	1.57	1.83
-10	(+14)	1587	400	465	227	1.30	9.09	6.98	1.76	2.05
-5	(+23)	2019	509	592	258	1.43	11.61	7.83	1.97	2.29

E - PERFORMANCE - CURVES

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)	250	63	73	88	0.85	1.42	2.83	0.71	0.83
-30	(-22)	395	100	116	109	0.91	2.24	3.61	0.91	1.06
-25	(-13)	577	145	169	135	0.98	3.28	4.28	1.08	1.25
-20	(- 4)	804	203	236	165	1.08	4.58	4.89	1.23	1.43
-15	(+ 5)	1086	274	318	198	1.19	6.20	5.48	1.38	1.61
-10	(+14)	1431	361	419	235	1.33	8.20	6.09	1.53	1.78
-5	(+23)	1848	466	541	273	1.49	10.63	6.76	1.70	1.98

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-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		