Single
Packs

Single Pack FRK10G 220-240V 50Hz / 208-230V 60Hz CSIR

Single pack code number: **195B4770**

Position	Title	Code	Amount
1	Compressor FRK10G	106G5853	1
2	Starting relay (QLZ-5.5A, overload protector T0377/L6)	117U7071	1
3	Starting capacitor (80µF 220V, 6.3mm)	117U5001	1
4	KL accessories	103N1060	1
5	Bolt joint for one compressor | M6 | ø16mm	118-1917	1

Secop GmbH • Lise-Meitner-Straße 29 • 24941 Flensburg, Germany • Tel: +49 461 4941 0 • **www.secop.com**

Secop accepts no responsibility for possible errors in catalogs, brochures, and other printed material. Secop reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary to specifications already agreed. All trademarks in this material are the property of the respective companies. Secop and the Secop logotype are trademarks of Secop GmbH. All rights reserved.

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
FRK10G

Sales code:
106G5853

Compressor Design

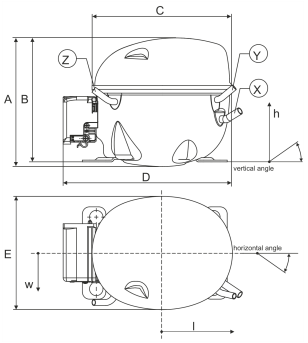
Oil type	**POE**	Winding resistance main	**8.4 Ohm**
Oil viscosity	**19,2cSt**	Winding resistance aux	**11.9 Ohm**
Oil quantity	**240 cm3 / 8.12fl.oz**	Max. winding temp.	**125 °C**
Free gas volume comp.	**1,505 cm3 / 50.89fl.oz**	Max. discharge temp.	**130°C / 266°F**
Motor protection	**external**		

Compressor Dimensions

Housing

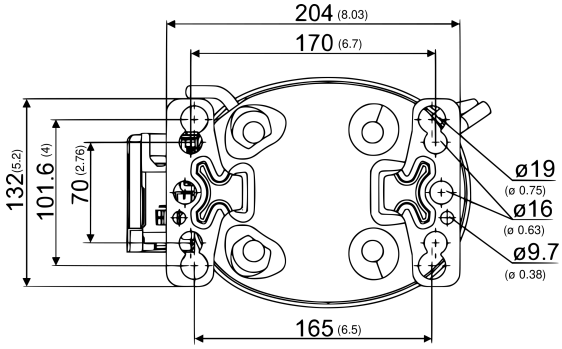
A Height	**182mm / 7.17in**
B Height	**175mm / 6.89in**
C Length shell	**198mm / 7.80in**
D Length w. cover	**238mm / 9.37in**
E Width	**160mm / 6.30in**

Find 3D Model here



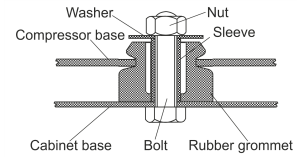
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 8.11–8.29 / 0.32–0.33in	øi 6.11–6.29 / 0.24–0.25in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	35°	13°	0°
Vertical angle ±2°	30°	40°	145°
Position l/h/w [mm]	119/73/59 / 4.69/2.87/2.32in	117/107/66 / 4.61/4.21/2.60in	-88/101/71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

Mounting Accessories

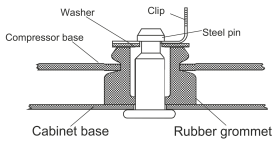


Dimensions in mm [in]

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
FRK10G Configuration 1

Sales code:
106G5853

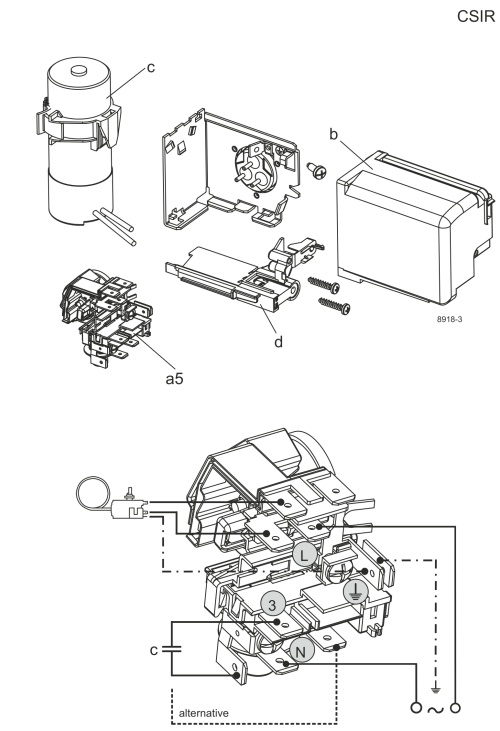
Configuration

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

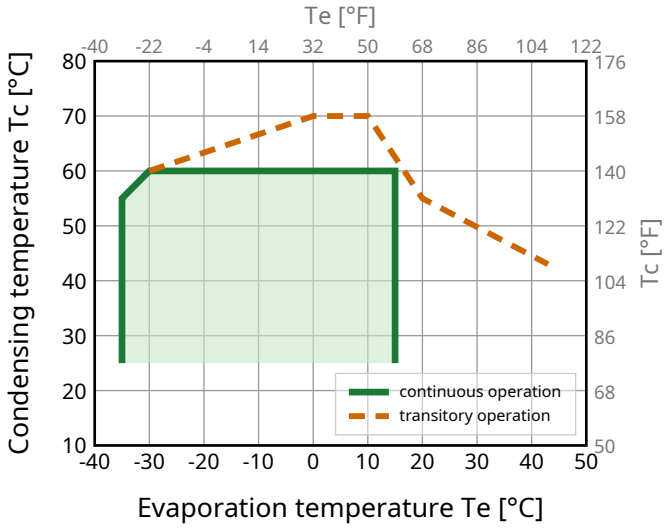


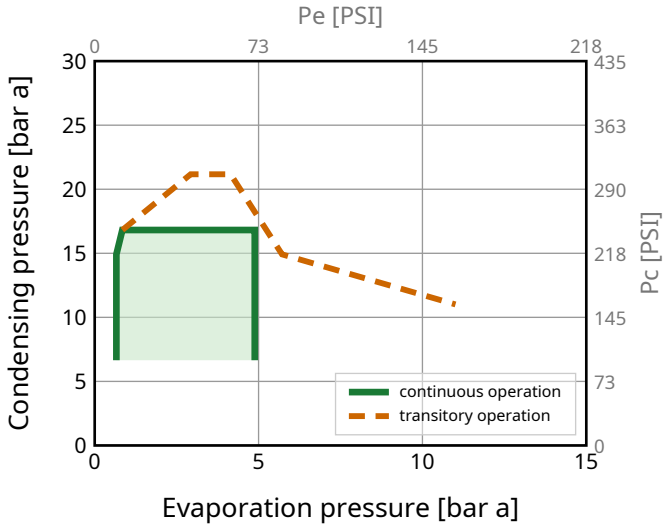
View full size

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

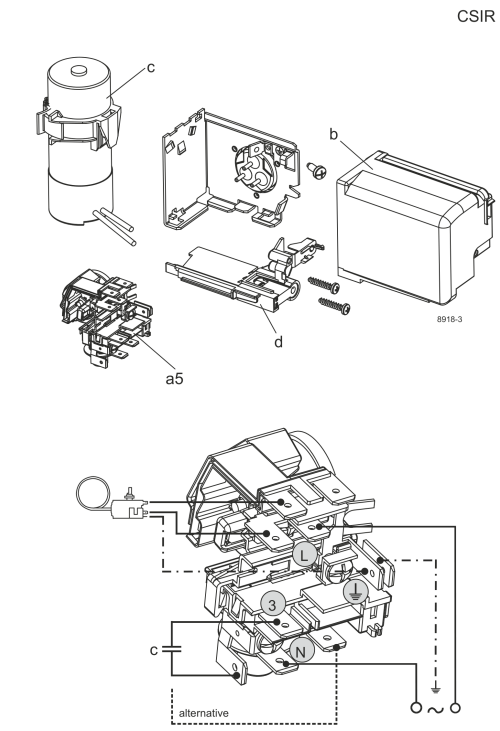
Configuration

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

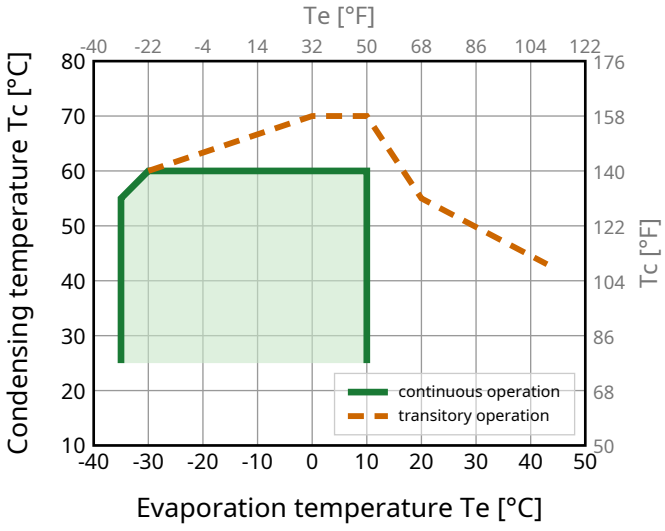


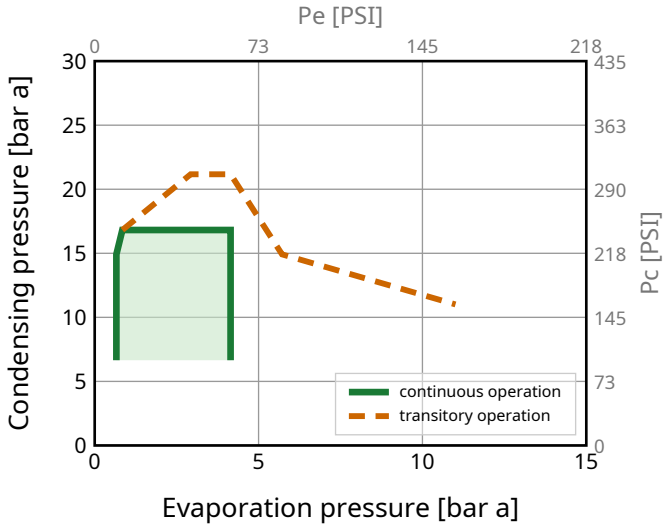
View full size

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

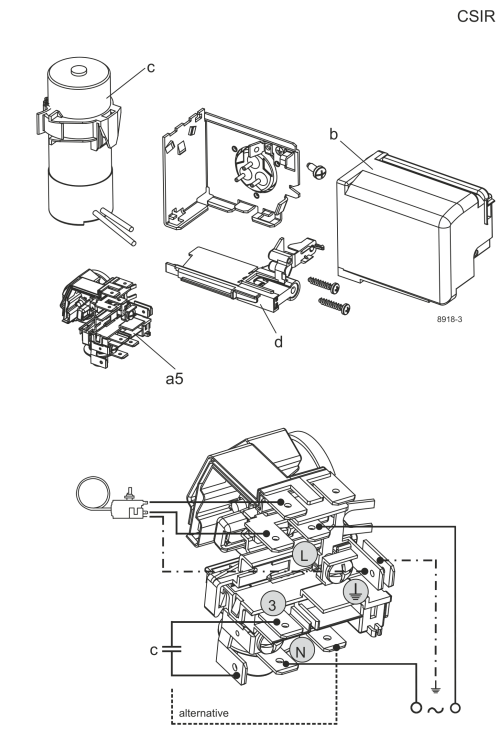
Configuration

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

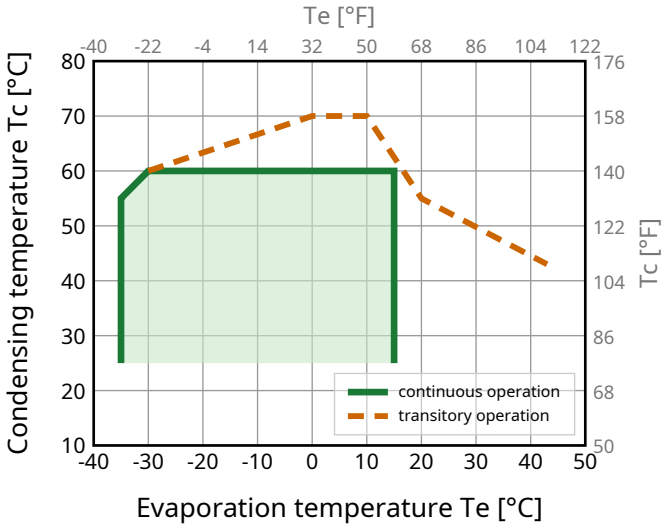


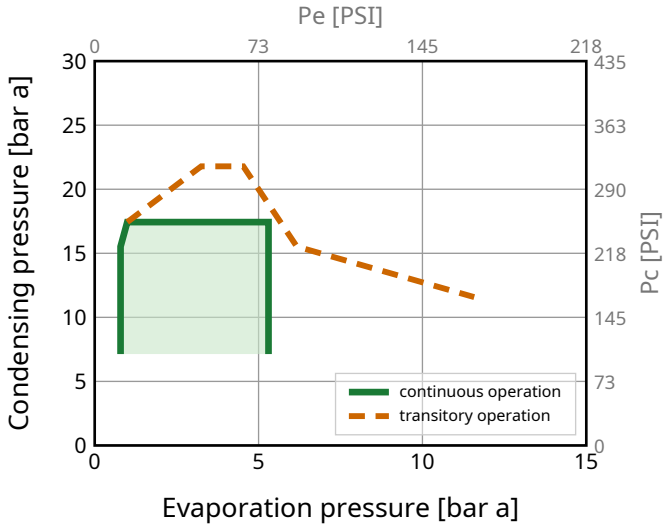
View full size

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
FRK10G Configuration 4

Sales code:
106G5853

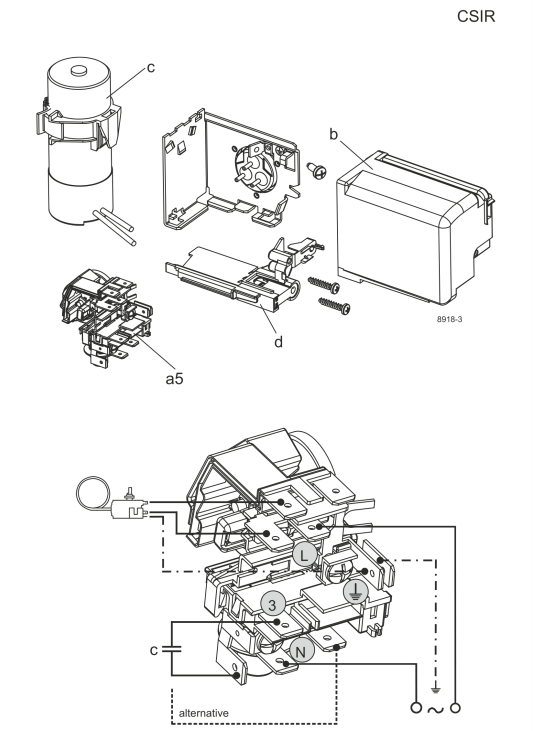
Configuration

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

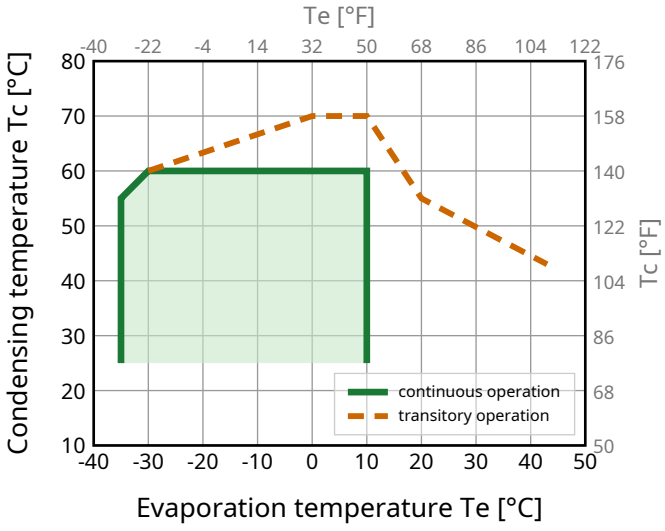


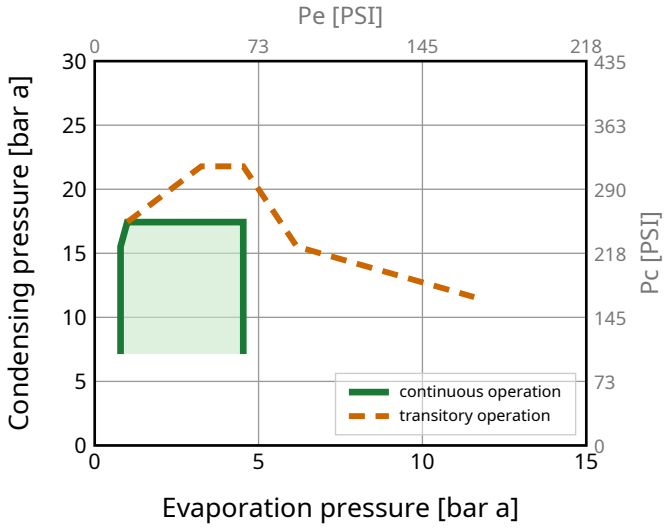
View full size

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

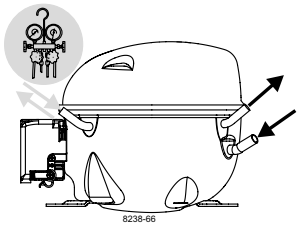
R513A, 230 V/60 Hz, CSIR, fan 3m/s

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



FRK Compressors

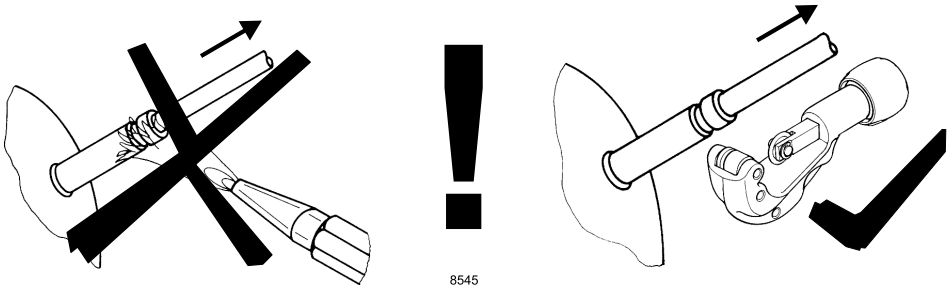
SECOP

Keep electrical equipment clear from oil, chemicals, and water

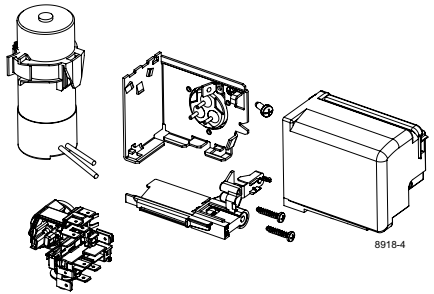
When operated with a flammable refrigerant, only spark-proof starting equipment is allowed.

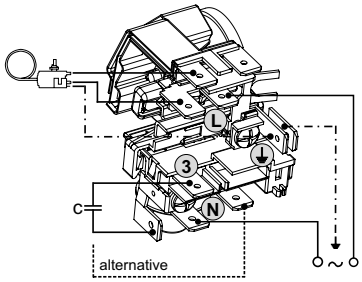
Service/Repair – R1234yf

(applies to all flammable refrigerants)



CSIR





Dismantling, recycling, disposal: At the end of a compressor's lifecycle, proceed by separating and storing components according to their environmental impact. Parts that may cause pollution must be clearly identified and handled separately, ensuring appropriate disposal. Refrigerant gas must not be released into the environment and should be recovered by qualified operators. Compressor oil must also be collected separately. The compressor should be disposed of at specialized disposal centers in accordance with the applicable regulations. **Subject to modifications/alterations. www.secop.com**