

### COMPRESSOR DEFINITION

Designation	VEM Y3HM
Nominal Voltage/Frequency	12 V 60 Hz / 24 V 60 Hz
Engineering Number	513900033

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	12 / 60	[ V / Hz ]	
4 Application type	Low-Medium-High Back Pressure		
4.1 Evaporating temperature range	-35°C to 15°C	(-31°F to 59°F)	
5 Motor type	BPM		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static/Fan	-	24 to 24 V
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	Static/Fan	-	24 to 24 V
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm <sup>2</sup> ] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm <sup>2</sup> ] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	3.00	[cm <sup>3</sup> ] (0.183 cu.in)
2.1 Bore [mm]	19.000	
2.2 Stroke [mm]	10.600	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	7.5	[kg] (16.53 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm <sup>2</sup> ] (2.84 to 4.27 psig)

### C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	12-24V / DC (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	519307000	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	LCU1245XXYXX	
6 Start winding resistance	1.28	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.28	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (53/15 Hz)	7.70	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (53/15 Hz)	7.70	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (53/15 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: <b>@24V1600RPM</b>			<b>ASHRAEHBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)	<b>7.2°C (44.96°F)</b> <b>54.4°C (129.92°F)</b>		
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]
678	171	199	67	2.80		10.12	2.55	2.97

TEST CONDITIONS: <b>@24V4500RPM</b>			<b>ASHRAEHBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)	<b>7.2°C (44.96°F)</b> <b>54.4°C (129.92°F)</b>		
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]
1850	466	542	184	7.99		10.05	2.53	2.94

TEST CONDITIONS: <b>@24V1600RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)	<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]
136	34	40	33	1.37	0.77	4.12	1.04	1.21

TEST CONDITIONS: <b>@24V4500RPM</b>			<b>ASHRAELBP32</b> <b>Static</b>		Evaporating temperature (Condensing temperature)	<b>-23.3°C (-9.94°F)</b> <b>54.4°C (129.92°F)</b>		
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]
410	103	120	88	3.71	2.33	4.66	1.17	1.37

### E - PERFORMANCE - CURVES

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EUEM		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +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	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	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		