

COMPRESSOR DEFINITION

Designation	EM X6152U
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	721GI52

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	1/4	[hp]
2 Displacement	5.19	[cm ³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
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 - ELECTRICAL 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	MTRPH-0025-65	
3 Start capacitor	64-77(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM319NFBYY-53	
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)	11.00/11.00	[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: @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]
2429	612	712	255	1.60	8.31	9.51	2.40	2.79

TEST CONDITIONS: @220V60Hz			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]
2871	723	841	300	1.64	9.83	9.58	2.41	2.81

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)	1112	280	326	158	1.34	3.14	7.04	1.77	2.06
-15	(+ 5)	1368	345	401	168	1.36	3.88	8.15	2.05	2.39
-10	(+14)	1677	422	491	176	1.38	4.77	9.52	2.40	2.79
-5	(+23)	2038	513	597	182	1.40	5.82	11.19	2.82	3.28
0	(+32)	2451	618	718	187	1.41	7.04	13.14	3.31	3.85
+5	(+41)	2918	735	855	190	1.42	8.44	15.39	3.88	4.51
+10	(+50)	3437	866	1007	191	1.43	10.02	17.95	4.52	5.26

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)	960	242	281	171	1.38	2.93	5.64	1.42	1.65
-15	(+ 5)	1189	300	348	184	1.41	3.64	6.45	1.63	1.89
-10	(+14)	1464	369	429	196	1.44	4.51	7.45	1.88	2.18
-5	(+23)	1787	450	524	206	1.46	5.53	8.64	2.18	2.53
0	(+32)	2157	544	632	215	1.48	6.71	10.03	2.53	2.94
+5	(+41)	2575	649	754	221	1.50	8.07	11.62	2.93	3.41
+10	(+50)	3039	766	891	227	1.52	9.60	13.44	3.39	3.94

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)	804	203	235	179	1.39	2.68	4.45	1.12	1.30
-15	(+ 5)	1005	253	294	197	1.43	3.36	5.13	1.29	1.50
-10	(+14)	1248	314	366	213	1.47	4.19	5.89	1.48	1.73
-5	(+23)	1532	386	449	227	1.51	5.18	6.76	1.70	1.98
0	(+32)	1859	469	545	240	1.55	6.33	7.73	1.95	2.27
+5	(+41)	2228	562	653	252	1.59	7.64	8.82	2.22	2.59
+10	(+50)	2639	665	773	263	1.63	9.13	10.04	2.53	2.94

TEST CONDITIONS: @220V60Hz		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)	1328	335	389	168	1.14	3.75	7.88	1.99	2.31
-15	(+ 5)	1622	409	475	182	1.19	4.60	8.90	2.24	2.61
-10	(+14)	1984	500	581	194	1.23	5.64	10.22	2.57	2.99
-5	(+23)	2416	609	708	205	1.27	6.90	11.82	2.98	3.46
0	(+32)	2916	735	854	213	1.30	8.38	13.70	3.45	4.01
+5	(+41)	3485	878	1021	220	1.32	10.08	15.85	3.99	4.65
+10	(+50)	4123	1039	1208	225	1.34	12.02	18.28	4.61	5.36

TEST CONDITIONS: @220V60Hz		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)	1141	288	334	182	1.18	3.48	6.30	1.59	1.85
-15	(+ 5)	1408	355	413	201	1.25	4.31	7.01	1.77	2.05
-10	(+14)	1734	437	508	218	1.31	5.34	7.92	2.00	2.32
-5	(+23)	2120	534	621	234	1.37	6.56	9.03	2.28	2.65
0	(+32)	2565	646	752	248	1.42	7.98	10.33	2.60	3.03
+5	(+41)	3070	774	900	260	1.47	9.62	11.82	2.98	3.46
+10	(+50)	3635	916	1065	270	1.51	11.48	13.50	3.40	3.96

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	979	247	287	194	1.23	3.26	5.02	1.26	1.47
-15	(+ 5)	1212	306	355	217	1.31	4.06	5.59	1.41	1.64
-10	(+14)	1497	377	439	239	1.39	5.03	6.27	1.58	1.84
-5	(+23)	1831	462	537	260	1.46	6.19	7.07	1.78	2.07
0	(+32)	2217	559	650	278	1.54	7.55	7.97	2.01	2.33
+5	(+41)	2653	669	777	296	1.61	9.10	8.97	2.26	2.63
+10	(+50)	3140	791	920	312	1.68	10.86	10.06	2.54	2.95

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°		
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		