

### COMPRESSOR DEFINITION

Designation	FMS Y7C
Nominal Voltage/Frequency	230 V 90-315 Hz
Engineering Number	518000057

### 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	1/9	[hp]
2 Displacement	5.19	[cm <sup>3</sup> ] (0.317 cu.in)
2.1 Bore [mm]	21.000	
2.2 Stroke [mm]	15.000	
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	CF02F01M	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	CF02F01 M 0.0 XX F X	
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 - UKCA - VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: <b>@220V1800RPM</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]
178	45	52	31	0.32	0.56	5.76	1.45	1.69

TEST CONDITIONS: <b>@220V2800RPM</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]
273	69	80	46	0.47	0.86	5.95	1.50	1.74

TEST CONDITIONS: <b>@220V4000RPM</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]
372	94	109	63	0.65	1.17	5.88	1.48	1.72

TEST CONDITIONS: <b>@220V5000RPM</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]
465	117	136	80	0.81	1.46	5.81	1.46	1.70

TEST CONDITIONS: <b>@220V6300RPM</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]
580	146	170	103	1.05	1.82	5.62	1.42	1.65

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V1800RPM		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]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	115	29	34	19	0.20	0.36	6.01	1.51	1.76
-30	(-22)	147	37	43	23	0.23	0.46	6.50	1.64	1.91
-25	(-13)	190	48	56	26	0.27	0.60	7.30	1.84	2.14
-20	(- 4)	246	62	72	29	0.31	0.77	8.37	2.11	2.45
-15	(+ 5)	314	79	92	32	0.34	0.99	9.70	2.44	2.84
-10	(+14)	395	100	116	35	0.38	1.25	11.28	2.84	3.30
-5	(+23)	490	123	144	37	0.40	1.55	13.09	3.30	3.84
0	(+32)	599	151	175	39	0.41	1.90	15.12	3.81	4.43

TEST CONDITIONS: @220V1800RPM		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]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	99	25	29	19	0.21	0.31	5.27	1.33	1.54
-30	(-22)	131	33	38	23	0.25	0.41	5.70	1.44	1.67
-25	(-13)	175	44	51	28	0.30	0.55	6.35	1.60	1.86
-20	(- 4)	230	58	67	32	0.34	0.72	7.19	1.81	2.11
-15	(+ 5)	297	75	87	36	0.39	0.94	8.21	2.07	2.41
-10	(+14)	377	95	111	40	0.42	1.19	9.39	2.37	2.75
-5	(+23)	470	119	138	44	0.45	1.49	10.73	2.70	3.14
0	(+32)	577	145	169	47	0.47	1.83	12.20	3.07	3.57

TEST CONDITIONS: @220V1800RPM		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]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	83	21	24	19	0.20	0.26	4.37	1.10	1.28
-30	(-22)	115	29	34	24	0.25	0.36	4.85	1.22	1.42
-25	(-13)	158	40	46	29	0.30	0.50	5.46	1.38	1.60
-20	(- 4)	213	54	62	34	0.36	0.67	6.18	1.56	1.81
-15	(+ 5)	280	70	82	40	0.42	0.88	7.00	1.76	2.05
-10	(+14)	358	90	105	45	0.47	1.13	7.90	1.99	2.32
-5	(+23)	449	113	132	51	0.52	1.42	8.87	2.24	2.60
0	(+32)	554	140	162	56	0.55	1.75	9.89	2.49	2.90

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2800RPM		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)	163	41	48	30	0.32	0.51	5.52	1.39	1.62
-30	(-22)	221	56	65	34	0.36	0.69	6.42	1.62	1.88
-25	(-13)	293	74	86	39	0.41	0.92	7.41	1.87	2.17
-20	(- 4)	381	96	112	45	0.46	1.20	8.54	2.15	2.50
-15	(+ 5)	486	122	142	49	0.50	1.53	9.84	2.48	2.88
-10	(+14)	610	154	179	54	0.55	1.92	11.36	2.86	3.33
-5	(+23)	754	190	221	57	0.58	2.38	13.15	3.31	3.85
0	(+32)	921	232	270	60	0.60	2.92	15.25	3.84	4.47

TEST CONDITIONS: @220V2800RPM		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)	143	36	42	29	0.31	0.45	4.92	1.24	1.44
-30	(-22)	200	50	59	35	0.37	0.63	5.70	1.44	1.67
-25	(-13)	270	68	79	41	0.43	0.85	6.51	1.64	1.91
-20	(- 4)	356	90	104	48	0.49	1.12	7.41	1.87	2.17
-15	(+ 5)	459	116	134	54	0.56	1.44	8.43	2.13	2.47
-10	(+14)	581	146	170	60	0.61	1.83	9.63	2.43	2.82
-5	(+23)	723	182	212	66	0.66	2.29	11.04	2.78	3.23
0	(+32)	887	223	260	70	0.70	2.81	12.70	3.20	3.72

TEST CONDITIONS: @220V2800RPM		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)	119	30	35	29	0.30	0.37	4.10	1.03	1.20
-30	(-22)	175	44	51	36	0.37	0.55	4.87	1.23	1.43
-25	(-13)	244	62	72	43	0.44	0.77	5.63	1.42	1.65
-20	(- 4)	329	83	96	51	0.52	1.03	6.42	1.62	1.88
-15	(+ 5)	430	108	126	59	0.60	1.36	7.28	1.84	2.13
-10	(+14)	551	139	161	67	0.67	1.74	8.27	2.08	2.42
-5	(+23)	691	174	202	73	0.73	2.19	9.41	2.37	2.76
0	(+32)	853	215	250	80	0.78	2.71	10.76	2.71	3.15

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4000RPM		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)	228	57	67	43	0.42	0.71	5.26	1.32	1.54
-30	(-22)	304	77	89	50	0.49	0.95	6.12	1.54	1.79
-25	(-13)	409	103	120	57	0.57	1.28	7.11	1.79	2.08
-20	(- 4)	538	136	158	65	0.65	1.69	8.23	2.08	2.41
-15	(+ 5)	689	174	202	73	0.73	2.17	9.50	2.39	2.78
-10	(+14)	860	217	252	79	0.79	2.71	10.93	2.75	3.20
-5	(+23)	1046	264	307	84	0.82	3.31	12.51	3.15	3.67
0	(+32)	1246	314	365	85	0.82	3.95	14.27	3.60	4.18

TEST CONDITIONS: @220V4000RPM		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)	216	54	63	42	0.42	0.68	5.15	1.30	1.51
-30	(-22)	284	71	83	49	0.50	0.89	5.79	1.46	1.70
-25	(-13)	381	96	112	59	0.59	1.20	6.53	1.64	1.91
-20	(- 4)	506	128	148	69	0.69	1.59	7.37	1.86	2.16
-15	(+ 5)	655	165	192	79	0.78	2.06	8.33	2.10	2.44
-10	(+14)	826	208	242	88	0.86	2.61	9.42	2.37	2.76
-5	(+23)	1015	256	298	95	0.92	3.21	10.65	2.68	3.12
0	(+32)	1220	307	358	100	0.95	3.87	12.02	3.03	3.52

TEST CONDITIONS: @220V4000RPM		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)	176	44	52	40	0.42	0.55	4.40	1.11	1.29
-30	(-22)	239	60	70	48	0.50	0.75	5.01	1.26	1.47
-25	(-13)	335	84	98	59	0.60	1.05	5.69	1.43	1.67
-20	(- 4)	461	116	135	71	0.71	1.45	6.44	1.62	1.89
-15	(+ 5)	612	154	179	84	0.82	1.93	7.29	1.84	2.13
-10	(+14)	788	199	231	96	0.92	2.49	8.23	2.07	2.41
-5	(+23)	984	248	288	106	1.00	3.11	9.28	2.34	2.72
0	(+32)	1198	302	351	115	1.06	3.80	10.45	2.63	3.06

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V6300RPM		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]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	329	83	96	69	1.27	1.03	4.79	1.21	1.40
-30	(-22)	459	116	134	81	1.47	1.44	5.66	1.43	1.66
-25	(-13)	608	153	178	93	1.68	1.91	6.54	1.65	1.92
-20	(- 4)	784	198	230	105	1.89	2.46	7.45	1.88	2.18
-15	(+ 5)	994	251	291	118	2.09	3.13	8.43	2.12	2.47
-10	(+14)	1245	314	365	131	2.29	3.93	9.50	2.39	2.78
-5	(+23)	1544	389	452	144	2.47	4.88	10.69	2.69	3.13
0	(+32)	1897	478	556	158	2.64	6.01	12.03	3.03	3.52

TEST CONDITIONS: @220V6300RPM		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]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	291	73	85	67	1.26	0.91	4.33	1.09	1.27
-30	(-22)	419	106	123	81	1.48	1.31	5.12	1.29	1.50
-25	(-13)	567	143	166	96	1.72	1.78	5.89	1.49	1.73
-20	(- 4)	742	187	217	111	1.96	2.33	6.69	1.69	1.96
-15	(+ 5)	952	240	279	126	2.21	3.00	7.54	1.90	2.21
-10	(+14)	1203	303	353	142	2.46	3.80	8.46	2.13	2.48
-5	(+23)	1503	379	440	159	2.70	4.75	9.49	2.39	2.78
0	(+32)	1859	468	545	176	2.94	5.89	10.65	2.68	3.12

TEST CONDITIONS: @220V6300RPM		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]				[W]	[A]	[kg/h]	[Btu/Wh]
-35	(-31)	265	67	78	65	1.26	0.83	4.09	1.03	1.20
-30	(-22)	385	97	113	80	1.50	1.21	4.77	1.20	1.40
-25	(-13)	525	132	154	97	1.75	1.65	5.44	1.37	1.59
-20	(- 4)	695	175	204	114	2.02	2.18	6.11	1.54	1.79
-15	(+ 5)	899	227	263	132	2.30	2.83	6.82	1.72	2.00
-10	(+14)	1145	289	336	151	2.59	3.61	7.59	1.91	2.22
-5	(+23)	1441	363	422	170	2.88	4.56	8.45	2.13	2.47
0	(+32)	1793	452	525	191	3.17	5.68	9.43	2.38	2.76

### F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal 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	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 45° up + 0° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		