COMPRESSOR DEFINITION

Designation	**EM 2S30HLR**
Nominal Voltage/Frequency	**115-127 V 60 Hz**
Engineering Number	**513304605**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	115-127 / 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		
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	-	103 to 140 V
8.2 LBP (43ºC Ambient temperature)	Static	-	103 to 140 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm²] (202 psig)	/ ºC - ºF
9.2 Peak	15.9	[kgf/cm²] (226 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	150	[ml] (5.07 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.44	[kg] (16.40 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	115-127 V 60 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	213514091	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	DRB190K61A*F	
6 Start winding resistance	19.68	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	7.89	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	12.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.55	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.75	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: **@127V60Hz**			**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]
334	84	98	71	0.95	1.90	4.73	1.19	1.39

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@127V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **35ºC (+95ºF))**

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)**	197	50	58	38	0.74	1.11	5.07	1.28	1.49
-30	**(-22)**	264	66	77	50	0.82	1.49	5.37	1.35	1.57
-25	**(-13)**	353	89	104	60	0.87	2.01	5.97	1.50	1.75
-20	**(- 4)**	468	118	137	69	0.91	2.67	6.83	1.72	2.00
-15	**(+ 5)**	612	154	179	77	0.95	3.49	7.92	2.00	2.32
-10	**(+14)**	786	198	230	85	1.00	4.51	9.21	2.32	2.70

TEST CONDITIONS: **@127V60Hz** — **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)**	171	43	50	44	0.78	0.97	3.90	0.98	1.14
-30	**(-22)**	242	61	71	55	0.85	1.37	4.42	1.11	1.30
-25	**(-13)**	331	83	97	65	0.90	1.88	5.12	1.29	1.50
-20	**(- 4)**	441	111	129	74	0.95	2.51	5.97	1.51	1.75
-15	**(+ 5)**	576	145	169	83	1.00	3.29	6.94	1.75	2.03
-10	**(+14)**	737	186	216	92	1.06	4.22	7.98	2.01	2.34

TEST CONDITIONS: **@127V60Hz** — **ASHRAE32** **Static** — (Condensing temperature **55ºC (+131ºF))**

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)**	129	32	38	48	0.80	0.73	2.72	0.69	0.80
-30	**(-22)**	205	52	60	58	0.87	1.16	3.51	0.88	1.03
-25	**(-13)**	296	75	87	67	0.93	1.68	4.36	1.10	1.28
-20	**(- 4)**	404	102	118	77	0.98	2.30	5.25	1.32	1.54
-15	**(+ 5)**	531	134	156	87	1.04	3.03	6.13	1.54	1.80
-10	**(+14)**	682	172	200	98	1.11	3.91	6.97	1.76	2.04

E - PERFORMANCE - CURVES

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **65ºC (+149ºF))**
@127V60Hz **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)**	70	18	21	49	0.81	0.40	1.44	0.36	0.42
-30	**(-22)**	154	39	45	59	0.88	0.88	2.55	0.64	0.75
-25	**(-13)**	249	63	73	68	0.94	1.41	3.60	0.91	1.05
-20	**(- 4)**	356	90	104	79	0.99	2.03	4.56	1.15	1.34
-15	**(+ 5)**	479	121	140	90	1.06	2.73	5.40	1.36	1.58
-10	**(+14)**	621	157	182	103	1.15	3.56	6.09	1.54	1.79

F - EXTERNAL CHARACTERISTICS

1 Base plate	New Base Plate 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 30° up + 24° to Back		
3.3 PROCESS	6.35 +0.08/-0.08	[mm]	(0.250" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 45° up + 45° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		