

### COMPRESSOR DEFINITION

Designation	FMS Y9C
Nominal Voltage/Frequency	230 V 90-315 Hz
Engineering Number	518000046

### A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 90-315	[ V / Hz ]	
4 Application type	Low-Medium Back Pressure (Hot Gas Defrost not allowed)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°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)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm <sup>2</sup> ] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm <sup>2</sup> ] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/7	[hp]
2 Displacement	6.51	[cm <sup>3</sup> ] (0.397 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	18.800	
3 Lubricant charge	140	[ml] (4.73 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	3.58	[kg] (7.89 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 90-315 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF02F01L	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CF02F01 L 00 XX F	
6 Start winding resistance	15.35	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	15.35	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (90/315 Hz)	2.17	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (90/315 Hz)	1.25	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (90/315 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CE - NOM - TUV - UKCA - UL - VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: <b>@115V1800RPM</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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
228	57	67	42	0.83	0.72	5.44	1.37	1.59

TEST CONDITIONS: <b>@115V2800RPM</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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
348	88	102	59	1.14	1.09	5.87	1.48	1.72

TEST CONDITIONS: <b>@115V4000RPM</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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
509	128	149	88	1.60	1.60	5.80	1.46	1.70

TEST CONDITIONS: <b>@115V5000RPM</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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
619	156	181	110	1.95	1.94	5.63	1.42	1.65

TEST CONDITIONS: <b>@115V6300RPM</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 (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
733	185	215	136	2.42	2.30	5.39	1.36	1.58

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1800RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[Btu/Wh]	[kcal/Wh]	[W/W]	
-35	(-31)	127	32	37	26	0.52	0.40	4.90	1.23	1.44
-30	(-22)	177	45	52	30	0.60	0.55	5.89	1.48	1.72
-25	(-13)	235	59	69	34	0.68	0.74	6.85	1.73	2.01
-20	(- 4)	305	77	89	39	0.77	0.96	7.88	1.99	2.31
-15	(+ 5)	387	97	113	43	0.85	1.22	9.03	2.27	2.64
-10	(+14)	484	122	142	47	0.92	1.53	10.37	2.61	3.04
-5	(+23)	599	151	176	50	0.97	1.89	11.98	3.02	3.51
0	(+32)	733	185	215	52	1.00	2.32	13.92	3.51	4.08

TEST CONDITIONS: @115V1800RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[Btu/Wh]	[kcal/Wh]	[W/W]	
-35	(-31)	115	29	34	27	0.54	0.36	4.32	1.09	1.27
-30	(-22)	163	41	48	31	0.63	0.51	5.18	1.30	1.52
-25	(-13)	221	56	65	37	0.74	0.69	5.96	1.50	1.75
-20	(- 4)	290	73	85	43	0.84	0.91	6.75	1.70	1.98
-15	(+ 5)	372	94	109	49	0.95	1.17	7.60	1.92	2.23
-10	(+14)	470	118	138	55	1.05	1.48	8.60	2.17	2.52
-5	(+23)	586	148	172	60	1.14	1.85	9.81	2.47	2.88
0	(+32)	721	182	211	64	1.21	2.29	11.31	2.85	3.31

TEST CONDITIONS: @115V1800RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[W]				[Btu/Wh]	[kcal/Wh]	[W/W]	
-35	(-31)	110	28	32	28	0.56	0.34	3.95	0.99	1.16
-30	(-22)	156	39	46	33	0.67	0.49	4.71	1.19	1.38
-25	(-13)	211	53	62	40	0.79	0.66	5.36	1.35	1.57
-20	(- 4)	279	70	82	47	0.92	0.87	5.95	1.50	1.74
-15	(+ 5)	360	91	105	55	1.06	1.13	6.56	1.65	1.92
-10	(+14)	457	115	134	63	1.20	1.44	7.25	1.83	2.13
-5	(+23)	573	144	168	71	1.33	1.81	8.11	2.04	2.38
0	(+32)	709	179	208	78	1.45	2.25	9.20	2.32	2.69

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2800RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	198	50	58	39	0.77	0.62	5.07	1.28	1.49
-30	(-22)	269	68	79	45	0.87	0.84	6.02	1.52	1.76
-25	(-13)	360	91	106	51	0.99	1.13	7.02	1.77	2.06
-20	(- 4)	472	119	138	58	1.11	1.48	8.12	2.05	2.38
-15	(+ 5)	604	152	177	65	1.23	1.90	9.33	2.35	2.73
-10	(+14)	757	191	222	71	1.34	2.39	10.69	2.69	3.13
-5	(+23)	932	235	273	76	1.42	2.95	12.22	3.08	3.58
0	(+32)	1129	284	331	80	1.47	3.58	13.95	3.52	4.09

TEST CONDITIONS: @115V2800RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	186	47	55	40	0.80	0.58	4.66	1.18	1.37
-30	(-22)	253	64	74	47	0.91	0.79	5.46	1.38	1.60
-25	(-13)	341	86	100	54	1.05	1.07	6.27	1.58	1.84
-20	(- 4)	449	113	132	63	1.20	1.41	7.12	1.79	2.09
-15	(+ 5)	578	146	169	72	1.35	1.82	8.04	2.03	2.36
-10	(+14)	728	184	213	80	1.49	2.30	9.06	2.28	2.66
-5	(+23)	900	227	264	88	1.62	2.85	10.21	2.57	2.99
0	(+32)	1094	276	321	95	1.72	3.47	11.51	2.90	3.37

TEST CONDITIONS: @115V2800RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	169	43	50	41	0.82	0.53	4.11	1.04	1.20
-30	(-22)	234	59	69	48	0.95	0.73	4.87	1.23	1.43
-25	(-13)	319	80	93	57	1.10	1.00	5.60	1.41	1.64
-20	(- 4)	424	107	124	67	1.28	1.33	6.32	1.59	1.85
-15	(+ 5)	551	139	161	78	1.46	1.74	7.06	1.78	2.07
-10	(+14)	699	176	205	89	1.64	2.21	7.85	1.98	2.30
-5	(+23)	869	219	255	100	1.81	2.75	8.72	2.20	2.56
0	(+32)	1061	267	311	109	1.96	3.36	9.70	2.44	2.84

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	284	72	83	56	1.08	0.89	5.06	1.28	1.48
-30	(-22)	391	99	115	66	1.25	1.23	5.90	1.49	1.73
-25	(-13)	518	130	152	77	1.42	1.62	6.78	1.71	1.99
-20	(- 4)	669	169	196	87	1.59	2.10	7.73	1.95	2.27
-15	(+ 5)	848	214	249	96	1.76	2.67	8.80	2.22	2.58
-10	(+14)	1060	267	311	106	1.92	3.34	10.01	2.52	2.93
-5	(+23)	1310	330	384	115	2.06	4.14	11.39	2.87	3.34
0	(+32)	1601	403	469	123	2.18	5.07	13.00	3.27	3.81

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	253	64	74	56	1.08	0.79	4.52	1.14	1.32
-30	(-22)	361	91	106	68	1.27	1.13	5.30	1.34	1.55
-25	(-13)	488	123	143	80	1.48	1.53	6.08	1.53	1.78
-20	(- 4)	638	161	187	93	1.69	2.00	6.88	1.73	2.02
-15	(+ 5)	815	205	239	105	1.90	2.57	7.74	1.95	2.27
-10	(+14)	1024	258	300	118	2.11	3.23	8.69	2.19	2.55
-5	(+23)	1269	320	372	130	2.31	4.01	9.77	2.46	2.86
0	(+32)	1555	392	456	142	2.50	4.93	11.01	2.77	3.23

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	227	57	67	56	1.09	0.71	4.04	1.02	1.18
-30	(-22)	336	85	98	69	1.30	1.05	4.83	1.22	1.41
-25	(-13)	462	116	135	83	1.53	1.45	5.55	1.40	1.63
-20	(- 4)	610	154	179	98	1.77	1.92	6.26	1.58	1.83
-15	(+ 5)	785	198	230	113	2.02	2.47	6.96	1.75	2.04
-10	(+14)	990	249	290	128	2.27	3.12	7.71	1.94	2.26
-5	(+23)	1230	310	360	144	2.52	3.89	8.54	2.15	2.50
0	(+32)	1510	380	442	160	2.76	4.79	9.48	2.39	2.78

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V6300RPM		ASHRAE32 Static			(Condensing temperature 35°C (+95°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	415	105	122	91	1.70	1.30	4.57	1.15	1.34
-30	(-22)	541	136	159	104	1.90	1.70	5.26	1.33	1.54
-25	(-13)	725	183	213	122	2.18	2.27	5.96	1.50	1.75
-20	(- 4)	957	241	280	142	2.50	3.01	6.71	1.69	1.96
-15	(+ 5)	1228	309	360	163	2.82	3.86	7.53	1.90	2.21
-10	(+14)	1529	385	448	181	3.09	4.82	8.47	2.14	2.48
-5	(+23)	1850	466	542	193	3.26	5.85	9.57	2.41	2.81
0	(+32)	2183	550	640	198	3.30	6.92	10.87	2.74	3.18

TEST CONDITIONS: @115V6300RPM		ASHRAE32 Static			(Condensing temperature 45°C (+113°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	395	100	116	93	1.74	1.24	4.23	1.07	1.24
-30	(-22)	523	132	153	108	1.98	1.64	4.88	1.23	1.43
-25	(-13)	700	176	205	127	2.28	2.20	5.51	1.39	1.62
-20	(- 4)	917	231	269	149	2.61	2.88	6.18	1.56	1.81
-15	(+ 5)	1165	294	341	169	2.92	3.67	6.91	1.74	2.02
-10	(+14)	1434	361	420	186	3.17	4.52	7.74	1.95	2.27
-5	(+23)	1716	432	503	197	3.31	5.43	8.72	2.20	2.55
0	(+32)	2001	504	586	199	3.30	6.35	9.87	2.49	2.89

TEST CONDITIONS: @115V6300RPM		ASHRAE32 Static			(Condensing temperature 55°C (+131°F) )					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-35	(-31)	357	90	105	91	1.71	1.12	3.94	0.99	1.15
-30	(-22)	497	125	146	110	2.01	1.56	4.54	1.14	1.33
-25	(-13)	678	171	199	132	2.36	2.13	5.12	1.29	1.50
-20	(- 4)	890	224	261	156	2.72	2.80	5.70	1.44	1.67
-15	(+ 5)	1124	283	329	177	3.04	3.54	6.34	1.60	1.86
-10	(+14)	1372	346	402	195	3.29	4.33	7.06	1.78	2.07
-5	(+23)	1625	409	476	206	3.42	5.14	7.91	1.99	2.32
0	(+32)	1873	472	549	207	3.38	5.94	8.92	2.25	2.61

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard ES/FMS		
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 45° up + 0° 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 parallel to Base Plate		
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 + 0° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		