Technical Data Compressor

SECOP

Model

Designation	**FRK8.5G**	**220-240V/50Hz 1~**	**208-230V/60Hz 1~**	Sales code:	**106G5753**

Compressor design

Oil type	Polyolester	Refrigerant(s)	**R134a, R513A**
Oil viscosity	19,2cSt	Displacement	6,6cm³ / 0,4cu.in
Oil quantity	240cm³ / 8,1fl.oz	Compressors on pallet	100
Refr. charge - tech. limit	700g / 24,7oz		
Free gas volume comp.	1510cm³ / 51,1fl.oz		
Weight	9,5kg / 20,9lbs		
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 FRK8.5G

	Conf. 1	**Conf. 2**
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, CCC	VDE, CB, UL, CCC
Starting torque	HST	HST
Note	- / -	

Applications with FRK8.5G

	Conf. 1	**Conf. 2**
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 FRK8.5G

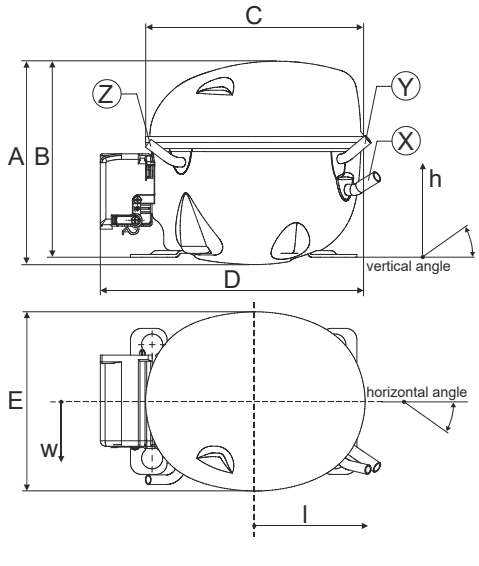
	Conf. 1	**Conf. 2**
Starting device type	relay	relay
Run capacitor	-/-	-/-
Start capacitor	80µF	80µF
LRA (locked rotor amps / 4s/ $U_{(N)}$)	13,4A	13,2A
RLA (rated load amps / 1s/ $U_{(N)}$)	1,8A	2A
Cut in current ($U_{(N)}$)	12,3A	12,3A

Model

Designation **FRK8.5G** **220-240V/50Hz 1~ 208-230V/60Hz 1~** Sales code: **106G5753**

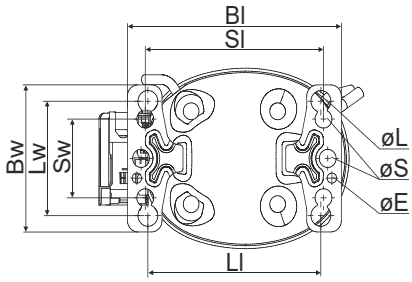
Compressor dimensions

Housing	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 X**	**Discharge Y**	**Process 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

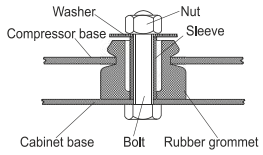


Baseplate	[mm]	[inch]
Bl	204	8.03
Bw	132	5.2
øE	ø 9.7	ø 0.38

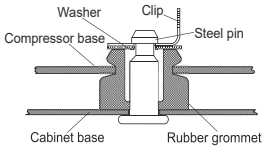
Large holes	[mm]	[inch]
Ll	165	6.5
Lw	101.6	4
øL	ø 19	ø 0.75

Small holes	[mm]	[inch]
Sl	170	6.7
Sw	70	2.76
øS	ø 16	ø 0.63

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					
	FRK8.5G	**220-240V/50Hz**	**Conf. 1**	Sales code:	**106G5753**

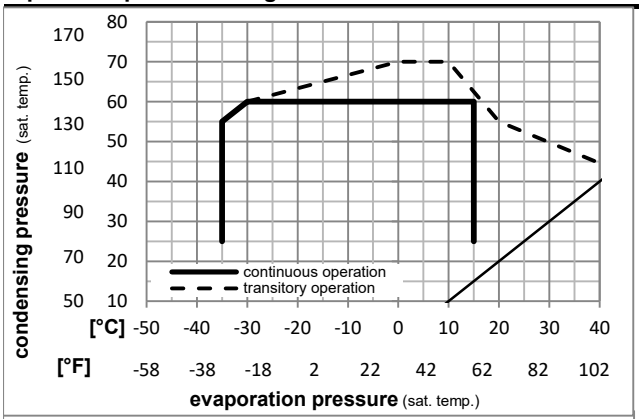
Configuration

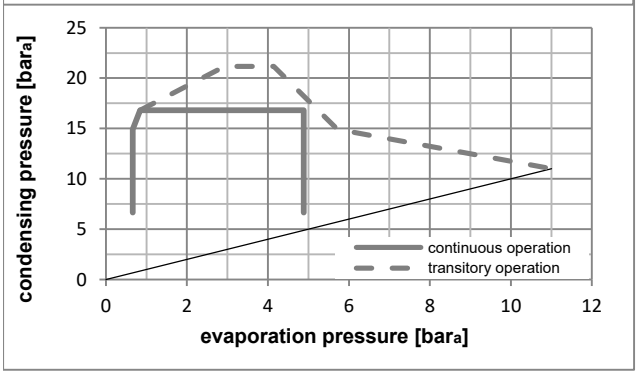
Motor configuration	CSIR
Power supply (nominal)	220-240V/50Hz 1~
Refrigerant	R134a
Application	LBP+MBP+HBP
Voltage range	187-254V
Starting torque	HST
Approvals	VDE
	CB
	UL
	CCC

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

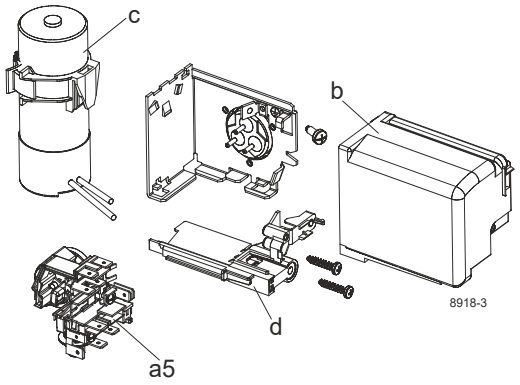
Operation pressure range

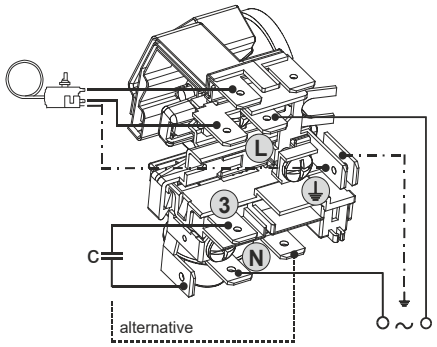




Electrical accessories / wiring diagram

CSIR





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 **FRK8.5G** **220-240V/50Hz** **Conf. 1** Sales code: **106G5753**

Optimization + standard conditions R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, CB, UL, CCC

	Evaporating pressure (saturation temperature) pe	Condensing pressure (saturation temperature) pc	Return gas temp. RGT	Liquid temp. Tliq	Cooling capacity [W]	[Btu/h]	[kcal/h]	COP [W/W]	EER [Btu/Wh]	[kcal/Wh]	Power consumption P1 [W]	Current consumption I [A]	Ref. mass flow ṁ [kg/h]	
[°C]	-23	54	32	32	185,1	632	159,3	1,23	4,19	1,06	150,8	1,30	3,59	**ASHRAE LBP**
[°F]	-10	130	90	90										
[°C]	-7	54	35	46	393,0	1342	338,3	1,78	6,08	1,53	220,8	1,54	8,58	**ASHRAE MBP**
[°F]	20	130	95	115										
[°C]	7,2	54	35	46	701,6	2396	603,8	2,48	8,46	2,13	283,4	1,79	15,57	**ASHRAE HBP**
[°F]	45	130	95	115										
[°C]	-35	40	20	40	97,3	332	83,8	0,89	3,02	0,76	110,0	1,21	2,14	**EN12900 LBP**
[°F]	-31	104	68	104										
[°C]	-10	45	20	45	340,0	1161	292,6	1,80	6,16	1,55	188,5	1,42	7,96	**EN12900 MBP**
[°F]	14	113	68	113										
[°C]	5	50	20	50	599,2	2046	515,6	2,30	7,86	1,98	260,3	1,69	15,10	**EN12900 HBP**
[°F]	41	122	68	122										

Performance tables R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, CB, UL, CCC

	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	91,8	314	79,0	0,82	2,79	0,70	112,3	1,21	1,98
cond. pressure	-25	-13	160,2	547	137,8	1,16	3,97	1,00	137,9	1,26	3,47
pc= 45/113	-15	5	275,5	941	237,1	1,62	5,52	1,39	170,5	1,36	6,01
return gas temp.	-10	14	352,8	1205	303,6	1,87	6,39	1,61	188,5	1,42	7,72
RGT= 32/90	0	32	550,4	1880	473,6	2,43	8,31	2,09	226,3	1,56	12,17
liquid temp	5	41	672,2	2296	578,5	2,74	9,36	2,36	245,4	1,63	14,97
Tliq= 45/113	15	59	966,1	3299	831,4	3,42	11,69	2,95	282,2	1,78	21,88
[°C / °F]	-35	-31	74,3	254	63,9	0,67	2,28	0,57	111,3	1,20	1,77
cond. pressure	-25	-13	135,7	464	116,8	0,94	3,20	0,81	144,7	1,28	3,25
pc= 55/131	-15	5	236,5	808	203,5	1,28	4,37	1,10	185,0	1,41	5,69
return gas temp	-10	14	303,5	1037	261,2	1,47	5,01	1,26	206,8	1,48	7,34
RGT= 32/90	0	32	474,9	1622	408,7	1,88	6,43	1,62	252,2	1,66	11,62
liquid temp	5	41	580,8	1984	499,8	2,11	7,21	1,82	275,1	1,75	14,31
Tliq= 55/131	15	59	836,9	2858	720,2	2,62	8,95	2,26	319,3	1,95	21,02

Model

Designation					
	FRK8.5G	**208-230V/60Hz**	**Conf. 2**	Sales code:	**106G5753**

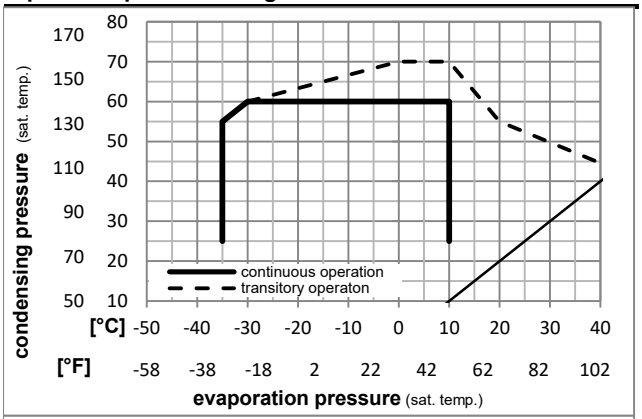
Configuration

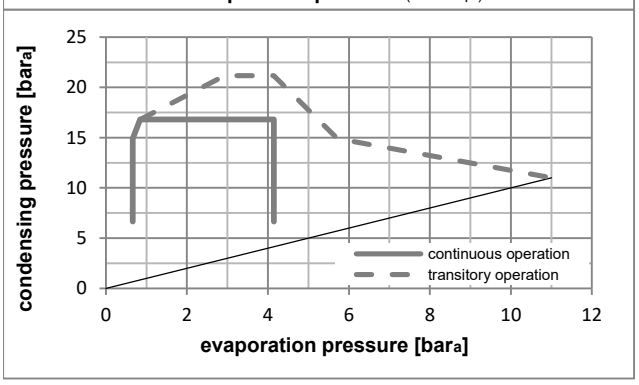
Motor configuration	CSIR
Power supply (nominal)	208-230V/60Hz 1~
Refrigerant	R134a
Application	LBP+MBP
Voltage range	198-253V
Starting torque	HST
Approvals	VDE
	CB
	UL
	CCC

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

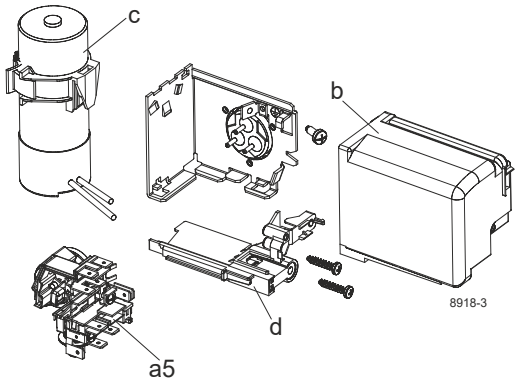
Operation pressure range

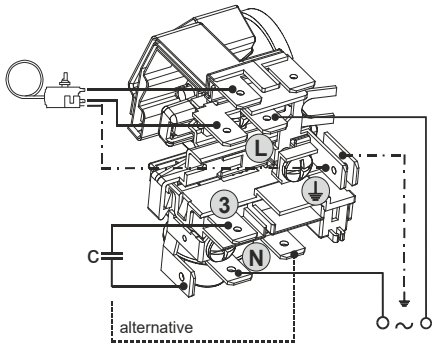




Electrical accessories / wiring diagram

CSIR





Components

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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 **FRK8.5G** **208-230V/60Hz** **Conf. 2** Sales code: **106G5753**

Optimization + standard conditions R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, CB, UL, CCC

	Evaporating pressure (saturation temperature) pe	Condensing pressure (saturation temperature) pc	Return gas temp. RGT	Liquid temp. Tliq	Cooling capacity [W]	Cooling capacity [Btu/h]	Cooling capacity [kcal/h]	COP [W/W]	EER [Btu/Wh]	EER [kcal/Wh]	Power consumption P1 [W]	Current consumption I [A]	Ref. mass flow ṁ [kg/h]	
[°C]	-23	54	32	32	224,3	766	193,0	1,32	4,51	1,14	169,9	1,25	4,35	ASHRAE LBP
[°F]	-10	130	90	90										
[°C]	-7	54	35	46	464,9	1588	400,1	1,84	6,27	1,58	253,3	1,51	10,14	ASHRAE MBP
[°F]	20	130	95	115										
[°C]	7,2	54	35	46	821,8	2807	707,2	2,52	8,60	2,17	326,3	1,78	18,23	ASHRAE HBP
[°F]	45	130	95	115										
[°C]	-35	40	20	40	116,1	396	99,9	1,07	3,64	0,92	108,9	1,11	2,55	EN12900 LBP
[°F]	-31	104	68	104										
[°C]	-10	45	20	45	399,5	1365	343,9	1,81	6,18	1,56	220,8	1,40	9,35	EN12900 MBP
[°F]	14	113	68	113										
[°C]	5	50	20	50	700,4	2392	602,8	2,31	7,88	1,98	303,7	1,70	17,65	EN12900 HBP
[°F]	41	122	68	122										

Performance tables R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, CB, UL, CCC

	pe [°C]	pe [°F]	Cooling capacity [W]	Cooling capacity [Btu/h]	Cooling capacity [kcal/h]	COP [W/W]	EER [Btu/Wh]	EER [kcal/Wh]	P1 [W]	I [A]	m [kg/h]
[°C / °F]	-35	-31	109,2	373	94,0	1,01	3,46	0,87	107,8	1,11	2,36
cond. pressure	-25	-13	192,8	659	166,0	1,24	4,23	1,07	155,6	1,22	4,18
pc= 45/113	-15	5	326,0	1113	280,6	1,64	5,59	1,41	199,3	1,34	7,11
return gas temp.	-10	14	414,5	1416	356,7	1,88	6,41	1,62	220,8	1,40	9,07
RGT= 32/90	0	32	642,1	2193	552,6	2,42	8,26	2,08	265,6	1,56	14,20
liquid temp	5	41	783,8	2677	674,6	2,70	9,23	2,33	289,9	1,64	17,45
Tliq= 45/113	15	59	1129,9	3859	972,4	3,28	11,20	2,82	344,6	1,84	25,59
[°C / °F]	-35	-31	84,4	288	72,7	0,80	2,74	0,69	105,3	1,10	2,01
cond. pressure	-25	-13	164,5	562	141,6	1,02	3,48	0,88	161,6	1,23	3,93
pc= 55/131	-15	5	283,5	968	244,0	1,33	4,55	1,15	212,7	1,38	6,82
return gas temp	-10	14	360,9	1232	310,6	1,52	5,19	1,31	237,6	1,46	8,73
RGT= 32/90	0	32	558,2	1906	480,4	1,94	6,61	1,67	288,3	1,64	13,65
liquid temp	5	41	680,9	2325	586,0	2,16	7,38	1,86	315,2	1,74	16,78
Tliq= 55/131	15	59	980,7	3349	844,0	2,62	8,95	2,25	374,3	1,96	24,63