

COMPRESSOR DEFINITION

Designation	EM Y65HLC
Nominal Voltage/Frequency	200-230 V 50 Hz 60 Hz
Engineering Number	513300042

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	1/4	[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	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.58	[kg] (18.92 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	7M220MD3/8M220MD3/QP2-20A/QPS2-A22MD3 091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM232NFBYY-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 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 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]
614	155	180	108	0.53	3.49	5.69	1.43	1.67

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]
709	179	208	125	0.57	4.03	5.67	1.43	1.66

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)	347	88	102	72	0.37	1.96	4.71	1.19	1.38
-30 (-22)	333	84	98	81	0.41	1.89	4.08	1.03	1.20
-25 (-13)	315	79	92	94	0.47	1.79	3.48	0.88	1.02
-20 (- 4)	293	74	86	108	0.53	1.67	2.90	0.73	0.85
-15 (+ 5)	267	67	78	122	0.59	1.52	2.34	0.59	0.69
-10 (+14)	238	60	70	134	0.64	1.36	1.78	0.45	0.52

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)	621	156	182	76	0.39	3.51	8.34	2.10	2.44
-30 (-22)	605	153	177	86	0.44	3.43	6.89	1.74	2.02
-25 (-13)	586	148	172	100	0.49	3.32	5.68	1.43	1.66
-20 (- 4)	561	141	164	115	0.56	3.19	4.72	1.19	1.38
-15 (+ 5)	533	134	156	131	0.63	3.04	3.99	1.00	1.17
-10 (+14)	502	126	147	146	0.70	2.87	3.48	0.88	1.02

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)	1030	259	302	72	0.37	5.82	14.53	3.66	4.26	
-30 (-22)	1009	254	296	85	0.43	5.72	11.76	2.96	3.45	
-25 (-13)	984	248	288	102	0.50	5.59	9.46	2.38	2.77	
-20 (- 4)	954	240	280	121	0.58	5.43	7.62	1.92	2.23	
-15 (+ 5)	920	232	270	141	0.67	5.25	6.23	1.57	1.83	
-10 (+14)	882	222	258	161	0.76	5.05	5.29	1.33	1.55	

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)	1616	407	474	66	0.35	9.14	23.65	5.96	6.93	
-30 (-22)	1587	400	465	84	0.43	8.99	19.08	4.81	5.59	
-25 (-13)	1553	391	455	107	0.53	8.81	15.19	3.83	4.45	
-20 (- 4)	1513	381	443	131	0.63	8.61	11.98	3.02	3.51	
-15 (+ 5)	1469	370	430	158	0.75	8.39	9.45	2.38	2.77	
-10 (+14)	1421	358	416	185	0.87	8.14	7.58	1.91	2.22	

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)	405	102	119	83	0.39	2.29	4.86	1.22	1.42	
-30 (-22)	561	141	164	98	0.46	3.18	5.72	1.44	1.68	
-25 (-13)	751	189	220	114	0.53	4.26	6.59	1.66	1.93	
-20 (- 4)	979	247	287	131	0.60	5.57	7.48	1.89	2.19	
-15 (+ 5)	1248	315	366	149	0.68	7.13	8.40	2.12	2.46	
-10 (+14)	1562	394	458	167	0.77	8.95	9.36	2.36	2.74	

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)	374	94	110	85	0.39	2.12	4.41	1.11	1.29	
-30 (-22)	520	131	152	101	0.46	2.95	5.16	1.30	1.51	
-25 (-13)	701	177	205	118	0.54	3.98	5.92	1.49	1.73	
-20 (- 4)	921	232	270	138	0.63	5.24	6.68	1.68	1.96	
-15 (+ 5)	1183	298	347	158	0.72	6.75	7.46	1.88	2.19	
-10 (+14)	1490	376	437	180	0.82	8.54	8.27	2.08	2.42	

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)	319	80	93	83	0.39	1.80	3.87	0.97	1.13
-30	(-22)	454	114	133	100	0.46	2.57	4.55	1.15	1.33
-25	(-13)	626	158	183	120	0.55	3.55	5.23	1.32	1.53
-20	(- 4)	838	211	246	142	0.65	4.77	5.91	1.49	1.73
-15	(+ 5)	1093	275	320	166	0.76	6.24	6.60	1.66	1.93
-10	(+14)	1395	351	409	191	0.88	7.99	7.31	1.84	2.14

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)	245	62	72	78	0.38	1.38	3.12	0.79	0.91
-30	(-22)	370	93	108	98	0.46	2.10	3.78	0.95	1.11
-25	(-13)	533	134	156	120	0.56	3.03	4.43	1.12	1.30
-20	(- 4)	737	186	216	145	0.67	4.20	5.06	1.28	1.48
-15	(+ 5)	986	248	289	173	0.79	5.63	5.70	1.44	1.67
-10	(+14)	1282	323	376	202	0.93	7.34	6.35	1.60	1.86

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		