

COMPRESSOR DEFINITION

Designation	EM X1114L
Nominal Voltage/Frequency	200-230 V 50 Hz 60 Hz
Engineering Number	513300885

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	HFO		
3 Nominal voltage and frequency	200-230 / 50	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°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)	Static	170 to 260 V	170 to 260 V
8.2 LBP (43°C Ambient temperature)	Static	170 to 260 V	170 to 260 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	15.72	[kgf/cm ²] (224 psig)	/ °C - °F
9.2 Peak	19.82	[kgf/cm ²] (282 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[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 / ISO10	
4 Weight (with oil charge)	8.61	[kg] (18.98 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	200-230V 50-60 Hz 1~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	7M220MD3/8EA17B3/8M220MD3/QP2-20A/QPS2-A22MD3 091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	5(350)	[µF(VAC minimum)]
5 Motor protection	4TM197NFBYY-53	
6 Start winding resistance		[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance		[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[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	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
569	143	167	103	0.48	3.92	5.52	1.39	1.62

TEST CONDITIONS: @220V60Hz			ASHRAELBP32 Static		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
648	163	190	117	0.54	4.47	5.56	1.40	1.63

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 35°C (+95°F))				
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	369	93	108	65	0.31	2.06	5.63	1.42	1.65
-30 (-22)	488	123	143	74	0.35	2.72	6.57	1.66	1.92
-25 (-13)	623	157	182	83	0.39	3.46	7.50	1.89	2.20
-20 (- 4)	771	194	226	92	0.43	4.29	8.39	2.11	2.46
-15 (+ 5)	933	235	273	102	0.47	5.21	9.21	2.32	2.70
-10 (+14)	1108	279	325	112	0.52	6.23	9.92	2.50	2.91

TEST CONDITIONS: @220V50Hz			ASHRAE32 Static		(Condensing temperature 45°C (+113°F))				
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35 (-31)	325	82	95	67	0.31	2.32	4.86	1.22	1.42
-30 (-22)	451	114	132	78	0.36	3.18	5.75	1.45	1.68
-25 (-13)	597	150	175	89	0.41	4.17	6.68	1.68	1.96
-20 (- 4)	764	192	224	100	0.45	5.30	7.61	1.92	2.23
-15 (+ 5)	950	239	278	112	0.50	6.56	8.50	2.14	2.49
-10 (+14)	1155	291	338	124	0.55	7.98	9.33	2.35	2.73

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	265	67	78	66	0.31	1.71	4.15	1.05	1.22
-30	(-22)	380	96	111	79	0.37	2.55	4.89	1.23	1.43
-25	(-13)	521	131	153	91	0.42	3.57	5.70	1.44	1.67
-20	(- 4)	689	174	202	105	0.48	4.77	6.56	1.65	1.92
-15	(+ 5)	883	222	259	118	0.54	6.15	7.43	1.87	2.18
-10	(+14)	1102	278	323	133	0.60	7.73	8.27	2.08	2.42

TEST CONDITIONS: @220V50Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	252	64	74	63	0.29	1.77	3.90	0.98	1.14
-30	(-22)	339	85	99	78	0.36	2.36	4.38	1.10	1.28
-25	(-13)	459	116	135	93	0.43	3.17	4.98	1.26	1.46
-20	(- 4)	612	154	179	109	0.50	4.22	5.67	1.43	1.66
-15	(+ 5)	796	201	233	125	0.57	5.50	6.40	1.61	1.88
-10	(+14)	1012	255	297	142	0.65	7.02	7.15	1.80	2.10

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	394	99	115		0.00	2.16	0.00	0.00	0.00
-30	(-22)	636	160	186		0.00	3.65	0.00	0.00	0.00
-25	(-13)	775	195	227		0.00	4.39	0.00	0.00	0.00
-20	(- 4)	883	222	259		0.00	4.89	0.00	0.00	0.00
-15	(+ 5)	1036	261	303		0.00	5.67	0.00	0.00	0.00
-10	(+14)	1307	329	383		0.00	7.24	0.00	0.00	0.00

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	432	109	127		0.00	3.06	0.00	0.00	0.00
-30	(-22)	631	159	185		0.00	4.45	0.00	0.00	0.00
-25	(-13)	735	185	215		0.00	5.16	0.00	0.00	0.00
-20	(- 4)	817	206	239		0.00	5.70	0.00	0.00	0.00
-15	(+ 5)	951	240	279		0.00	6.61	0.00	0.00	0.00
-10	(+14)	1212	305	355		0.00	8.38	0.00	0.00	0.00

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	220	55	64		0.00	1.35	0.00	0.00	0.00
-30	(-22)	389	98	114		0.00	2.58	0.00	0.00	0.00
-25	(-13)	471	119	138		0.00	3.20	0.00	0.00	0.00
-20	(- 4)	540	136	158		0.00	3.74	0.00	0.00	0.00
-15	(+ 5)	670	169	196		0.00	4.71	0.00	0.00	0.00
-10	(+14)	934	235	274		0.00	6.62	0.00	0.00	0.00

TEST CONDITIONS: @220V60Hz		ASHRAE32 Static			(Condensing temperature 65°C (+149°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-35	(-31)	333	84	98		0.00	2.36	0.00	0.00	0.00
-30	(-22)	487	123	143		0.00	3.37	0.00	0.00	0.00
-25	(-13)	561	141	164		0.00	3.85	0.00	0.00	0.00
-20	(- 4)	630	159	185		0.00	4.32	0.00	0.00	0.00
-15	(+ 5)	769	194	225		0.00	5.30	0.00	0.00	0.00
-10	(+14)	1051	265	308		0.00	7.29	0.00	0.00	0.00

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 25° up + 45° to Back		
3.2 DISCHARGE	4.9 +0.10/-0.05	[mm]	(0.193" +0.004"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 0° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		