Model
FRK10G

Sales code:
106G5853

Compressor Data

Refrigerant(s)	**R134a / R513A**
Refr. charge - tech. limit	**700g / 24.69oz**
Weight	**9.60 kg / 21.16lbs**
Displacement	**7.70 cm3 / 0.47cu.in**
Compressors on pallet	**100**

General – Configurations With FRK10G

–	Conf. 1	Conf. 2	Conf. 3	Conf. 4
Motor configuration	CSIR	CSIR	CSIR	CSIR
Power supply (nominal)	220-240 V/50 Hz	208-230 V/60 Hz	220-240 V/50 Hz	208-230 V/60 Hz
Number of phases	1	1	1	1
Voltage range	187-254 V	198-253 V	187-254 V	198-253 V
Approvals	VDE, CB, UL	VDE, CB, UL	VDE, CB, UL	VDE, CB, UL
Starting torque	HST	HST	HST	HST
Refrigerant	R134a	R134a	R513A	R513A
Application	LBP+MBP+HBP	LBP+MBP	LBP+MBP+HBP	LBP+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
- Suctiongas connector and Process connector can be switched (minor loss of cooling capacity)
- Very good robustness against liquid intake.
- Ice-cube maker optimization - indirect suction intake.
- Special design for high refrigerant charge

Model
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Compressor Design

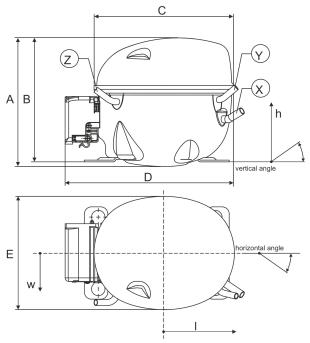
Oil type	**POE**	Winding resistance main	**8.4 Ohm**
Oil viscosity	**19,2cSt**	Winding resistance aux	**11.9 Ohm**
Oil quantity	**240 cm3 / 8.12fl.oz**	Max. winding temp.	**125 °C**
Free gas volume comp.	**1,505 cm3 / 50.89fl.oz**	Max. discharge temp.	**130°C / 266°F**
Motor protection	**external**		

Compressor Dimensions

Housing

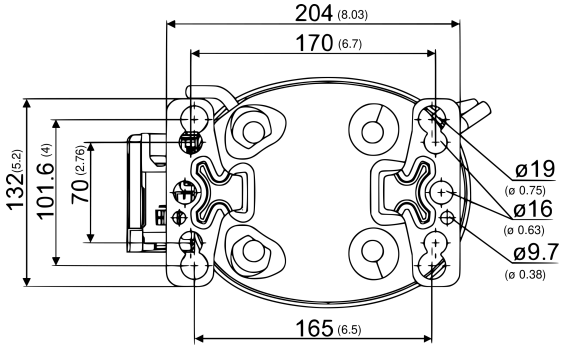
A Height	**182mm / 7.17in**
B Height	**175mm / 6.89in**
C Length shell	**198mm / 7.80in**
D Length w. cover	**238mm / 9.37in**
E Width	**160mm / 6.30in**

Find 3D Model here



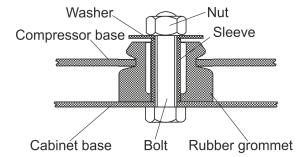
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.11–6.29 / 0.24–0.25in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	35°	13°	0°
Vertical angle ±2°	30°	40°	145°
Position l/h/w [mm]	119/73/59 / 4.69/2.87/2.32in	117/107/66 / 4.61/4.21/2.60in	-88/101/71 / -3.46/3.98/2.80in
Straight tube l. [mm]	13.5 / 0.53in	13.5 / 0.53in	13.5 / 0.53in

Mounting Accessories

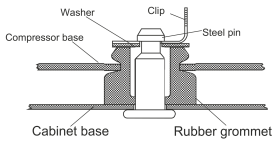


Dimensions in mm [in]

Bolt joint



Snap-on



	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 Sales code:

FRK10G Configuration 1 **106G5853**

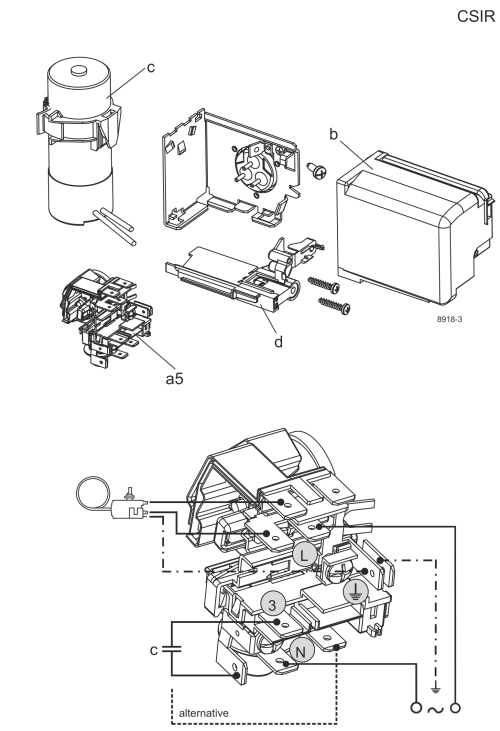
Configuration

Motor configuration	**CSIR**
Power supply (nominal)	**220-240 V/50 Hz 1~**
Refrigerant	**R134a**
Application	**LBP+MBP+HBP**
Voltage range	**187-254 V**
Starting torque	**HST**
Approvals	**VDE, CB, UL**
Starting device type	**relay**
Run capacitor	**-/-**
Start capacitor	**80 µF**
LRA (locked rotor amps / 4s/ U(N))	**13.4 A**
RLA (rated load amps / 1s/ U(N))	**1.8 A**
Cut in current (U(N))	**12.3 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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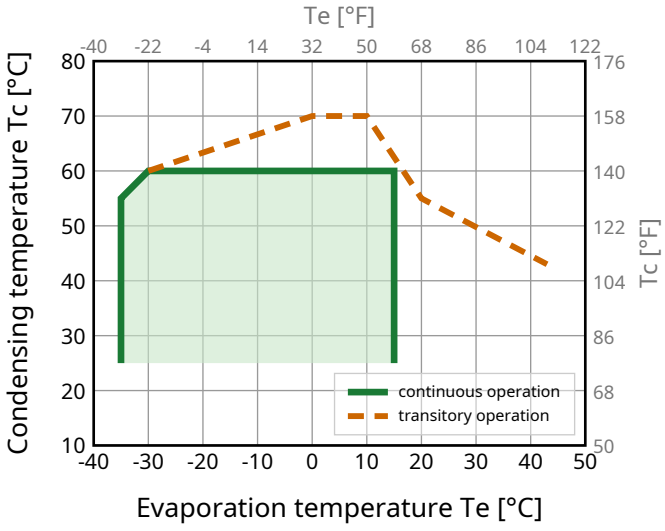
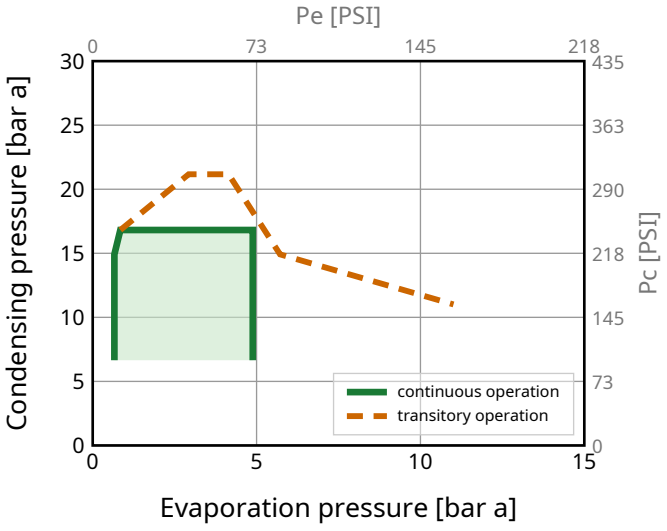
Components
a5 current relay (T0377/L6-S1) 117U7071
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

Alternative components
b, d 100x cover + clamp + screws (5VA) 103N2060
b, d cover + clamp + screws (5VA) in bag 103N1060

Operation Pressure Range





Model Sales code:

FRK10G Configuration 1 **106G5853**

Standard Conditions

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

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**214**	729	184	**1.30**	4.43	165	1.34	4.15	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**436**	1489	375	**1.82**	6.21	240	1.61	9.51	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**764**	2608	657	**2.42**	8.26	316	1.93	16.92	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**111**	379	96	**0.96**	3.27	116	1.21	2.43	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**382**	1304	329	**1.82**	6.22	210	1.49	8.91	**EN12900 MBP**
5 41	50 122	20 68	50 122	**656**	2239	564	**2.28**	7.77	288	1.81	16.46	**EN12900 HBP**

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	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-35	-31	**105**	360	91	**0.89**	3.05	118	1.22	2.27
-30	-22	**140**	479	121	**1.04**	3.54	135	1.26	3.03
-20	-4	**243**	829	209	**1.42**	4.84	172	1.36	5.27
-10	14	**396**	1350	340	**1.89**	6.45	210	1.49	8.64
0	32	**606**	2068	521	**2.43**	8.29	250	1.65	13.38
10	50	**882**	3011	759	**3.02**	10.32	292	1.83	19.75
15	59	**1048**	3575	901	**3.34**	11.39	314	1.92	23.67

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

-35	-31	**84**	286	72	**0.69**	2.35	122	1.23	1.99
-30	-22	**116**	396	100	**0.83**	2.85	139	1.27	2.76
-20	-4	**207**	707	178	**1.16**	3.95	179	1.38	4.96
-10	14	**340**	1161	293	**1.52**	5.17	224	1.55	8.20
0	32	**523**	1784	450	**1.89**	6.45	277	1.76	12.75
10	50	**763**	2605	657	**2.28**	7.77	335	2.02	18.91
15	59	**908**	3097	781	**2.47**	8.44	367	2.16	22.72

Model
FRK10G Configuration 2

Sales code:
106G5853

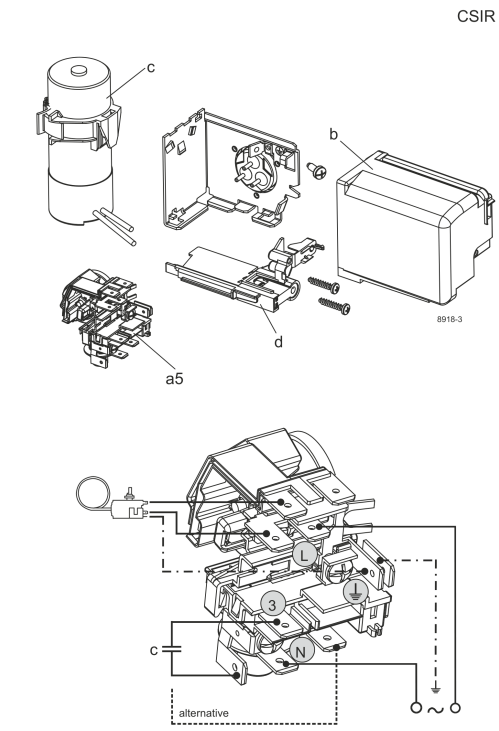
Configuration

Motor configuration	**CSIR**
Power supply (nominal)	**208-230 V/60 Hz 1~**
Refrigerant	**R134a**
Application	**LBP+MBP**
Voltage range	**198-253 V**
Starting torque	**HST**
Approvals	**VDE, CB, UL**
Starting device type	**relay**
Run capacitor	**-/-**
Start capacitor	**80 µF**
LRA (locked rotor amps / 4s/ U(N))	**13.4 A**
RLA (rated load amps / 1s/ U(N))	**1.8 A**
Cut in current (U(N))	**12.3 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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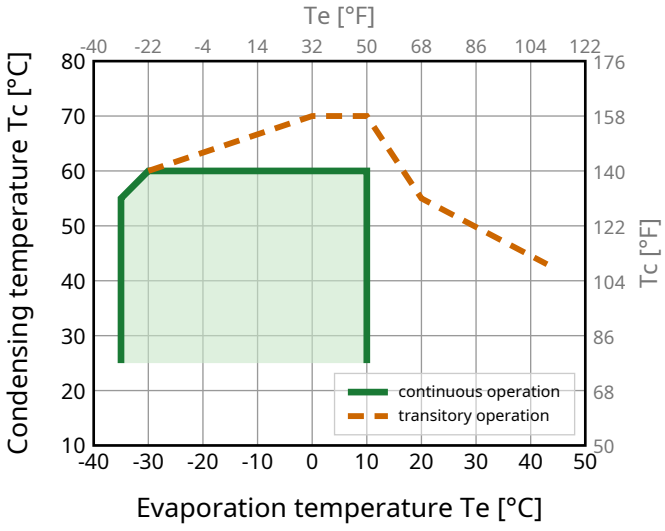
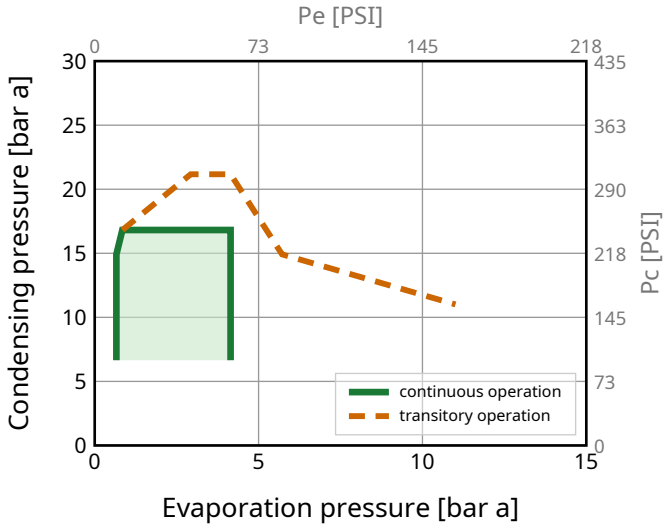
Components
a5 current relay (T0377/L6-S1) 117U7071
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

Alternative components
b, d 100x cover + clamp + screws (5VA) 103N2060
b, d cover + clamp + screws (5VA) in bag 103N1060

Operation Pressure Range





Model Sales code:

FRK10G Configuration 2 **106G5853**

Standard Conditions

R134a, 230 V/60 Hz, CSIR, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**254**	866	218	**1.38**	4.71	184	1.29	4.92	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**516**	1762	444	**1.85**	6.33	278	1.60	11.24	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**904**	3085	778	**2.48**	8.44	365	1.93	20.01	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**129**	442	111	**1.10**	3.75	118	1.12	2.83	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**451**	1539	388	**1.87**	6.37	241	1.47	10.52	**EN12900 MBP**
5 41	50 122	20 68	50 122	**776**	2646	667	**2.32**	7.93	334	1.81	19.45	**EN12900 HBP**

Performance Tables

R134a, 230 V/60 Hz, CSIR, fan 3m/s

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

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-35	-31	**123**	418	105	**1.06**	3.61	116	1.12	2.64
-30	-22	**165**	564	142	**1.15**	3.93	144	1.19	3.57
-20	-4	**287**	981	247	**1.48**	5.04	194	1.32	6.23
-10	14	**467**	1594	402	**1.94**	6.60	241	1.47	10.20
0	32	**715**	2441	615	**2.48**	8.47	288	1.64	15.78
10	50	**1043**	3558	897	**3.08**	10.52	338	1.82	23.34
15	59	**1239**	4229	1066	**3.39**	11.57	366	1.93	28.00

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

-35	-31	**98**	334	84	**0.85**	2.89	116	1.12	2.32
-30	-22	**138**	469	118	**0.94**	3.22	146	1.19	3.27
-20	-4	**246**	840	212	**1.21**	4.13	203	1.35	5.89
-10	14	**403**	1374	346	**1.55**	5.28	260	1.54	9.71
0	32	**618**	2109	532	**1.93**	6.58	320	1.76	15.07
10	50	**903**	3082	777	**2.33**	7.96	387	2.02	22.38
15	59	**1075**	3669	925	**2.53**	8.64	424	2.17	26.91

Model
FRK10G Configuration 3

Sales code:
106G5853

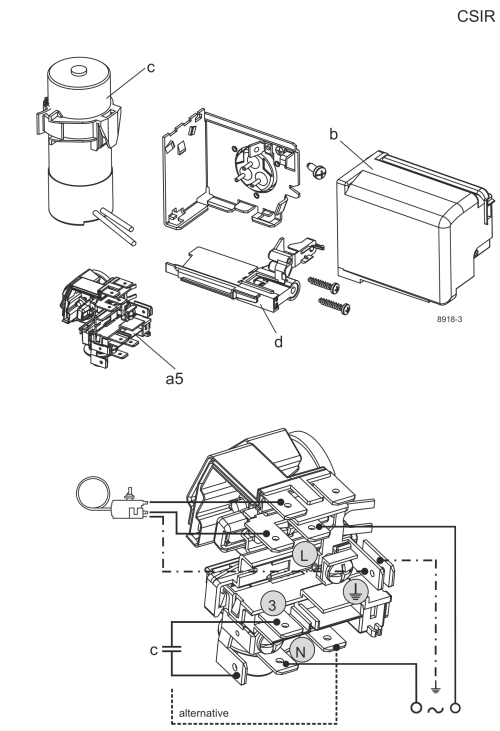
Configuration

Motor configuration	**CSIR**
Power supply (nominal)	**220-240 V/50 Hz 1~**
Refrigerant	**R513A**
Application	**LBP+MBP+HBP**
Voltage range	**187-254 V**
Starting torque	**HST**
Approvals	**VDE, CB, UL**
Starting device type	**relay**
Run capacitor	**-/-**
Start capacitor	**80 µF**
LRA (locked rotor amps / 4s/ U(N))	**13.4 A**
RLA (rated load amps / 1s/ U(N))	**1.8 A**
Cut in current (U(N))	**12.3 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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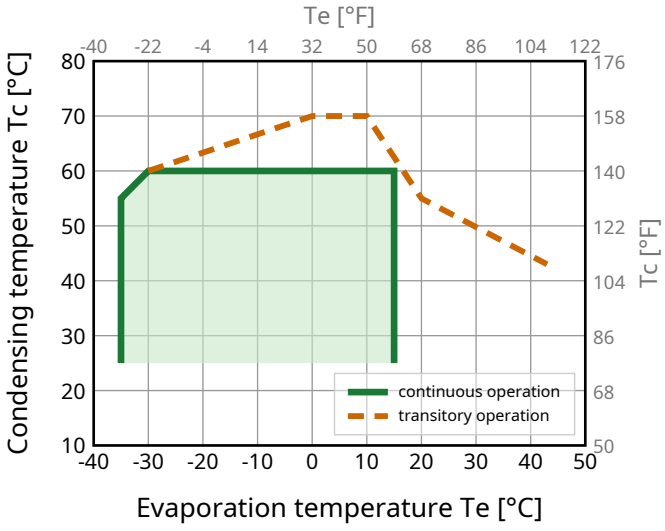
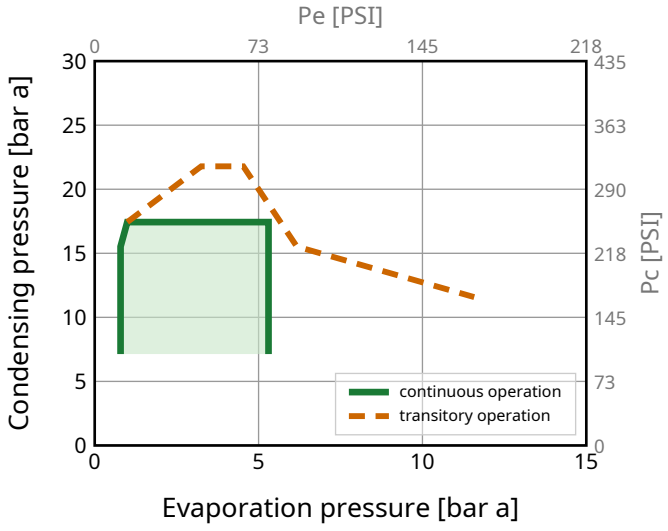
Components
a5 current relay (T0377/L6-S1) 117U7071
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

Alternative components
b, d 100x cover + clamp + screws (5VA) 103N2060
b, d cover + clamp + screws (5VA) in bag 103N1060

Operation Pressure Range





Model Sales code:

FRK10G Configuration 3 **106G5853**

Standard Conditions

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

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**235**	803	202	**1.31**	4.46	180	1.39	5.15	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**457**	1560	393	**1.80**	6.13	254	1.67	11.40	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**785**	2679	675	**2.38**	8.10	331	2.00	19.95	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**123**	421	106	**0.99**	3.38	124	1.23	3.10	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**397**	1354	341	**1.78**	6.07	223	1.54	10.75	**EN12900 MBP**
5 41	50 122	20 68	50 122	**660**	2253	568	**2.19**	7.47	302	1.87	19.47	**EN12900 HBP**

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	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-35	-31	**118**	403	102	**0.93**	3.16	128	1.24	2.91
-30	-22	**155**	529	133	**1.05**	3.58	148	1.29	3.82
-20	-4	**261**	891	224	**1.41**	4.80	186	1.41	6.48
-10	14	**416**	1421	358	**1.87**	6.37	223	1.54	10.43
0	32	**628**	2143	540	**2.40**	8.18	262	1.70	15.91
10	50	**903**	3081	777	**2.96**	10.12	305	1.88	23.26
15	59	**1066**	3638	917	**3.25**	11.11	328	1.98	27.76

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

-35	-31	**94**	321	81	**0.70**	2.39	134	1.26	2.60
-30	-22	**127**	434	109	**0.83**	2.83	154	1.31	3.51
-20	-4	**220**	749	189	**1.13**	3.86	194	1.44	6.10
-10	14	**352**	1203	303	**1.47**	5.02	239	1.61	9.89
0	32	**533**	1818	458	**1.83**	6.25	291	1.82	15.15
10	50	**768**	2619	660	**2.19**	7.47	351	2.09	22.24
15	59	**908**	3097	781	**2.36**	8.06	384	2.24	26.61

Model Sales code:

FRK10G Configuration 4 **106G5853**

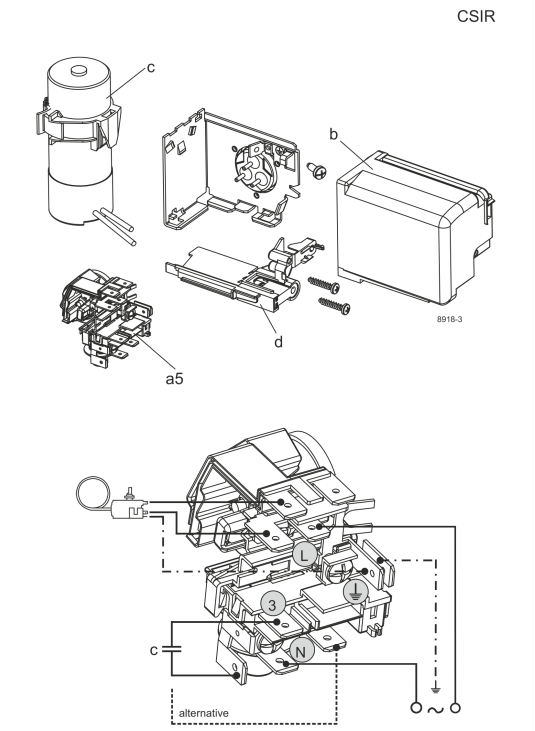
Configuration

Motor configuration	**CSIR**
Power supply (nominal)	**208-230 V/60 Hz 1~**
Refrigerant	**R513A**
Application	**LBP+MBP**
Voltage range	**198-253 V**
Starting torque	**HST**
Approvals	**VDE, CB, UL**
Starting device type	**relay**
Run capacitor	**-/-**
Start capacitor	**80 µF**
LRA (locked rotor amps / 4s/ U(N))	**13.4 A**
RLA (rated load amps / 1s/ U(N))	**1.8 A**
Cut in current (U(N))	**12.3 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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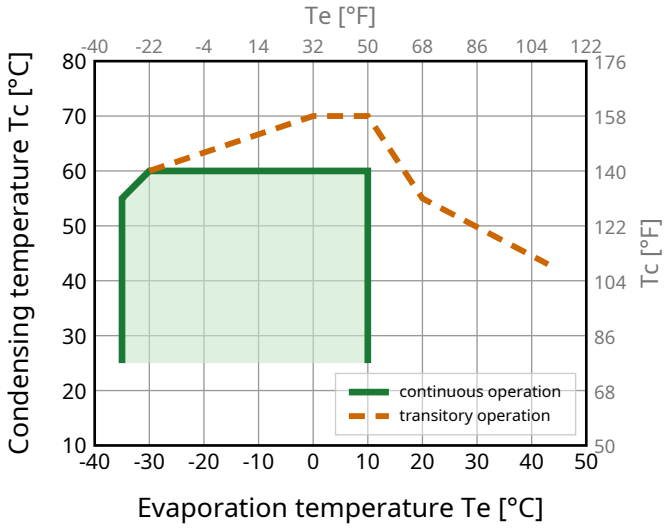
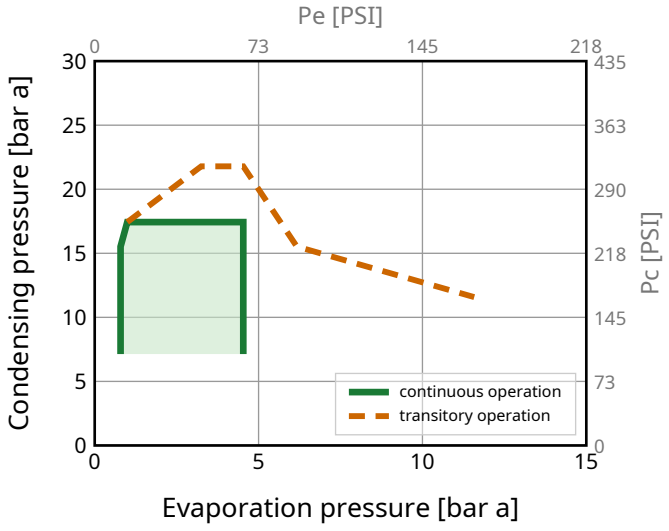
Components
a5 current relay (T0377/L6-S1) 117U7071
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

Alternative components
b, d 100x cover + clamp + screws (5VA) 103N2060
b, d cover + clamp + screws (5VA) in bag 103N1060

Operation Pressure Range





Model Sales code:

FRK10G Configuration 4 **106G5853**

Standard Conditions

R513A, 230 V/60 Hz, CSIR, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**279**	953	240	**1.39**	4.76	200	1.34	6.12	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**541**	1846	465	**1.83**	6.24	296	1.66	13.49	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**929**	3170	799	**2.43**	8.29	382	2.00	23.61	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**144**	491	124	**1.11**	3.80	129	1.14	3.62	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**469**	1600	403	**1.82**	6.22	257	1.52	12.69	**EN12900 MBP**
5 41	50 122	20 68	50 122	**781**	2663	671	**2.23**	7.61	350	1.87	23.02	**EN12900 HBP**

Performance Tables

R513A, 230 V/60 Hz, CSIR, fan 3m/s

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

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-35	-31	**138**	470	118	**1.08**	3.69	127	1.14	3.39
-30	-22	**182**	622	157	**1.16**	3.96	157	1.22	4.50
-20	-4	**309**	1053	265	**1.47**	5.02	210	1.37	7.66
-10	14	**492**	1678	423	**1.91**	6.53	257	1.52	12.31
0	32	**742**	2530	638	**2.45**	8.35	303	1.69	18.79
10	50	**1068**	3642	918	**3.02**	10.32	353	1.88	27.49
15	59	**1262**	4306	1085	**3.31**	11.31	381	1.99	32.85

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

-35	-31	**110**	376	95	**0.86**	2.93	128	1.14	3.03
-30	-22	**151**	514	130	**0.94**	3.20	160	1.23	4.16
-20	-4	**261**	890	224	**1.18**	4.04	220	1.40	7.25
-10	14	**417**	1424	359	**1.50**	5.13	278	1.60	11.71
0	32	**630**	2150	542	**1.87**	6.37	338	1.82	17.92
10	50	**909**	3101	782	**2.25**	7.66	405	2.09	26.33
15	59	**1076**	3670	925	**2.43**	8.29	443	2.25	31.54