

COMPRESSOR DEFINITION

Designation	EM Y6181U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	7210A80

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	CSIR		
6 Starting torque	HST - High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	6.92	[cm ³] (0.422 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	7.67	[kg] (16.91 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRPH-0025-65	
3 Start capacitor	88-108(330)/64-77(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM319NFBYY-153	
6 Start winding resistance	13.75	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	13.00	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	13.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	2.50	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			EN12900MBP Fan		Evaporating temperature (Condensing temperature		-10°C (14°F) 45°C (113°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]
1798	453	527	264	1.63	6.47	6.81	1.72	2.00

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			EN12900 Fan		(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]
-20	(- 4)	1365	344	400	206	1.45	4.42	6.64	1.67	1.95
-15	(+ 5)	1685	425	494	220	1.50	5.49	7.64	1.93	2.24
-10	(+14)	2057	518	603	231	1.54	6.75	8.88	2.24	2.60
-5	(+23)	2481	625	727	240	1.57	8.19	10.36	2.61	3.03
0	(+32)	2958	745	867	245	1.58	9.85	12.09	3.05	3.54
+5	(+41)	3487	879	1022	248	1.59	11.73	14.10	3.55	4.13
+10	(+50)	4069	1025	1192	247	1.59	13.84	16.40	4.13	4.81

TEST CONDITIONS: @220V50Hz			EN12900 Fan		(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]
-20	(- 4)	1191	300	349	227	1.52	4.23	5.27	1.33	1.54
-15	(+ 5)	1468	370	430	247	1.58	5.25	5.96	1.50	1.75
-10	(+14)	1795	452	526	263	1.64	6.46	6.79	1.71	1.99
-5	(+23)	2171	547	636	278	1.68	7.87	7.79	1.96	2.28
0	(+32)	2597	655	761	289	1.72	9.50	8.95	2.26	2.62
+5	(+41)	3073	774	900	298	1.76	11.37	10.31	2.60	3.02
+10	(+50)	3598	907	1054	304	1.78	13.48	11.87	2.99	3.48

TEST CONDITIONS: @220V50Hz			EN12900 Fan		(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]
-20	(- 4)	954	240	279	246	1.56	3.77	3.84	0.97	1.13
-15	(+ 5)	1190	300	349	271	1.65	4.74	4.41	1.11	1.29
-10	(+14)	1473	371	432	294	1.73	5.91	5.04	1.27	1.48
-5	(+23)	1803	454	528	315	1.81	7.30	5.75	1.45	1.68
0	(+32)	2180	549	639	333	1.88	8.91	6.54	1.65	1.92
+5	(+41)	2604	656	763	349	1.94	10.77	7.44	1.87	2.18
+10	(+50)	3074	775	901	364	2.00	12.89	8.46	2.13	2.48

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 46°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		