COMPRESSOR DEFINITION

Designation	**EM I90UEX**
Nominal Voltage/Frequency	**220-240 V 50 Hz**
Engineering Number	**513307358**

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-Medium Back Pressure		
4.1 Evaporating temperature range	-35°C to -5°C	(-31°F to 23°F)	
5 Motor type	CSIR		
6 Starting torque	HST - Hight starting torque		
7 Expantion device	Capillary tube or Expansion valve		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Fan	198 to 255 V	-
8.2 LBP (43ºC Ambient temperature)	Fan	198 to 255 V	-
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	19.1	[kgf/cm²] (272 psig)	/ ºC - ºF
9.2 Peak (gauge)	21.2	[kgf/cm²] (301 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4+	[hp]
2 Displacement	4.99	[cm³] (0.305 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	14.400	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO32	
4 Weight (with oil charge)	8.09	[kg] (17.84 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm²] (2.84 to 4.27 psig)

C - ELETRICAL 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	213515005	
3 Start capacitor	88-108(250)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM734LFBYY-53	
6 Start winding resistance	21.35	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	11.65	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	11.80	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	1.90	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	2.20	[A] - Measured according to UL 984
11 Approval boards certification	CCC - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS:			**ASHRAELBP32**		Evaporating temperature	**-23.3°C (-9.94°F)**		
@220V50Hz			**Fan**		(Condensing temperature	**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]
780	197	229	178	1.34	2.32	4.38	1.10	1.28

E - PERFORMANCE - CURVES

TEST CONDITIONS:		**ASHRAE32**				(Condensing temperature **35ºC (+95ºF))**				
@220V50Hz		**Fan**								
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]
-35	**(-31)**	515	130	151	127	1.22	0.00	4.08	1.03	1.20
-30	**(-22)**	748	189	219	138	1.24	0.00	5.23	1.32	1.53
-25	**(-13)**	849	214	249	150	1.27	0.00	5.61	1.41	1.64
-20	**(- 4)**	909	229	266	161	1.30	0.00	5.71	1.44	1.67
-15	**(+ 5)**	1020	257	299	172	1.32	0.00	6.03	1.52	1.77
-10	**(+14)**	1274	321	373	181	1.35	0.00	7.06	1.78	2.07
-5	**(+23)**	1762	444	516	189	1.37	0.00	9.29	2.34	2.72

TEST CONDITIONS:		**ASHRAE32**				(Condensing temperature **45ºC (+113ºF))**				
@220V50Hz		**Fan**								
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]
-35	**(-31)**	450	113	132	129	1.23	0.00	3.49	0.88	1.02
-30	**(-22)**	684	172	200	144	1.25	0.00	4.61	1.16	1.35
-25	**(-13)**	784	198	230	158	1.29	0.00	4.92	1.24	1.44
-20	**(- 4)**	843	212	247	173	1.32	0.00	4.92	1.24	1.44
-15	**(+ 5)**	952	240	279	187	1.36	0.00	5.10	1.29	1.50
-10	**(+14)**	1203	303	353	200	1.39	0.00	5.96	1.50	1.75
-5	**(+23)**	1688	425	495	211	1.43	0.00	7.99	2.01	2.34

TEST CONDITIONS:		**ASHRAE32**				(Condensing temperature **55ºC (+131ºF))**				
@220V50Hz		**Fan**								
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]
-35	**(-31)**	394	99	116	131	1.23	0.00	3.01	0.76	0.88
-30	**(-22)**	628	158	184	149	1.26	0.00	4.12	1.04	1.21
-25	**(-13)**	728	183	213	166	1.30	0.00	4.39	1.11	1.29
-20	**(- 4)**	785	198	230	184	1.35	0.00	4.32	1.09	1.27
-15	**(+ 5)**	891	225	261	201	1.40	0.00	4.40	1.11	1.29
-10	**(+14)**	1138	287	334	218	1.44	0.00	5.12	1.29	1.50
-5	**(+23)**	1618	408	474	233	1.49	0.00	6.97	1.76	2.04

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V50Hz **Fan**

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]
-35	**(-31)**	330	83	97	133	1.23	0.00	2.47	0.62	0.72
-30	**(-22)**	563	142	165	153	1.27	0.00	3.61	0.91	1.06
-25	**(-13)**	661	167	194	173	1.32	0.00	3.87	0.98	1.13
-20	**(- 4)**	715	180	210	194	1.37	0.00	3.75	0.95	1.10
-15	**(+ 5)**	818	206	240	215	1.43	0.00	3.75	0.95	1.10
-10	**(+14)**	1061	267	311	235	1.50	0.00	4.36	1.10	1.28
-5	**(+23)**	1535	387	450	254	1.56	0.00	6.06	1.53	1.78

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
2 Tray holder	No		
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	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted		
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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		