

Model
SC21MFX

Sales code:
104G8120

Compressor Data

Refrigerant(s)	R134a / R513A
Refr. charge - tech. limit	1300g / 45.86oz
Weight	13.70 kg / 30.20lbs
Displacement	20.95 cm³ / 1.28cu.in
Compressors on pallet	80



General - Configurations With SC21MFX

-	Conf. 1	Conf. 2	Conf. 3	Conf. 4
Motor configuration	CSIR	CSCR	CSIR	CSIR
Power supply (nominal)	220-240 V/50 Hz	220-240 V/50 Hz	220-240 V/50 Hz	220-240 V/50 Hz
Number of phases	1	1	1	1
Voltage range	187-254 V	187-254 V	187-254 V	198-254 V
Approvals	VDE, CCC, EAC	VDE, CCC, EAC	VDE, CCC, EAC	-
Starting torque	HST	HST	HST	HST
Refrigerant	R134a	R134a	R513A	R1234yf
Application	MBP	MBP	MBP	MBP
Hot gas defrost	OK	OK	OK	OK
Long interval pull down	OK	OK	OK	OK

Application Notes

- Provision for PE Grounding is located at the PE Stamp on the compressor

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Compressor Design

Oil type	POE	Winding resistance main	3.300 Ohm
Oil viscosity	22cSt	Winding resistance aux	13.60 Ohm
Oil quantity	550 / 18.60fl.oz	Max. winding temp.	125 °C
Free gas volume comp.	1,460 cm³ / 49.37fl.oz	Max. discharge temp.	130°C / 266°F
Motor protection	internal		

Compressor Dimensions

Housing

A Height	219mm / 8.62in
B Height	213mm / 8.39in
C Length shell	218mm / 8.58in
D Length w. cover	255mm / 10.04in
E Width	151mm / 5.94in

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Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 10.11–10.29 / 0.40–0.41in	øi 6.11–6.29 / 0.24–0.25in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	37°	37°	143°
Vertical angle ±2°	30°	0°	150°
Position l/h/w [mm]	107/193/55 / 4.21/7.60/2.17in	115/110/63 / 4.53/4.33/2.48in	-107/193/55 / -4.21/7.60/2.17in
Straight tube l. [mm]	12 / 0.47in	12 / 0.47in	12 / 0.47in

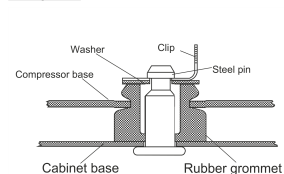
Mounting Accessories



Bolt joint



Snap-on



Dimensions in mm [in]

	one comp.	multi pack
Bolt joint M6 ø16mm	118-1917	118-1918
Bolt joint ø1/4" ø16mm	118-1946	-
Bolt joint ø1/4" ø19mm	118-1949	-
Snap-on ø7,3 ø16mm	118-1947	118-1919

Model

SC21MFX

Configuration 1

Sales code:

104G8120

Configuration

Motor configuration	CSIR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R134a
Application	MBP
Voltage range	187-254 V
Starting torque	HST
Approvals	VDE, CCC, EAC
Starting device type	relay
Run capacitor	-/-
Start capacitor	80 µF
LRA (locked rotor amps / 4s/ U(N))	23.4 A
RLA (rated load amps / 1s/ U(N))	4.3 A
Cut in current (U(N))	23.4 A

Ambient/ machine room temperatures minimum /maximum

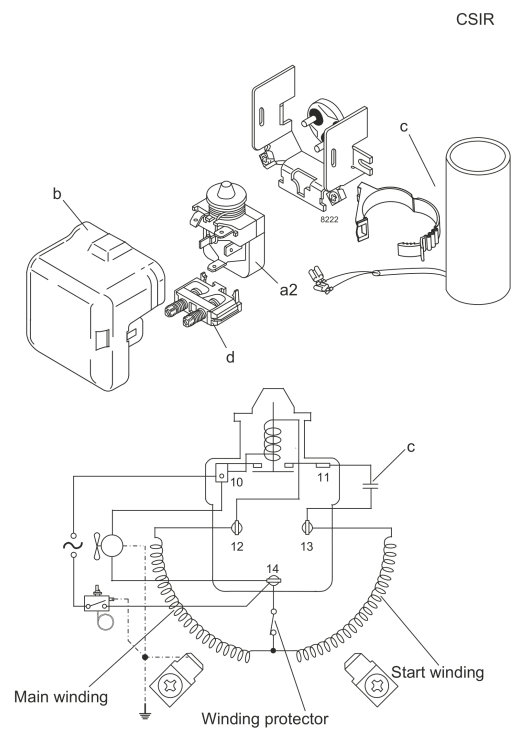
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 3m/s

Electrical Accessories / Wiring Diagram



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Components

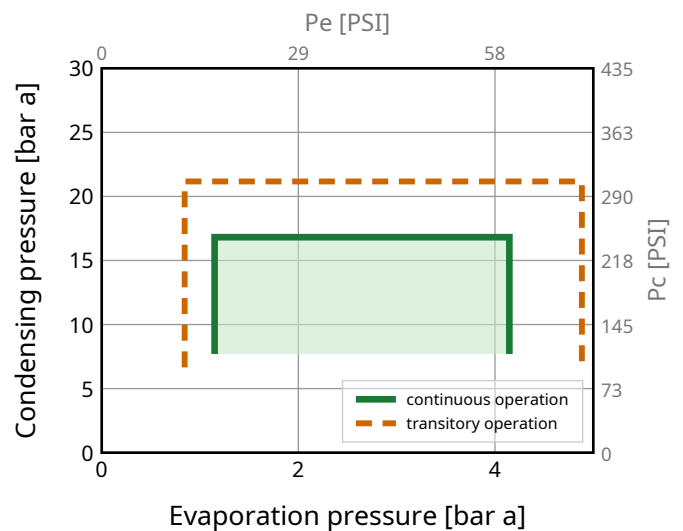
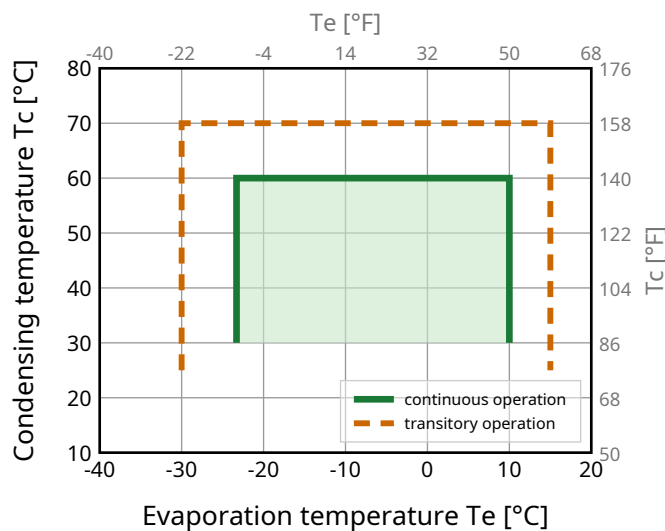
a2 relay 117U6019

c start capacitor (80µF) 117U5017

d cord relief 103N1004

b plastic cover 103N2009

Operation Pressure Range



Model
SC21MFX

Configuration 1

Sales code:
104G8120

Standard Conditions

R134a, 220 V/50 Hz, CSIR, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-6.7 20	54.4 129.9	35 95	46.1 115	1080	3683	928	1.65	5.62	656	4.48	23.51	ASHRAE MBP
-10 14	55 131	32 89.6	55 131	840	2866	722	1.37	4.66	615	4.35	20.25	CECOMAF MBP
-10 14	45 113	20 68	45 113	942	3215	810	1.62	5.53	582	4.18	21.97	EN12900 MBP
-6.7 20	48.8 119.8	18.3 64.9	48.8 119.8	1026	3499	882	1.62	5.52	634	4.37	25.20	ARI540 MBP
-10 14	45 113	32 89.6	45 113	976	3330	839	1.68	5.73	582	4.18	21.31	opt MBP
-23.3 -10	45 113	32.2 90	32.2 90	568	1937	488	1.33	4.52	428	3.55	11.02	opt LBP

Performance Tables

R134a, 220 V/50 Hz, CSIR, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-23.3	-10	509	1738	438	1.19	4.06	428	3.55	11.02
-20	-4	604	2063	520	1.30	4.43	466	3.72	13.11
-15	5	773	2639	665	1.48	5.04	524	3.95	16.82
-10	14	976	3330	839	1.68	5.73	582	4.18	21.31
-5	23	1216	4149	1046	1.90	6.48	641	4.39	26.68
0	32	1499	5113	1289	2.14	7.29	701	4.59	33.07
5	41	1828	6236	1572	2.39	8.16	764	4.78	40.59
10	50	2208	7533	1899	2.67	9.10	828	4.96	49.41

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-23.3	-10	430	1466	370	0.97	3.32	441	3.69	10.26
-20	-4	514	1752	442	1.06	3.61	485	3.86	12.28
-15	5	662	2258	569	1.20	4.11	550	4.11	15.89
-10	14	840	2866	722	1.37	4.66	615	4.35	20.25
-5	23	1052	3590	905	1.55	5.28	680	4.58	25.50
0	32	1303	4445	1120	1.75	5.96	746	4.79	31.77
5	41	1596	5446	1373	1.96	6.70	813	4.99	39.20
10	50	1936	6607	1665	2.20	7.50	881	5.18	47.98

Model
SC21MFX

Configuration 2

Sales code:
104G8120

Configuration

Motor configuration	CSCR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R134a
Application	MBP
Voltage range	187-254 V
Starting torque	HST
Approvals	VDE, CCC, EAC
Starting device type	relay
Run capacitor	10 µF
Start capacitor	80 µF
LRA (locked rotor amps / 4s/ U(N))	23.4 A
RLA (rated load amps / 1s/ U(N))	4.3 A
Cut in current (U(N))	23.4 A

Ambient/ machine room temperatures minimum /maximum

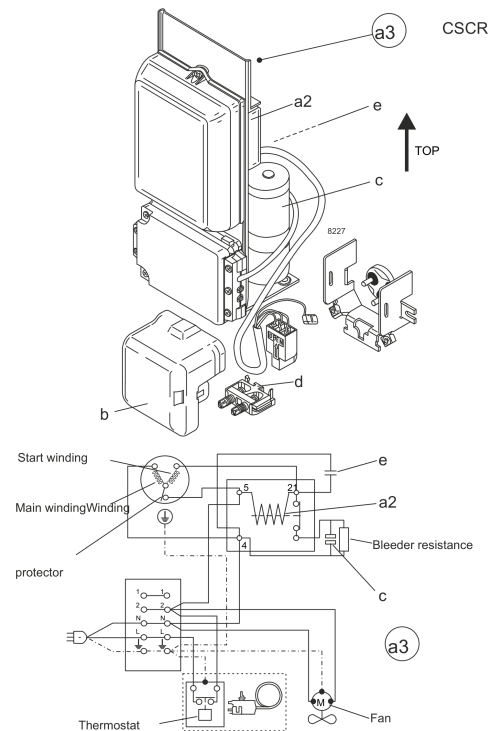
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 3m/s

Electrical Accessories / Wiring Diagram



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Components

a3 SC starter kit (550mm) 117-7039

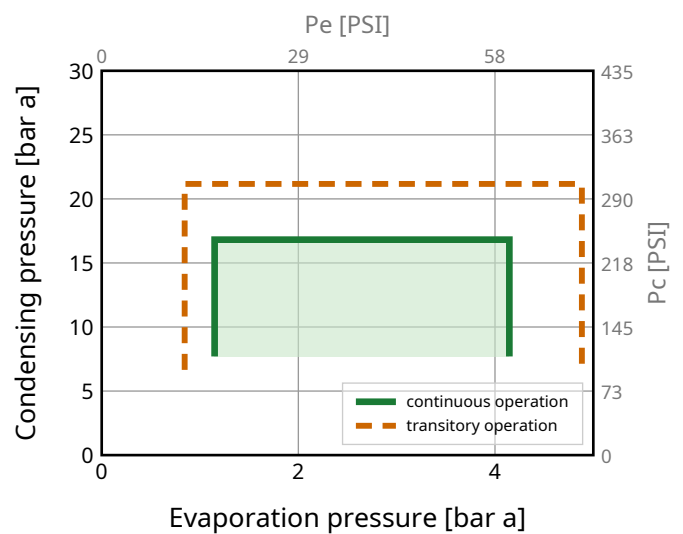
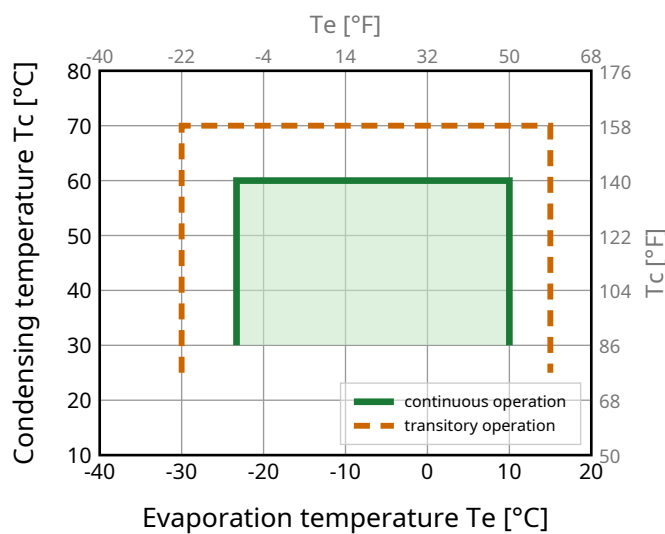
b plastic cover 103N2009

d cord relief 103N1004

Alternative components

a3 SC starter kit (1000mm) 117-7043

Operation Pressure Range



Model

SC21MFX

Configuration 2

Sales code:

104G8120

Standard Conditions

R134a, 220 V/50 Hz, CSCR, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-6.7 20	54.4 129.9	35 95	46.1 115	1113	3797	957	1.76	6.00	633	3.69	24.23	ASHRAE MBP
-10 14	55 131	32 89.6	55 131	866	2955	745	1.46	4.97	594	3.52	20.88	CECOMAF MBP
-10 14	45 113	20 68	45 113	971	3314	835	1.73	5.90	562	3.28	22.65	EN12900 MBP
-6.7 20	48.8 119.8	18.3 64.9	48.8 119.8	1057	3606	909	1.73	5.89	612	3.52	25.97	ARI540 MBP
-10 14	45 113	32 89.6	45 113	1006	3432	865	1.79	6.11	562	3.28	21.97	opt MBP
-23.3 -10	45 113	32.2 90	32.2 90	586	1998	504	1.41	4.81	415	2.49	11.36	opt LBP

Performance Tables

R134a, 220 V/50 Hz, CSCR, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-23.3	-10	525	1792	452	1.27	4.32	415	2.49	11.37
-20	-4	623	2127	536	1.38	4.72	451	2.69	13.52
-15	5	797	2720	686	1.57	5.37	506	2.99	17.34
-10	14	1006	3432	865	1.79	6.11	562	3.28	21.97
-5	23	1254	4277	1078	2.03	6.91	619	3.54	27.50
0	32	1544	5270	1328	2.28	7.79	677	3.80	34.08
5	41	1884	6427	1620	2.56	8.72	737	4.04	41.83
10	50	2275	7762	1956	2.85	9.72	798	4.26	50.92

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-23.3	-10	443	1512	381	1.04	3.54	427	2.65	10.58
-20	-4	530	1807	455	1.13	3.85	469	2.88	12.67
-15	5	682	2328	587	1.28	4.38	532	3.21	16.38
-10	14	866	2955	745	1.46	4.97	594	3.52	20.88
-5	23	1084	3700	933	1.65	5.64	657	3.81	26.28
0	32	1343	4581	1155	1.87	6.37	720	4.10	32.74
5	41	1645	5612	1415	2.10	7.16	784	4.36	40.40
10	50	1996	6809	1716	2.35	8.02	849	4.61	49.44

Model

SC21MFX

Configuration 3

Sales code:

104G8120

Configuration

Motor configuration	CSIR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R513A
Application	MBP
Voltage range	187-254 V
Starting torque	HST
Approvals	VDE, CCC, EAC
Starting device type	relay
Run capacitor	-/-
Start capacitor	80 µF
LRA (locked rotor amps / 4s/ U(N))	23.4 A
RLA (rated load amps / 1s/ U(N))	4.3 A
Cut in current (U(N))	23.4 A

Ambient/ machine room temperatures minimum /maximum

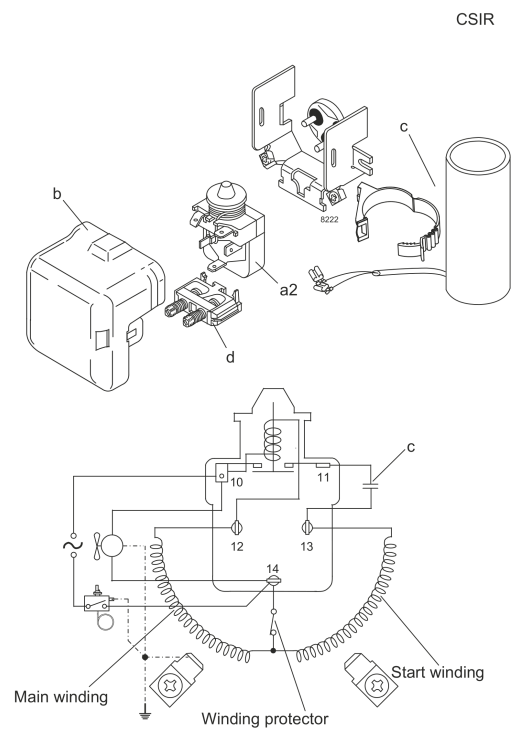
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 3m/s

Electrical Accessories / Wiring Diagram



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Components

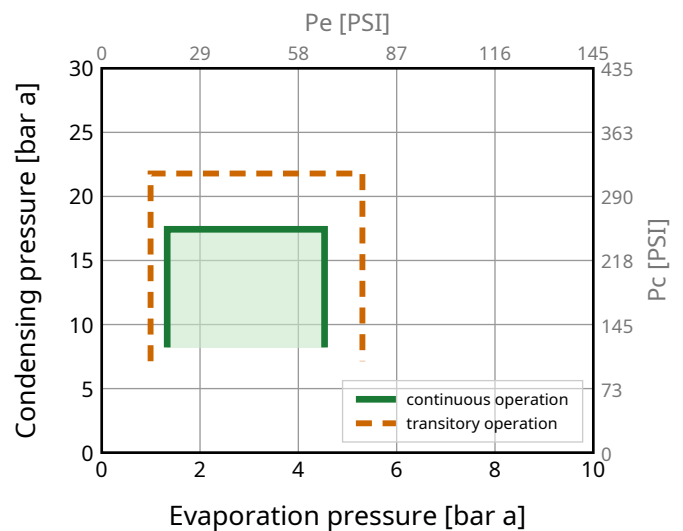
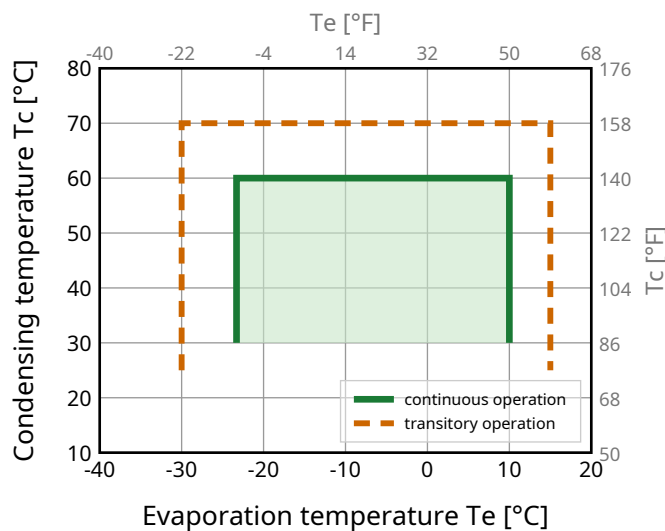
a2 relay 117U6019

c start capacitor (80µF) 117U5017

d cord relief 103N1004

b plastic cover 103N2009

Operation Pressure Range



Model

SC21MFX

Configuration 3

Sales code:

104G8120

Standard Conditions

R513A, 220 V/50 Hz, CSIR, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-6.7 20	54.4 129.9	35 95	46.1 115	1127	3847	970	1.62	5.53	696	4.57	28.11	ASHRAE MBP
-10 14	55 131	32 89.6	55 131	867	2959	746	1.32	4.51	656	4.41	24.33	CECOMAF MBP
-10 14	45 113	20 68	45 113	976	3331	840	1.57	5.37	620	4.28	26.44	EN12900 MBP
-6.7 20	48.8 119.8	18.3 64.9	48.8 119.8	1048	3575	901	1.56	5.32	672	4.48	30.17	ARI540 MBP
-10 14	45 113	32 89.6	45 113	1024	3496	881	1.65	5.64	620	4.28	25.64	opt MBP
-23.3 -10	45 113	32.2 90	32.2 90	619	2113	533	1.33	4.52	467	3.70	13.56	opt LBP

Performance Tables

R513A, 220 V/50 Hz, CSIR, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-23.3	-10	548	1869	471	1.17	4.00	467	3.70	13.56
-20	-4	646	2203	555	1.28	4.36	506	3.84	16.03
-15	5	819	2794	704	1.46	4.96	563	4.06	20.40
-10	14	1024	3496	881	1.65	5.64	620	4.28	25.64
-5	23	1267	4322	1089	1.87	6.37	678	4.50	31.88
0	32	1550	5288	1333	2.10	7.16	739	4.73	39.26
5	41	1877	6405	1614	2.34	7.98	803	4.97	47.92
10	50	2253	7688	1938	2.58	8.82	872	5.24	58.03

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-23.3	-10	456	1554	392	0.95	3.23	482	3.75	12.63
-20	-4	540	1844	465	1.03	3.51	526	3.92	15.02
-15	5	690	2353	593	1.17	3.98	591	4.17	19.25
-10	14	867	2959	746	1.32	4.51	656	4.41	24.33
-5	23	1077	3676	926	1.50	5.10	721	4.66	30.41
0	32	1324	4516	1138	1.68	5.74	788	4.91	37.64
5	41	1610	5494	1385	1.88	6.41	857	5.18	46.18
10	50	1941	6623	1669	2.08	7.11	931	5.46	56.24

Model

SC21MFX

Configuration 4

Sales code:

104G8120

Configuration

Motor configuration	CSIR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R1234yf
Application	MBP
Voltage range	198-254 V
Starting torque	HST
Approvals	VDE, CCC, EAC
Starting device type	relay
Run capacitor	-/-
Start capacitor	80 µF
LRA (locked rotor amps / 4s/ U(N))	23.4 A
RLA (rated load amps / 1s/ U(N))	4.3 A
Cut in current (U(N))	23.4 A

Ambient/ machine room temperatures minimum /maximum

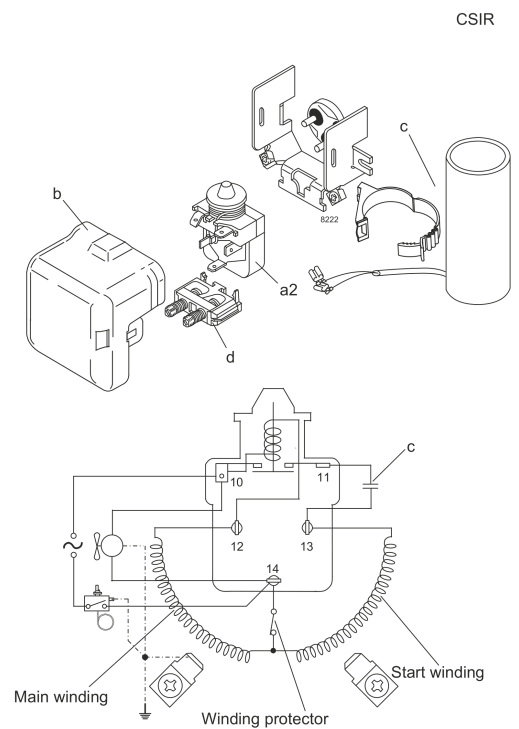
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 3m/s

Electrical Accessories / Wiring Diagram



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Components

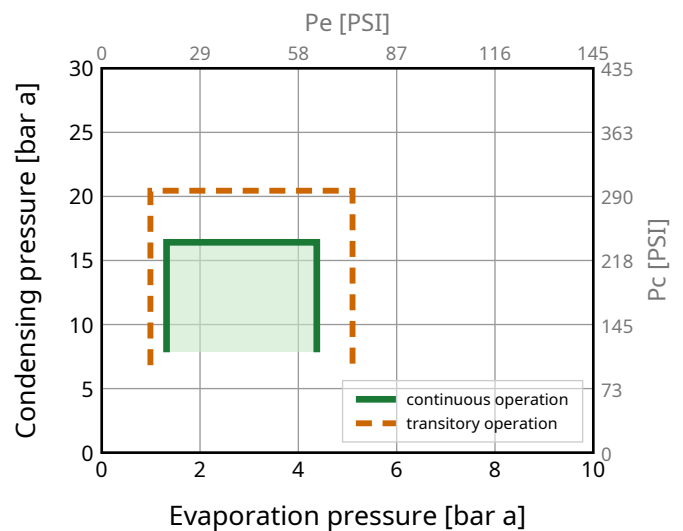
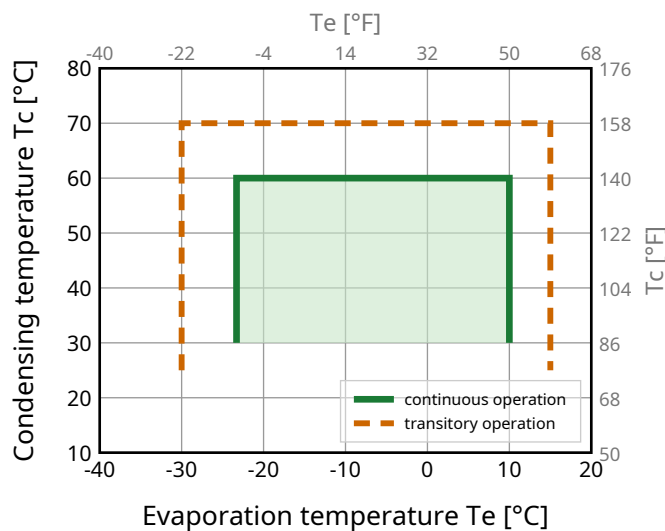
a2 current relay 117U7019

c start capacitor (80µF) 117U5017

d cord relief 103N1004

b plastic cover 103N2009

Operation Pressure Range



Model
SC21MFX

Configuration 4

Sales code:
104G8120

Standard Conditions

R1234yf, 220 V/50 Hz, CSIR, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-6.7 20	54.4 129.9	35 95	46.1 115	1090	3720	938	1.64	5.61	663	3.35	29.45	ASHRAE MBP
-10 14	55 131	32 89.6	55 131	836	2851	719	1.33	4.54	628	3.21	25.65	CECOMAF MBP
-10 14	45 113	20 68	45 113	934	3185	803	1.57	5.37	594	3.07	27.67	EN12900 MBP
-6.7 20	48.8 119.8	18.3 64.9	48.8 119.8	994	3391	855	1.55	5.29	641	3.26	31.49	ARI540 MBP
-10 14	45 113	32 89.6	45 113	988	3373	850	1.67	5.68	594	3.07	26.84	opt MBP
-23.3 -10	45 113	32.2 90	32.2 90	619	2112	532	1.37	4.66	453	2.53	14.57	opt LBP

Performance Tables

R1234yf, 220 V/50 Hz, CSIR, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-23.3	-10	543	1852	467	1.20	4.09	453	2.53	14.58
-20	-4	635	2167	546	1.30	4.44	488	2.66	17.09
-15	5	797	2719	685	1.47	5.03	541	2.86	21.54
-10	14	988	3373	850	1.67	5.68	594	3.07	26.84
-5	23	1214	4141	1044	1.88	6.41	646	3.28	33.14
0	32	1476	5035	1269	2.11	7.20	699	3.51	40.56
5	41	1778	6067	1529	2.36	8.05	754	3.74	49.25
10	50	2125	7249	1827	2.62	8.96	810	3.98	59.38

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-23.3	-10	453	1545	389	0.96	3.29	470	2.60	13.72
-20	-4	532	1815	458	1.04	3.56	510	2.75	16.17
-15	5	671	2289	577	1.18	4.02	570	2.98	20.48
-10	14	836	2851	719	1.33	4.54	628	3.21	25.65
-5	23	1030	3513	886	1.50	5.12	685	3.45	31.80
0	32	1257	4288	1081	1.69	5.78	742	3.69	39.10
5	41	1520	5186	1307	1.90	6.49	800	3.94	47.71
10	50	1823	6220	1568	2.13	7.26	857	4.19	57.82