

COMPRESSOR DEFINITION

Designation	EM C3140U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	721TA50

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	Low-Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°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)	-	-	-
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	1/2	[hp]
2 Displacement	9.04	[cm ³] (0.552 cu.in)
2.1 Bore [mm]	24.000	
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 / ISO10	
4 Weight (with oil charge)	8.2	[kg] (18.08 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MI2021/V230	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	8(330)	[µF(VAC minimum)]
5 Motor protection	MRA-38172-3166	
6 Start winding resistance	13.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.25	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	10.30	[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		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		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]
1557	392	456	270	1.46	4.63	5.77	1.45	1.69

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 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]
-35 (-31)	1042	263	305	185	0.93	3.08	5.62	1.42	1.65
-30 (-22)	1294	326	379	207	1.02	3.84	6.27	1.58	1.84
-25 (-13)	1610	406	472	227	1.11	4.79	7.09	1.79	2.08
-20 (- 4)	1991	502	583	247	1.20	5.94	8.05	2.03	2.36
-15 (+ 5)	2437	614	714	266	1.29	7.30	9.15	2.31	2.68
-10 (+14)	2948	743	864	285	1.37	8.87	10.37	2.61	3.04
-5 (+23)	3523	888	1032	302	1.45	10.66	11.68	2.94	3.42
0 (+32)	4164	1049	1220	318	1.52	12.66	13.07	3.29	3.83

TEST CONDITIONS: @220V50Hz			ASHRAE32 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]
-35 (-31)	967	244	283	192	0.96	2.86	5.06	1.28	1.48
-30 (-22)	1216	307	356	218	1.07	3.61	5.60	1.41	1.64
-25 (-13)	1528	385	448	243	1.18	4.54	6.28	1.58	1.84
-20 (- 4)	1901	479	557	268	1.29	5.67	7.08	1.78	2.07
-15 (+ 5)	2336	589	685	292	1.40	7.00	7.98	2.01	2.34
-10 (+14)	2833	714	830	316	1.51	8.53	8.96	2.26	2.63
-5 (+23)	3392	855	994	339	1.61	10.26	10.01	2.52	2.93
0 (+32)	4012	1011	1176	361	1.72	12.20	11.11	2.80	3.25

TEST CONDITIONS: @220V50Hz			ASHRAE32 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]
-35 (-31)	866	218	254	195	0.98	2.56	4.44	1.12	1.30
-30 (-22)	1111	280	325	225	1.11	3.29	4.93	1.24	1.45
-25 (-13)	1414	356	414	256	1.24	4.20	5.53	1.39	1.62
-20 (- 4)	1776	448	520	286	1.37	5.30	6.21	1.56	1.82
-15 (+ 5)	2196	553	644	316	1.51	6.58	6.96	1.75	2.04
-10 (+14)	2676	674	784	345	1.64	8.05	7.76	1.96	2.27
-5 (+23)	3213	810	942	374	1.77	9.72	8.60	2.17	2.52
0 (+32)	3810	960	1116	403	1.90	11.58	9.45	2.38	2.77

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° up + 45° to Back		
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 0° up + 45° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 43° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		