

COMPRESSOR DEFINITION

Designation	EM X6210U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	721AA80

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
2.1 Max Refrigerant Charge	150 [g]		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Medium-High 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 pressures/temperature			
9.1 Operating (gauge)	19.1	[kgf/cm ²] (272 psig)	/ °C - °F
9.2 Peak (gauge)	21.2	[kgf/cm ²] (301 psig)	
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/3	[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)	8.1	[kg] (17.86 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	MTRPH0027-59	
3 Start capacitor	64-77(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM757KFBYY-53	
6 Start winding resistance	17.70	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.85	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	16.00	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAEHBP46 Fan		Evaporating temperature (Condensing temperature	7.2°C (44.96°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]
4322	1089	1266	473	2.58	14.79	9.13	2.30	2.68

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]
2354	593	690	338	2.04	7.89	6.97	1.76	2.04

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE46 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)	2035	513	596	263	1.78	5.74	7.72	1.94	2.26
-15 (+ 5)	2480	625	727	285	1.85	7.03	8.69	2.19	2.55
-10 (+14)	3013	759	883	304	1.91	8.57	9.92	2.50	2.91
-5 (+23)	3634	916	1065	319	1.97	10.38	11.41	2.88	3.34
0 (+32)	4341	1094	1272	330	2.01	12.48	13.17	3.32	3.86
+5 (+41)	5137	1294	1505	338	2.04	14.86	15.20	3.83	4.45
+10 (+50)	6020	1517	1764	343	2.06	17.54	17.50	4.41	5.13

TEST CONDITIONS: @220V50Hz			ASHRAE46 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)	1773	447	520	285	1.84	5.41	6.25	1.58	1.83
-15 (+ 5)	2181	550	639	314	1.94	6.68	6.95	1.75	2.04
-10 (+14)	2665	672	781	340	2.04	8.20	7.81	1.97	2.29
-5 (+23)	3225	813	945	363	2.13	9.97	8.84	2.23	2.59
0 (+32)	3861	973	1131	383	2.21	12.01	10.04	2.53	2.94
+5 (+41)	4572	1152	1340	401	2.28	14.33	11.41	2.88	3.34
+10 (+50)	5359	1351	1570	415	2.33	16.92	12.97	3.27	3.80

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE46 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)	1522	384	446	303	1.89	5.07	4.99	1.26	1.46
-15	(+ 5)	1886	475	553	340	2.03	6.31	5.56	1.40	1.63
-10	(+14)	2314	583	678	374	2.16	7.78	6.20	1.56	1.82
-5	(+23)	2806	707	822	406	2.28	9.49	6.92	1.74	2.03
0	(+32)	3362	847	985	436	2.40	11.44	7.72	1.94	2.26
+5	(+41)	3982	1004	1167	463	2.52	13.66	8.59	2.17	2.52
+10	(+50)	4667	1176	1367	488	2.62	16.15	9.56	2.41	2.80

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)	1831	461	537	264	1.78	5.93	6.93	1.75	2.03
-15	(+ 5)	2238	564	656	285	1.86	7.30	7.84	1.97	2.30
-10	(+14)	2718	685	797	303	1.92	8.91	8.96	2.26	2.62
-5	(+23)	3273	825	959	318	1.98	10.81	10.30	2.60	3.02
0	(+32)	3902	983	1143	330	2.02	12.99	11.86	2.99	3.48
+5	(+41)	4605	1160	1349	338	2.05	15.48	13.66	3.44	4.00
+10	(+50)	5382	1356	1577	342	2.07	18.30	15.68	3.95	4.60

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)	1580	398	463	286	1.85	5.61	5.55	1.40	1.63
-15	(+ 5)	1945	490	570	314	1.95	6.95	6.20	1.56	1.82
-10	(+14)	2374	598	696	339	2.04	8.54	6.98	1.76	2.05
-5	(+23)	2867	722	840	361	2.13	10.40	7.91	1.99	2.32
0	(+32)	3424	863	1003	380	2.20	12.53	8.98	2.26	2.63
+5	(+41)	4045	1019	1185	397	2.27	14.97	10.20	2.57	2.99
+10	(+50)	4730	1192	1386	410	2.32	17.72	11.59	2.92	3.39

E - PERFORMANCE - CURVES

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)	1337	337	392	303	1.90	5.29	4.39	1.11	1.29
-15	(+ 5)	1645	415	482	339	2.03	6.55	4.87	1.23	1.43
-10	(+14)	2008	506	588	372	2.16	8.05	5.41	1.36	1.59
-5	(+23)	2425	611	711	404	2.28	9.81	6.02	1.52	1.76
0	(+32)	2896	730	849	432	2.40	11.84	6.70	1.69	1.96
+5	(+41)	3421	862	1003	459	2.51	14.15	7.45	1.88	2.18
+10	(+50)	4001	1008	1172	483	2.62	16.78	8.28	2.09	2.43

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	No		
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	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		