COMPRESSOR DEFINITION

Designation	**EM IE65HER**
Nominal Voltage/Frequency	**220-240 V 50-60 Hz**
Engineering Number	**513306200**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	220-240 / 50-60	[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	RSIR/CSIR		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static/Fan	198 to 255 V	198 to 242 V
8.2 LBP (43ºC Ambient temperature)	Static/Fan	198 to 255 V	198 to 242 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	16.2	[kgf/cm²] (230 psig)	/ ºC - ºF
9.2 Peak (gauge)	20.6	[kgf/cm²] (293 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/6	[hp]
2 Displacement	5.19	[cm³] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	8.29	[kg] (18.28 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 50-60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514130/213515004	
3 Start capacitor	72-88(210)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM734LFBYY-53	
6 Start winding resistance	27.80	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	13.70	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	12.50/11.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	1.35/1.15	[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	IRAM - TUV - 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 +/- 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]
510	129	149	123	1.02	2.90	4.15	1.05	1.22

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]
510	129	149	123	1.02	2.90	4.15	1.05	1.22

TEST CONDITIONS: **@220V60Hz**			**ASHRAELBP32 Static**		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]
630	159	185	138	0.91	3.58	4.55	1.15	1.33

TEST CONDITIONS: **@220V60Hz**			**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]
630	159	185	138	0.91	3.58	4.55	1.15	1.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz**				**ASHRAE32 Static**			(Condensing temperature **45ºC (+113ºF))**				
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)**	267	67	78	91	0.97	1.51	2.95	0.74	0.86	
-30	**(-22)**	371	93	109	102	0.99	2.10	3.64	0.92	1.07	
-25	**(-13)**	499	126	146	114	1.01	2.83	4.38	1.10	1.28	
-20	**(- 4)**	653	165	191	127	1.03	3.72	5.15	1.30	1.51	
-15	**(+ 5)**	836	211	245	140	1.05	4.77	5.96	1.50	1.75	
-10	**(+14)**	1051	265	308	154	1.05	6.02	6.80	1.71	1.99	

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF)**)
@220V50Hz **Static**

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)**	238	60	70	91	0.96	1.35	2.61	0.66	0.76
-30	**(-22)**	339	86	99	104	0.98	1.92	3.25	0.82	0.95
-25	**(-13)**	462	117	136	118	1.01	2.63	3.91	0.99	1.15
-20	**(- 4)**	610	154	179	133	1.05	3.47	4.59	1.16	1.34
-15	**(+ 5)**	784	198	230	149	1.09	4.47	5.28	1.33	1.55
-10	**(+14)**	987	249	289	165	1.14	5.65	5.98	1.51	1.75

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

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)**	209	53	61	89	0.97	1.18	2.35	0.59	0.69
-30	**(-22)**	312	79	91	105	0.97	1.77	2.97	0.75	0.87
-25	**(-13)**	434	109	127	121	1.00	2.46	3.58	0.90	1.05
-20	**(- 4)**	578	146	169	138	1.05	3.29	4.19	1.06	1.23
-15	**(+ 5)**	747	188	219	156	1.10	4.26	4.79	1.21	1.40
-10	**(+14)**	942	237	276	175	1.16	5.40	5.38	1.36	1.58

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF)**)
@220V60Hz **Static**

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)**	335	84	98	97	0.78	1.90	3.46	0.87	1.01
-30	**(-22)**	467	118	137	112	0.83	2.65	4.16	1.05	1.22
-25	**(-13)**	619	156	181	128	0.88	3.51	4.86	1.22	1.42
-20	**(- 4)**	799	201	234	143	0.93	4.55	5.58	1.41	1.64
-15	**(+ 5)**	1016	256	298	160	0.99	5.80	6.36	1.60	1.86
-10	**(+14)**	1278	322	374	177	1.06	7.32	7.21	1.82	2.11

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **55ºC (+131ºF)**)
@220V60Hz **Static**

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)**	286	72	84	97	0.78	1.62	2.96	0.75	0.87
-30	**(-22)**	419	106	123	114	0.83	2.38	3.65	0.92	1.07
-25	**(-13)**	570	144	167	133	0.89	3.24	4.30	1.08	1.26
-20	**(- 4)**	747	188	219	151	0.96	4.25	4.95	1.25	1.45
-15	**(+ 5)**	958	241	281	171	1.04	5.47	5.61	1.41	1.64
-10	**(+14)**	1212	305	355	191	1.13	6.94	6.32	1.59	1.85

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@220V60Hz **Static**

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)**	232	58	68	90	0.77	1.31	2.59	0.65	0.76
-30	**(-22)**	367	93	108	111	0.83	2.08	3.27	0.82	0.96
-25	**(-13)**	518	131	152	133	0.90	2.94	3.88	0.98	1.14
-20	**(- 4)**	692	174	203	156	0.98	3.94	4.45	1.12	1.31
-15	**(+ 5)**	899	227	263	180	1.08	5.13	5.01	1.26	1.47
-10	**(+14)**	1146	289	336	205	1.18	6.56	5.58	1.41	1.63

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard EUEM		
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	Slanted 42º up + 45° to Back		
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	Slanted 42° 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 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		