

COMPRESSOR DEFINITION

Designation	EM 2S60HLP
Nominal Voltage/Frequency	220 V 60 Hz
Engineering Number	513301022

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		
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	1/5	[hp]
2 Displacement	5.75	[cm ³] (0.351 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	16.600	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.23	[kg] (15.94 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	8EA17C1/QPS2-A22MG1	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM232RFBYY-53	
6 Start winding resistance	22.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	16.46	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	6.65	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.97	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	2.19	[A] - Measured according to UL 984
11 Approval boards certification	CE - IMTRO - 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]
637	161	187	124	0.79	3.62	5.12	1.29	1.50

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)	371	94	109	73	0.66	2.10	5.08	1.28	1.49
-30	(-22)	511	129	150	90	0.71	2.90	5.73	1.44	1.68
-25	(-13)	687	173	201	106	0.76	3.90	6.51	1.64	1.91
-20	(- 4)	905	228	265	123	0.82	5.15	7.39	1.86	2.16
-15	(+ 5)	1173	296	344	140	0.88	6.70	8.33	2.10	2.44
-10	(+14)	1496	377	438	160	0.95	8.57	9.32	2.35	2.73

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)	335	84	98	81	0.66	1.89	4.15	1.05	1.22
-30	(-22)	468	118	137	98	0.71	2.65	4.77	1.20	1.40
-25	(-13)	633	160	186	116	0.77	3.59	5.48	1.38	1.61
-20	(- 4)	837	211	245	134	0.83	4.77	6.25	1.57	1.83
-15	(+ 5)	1087	274	319	154	0.91	6.21	7.05	1.78	2.06
-10	(+14)	1389	350	407	177	1.01	7.96	7.84	1.98	2.30

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)	281	71	82	80	0.65	1.59	3.51	0.88	1.03
-30	(-22)	412	104	121	99	0.70	2.34	4.13	1.04	1.21
-25	(-13)	572	144	168	119	0.77	3.25	4.80	1.21	1.41
-20	(- 4)	767	193	225	140	0.85	4.36	5.50	1.38	1.61
-15	(+ 5)	1003	253	294	163	0.95	5.73	6.18	1.56	1.81
-10	(+14)	1288	325	377	189	1.06	7.38	6.81	1.72	2.00

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)	211	53	62	71	0.63	1.19	2.99	0.75	0.88
-30	(-22)	345	87	101	93	0.69	1.95	3.65	0.92	1.07
-25	(-13)	503	127	147	115	0.76	2.86	4.32	1.09	1.26
-20	(- 4)	693	175	203	140	0.85	3.95	4.96	1.25	1.45
-15	(+ 5)	922	232	270	167	0.96	5.26	5.56	1.40	1.63
-10	(+14)	1195	301	350	198	1.10	6.84	6.07	1.53	1.78

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate EUEM		
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	Slanted parallel to Base Plate		
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	Slanted parallel to Base Plate		
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 parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		