Single
Packs

SECOP

Single Pack FRK5G 220-240V 50Hz / 208-230V 60Hz CSIR

Single pack code number: **195B4766**

Position	Title	Code	Amount
1	Compressor FRK5G	106G5453	1
2	Starting relay (QLZ-4.6A, overload protector T1189/L6)	117U7073	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

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Model
FRK5G

Sales code:
106G5453

Compressor Data

Refrigerant(s)	**R134a / R513A**
Refr. charge - tech. limit	**700g / 24.69oz**
Weight	**8.90 kg / 19.62lbs**
Displacement	**4.00 cm3 / 0.24cu.in**
Compressors on pallet	**100**

General – Configurations With FRK5G

–	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
FRK5G

Sales code:
106G5453

Compressor Design

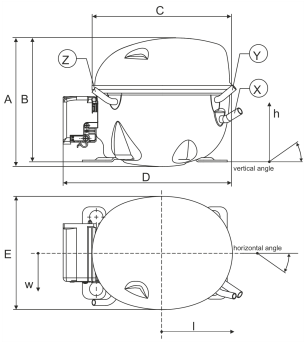
Oil type	**POE**	Winding resistance main	**13.1 Ohm**
Oil viscosity	**19,2cSt**	Winding resistance aux	**25.3 Ohm**
Oil quantity	**240 cm3 / 8.12fl.oz**	Max. winding temp.	**125 °C**
Free gas volume comp.	**1,560 cm3 / 52.75fl.oz**	Max. discharge temp.	**130°C / 266°F**
Motor protection	**external**		

Compressor Dimensions

Housing

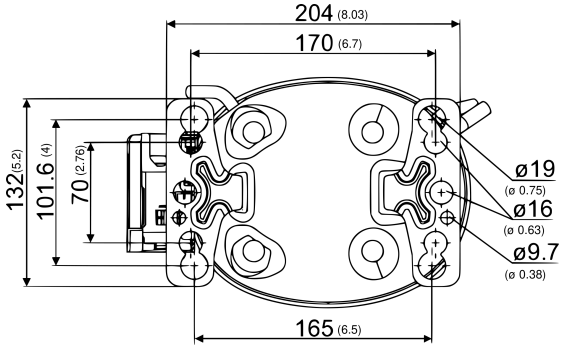
A Height	**182mm / 7.17in**
B Height	**175mm / 6.89in**
C Length shell	**198mm / 7.80in**
D Length w. cover	**238mm / 9.37in**
E Width	**160mm / 6.30in**

Find 3D Model here



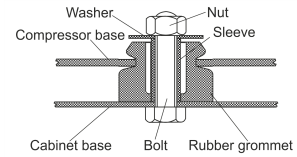
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 6.16–6.24 / 0.24–0.25in	øi 5.1–5.2 / 0.20–0.20in	øi 6.11–6.29 / 0.24–0.25in
Material	CU	CU	CU
Horizontal angle ±2°	35°	13°	0°
Vertical angle ±2°	30°	40°	145°
Position l/h/w [mm]	119/73/59 / 4.69/2.87/2.32in	117/107/66 / 4.61/4.21/2.60in	-88/101/71 / -3.46/3.98/2.80in
Straight tube l. [mm]	13.5 / 0.53in	13.5 / 0.53in	13.5 / 0.53in

Mounting Accessories

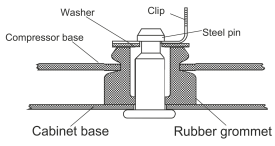


Dimensions in mm [in]

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
FRK5G Configuration 1

Sales code:
106G5453

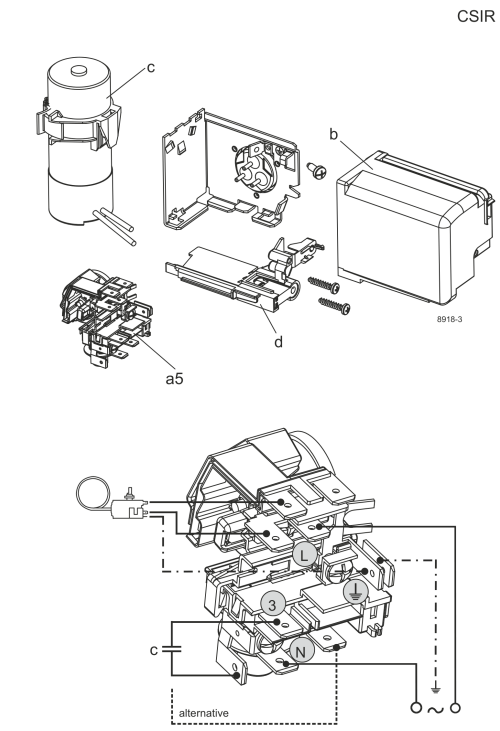
Configuration

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))	**10.5 A**
RLA (rated load amps / 1s/ U(N))	**1 A**
Cut in current (U(N))	**10.2 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
static

Electrical Accessories / Wiring Diagram



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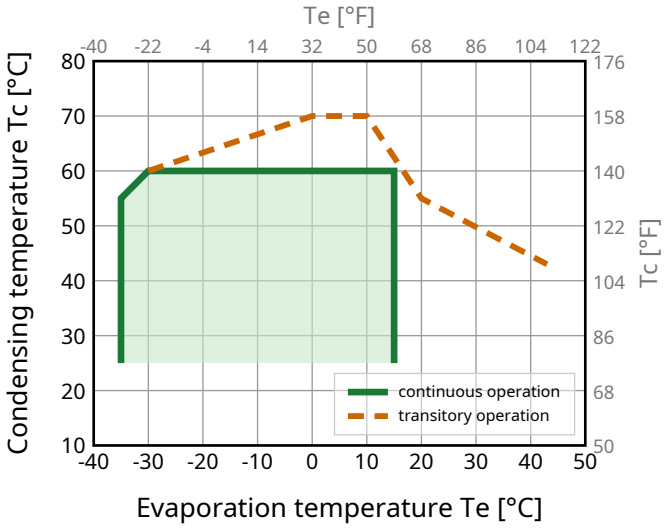
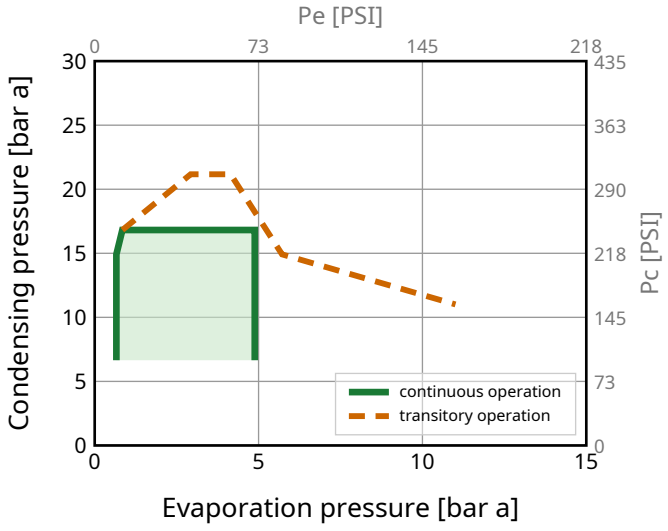
Components
a5 current relay (T1189/L6-S3) 117U7073
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

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:

FRK5G Configuration 1 **106G5453**

Standard Conditions

R134a, 220 V/50 Hz, CSIR, static

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	**98**	336	85	**1.11**	3.79	89	0.91	1.91	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**214**	732	184	**1.71**	5.84	125	0.99	4.67	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**386**	1316	332	**2.50**	8.53	154	1.07	8.54	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**45**	152	38	**0.69**	2.34	65	0.86	0.98	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**186**	634	160	**1.69**	5.78	110	0.96	4.33	**EN12900 MBP**
5 41	50 122	20 68	50 122	**330**	1125	284	**2.29**	7.83	144	1.04	8.27	**EN12900 HBP**

Performance Tables

R134a, 220 V/50 Hz, CSIR, static

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	**42**	144	36	**0.65**	2.22	65	0.86	0.91
-30	-22	**60**	206	52	**0.82**	2.80	74	0.88	1.30
-20	-4	**114**	388	98	**1.24**	4.22	92	0.92	2.46
-10	14	**192**	657	166	**1.75**	5.98	110	0.96	4.20
0	32	**302**	1029	259	**2.36**	8.06	128	1.00	6.66
10	50	**446**	1520	383	**3.06**	10.43	146	1.05	9.97
15	59	**532**	1816	458	**3.44**	11.72	155	1.08	12.02

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

-35	-31	**34**	117	29	**0.56**	1.91	61	0.86	0.81
-30	-22	**51**	173	44	**0.69**	2.37	73	0.88	1.21
-20	-4	**97**	332	84	**1.01**	3.45	96	0.93	2.33
-10	14	**166**	565	143	**1.40**	4.77	118	0.98	4.00
0	32	**261**	890	224	**1.86**	6.35	140	1.03	6.36
10	50	**387**	1320	333	**2.40**	8.20	161	1.09	9.58
15	59	**463**	1580	398	**2.70**	9.22	171	1.13	11.59

Model
FRK5G Configuration 2

Sales code:
106G5453

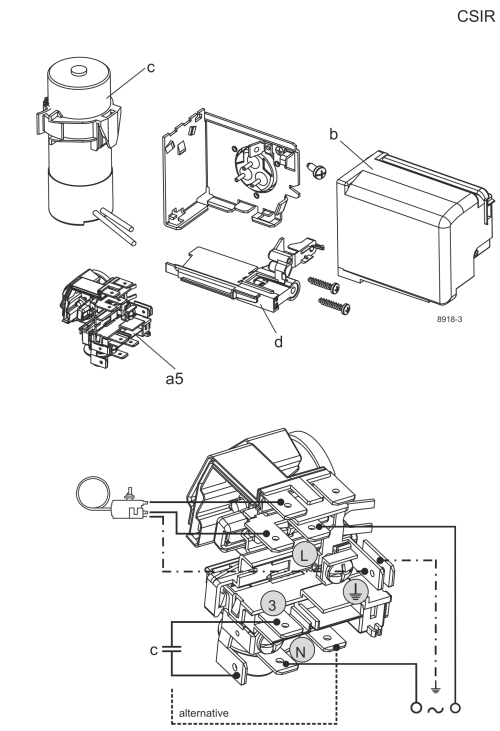
Configuration

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**
RLA (rated load amps / 1s/ U(N))	**-/-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
static

Electrical Accessories / Wiring Diagram



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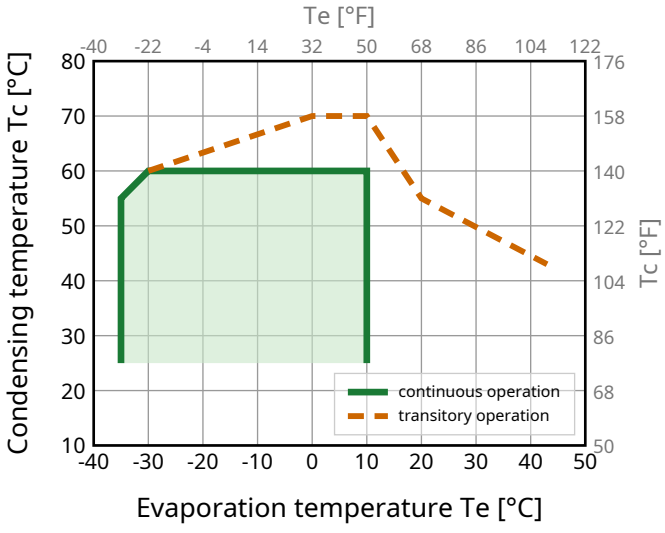
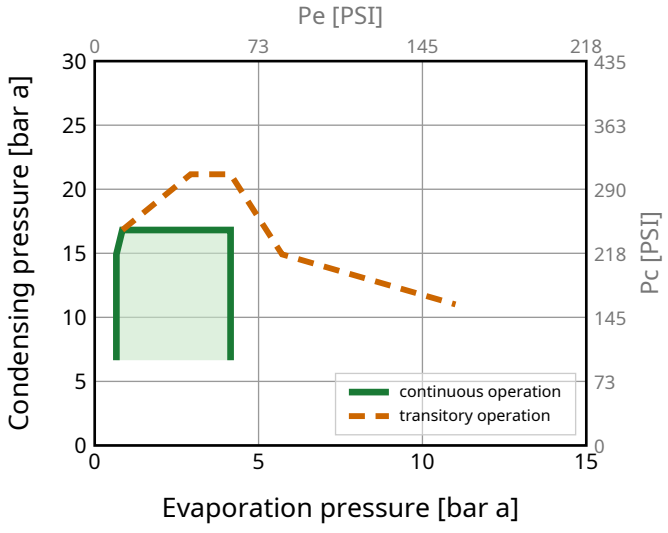
Components
a5 current relay (T1189/L6-S3) 117U7073
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

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:

FRK5G Configuration 2 **106G5453**

Standard Conditions

R134a, 230 V/60 Hz, CSIR, static

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	**119**	407	103	**1.17**	3.98	102	1.10	2.31	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**253**	863	218	**1.76**	6.01	144	1.19	5.51	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**450**	1537	387	**2.50**	8.53	180	1.28	9.97	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**54**	183	46	**0.71**	2.41	76	1.06	1.17	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**218**	744	188	**1.71**	5.85	127	1.15	5.09	**EN12900 MBP**
5 41	50 122	20 68	50 122	**384**	1312	331	**2.27**	7.75	169	1.25	9.64	**EN12900 HBP**

Performance Tables

R134a, 230 V/60 Hz, CSIR, static

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	**49**	168	42	**0.66**	2.26	74	1.06	1.06
-30	-22	**73**	249	63	**0.86**	2.94	85	1.07	1.57
-20	-4	**136**	463	117	**1.29**	4.39	105	1.11	2.94
-10	14	**226**	771	194	**1.78**	6.06	127	1.15	4.93
0	32	**351**	1198	302	**2.33**	7.96	150	1.20	7.75
10	50	**519**	1771	446	**2.96**	10.10	175	1.27	11.62
15	59	**622**	2121	535	**3.29**	11.24	189	1.30	14.04

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

-35	-31	**38**	129	32	**0.51**	1.74	74	1.06	0.90
-30	-22	**60**	206	52	**0.70**	2.39	86	1.08	1.44
-20	-4	**118**	401	101	**1.06**	3.62	111	1.12	2.81
-10	14	**197**	671	169	**1.45**	4.94	136	1.17	4.74
0	32	**305**	1042	263	**1.89**	6.45	162	1.23	7.45
10	50	**452**	1541	388	**2.40**	8.17	189	1.30	11.19
15	59	**541**	1847	466	**2.67**	9.11	203	1.35	13.55

Model
FRK5G Configuration 3

Sales code:
106G5453

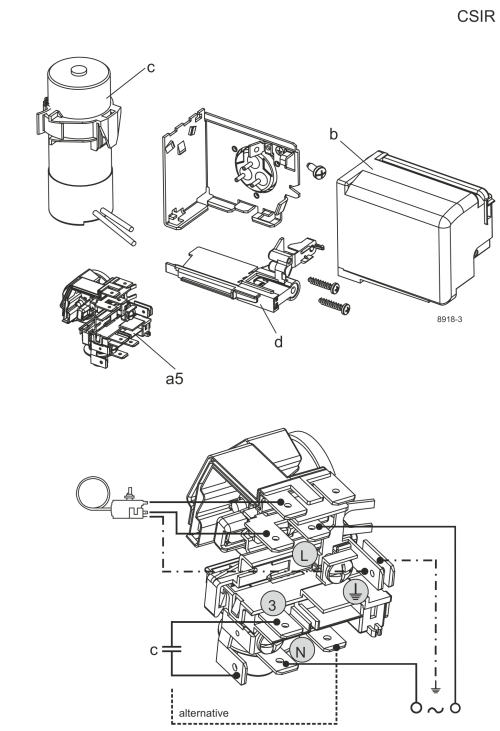
Configuration

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))	**10.5 A**
RLA (rated load amps / 1s/ U(N))	**1 A**
Cut in current (U(N))	**10.2 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
static

Electrical Accessories / Wiring Diagram



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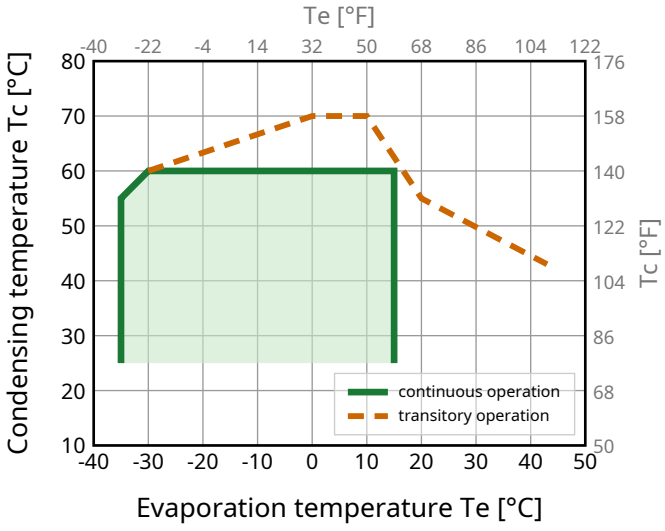
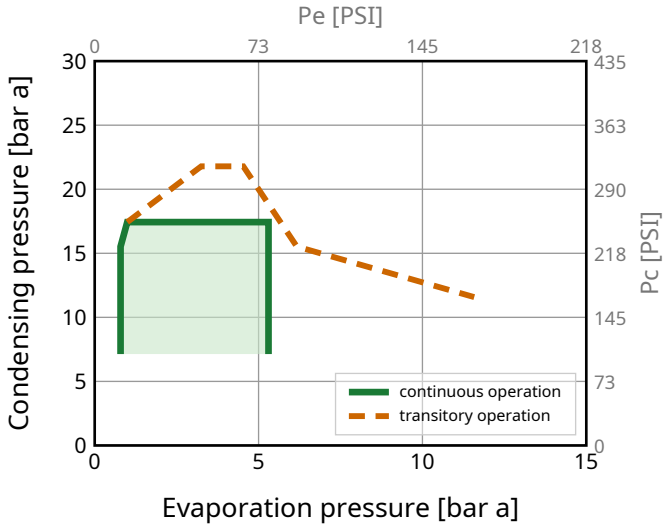
Components
a5 current relay (T1189/L6-S3) 117U7073
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

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:

FRK5G Configuration 3 **106G5453**

Standard Conditions

R513A, 220 V/50 Hz, CSIR, static

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	**108**	370	93	**1.15**	3.91	95	0.93	2.37	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**225**	768	194	**1.71**	5.82	132	1.01	5.61	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**397**	1354	341	**2.47**	8.43	161	1.09	10.09	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**50**	169	43	**0.70**	2.39	71	0.88	1.25	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**193**	660	166	**1.67**	5.71	116	0.97	5.24	**EN12900 MBP**
5 41	50 122	20 68	50 122	**332**	1134	286	**2.22**	7.56	150	1.06	9.80	**EN12900 HBP**

Performance Tables

R513A, 220 V/50 Hz, CSIR, static

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	**47**	161	41	**0.67**	2.29	70	0.88	1.16
-30	-22	**67**	228	57	**0.84**	2.87	79	0.90	1.65
-20	-4	**122**	417	105	**1.26**	4.29	97	0.93	3.03
-10	14	**203**	692	174	**1.76**	5.99	116	0.97	5.08
0	32	**313**	1068	269	**2.34**	7.99	134	1.02	7.93
10	50	**457**	1558	393	**3.02**	10.29	151	1.06	11.76
15	59	**542**	1850	466	**3.39**	11.57	160	1.09	14.12

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

-35	-31	**39**	132	33	**0.57**	1.96	67	0.87	1.06
-30	-22	**56**	190	48	**0.70**	2.41	79	0.89	1.54
-20	-4	**103**	352	89	**1.01**	3.44	102	0.94	2.87
-10	14	**172**	587	148	**1.37**	4.69	125	0.99	4.82
0	32	**266**	908	229	**1.81**	6.19	147	1.05	7.57
10	50	**390**	1330	335	**2.33**	7.96	167	1.11	11.29
15	59	**464**	1583	399	**2.63**	8.97	176	1.15	13.60

Model
FRK5G Configuration 4

Sales code:
106G5453

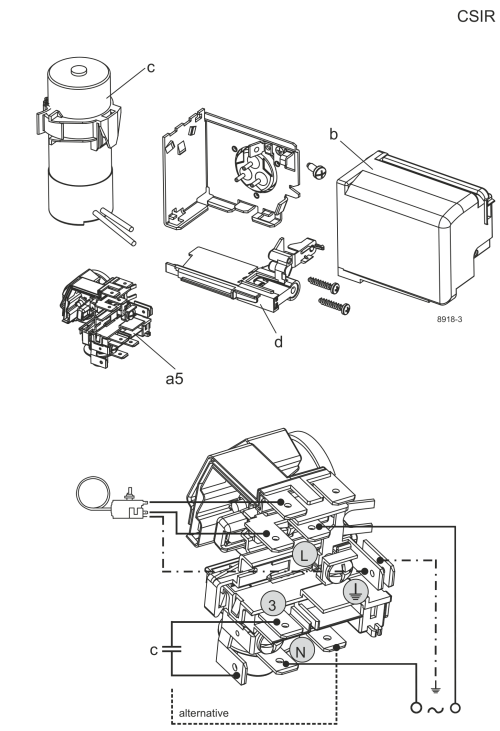
Configuration

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**
RLA (rated load amps / 1s/ U(N))	**-/-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
static

Electrical Accessories / Wiring Diagram



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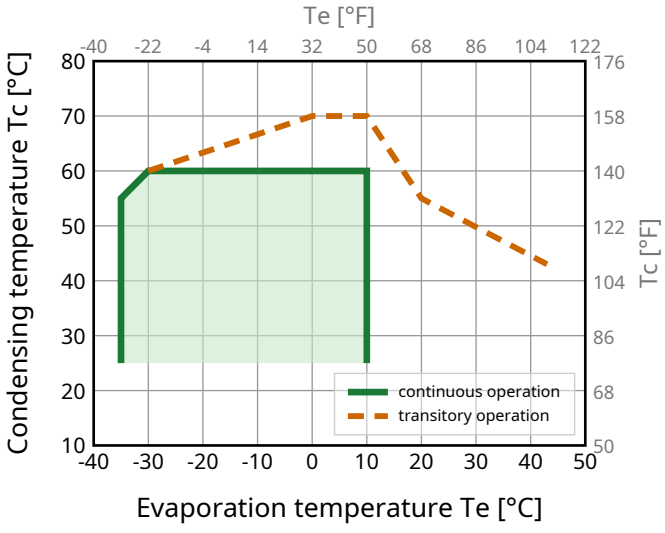
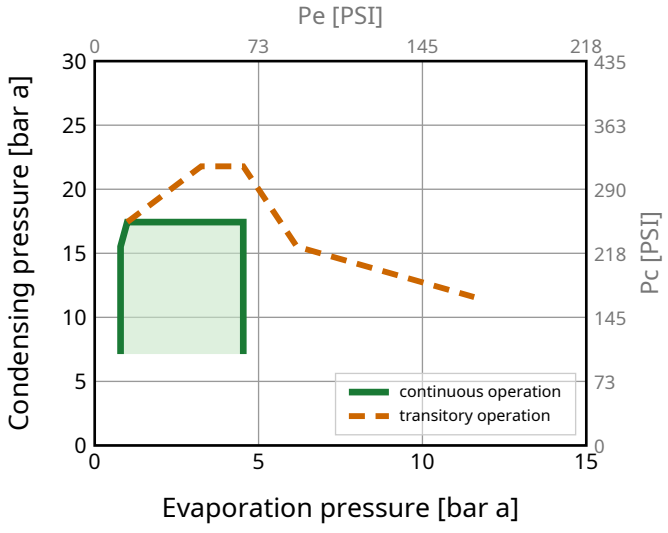
Components
a5 current relay (T1189/L6-S3) 117U7073
c start capacitor (80µF, 6.3mm) 117U5001
b, d cover + clamp + screws (5VA-compl.) 103N0600

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:

FRK5G Configuration 4 **106G5453**

Standard Conditions

R513A, 230 V/60 Hz, CSIR, static

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	**131**	448	113	**1.21**	4.11	109	1.11	2.88	**ASHRAE LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**266**	906	228	**1.76**	6.01	151	1.20	6.62	**ASHRAE MBP**
7.2 45	54.4 129.9	35 95	46.1 115	**464**	1581	399	**2.47**	8.43	188	1.30	11.78	**ASHRAE HBP**
-35 -31	40 104	20 68	40 104	**60**	203	51	**0.72**	2.45	83	1.07	1.50	**EN12900 LBP**
-10 14	45 113	20 68	45 113	**227**	774	195	**1.70**	5.81	133	1.16	6.14	**EN12900 MBP**
5 41	50 122	20 68	50 122	**388**	1322	333	**2.20**	7.49	176	1.27	11.43	**EN12900 HBP**

Performance Tables

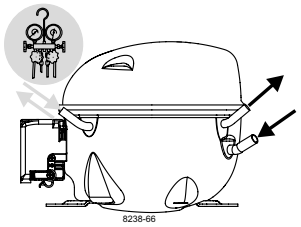
R513A, 230 V/60 Hz, CSIR, static

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	**56**	190	48	**0.68**	2.32	82	1.07	1.37
-30	-22	**80**	275	69	**0.88**	3.02	91	1.08	1.99
-20	-4	**146**	498	125	**1.31**	4.47	111	1.12	3.62
-10	14	**238**	812	205	**1.79**	6.09	133	1.16	5.96
0	32	**364**	1243	313	**2.32**	7.92	157	1.22	9.23
10	50	**532**	1815	458	**2.92**	9.97	182	1.28	13.70
15	59	**634**	2162	545	**3.25**	11.08	195	1.32	16.50

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

-35	-31	**43**	146	37	**0.52**	1.79	82	1.07	1.18
-30	-22	**66**	226	57	**0.71**	2.43	93	1.09	1.83
-20	-4	**125**	425	107	**1.06**	3.62	118	1.13	3.46
-10	14	**204**	696	176	**1.43**	4.88	143	1.18	5.73
0	32	**312**	1064	268	**1.85**	6.30	169	1.25	8.87
10	50	**455**	1553	391	**2.32**	7.93	196	1.33	13.18
15	59	**542**	1851	466	**2.59**	8.83	210	1.37	15.90



FRK Compressors

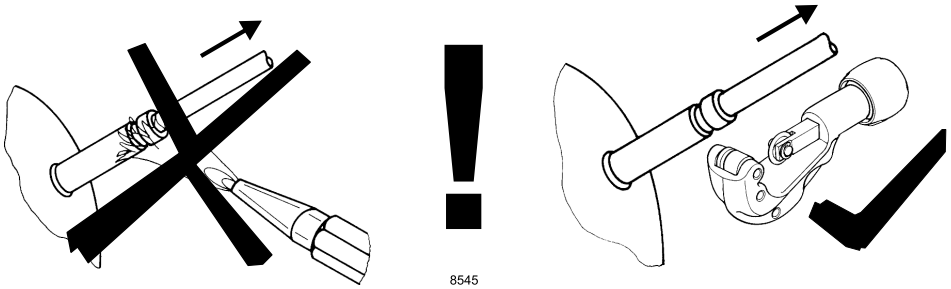
SECOP

Keep electrical equipment clear from oil, chemicals, and water

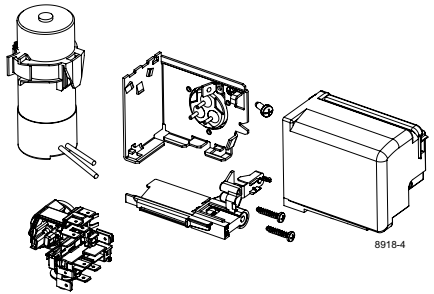
When operated with a flammable refrigerant, only spark-proof starting equipment is allowed.

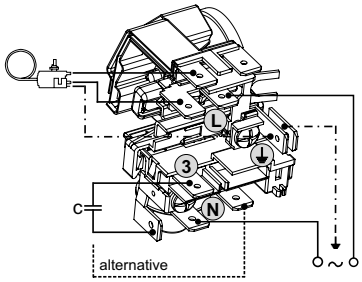
Service/Repair – R1234yf

(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**