

COMPRESSOR DEFINITION

Designation	EM YS70HEP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513305007

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220 / 60	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	RSIR-RSCR		
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	-	198 to 242 V
8.2 LBP (43°C Ambient temperature)	Static	-	198 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		[hp]
2 Displacement	5.96	[cm ³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.04	[kg] (17.72 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 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MSC34X 220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	4(316)	[µF(VAC minimum)]
5 Motor protection	MSC34F49J3	
6 Start winding resistance	30.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	11.12	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	8.20	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.44	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.63	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

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]
690	174	202	142	0.74	3.92	4.87	1.23	1.43

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	386	97	113	96	0.57	2.18	4.00	1.01	1.17
-30 (-22)	524	132	154	109	0.58	2.97	4.79	1.21	1.40
-25 (-13)	696	175	204	123	0.58	3.95	5.66	1.43	1.66
-20 (- 4)	908	229	266	138	0.59	5.17	6.60	1.66	1.93
-15 (+ 5)	1167	294	342	153	0.59	6.66	7.63	1.92	2.23
-10 (+14)	1478	372	433	169	0.59	8.47	8.73	2.20	2.56

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]	[W/W]
-35 (-31)	366	92	107	100	0.67	2.07	3.66	0.92	1.07
-30 (-22)	500	126	146	114	0.68	2.83	4.38	1.10	1.28
-25 (-13)	665	167	195	129	0.69	3.77	5.15	1.30	1.51
-20 (- 4)	867	218	254	145	0.70	4.93	5.97	1.50	1.75
-15 (+ 5)	1113	280	326	162	0.71	6.35	6.84	1.72	2.00
-10 (+14)	1409	355	413	181	0.72	8.07	7.77	1.96	2.28

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]	[W/W]
-35 (-31)	322	81	94	101	0.79	1.82	3.21	0.81	0.94
-30 (-22)	452	114	132	117	0.82	2.56	3.89	0.98	1.14
-25 (-13)	611	154	179	133	0.83	3.47	4.59	1.16	1.34
-20 (- 4)	804	203	236	152	0.85	4.57	5.31	1.34	1.56
-15 (+ 5)	1038	262	304	171	0.87	5.92	6.07	1.53	1.78
-10 (+14)	1319	332	387	193	0.89	7.56	6.85	1.73	2.01

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)	283	71	83	103	0.94	1.60	2.73	0.69	0.80
-30	(-22)	410	103	120	120	0.97	2.32	3.39	0.85	0.99
-25	(-13)	563	142	165	138	1.00	3.20	4.05	1.02	1.19
-20	(- 4)	748	188	219	159	1.03	4.25	4.71	1.19	1.38
-15	(+ 5)	971	245	284	181	1.06	5.54	5.37	1.35	1.57
-10	(+14)	1238	312	363	205	1.09	7.09	6.04	1.52	1.77

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		