

COMPRESSOR DEFINITION

Designation	F FV8,5HAK
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	513200420

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/Fan	187 to 255 V	187 to 242 V
8.2 LBP (43°C Ambient temperature)	Static/Fan	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	1/4	[hp]
2 Displacement	7.15	[cm ³] (0.436 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.000	
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)	11.36	[kg] (25.04 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	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213516078/213516086	
3 Start capacitor	108-130(220)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM743KDBYY-53	
6 Start winding resistance	30.10	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	8.52	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	15.20/14.40	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.90/1.66	[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 - 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	149	1.30	3.98	4.70	1.18	1.38

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]
830	209	243	166	1.20	4.72	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)	368	93	108	101	1.22	2.08	3.60	0.91	1.05
-30	(-22)	497	125	146	118	1.24	2.82	4.23	1.07	1.24
-25	(-13)	666	168	195	136	1.28	3.78	4.92	1.24	1.44
-20	(- 4)	877	221	257	154	1.32	4.99	5.69	1.43	1.67
-15	(+ 5)	1131	285	331	172	1.37	6.46	6.55	1.65	1.92
-10	(+14)	1431	361	419	190	1.42	8.20	7.53	1.90	2.21
-5	(+23)	1779	448	521	206	1.46	10.23	8.64	2.18	2.53

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)	294	74	86	99	1.23	1.66	3.00	0.76	0.88
-30	(-22)	436	110	128	118	1.26	2.47	3.70	0.93	1.08
-25	(-13)	611	154	179	139	1.29	3.47	4.39	1.11	1.29
-20	(- 4)	820	207	240	161	1.35	4.67	5.08	1.28	1.49
-15	(+ 5)	1067	269	313	183	1.40	6.09	5.80	1.46	1.70
-10	(+14)	1352	341	396	206	1.47	7.74	6.56	1.65	1.92
-5	(+23)	1677	423	491	228	1.53	9.65	7.37	1.86	2.16

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)	228	58	67	93	1.23	1.29	2.47	0.62	0.72
-30	(-22)	381	96	112	115	1.25	2.16	3.28	0.83	0.96
-25	(-13)	560	141	164	139	1.29	3.18	4.01	1.01	1.17
-20	(- 4)	767	193	225	164	1.35	4.37	4.66	1.18	1.37
-15	(+ 5)	1003	253	294	191	1.43	5.73	5.27	1.33	1.54
-10	(+14)	1271	320	373	219	1.51	7.28	5.84	1.47	1.71
-5	(+23)	1573	396	461	246	1.59	9.05	6.39	1.61	1.87

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)	446	112	131	110	1.07	2.52	4.05	1.02	1.19
-30	(-22)	622	157	182	131	1.13	3.53	4.76	1.20	1.39
-25	(-13)	852	215	250	155	1.20	4.84	5.50	1.39	1.61
-20	(- 4)	1130	285	331	180	1.28	6.43	6.26	1.58	1.84
-15	(+ 5)	1452	366	426	207	1.36	8.29	7.03	1.77	2.06
-10	(+14)	1812	457	531	234	1.45	10.38	7.78	1.96	2.28
-5	(+23)	2205	556	646	259	1.53	12.69	8.50	2.14	2.49

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)	378	95	111	108	1.08	2.14	3.53	0.89	1.03
-30	(-22)	540	136	158	130	1.12	3.06	4.20	1.06	1.23
-25	(-13)	760	192	223	155	1.19	4.32	4.89	1.23	1.43
-20	(- 4)	1034	261	303	184	1.28	5.88	5.59	1.41	1.64
-15	(+ 5)	1355	341	397	215	1.38	7.73	6.27	1.58	1.84
-10	(+14)	1718	433	504	248	1.51	9.84	6.93	1.75	2.03
-5	(+23)	2119	534	621	281	1.64	12.19	7.54	1.90	2.21

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)	319	80	94	103	1.14	1.81	3.07	0.77	0.90
-30	(-22)	459	116	135	126	1.15	2.60	3.69	0.93	1.08
-25	(-13)	662	167	194	154	1.20	3.76	4.33	1.09	1.27
-20	(- 4)	922	232	270	186	1.29	5.24	4.95	1.25	1.45
-15	(+ 5)	1234	311	362	222	1.40	7.04	5.55	1.40	1.63
-10	(+14)	1593	401	467	261	1.55	9.12	6.11	1.54	1.79
-5	(+23)	1993	502	584	302	1.71	11.47	6.60	1.66	1.93

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		