

## 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 capacitor (80 $\mu$ F 220V, 6.3mm)	117U5001	1
3	Starting relay (QLZ-5.5A, overload protector T0377/L6)	117U7071	1
4	KL accessories	103N1060	1
5	Bolt joint for one compressor   M6   $\varnothing$ 16mm	118-1917	1

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## Model

Designation	<b>FRK10G</b>	<b>220-240V/50Hz 1~</b>	<b>208-230V/60Hz 1~</b>	Sales code:	<b>106G5853</b>
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## Compressor design

Oil type	Polyolester	Refrigerant(s)	<b>R134a, R513A</b>
Oil viscosity	19,2cSt	Displacement	7,7cm <sup>3</sup> / 0,47cu.in
Oil quantity	240cm <sup>3</sup> / 8,1fl.oz	Compressors on pallet	100
Refr. charge - tech. limit	700g / 24,7oz		
Free gas volume comp.	1505cm <sup>3</sup> / 50,9fl.oz		
Weight	9,6kg / 21,2lbs		
Motor protection	external		
Winding resistance main	8,4Ω (at 25°C)		
Winding resistance aux	11,9Ω (at 25°C)		
Max. winding temp.	125°C / 257°F		
Max. discharge temp.	130°C / 266°F		
Additional note	Very good robustness against liquid intake. Ice-cube maker optimization - indirect suction intake. Special design for high refrigerant charge		



## General - Configurations with FRK10G

	<b>Conf. 1</b>	<b>Conf. 2</b>
Motor configuration	CSIR	CSIR
Power supply (nominal)	220-240V/50Hz	208-230V/60Hz
Number of phases	1	1
Voltage range	187-254V	198-253V
Approvals	VDE, CB, UL in progress	VDE, CB, UL in progress
Starting torque	HST	HST
Note	- / -	

## Applications with FRK10G

	<b>Conf. 1</b>	<b>Conf. 2</b>
Refrigerant	R134a	R134a
Application	LBP+MBP+HBP	LBP+MBP
System cooling	fan 3m/s	fan 3m/s
Hot gas defrost	OK	OK
Long interval pull down	OK	OK

## Electrical data - Configurations with FRK10G

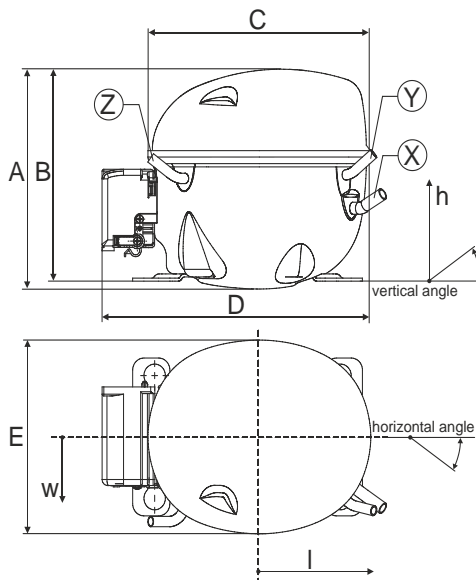
	<b>Conf. 1</b>	<b>Conf. 2</b>
Starting device type	relay	relay
Run capacitor	-/-	-/-
Start capacitor	80μF	80μF
LRA (locked rotor amps / 4s/ U(N))	13,5A	13,5A
RLA (rated load amps / 1s/ U(N))	2,1A	2,1A
Cut in current (U(N))	12,3A	12,3A

## Model

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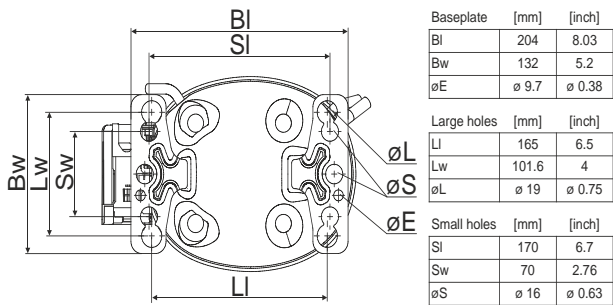
## Compressor dimensions

<b>Housing</b>	A Height	182mm / 7,17in
	B Height	175mm / 6,89in
	C Length shell	198mm / 7,8in
	D Length w. cover	238mm / 9,37in
	E Width	160mm / 6,3in

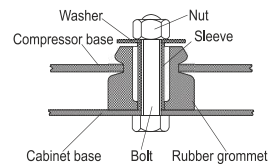


Connectors		Suction	Discharge	Process
		X	Y	Z
Diameter	[mm]	øi 8,11-8,29	øi 6,11-6,29	øi 6,11-6,29
	(i:inside, o:outside) [in]	øi 0,32-0,33	øi 0,24-0,25	øi 0,24-0,25
Material		copper	copper	copper
Horizontal angle	±2°	35°	13°	0°
Vertical angle	±2°	30°	40°	145°
Position l/h/w	[mm]	119/73/59	117/107/66	-88/101/71
	[in]	4,7/2,9/2,3	4,6/4,2/2,6	-3,5/4/2,8
Straight tube l.	[mm]	14	14	14
	[in]	0,5	0,5	0,5

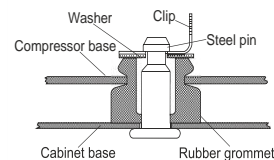
## Compressor fixation



### Bolt joint



### Snap-on



Mounting accessories	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

## 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)

## Model

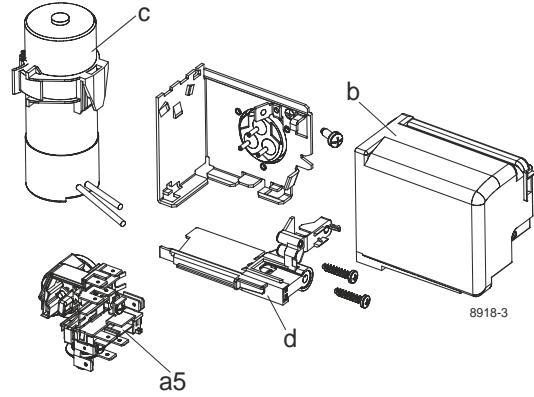
Designation	<b>FRK10G</b>	<b>220-240V/50Hz</b>	Conf. 1	Sales code:	<b>106G5853</b>
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## Configuration

Motor configuration	CSIR
Power supply (nominal)	220-240V/50Hz 1~
Refrigerant	R134a
Application	LBP+MBP+HBP
Voltage range	187-254V
Starting torque	HST
Approvals	VDE
	CB
	UL in progress

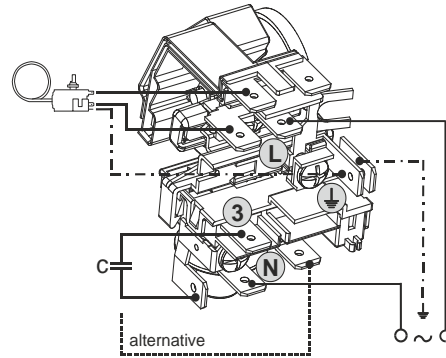
## Electrical accessories / wiring diagram

**CSIR**

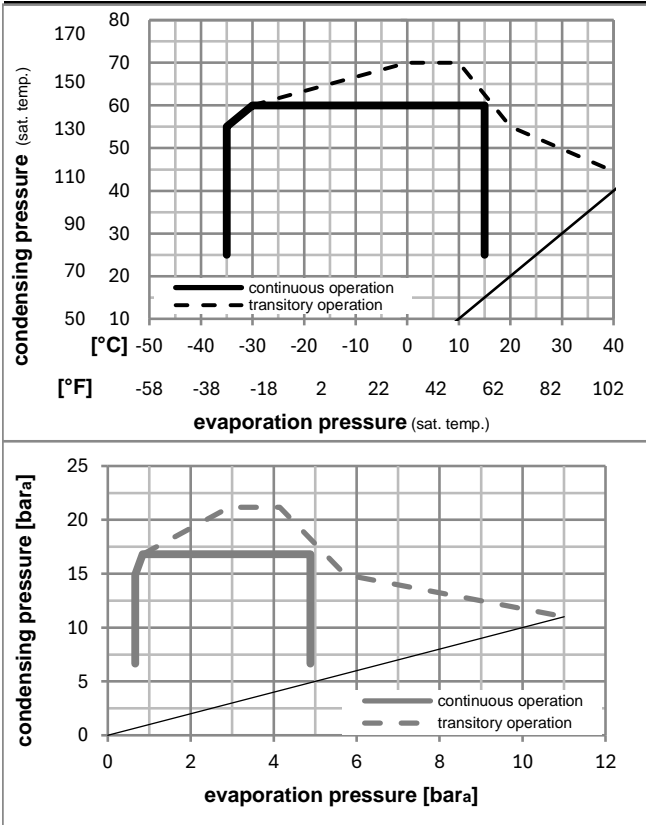


## Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 3m/s



## Operation pressure range



## 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

## Model

Designation **FRK10G** **220-240V/50Hz** Conf. 1 Sales code: **106G5853**

## Optimization + standard conditions

R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, CB, UL in progress

	Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			Return gas temp.			Liquid temp.			Cooling capacity			COP	EER	Power consumption			ASHRAE LBP
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	P1	I	Ref. mass flow	m	[kg/h]	[W]	[A]	[kg/h]				
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]									
[°C]	-23	54	32	32	213,7	730	183,9	1,30	4,43	1,12	164,6	1,34	4,15									
[°F]	-10	130	90	90																		
[°C]	-7	54	35	46	437,6	1494	376,6	1,82	6,22	1,57	240,2	1,61	9,55								ASHRAE MBP	
[°F]	20	130	95	115																		
[°C]	7,2	54	35	46	765,7	2615	659,0	2,42	8,27	2,08	316,2	1,93	16,99								ASHRAE HBP	
[°F]	45	130	95	115																		
[°C]	-35	40	20	40	110,9	379	95,4	0,96	3,27	0,82	115,8	1,21	2,43								EN12900 LBP	
[°F]	-31	104	68	104																		
[°C]	-10	45	20	45	381,4	1303	328,3	1,82	6,22	1,57	209,5	1,49	8,93								EN12900 MBP	
[°F]	14	113	68	113																		
[°C]	5	50	20	50	655,1	2237	563,8	2,27	7,76	1,96	288,3	1,81	16,51								EN12900 HBP	
[°F]	41	122	68	122																		

## Performance tables

R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, CB, UL in progress

	pe		Cooling capacity			COP	EER		P1	I	m
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]
[°C / °F]	-35	-31	105,4	360	90,7	0,89	3,05	0,77	117,9	1,22	2,27
cond. pressure	-25	-13	186,0	635	160,1	1,21	4,15	1,05	153,2	1,31	4,03
pc= 45/113	-15	5	312,7	1068	269,1	1,64	5,61	1,41	190,3	1,42	6,82
return gas temp.	-10	14	395,7	1351	340,6	1,89	6,45	1,63	209,5	1,49	8,66
RGT= 32/90	0	32	606,2	2070	521,7	2,43	8,29	2,09	249,6	1,65	13,41
liquid temp	5	41	735,6	2512	633,1	2,72	9,29	2,34	270,4	1,74	16,38
Tliq= 45/113	15	59	1047,8	3578	901,7	3,34	11,40	2,87	313,8	1,92	23,73
[°C / °F]	-35	-31	83,8	286	72,1	0,69	2,35	0,59	121,9	1,23	1,99
cond. pressure	-25	-13	157,0	536	135,1	0,99	3,39	0,85	158,3	1,32	3,75
pc= 55/131	-15	5	268,0	915	230,7	1,33	4,56	1,15	200,9	1,46	6,45
return gas temp	-10	14	340,2	1162	292,8	1,52	5,18	1,30	224,5	1,55	8,23
RGT= 32/90	0	32	522,9	1786	450,0	1,89	6,46	1,63	276,6	1,76	12,79
liquid temp	5	41	635,4	2170	546,9	2,08	7,11	1,79	305,0	1,88	15,66
Tliq= 55/131	15	59	907,7	3100	781,2	2,47	8,45	2,13	366,9	2,16	22,80

## Model

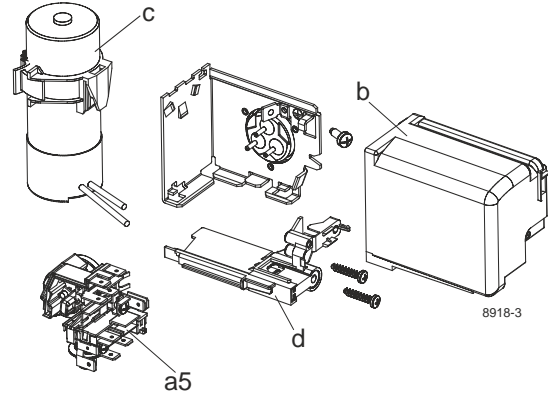
Designation	<b>FRK10G</b>	<b>208-230V/60Hz</b>	Conf. 2	Sales code:	<b>106G5853</b>
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## Configuration

Motor configuration	CSIR
Power supply (nominal)	208-230V/60Hz 1~
Refrigerant	R134a
Application	LBP+MBP
Voltage range	198-253V
Starting torque	HST
Approvals	VDE
	CB
	UL in progress

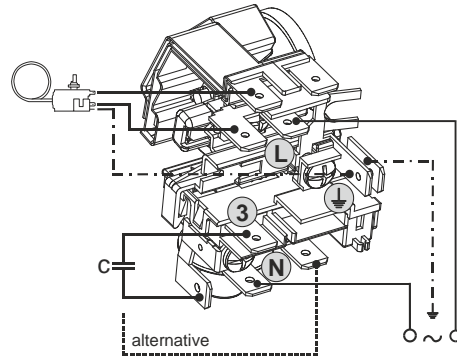
## Electrical accessories / wiring diagram

CSIR

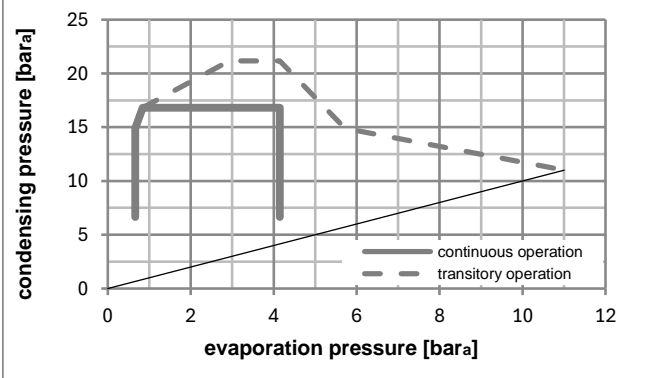
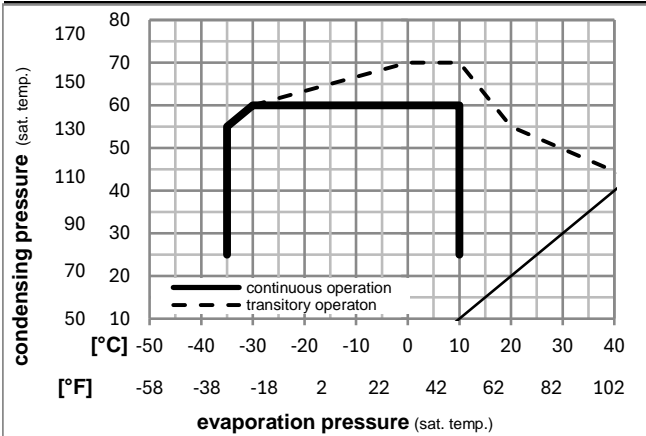


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## Alternative components

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

## Model

Designation **FRK10G** **208-230V/60Hz** Conf. 2 Sales code: **106G5853**

## Optimization + standard conditions

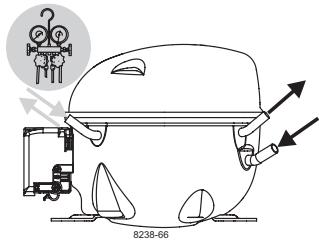
R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, CB, UL in progress

	Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			COP	EER	Power consumption			ASHRAE			
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]			P1	I	Ref. mass flow				
	[°C]	[°F]	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]			
	-23	-10	54	130	32	32	253,7	867	218,4	1,38	4,71	1,19	183,8	1,29	4,93	ASHRAE LBP
	-7	20	54	130	35	46	517,7	1768	445,5	1,86	6,34	1,60	278,7	1,60	11,29	ASHRAE MBP
	7,2	45	54	130	35	46	905,6	3093	779,4	2,48	8,46	2,13	365,7	1,93	20,09	ASHRAE HBP
	-35	-31	40	104	20	40	129,2	441	111,2	1,10	3,75	0,94	117,8	1,12	2,84	EN12900 LBP
	-10	14	45	113	20	45	450,3	1538	387,6	1,87	6,37	1,61	241,4	1,47	10,54	EN12900 MBP
	5	41	50	122	20	50	774,2	2644	666,3	2,32	7,92	2,00	333,8	1,81	19,51	EN12900 HBP

## Performance tables

R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, CB, UL in progress

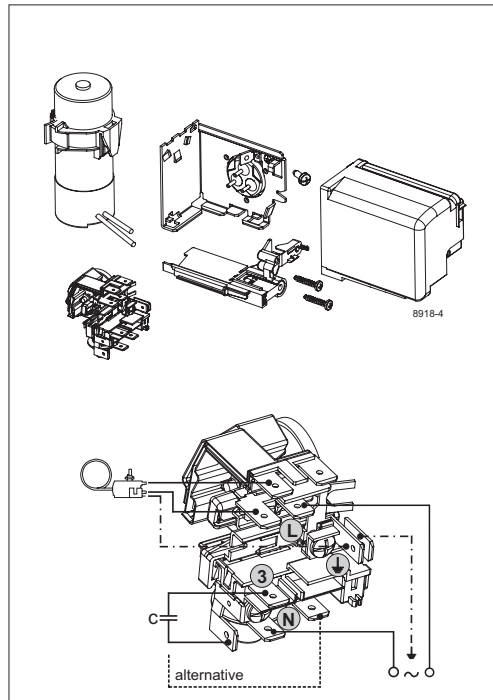
	pe		Cooling capacity			COP	EER	P1	I	m	
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]						
[°C / °F]	-35	-31	122,6	419	105,5	1,06	3,62	0,91	115,8	1,12	2,65
cond. pressure	-25	-13	219,9	751	189,2	1,29	4,42	1,11	169,8	1,25	4,76
pc= 45/113	-15	5	369,4	1262	317,9	1,69	5,78	1,46	218,2	1,40	8,05
return gas temp.	-10	14	467,2	1596	402,1	1,94	6,61	1,67	241,4	1,47	10,23
RGT= 32/90	0	32	715,4	2443	615,7	2,48	8,48	2,14	288,1	1,64	15,82
liquid temp	5	41	868,5	2966	747,4	2,78	9,49	2,39	312,5	1,73	19,34
Tliq= 45/113	15	59	1239,4	4233	1066,7	3,39	11,58	2,92	365,5	1,93	28,07
[°C / °F]	-35	-31	97,9	334	84,2	0,85	2,89	0,73	115,6	1,12	2,33
cond. pressure	-25	-13	186,5	637	160,5	1,07	3,64	0,92	174,7	1,27	4,46
pc= 55/131	-15	5	317,7	1085	273,5	1,37	4,69	1,18	231,6	1,44	7,65
return gas temp	-10	14	402,8	1376	346,6	1,55	5,28	1,33	260,3	1,54	9,74
RGT= 32/90	0	32	618,2	2111	532,1	1,93	6,59	1,66	320,5	1,76	15,12
liquid temp	5	41	751,4	2566	646,6	2,13	7,27	1,83	352,9	1,88	18,52
Tliq= 55/131	15	59	1075,2	3672	925,3	2,53	8,65	2,18	424,4	2,17	27,01



# FRK Compressors

# SECCP

Keep electrical equipment clear from oil, chemicals, and water



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