

### COMPRESSOR DEFINITION

Designation	EM C1150U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	721RA80

### 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 Back Pressure R290 LC Restricted		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°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 <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/2	[hp]
2 Displacement	12.21	[cm <sup>3</sup> ] (0.745 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	23.000	
3 Lubricant charge	200	[ml] (6.76 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	8.2	[kg] (18.08 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	10(350)	[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)	10.50	[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			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]
2101	529	616	372	1.72	6.25	5.64	1.42	1.65

### 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]
-40	(-40)	1091	275	320	221	1.03	3.22	4.92	1.24	1.44
-35	(-31)	1389	350	407	253	1.17	4.11	5.50	1.39	1.61
-30	(-22)	1759	443	515	284	1.31	5.22	6.20	1.56	1.82
-25	(-13)	2199	554	644	314	1.45	6.54	7.01	1.77	2.05
-20	(- 4)	2710	683	794	343	1.59	8.09	7.89	1.99	2.31
-15	(+ 5)	3292	830	965	372	1.73	9.86	8.85	2.23	2.59
-10	(+14)	3945	994	1156	400	1.86	11.87	9.85	2.48	2.88

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]
-40	(-40)	1026	259	301	231	1.08	3.03	4.45	1.12	1.31
-35	(-31)	1314	331	385	265	1.23	3.89	4.96	1.25	1.45
-30	(-22)	1669	421	489	301	1.39	4.95	5.54	1.40	1.62
-25	(-13)	2090	527	612	337	1.56	6.22	6.20	1.56	1.82
-20	(- 4)	2578	650	755	373	1.73	7.69	6.90	1.74	2.02
-15	(+ 5)	3133	789	918	411	1.90	9.38	7.63	1.92	2.23
-10	(+14)	3754	946	1100	449	2.08	11.29	8.37	2.11	2.45

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]
-40	(-40)	938	236	275	234	1.10	2.77	4.01	1.01	1.17
-35	(-31)	1220	307	357	273	1.27	3.61	4.47	1.13	1.31
-30	(-22)	1563	394	458	314	1.46	4.63	4.98	1.25	1.46
-25	(-13)	1969	496	577	357	1.66	5.85	5.52	1.39	1.62
-20	(- 4)	2437	614	714	402	1.87	7.27	6.07	1.53	1.78
-15	(+ 5)	2967	748	869	449	2.09	8.89	6.61	1.67	1.94
-10	(+14)	3560	897	1043	498	2.32	10.71	7.14	1.80	2.09

### 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	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		