COMPRESSOR DEFINITION

Designation	**EM U40CLP**
Nominal Voltage/Frequency	**220 V 50 Hz 60 Hz**
Engineering Number	**513306145**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	220 / 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	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	198 to 242 V	198 to 242 V
8.2 LBP (43ºC Ambient temperature)	Static	198 to 242 V	198 to 242 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/8	[hp]
2 Displacement	5.96	[cm³] (0.364 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	15.000	
3 Lubricant charge	180	[ml] (6.09 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	8.6	[kg] (18.96 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220 V 50/60 Hz 1 ~ (Single phase)	
2 Starting device type	PTC	
2.1 Starting device	MSC34X 220V	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MSC34A31J3	
6 Start winding resistance	24.50	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	32.30	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	8.52/7.66	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60 Hz)	1.21/1.10	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60 Hz)	1.33/1.24	[A] - Measured according to UL 984
11 Approval boards certification	CE - TUV - UKCA	

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]
346	87	101	89	0.80	1.09	3.90	0.98	1.14

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]
408	103	120	89	0.67	1.28	4.57	1.15	1.34

E - PERFORMANCE - CURVES

TEST CONDITIONS: **@220V50Hz**		**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)**	209	53	61	67	0.78	0.65	3.10	0.78	0.91
-30	**(-22)**	285	72	84	74	0.79	0.89	3.82	0.96	1.12
-25	**(-13)**	375	94	110	81	0.79	1.18	4.63	1.17	1.36
-20	**(- 4)**	480	121	141	87	0.80	1.51	5.54	1.40	1.62
-15	**(+ 5)**	602	152	177	93	0.81	1.90	6.53	1.65	1.91
-10	**(+14)**	744	188	218	98	0.81	2.35	7.63	1.92	2.23

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)**	188	47	55	70	0.78	0.59	2.71	0.68	0.79
-30	**(-22)**	259	65	76	77	0.79	0.81	3.38	0.85	0.99
-25	**(-13)**	345	87	101	84	0.80	1.08	4.12	1.04	1.21
-20	**(- 4)**	448	113	131	91	0.81	1.41	4.92	1.24	1.44
-15	**(+ 5)**	569	143	167	98	0.82	1.79	5.79	1.46	1.70
-10	**(+14)**	710	179	208	105	0.83	2.24	6.73	1.70	1.97

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)**	162	41	47	70	0.78	0.51	2.32	0.59	0.68
-30	**(-22)**	229	58	67	77	0.79	0.72	2.97	0.75	0.87
-25	**(-13)**	311	78	91	85	0.80	0.98	3.65	0.92	1.07
-20	**(- 4)**	411	104	121	94	0.81	1.29	4.38	1.10	1.28
-15	**(+ 5)**	531	134	156	103	0.82	1.67	5.14	1.30	1.51
-10	**(+14)**	672	169	197	113	0.84	2.12	5.96	1.50	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)**	129	33	38	68	0.78	0.40	1.90	0.48	0.56
-30	**(-22)**	192	48	56	76	0.79	0.60	2.54	0.64	0.75
-25	**(-13)**	272	69	80	85	0.80	0.85	3.20	0.81	0.94
-20	**(- 4)**	370	93	108	96	0.81	1.16	3.87	0.97	1.13
-15	**(+ 5)**	489	123	143	107	0.83	1.54	4.56	1.15	1.34
-10	**(+14)**	630	159	185	119	0.85	1.99	5.27	1.33	1.54

TEST CONDITIONS: **ASHRAE32** (Condensing temperature **35ºC (+95ºF))**
@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)**	254	64	74	63	0.64	0.80	4.05	1.02	1.19
-30	**(-22)**	334	84	98	70	0.63	1.05	4.78	1.20	1.40
-25	**(-13)**	429	108	126	77	0.63	1.35	5.60	1.41	1.64
-20	**(- 4)**	545	137	160	84	0.63	1.71	6.50	1.64	1.90
-15	**(+ 5)**	686	173	201	92	0.63	2.16	7.46	1.88	2.18
-10	**(+14)**	857	216	251	101	0.63	2.70	8.47	2.13	2.48

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)**	228	57	67	66	0.65	0.71	3.45	0.87	1.01
-30	**(-22)**	308	78	90	75	0.64	0.97	4.12	1.04	1.21
-25	**(-13)**	402	101	118	83	0.64	1.26	4.86	1.23	1.43
-20	**(- 4)**	515	130	151	91	0.65	1.62	5.66	1.43	1.66
-15	**(+ 5)**	651	164	191	100	0.66	2.05	6.51	1.64	1.91
-10	**(+14)**	816	206	239	110	0.66	2.57	7.39	1.86	2.17

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)**	197	50	58	64	0.68	0.62	3.06	0.77	0.90
-30	**(-22)**	278	70	82	75	0.68	0.87	3.67	0.93	1.08
-25	**(-13)**	372	94	109	86	0.69	1.17	4.34	1.09	1.27
-20	**(- 4)**	482	121	141	96	0.70	1.51	5.05	1.27	1.48
-15	**(+ 5)**	614	155	180	106	0.71	1.93	5.79	1.46	1.70
-10	**(+14)**	773	195	226	118	0.72	2.44	6.55	1.65	1.92

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)**	161	41	47	58	0.75	0.50	2.79	0.70	0.82
-30	**(-22)**	244	61	71	72	0.75	0.76	3.36	0.85	0.98
-25	**(-13)**	337	85	99	85	0.76	1.06	3.96	1.00	1.16
-20	**(- 4)**	445	112	131	97	0.78	1.40	4.58	1.15	1.34
-15	**(+ 5)**	574	145	168	111	0.80	1.81	5.21	1.31	1.53
-10	**(+14)**	727	183	213	125	0.82	2.30	5.84	1.47	1.71

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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 parallet BP+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		