COMPRESSOR DEFINITION

Designation	**EM I28HER**
Nominal Voltage/Frequency	**220-240 V 50-60 Hz**
Engineering Number	**513303821**

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	198 to 255 V	198 to 255 V
8.2 LBP (43ºC Ambient temperature)	Static	198 to 255 V	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)	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	1/10	[hp]
2 Displacement	3.00	[cm³] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	160	[ml] (5.41 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.25	[kg] (15.98 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	213514000/213515006	
3 Start capacitor	53-64(180)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	4TM189KFBYY-53	
6 Start winding resistance	41.20	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	27.80	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	7.50/7.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	0.68/0.64	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	0.77/0.75	[A] - Measured according to UL 984
11 Approval boards certification	TUV	

D - PERFORMANCE - CHECK POINT DATA

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **45ºC (+113ºF))**
@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)**	114	29	33	46	0.51	0.64	2.46	0.62	0.72
-30	**(-22)**	175	44	51	53	0.53	0.99	3.35	0.84	0.98
-25	**(-13)**	252	63	74	60	0.54	1.43	4.20	1.06	1.23
-20	**(- 4)**	344	87	101	69	0.56	1.96	5.02	1.27	1.47
-15	**(+ 5)**	454	114	133	77	0.58	2.59	5.86	1.48	1.72
-10	**(+14)**	580	146	170	86	0.60	3.32	6.73	1.70	1.97

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)**	77	19	23	46	0.51	0.44	1.69	0.43	0.49
-30	**(-22)**	140	35	41	52	0.52	0.79	2.69	0.68	0.79
-25	**(-13)**	214	54	63	60	0.54	1.22	3.56	0.90	1.04
-20	**(- 4)**	302	76	89	69	0.56	1.72	4.35	1.10	1.27
-15	**(+ 5)**	404	102	118	80	0.58	2.30	5.08	1.28	1.49
-10	**(+14)**	520	131	152	90	0.60	2.98	5.77	1.45	1.69

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)**	34	9	10	46	0.51	0.19	0.75	0.19	0.22
-30	**(-22)**	98	25	29	51	0.52	0.56	1.91	0.48	0.56
-25	**(-13)**	172	43	50	59	0.54	0.98	2.89	0.73	0.85
-20	**(- 4)**	255	64	75	69	0.56	1.45	3.70	0.93	1.09
-15	**(+ 5)**	350	88	102	80	0.58	2.00	4.39	1.11	1.29
-10	**(+14)**	456	115	133	92	0.61	2.61	4.97	1.25	1.46

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)**	138	35	40	51	0.43	0.78	2.74	0.69	0.80
-30	**(-22)**	207	52	61	59	0.45	1.17	3.51	0.89	1.03
-25	**(-13)**	294	74	86	69	0.48	1.67	4.31	1.09	1.26
-20	**(- 4)**	400	101	117	78	0.51	2.28	5.12	1.29	1.50
-15	**(+ 5)**	525	132	154	88	0.55	3.00	5.94	1.50	1.74
-10	**(+14)**	668	168	196	98	0.59	3.83	6.76	1.70	1.98

E - PERFORMANCE - CURVES

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)**	96	24	28	46	0.43	0.54	2.10	0.53	0.61
-30	**(-22)**	161	40	47	56	0.45	0.91	2.90	0.73	0.85
-25	**(-13)**	244	62	72	67	0.48	1.39	3.67	0.93	1.08
-20	**(- 4)**	347	87	102	78	0.52	1.97	4.42	1.11	1.30
-15	**(+ 5)**	468	118	137	91	0.56	2.67	5.13	1.29	1.50
-10	**(+14)**	609	154	179	105	0.61	3.49	5.81	1.46	1.70

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)**	48	12	14	41	0.43	0.27	1.16	0.29	0.34
-30	**(-22)**	107	27	31	52	0.45	0.61	2.07	0.52	0.61
-25	**(-13)**	186	47	55	64	0.48	1.06	2.92	0.73	0.85
-20	**(- 4)**	285	72	84	78	0.52	1.62	3.69	0.93	1.08
-15	**(+ 5)**	404	102	118	93	0.57	2.30	4.38	1.10	1.28
-10	**(+14)**	542	137	159	109	0.63	3.10	4.98	1.26	1.46

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	Slanted parallel B.Plate 15°		
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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted parallel to Base Plate		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		