

COMPRESSOR DEFINITION

Designation	EM Y55HLC
Nominal Voltage/Frequency	200-230 V 50 Hz 60 Hz
Engineering Number	513300034

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	200-230 / 50	[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	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	170 to 260 V	170 to 260 V
8.2 LBP (43°C Ambient temperature)	Static	170 to 260 V	170 to 260 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	5.19	[cm ³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
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)	8.61	[kg] (18.98 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	200-230V 50-60 Hz 1~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M220MD3/8EA17B3/8M220MD3/QP2-20A/QPS2-A22MD3 09	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM197NFBYY-53	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[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	CCC - 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]
539	136	158	94	0.45	3.06	5.73	1.44	1.68

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]
631	159	185	110	0.52	3.59	5.74	1.45	1.68

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			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)	300	75	88	65	0.31	1.69	4.61	1.16	1.35
-30 (-22)	415	105	122	74	0.35	2.35	5.61	1.41	1.64
-25 (-13)	550	139	161	83	0.39	3.12	6.64	1.67	1.95
-20 (- 4)	712	179	209	92	0.43	4.05	7.72	1.95	2.26
-15 (+ 5)	907	229	266	102	0.47	5.18	8.89	2.24	2.60
-10 (+14)	1143	288	335	112	0.52	6.55	10.15	2.56	2.98

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)	271	68	79	67	0.31	1.53	4.00	1.01	1.17
-30 (-22)	383	97	112	78	0.36	2.17	4.89	1.23	1.43
-25 (-13)	514	130	151	89	0.41	2.92	5.80	1.46	1.70
-20 (- 4)	672	169	197	100	0.45	3.82	6.74	1.70	1.98
-15 (+ 5)	863	217	253	112	0.50	4.93	7.74	1.95	2.27
-10 (+14)	1094	276	321	124	0.55	6.27	8.83	2.23	2.59

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@220V50Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	229	58	67	66	0.31	1.30	3.47	0.87	1.02	
-30 (-22)	339	86	99	79	0.37	1.92	4.29	1.08	1.26	
-25 (-13)	468	118	137	91	0.42	2.66	5.11	1.29	1.50	
-20 (- 4)	622	157	182	105	0.48	3.54	5.95	1.50	1.74	
-15 (+ 5)	809	204	237	118	0.54	4.62	6.83	1.72	2.00	
-10 (+14)	1037	261	304	133	0.60	5.94	7.78	1.96	2.28	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@220V50Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	180	45	53	63	0.29	1.02	2.91	0.73	0.85	
-30 (-22)	289	73	85	78	0.36	1.64	3.70	0.93	1.08	
-25 (-13)	416	105	122	93	0.43	2.36	4.47	1.13	1.31	
-20 (- 4)	567	143	166	109	0.50	3.23	5.24	1.32	1.53	
-15 (+ 5)	752	189	220	125	0.57	4.29	6.03	1.52	1.77	
-10 (+14)	976	246	286	142	0.65	5.59	6.88	1.73	2.02	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@220V60Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	364	92	107		0.00	2.06	0.00	0.00	0.00	
-30 (-22)	496	125	145		0.00	2.81	0.00	0.00	0.00	
-25 (-13)	660	166	193		0.00	3.74	0.00	0.00	0.00	
-20 (- 4)	858	216	251		0.00	4.88	0.00	0.00	0.00	
-15 (+ 5)	1096	276	321		0.00	6.26	0.00	0.00	0.00	
-10 (+14)	1377	347	403		0.00	7.89	0.00	0.00	0.00	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@220V60Hz		Static								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-35 (-31)	333	84	97		0.00	1.88	0.00	0.00	0.00	
-30 (-22)	461	116	135		0.00	2.61	0.00	0.00	0.00	
-25 (-13)	621	156	182		0.00	3.52	0.00	0.00	0.00	
-20 (- 4)	815	205	239		0.00	4.64	0.00	0.00	0.00	
-15 (+ 5)	1048	264	307		0.00	5.98	0.00	0.00	0.00	
-10 (+14)	1325	334	388		0.00	7.59	0.00	0.00	0.00	

E - PERFORMANCE - CURVES

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)	289	73	85		0.00	1.64	0.00	0.00	0.00
-30	(-22)	414	104	121		0.00	2.35	0.00	0.00	0.00
-25	(-13)	570	144	167		0.00	3.24	0.00	0.00	0.00
-20	(- 4)	760	192	223		0.00	4.33	0.00	0.00	0.00
-15	(+ 5)	990	249	290		0.00	5.65	0.00	0.00	0.00
-10	(+14)	1262	318	370		0.00	7.23	0.00	0.00	0.00

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)	228	58	67		0.00	1.29	0.00	0.00	0.00
-30	(-22)	350	88	103		0.00	1.99	0.00	0.00	0.00
-25	(-13)	503	127	147		0.00	2.85	0.00	0.00	0.00
-20	(- 4)	690	174	202		0.00	3.92	0.00	0.00	0.00
-15	(+ 5)	916	231	268		0.00	5.23	0.00	0.00	0.00
-10	(+14)	1184	298	347		0.00	6.78	0.00	0.00	0.00

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard 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 0° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
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 40° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		