

COMPRESSOR DEFINITION

Designation	EM X6165U
Nominal Voltage/Frequency	220-240 V 50-60 Hz
Engineering Number	721HI52

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	6.09	[cm ³] (0.372 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	17.600	
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	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			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]
1539	388	451	229	1.52	5.54	6.72	1.69	1.97

TEST CONDITIONS: @220V60Hz			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]
1845	465	541	265	1.49	6.64	6.95	1.75	2.04

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)	1191	300	349	186	1.43	3.86	6.39	1.61	1.87
-15	(+ 5)	1463	369	429	198	1.46	4.77	7.38	1.86	2.16
-10	(+14)	1789	451	524	208	1.48	5.87	8.59	2.16	2.52
-5	(+23)	2167	546	635	217	1.50	7.16	10.02	2.52	2.94
0	(+32)	2599	655	762	223	1.52	8.65	11.67	2.94	3.42
+5	(+41)	3085	777	904	228	1.54	10.37	13.55	3.42	3.97
+10	(+50)	3623	913	1062	231	1.55	12.32	15.67	3.95	4.59

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)	1015	256	298	200	1.45	3.61	5.09	1.28	1.49
-15	(+ 5)	1254	316	367	217	1.50	4.48	5.79	1.46	1.70
-10	(+14)	1539	388	451	231	1.54	5.54	6.63	1.67	1.94
-5	(+23)	1870	471	548	244	1.58	6.78	7.63	1.92	2.24
0	(+32)	2247	566	659	256	1.62	8.23	8.78	2.21	2.57
+5	(+41)	2671	673	783	265	1.65	9.88	10.08	2.54	2.95
+10	(+50)	3141	792	920	273	1.67	11.77	11.55	2.91	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)	838	211	246	211	1.46	3.31	3.95	1.00	1.16
-15	(+ 5)	1044	263	306	233	1.53	4.15	4.50	1.13	1.32
-10	(+14)	1289	325	378	253	1.60	5.17	5.12	1.29	1.50
-5	(+23)	1573	396	461	271	1.66	6.36	5.82	1.47	1.70
0	(+32)	1897	478	556	287	1.72	7.75	6.60	1.66	1.93
+5	(+41)	2260	570	662	302	1.77	9.35	7.47	1.88	2.19
+10	(+50)	2663	671	780	316	1.82	11.17	8.43	2.12	2.47

TEST CONDITIONS: @220V60Hz		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)	1425	359	418	204	1.26	4.62	6.99	1.76	2.05
-15	(+ 5)	1749	441	512	221	1.32	5.70	7.92	2.00	2.32
-10	(+14)	2139	539	627	237	1.38	7.01	9.04	2.28	2.65
-5	(+23)	2595	654	760	251	1.44	8.57	10.34	2.61	3.03
0	(+32)	3116	785	913	264	1.49	10.37	11.82	2.98	3.46
+5	(+41)	3704	933	1085	275	1.54	12.45	13.46	3.39	3.94
+10	(+50)	4357	1098	1277	285	1.58	14.82	15.26	3.85	4.47

TEST CONDITIONS: @220V60Hz		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)	1213	306	356	222	1.33	4.31	5.47	1.38	1.60
-15	(+ 5)	1495	377	438	245	1.42	5.35	6.12	1.54	1.79
-10	(+14)	1833	462	537	265	1.50	6.60	6.90	1.74	2.02
-5	(+23)	2229	562	653	285	1.58	8.08	7.81	1.97	2.29
0	(+32)	2681	675	785	303	1.65	9.81	8.84	2.23	2.59
+5	(+41)	3189	804	934	320	1.72	11.80	9.98	2.51	2.92
+10	(+50)	3754	946	1100	335	1.78	14.06	11.23	2.83	3.29

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		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)	1025	258	300	240	1.40	4.05	4.25	1.07	1.24
-15	(+ 5)	1266	319	371	269	1.51	5.04	4.71	1.19	1.38
-10	(+14)	1554	392	455	296	1.62	6.23	5.26	1.33	1.54
-5	(+23)	1891	476	554	322	1.73	7.65	5.89	1.48	1.72
0	(+32)	2274	573	666	346	1.84	9.29	6.58	1.66	1.93
+5	(+41)	2705	682	793	369	1.94	11.19	7.32	1.85	2.15
+10	(+50)	3184	802	933	392	2.04	13.35	8.12	2.05	2.38

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		