

COMPRESSOR DEFINITION

Designation	EM X6144U
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	721FI57

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50-60	[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	1/5	[hp]
2 Displacement	4.53	[cm ³] (0.276 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	16.000	
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)	7.65	[kg] (16.87 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRP-34	
3 Start capacitor	53-64(330)	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	OLP 4TM317KDBYY-153	
6 Start winding resistance	15.23	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.03	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	9.00/9.00	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @240V60Hz			ARIMBP Fan		Evaporating temperature (Condensing temperature		-6.7°C (19.94°F) 48.9°C (120.02°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]
1464	369	429	221	1.25	6.12	6.62	1.67	1.94

E - PERFORMANCE - CURVES

TEST CONDITIONS: @240V60Hz			ARI4 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)	1077	271	316	161	1.06	3.80	6.69	1.69	1.96
-15	(+ 5)	1313	331	385	173	1.08	4.67	7.58	1.91	2.22
-10	(+14)	1596	402	468	183	1.11	5.72	8.72	2.20	2.56
-5	(+23)	1926	485	564	190	1.14	6.97	10.13	2.55	2.97
0	(+32)	2303	580	675	195	1.17	8.43	11.83	2.98	3.47
+5	(+41)	2727	687	799	198	1.19	10.10	13.82	3.48	4.05
+10	(+50)	3197	806	937	198	1.20	12.00	16.10	4.06	4.72

TEST CONDITIONS: @240V60Hz			ARI4 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)	937	236	275	175	1.12	3.67	5.38	1.35	1.58
-15	(+ 5)	1126	284	330	191	1.15	4.43	5.91	1.49	1.73
-10	(+14)	1360	343	398	204	1.18	5.39	6.64	1.67	1.94
-5	(+23)	1637	413	480	216	1.22	6.57	7.55	1.90	2.21
0	(+32)	1959	494	574	225	1.26	7.96	8.68	2.19	2.54
+5	(+41)	2325	586	681	232	1.29	9.58	10.02	2.52	2.94
+10	(+50)	2735	689	801	237	1.31	11.43	11.59	2.92	3.40

TEST CONDITIONS: @240V60Hz			ARI4 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)	774	195	227	187	1.14	3.40	4.11	1.03	1.20
-15	(+ 5)	936	236	274	207	1.19	4.15	4.55	1.15	1.33
-10	(+14)	1139	287	334	224	1.25	5.10	5.10	1.29	1.50
-5	(+23)	1384	349	406	240	1.31	6.27	5.78	1.46	1.69
0	(+32)	1670	421	489	254	1.37	7.68	6.58	1.66	1.93
+5	(+41)	1997	503	585	265	1.43	9.32	7.53	1.90	2.21
+10	(+50)	2366	596	693	274	1.47	11.22	8.63	2.17	2.53

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	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
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		