

### COMPRESSOR DEFINITION

Designation	EM Y75HLC
Nominal Voltage/Frequency	200-230 V 50 Hz 60 Hz
Engineering Number	513300040

### 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 <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	8.35	[cm <sup>3</sup> ] (0.510 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	21.000	
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)	8.59	[kg] (18.94 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	8M220MD3/QPS2-A22MD3 091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(325)	[µF(VAC minimum)]
5 Motor protection	4TM276NFBYY-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: <b>@230V60Hz</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature	<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]
866	218	254	157	0.75	4.92	5.52	1.39	1.62

### E - PERFORMANCE - CURVES

TEST CONDITIONS: <b>@230V50Hz</b>			<b>ASHRAE32</b> <b>Static</b>		(Condensing temperature <b>35°C (+95°F)</b> )				
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]
<b>-35 (-31)</b>	409	103	120	97	0.74	2.31	4.21	1.06	1.23
<b>-30 (-22)</b>	559	141	164	110	0.77	3.17	5.09	1.28	1.49
<b>-25 (-13)</b>	729	184	214	124	0.81	4.14	5.92	1.49	1.73
<b>-20 (- 4)</b>	931	235	273	138	0.85	5.30	6.77	1.70	1.98
<b>-15 (+ 5)</b>	1180	297	346	153	0.90	6.73	7.68	1.94	2.25
<b>-10 (+14)</b>	1488	375	436	170	0.96	8.52	8.74	2.20	2.56

TEST CONDITIONS: <b>@230V50Hz</b>			<b>ASHRAE32</b> <b>Static</b>		(Condensing temperature <b>45°C (+113°F)</b> )				
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]
<b>-35 (-31)</b>	378	95	111	100	0.74	2.14	3.79	0.95	1.11
<b>-30 (-22)</b>	532	134	156	115	0.78	3.02	4.64	1.17	1.36
<b>-25 (-13)</b>	703	177	206	130	0.82	3.99	5.41	1.36	1.58
<b>-20 (- 4)</b>	904	228	265	147	0.88	5.15	6.16	1.55	1.80
<b>-15 (+ 5)</b>	1149	290	337	165	0.94	6.56	6.96	1.75	2.04
<b>-10 (+14)</b>	1451	366	425	184	1.01	8.31	7.87	1.98	2.31

TEST CONDITIONS: <b>@230V50Hz</b>			<b>ASHRAE32</b> <b>Static</b>		(Condensing temperature <b>55°C (+131°F)</b> )				
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]
<b>-35 (-31)</b>	330	83	97	99	0.74	1.87	3.31	0.84	0.97
<b>-30 (-22)</b>	487	123	143	117	0.79	2.76	4.14	1.04	1.21
<b>-25 (-13)</b>	659	166	193	135	0.84	3.74	4.86	1.23	1.42
<b>-20 (- 4)</b>	858	216	251	155	0.90	4.88	5.54	1.40	1.62
<b>-15 (+ 5)</b>	1098	277	322	176	0.98	6.27	6.23	1.57	1.83
<b>-10 (+14)</b>	1393	351	408	198	1.06	7.98	7.01	1.77	2.05

### E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@230V50Hz		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)	265	67	78	94	0.74	1.50	2.84	0.72	0.83	
-30 (-22)	425	107	124	115	0.79	2.41	3.66	0.92	1.07	
-25 (-13)	596	150	175	137	0.85	3.38	4.35	1.10	1.27	
-20 (- 4)	792	200	232	160	0.93	4.51	4.96	1.25	1.45	
-15 (+ 5)	1026	259	301	185	1.01	5.86	5.56	1.40	1.63	
-10 (+14)	1313	331	385	211	1.11	7.52	6.22	1.57	1.82	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@230V60Hz		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)	505	127	148	106	0.53	2.86	4.77	1.20	1.40	
-30 (-22)	678	171	199	123	0.61	3.84	5.52	1.39	1.62	
-25 (-13)	892	225	261	142	0.69	5.06	6.28	1.58	1.84	
-20 (- 4)	1151	290	337	163	0.78	6.55	7.07	1.78	2.07	
-15 (+ 5)	1459	368	428	185	0.87	8.33	7.89	1.99	2.31	
-10 (+14)	1822	459	534	208	0.98	10.44	8.74	2.20	2.56	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@230V60Hz		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)	468	118	137	107	0.53	2.65	4.33	1.09	1.27	
-30 (-22)	639	161	187	126	0.62	3.62	5.05	1.27	1.48	
-25 (-13)	851	214	249	147	0.71	4.83	5.76	1.45	1.69	
-20 (- 4)	1107	279	324	171	0.81	6.30	6.48	1.63	1.90	
-15 (+ 5)	1413	356	414	196	0.92	8.07	7.21	1.82	2.11	
-10 (+14)	1773	447	520	223	1.04	10.16	7.96	2.01	2.33	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@230V60Hz		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)	388	98	114	105	0.52	2.20	3.74	0.94	1.09	
-30 (-22)	555	140	162	126	0.61	3.14	4.42	1.11	1.30	
-25 (-13)	761	192	223	150	0.72	4.32	5.09	1.28	1.49	
-20 (- 4)	1012	255	297	176	0.83	5.76	5.74	1.45	1.68	
-15 (+ 5)	1313	331	385	205	0.96	7.49	6.39	1.61	1.87	
-10 (+14)	1667	420	489	236	1.10	9.55	7.05	1.78	2.07	

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @230V60Hz		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)	333	84	97	100	0.51	1.88	3.31	0.83	0.97
-30	(-22)	491	124	144	123	0.61	2.78	3.97	1.00	1.16
-25	(-13)	690	174	202	150	0.72	3.92	4.60	1.16	1.35
-20	(- 4)	933	235	273	180	0.86	5.31	5.19	1.31	1.52
-15	(+ 5)	1225	309	359	213	1.00	6.99	5.78	1.46	1.69
-10	(+14)	1572	396	461	248	1.16	9.01	6.34	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		