

## 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 capacitor (80 $\mu$ F 220V, 6.3mm)	117U5001	1
3	Starting relay (QLZ-4.6A, overload protector T1189/L6)	117U7073	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>FRK5G</b>	<b>220-240V/50Hz 1~</b>	<b>208-230V/60Hz 1~</b>	Sales code:	<b>106G5453</b>
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## Compressor design

Oil type	Polyolester	Refrigerant(s)	<b>R134a, R513A</b>
Oil viscosity	19,2cSt	Displacement	4cm <sup>3</sup> / 0,24cu.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.	1560cm <sup>3</sup> / 52,7fl.oz		
Weight	8,9kg / 19,6lbs		
Motor protection	external		
Winding resistance main	13,1Ω (at 25°C)		
Winding resistance aux	25,3Ω (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 FRK5G

	<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 FRK5G

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

## Electrical data - Configurations with FRK5G

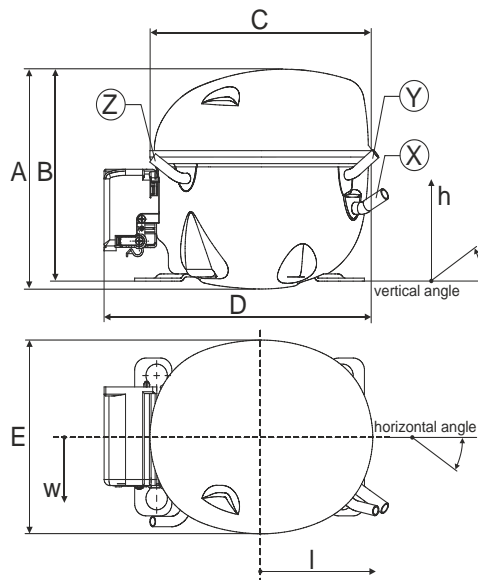
	<b>Conf. 1</b>	<b>Conf. 2</b>
Starting device type	relay	relay
Run capacitor	-/-	-/-
Start capacitor	80μF	80μF
LRA (locked rotor amps / 4s/ U(N))	10,2A	
RLA (rated load amps / 1s/ U(N))	1,4A	
Cut in current (U(N))	10,2A	

## Model

Designation **FRK5G** **220-240V/50Hz 1~ 208-230V/60Hz 1~** Sales code: **106G5453**

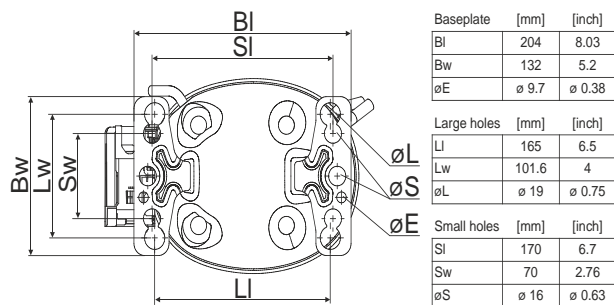
## Compressor dimensions

<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

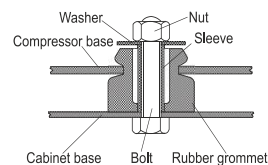


Connectors		Suction	Discharge	Process
		X	Y	Z
Diameter	[mm]	øi 6,16-6,24	øi 5,1-5,2	øi 6,11-6,29
(i:inside, o:outside)	[in]	øi 0,24-0,25	øi 0,2-0,2	øi 0,24-0,25
Material		copper	copper	copper
Horizontal angle	±2°	35°	13°	0°
Vertical angle	±2°	30°	40°	145°
Position l/h/w	[mm]	119/73/59	117/107/66	-88/101/71
	[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

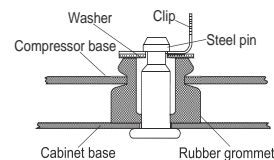
## Compressor fixation



### 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

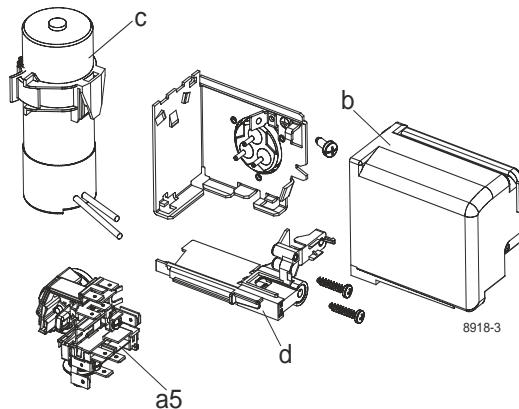
Designation	<b>FRK5G</b>	<b>220-240V/50Hz</b>	Conf. 1	Sales code:	<b>106G5453</b>
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## Configuration

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

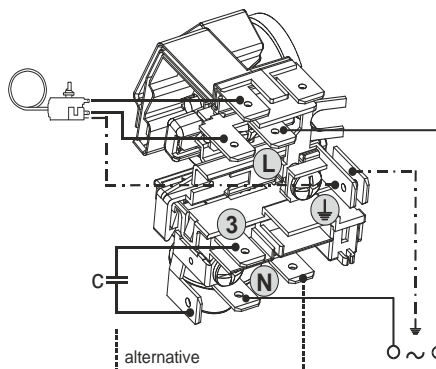


## Ambient/ machine room temperatures minimum /maximum

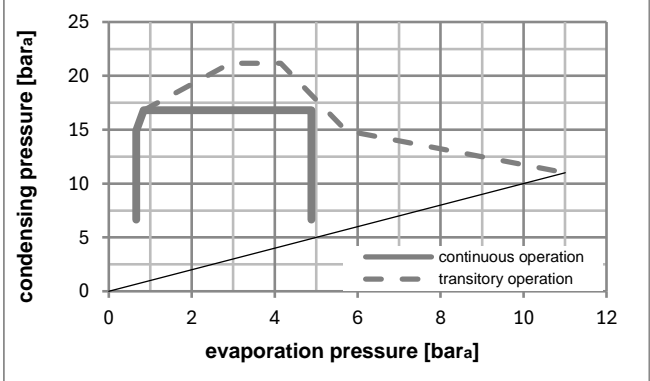
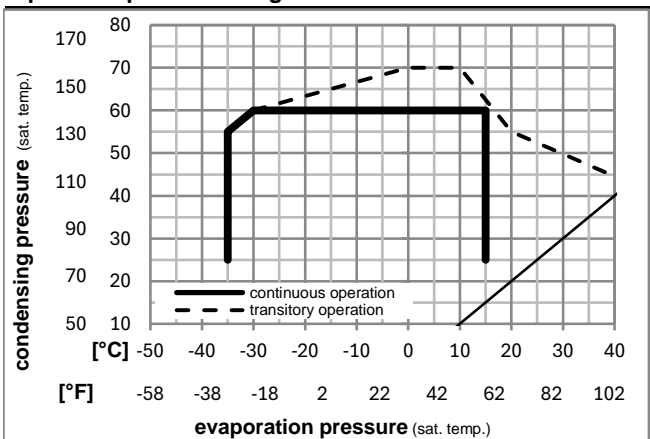
Ambient temperature range: 10 - 43°C / 50 - 110°F

Machine room temperature range: 10 - 48°C / 50 - 119°F

Compressor cooling: static



## Operation pressure range



## 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

## Model

Designation **FRK5G** **220-240V/50Hz** Conf. 1 Sales code: **106G5453**

## Optimization + standard conditions

R134a, 220V/50Hz, CSIR, static, VDE, CB, UL in progress

	pe	pc	RGT	Tliq	Cooling capacity		COP	EER		P1	I	Ref. mass flow	
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
Evaporating pressure (saturation temperature)	-23	54	32	32	98,4	336	1,11	3,79	0,96	88,6	0,91	1,91	ASHRAE LBP
Condensing pressure (saturation temperature)	-10	130	90	90									
Return gas temp.													
Liquid temp.													
	[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	-10	130	90	90	98,4	336	1,11	3,79	0,96	88,6	0,91	1,91	ASHRAE LBP
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	-7	54	35	46	215,0	734	1,72	5,86	1,48	125,3	1,00	4,69	ASHRAE MBP
	[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	20	130	95	115	215,0	734	1,72	5,86	1,48	125,3	1,00	4,69	ASHRAE MBP
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	7,2	54	35	46	386,4	1320	2,50	8,54	2,15	154,5	1,07	8,57	ASHRAE HBP
	[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	45	130	95	115	386,4	1320	2,50	8,54	2,15	154,5	1,07	8,57	ASHRAE HBP
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	-35	40	20	40	44,6	152	0,68	2,34	0,59	65,1	0,86	0,98	EN12900 LBP
	[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	-31	104	68	104	44,6	152	0,68	2,34	0,59	65,1	0,86	0,98	EN12900 LBP
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	-10	45	20	45	185,6	634	1,69	5,77	1,45	109,8	0,96	4,34	EN12900 MBP
	[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	14	113	68	113	185,6	634	1,69	5,77	1,45	109,8	0,96	4,34	EN12900 MBP
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	5	50	20	50	329,2	1124	2,29	7,82	1,97	143,8	1,04	8,30	EN12900 HBP
	[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	41	122	68	122	329,2	1124	2,29	7,82	1,97	143,8	1,04	8,30	EN12900 HBP

## Performance tables

R134a, 220V/50Hz, CSIR, static, 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	42,1	144	36,2	0,65	2,22	0,56	64,8	0,86	0,91
cond. pressure	-25	-13	84,2	287	72,4	1,02	3,47	0,87	82,8	0,90	1,82
pc= 45/113	-15	5	149,6	511	128,8	1,48	5,07	1,28	100,8	0,94	3,26
return gas temp.	-10	14	192,5	657	165,7	1,75	5,99	1,51	109,8	0,96	4,21
RGT= 32/90	0	32	301,6	1030	259,6	2,36	8,06	2,03	127,8	1,00	6,67
liquid temp	5	41	369,0	1260	317,5	2,70	9,21	2,32	136,8	1,02	8,21
Tliq= 45/113	15	59	532,1	1817	457,9	3,44	11,74	2,96	154,9	1,08	12,05
[°C / °F]	-35	-31	34,3	117	29,6	0,56	1,91	0,48	61,4	0,86	0,82
cond. pressure	-25	-13	71,6	244	61,6	0,84	2,88	0,73	84,8	0,91	1,71
pc= 55/131	-15	5	128,5	439	110,6	1,20	4,08	1,03	107,5	0,95	3,09
return gas temp	-10	14	165,7	566	142,6	1,40	4,77	1,20	118,5	0,98	4,01
RGT= 32/90	0	32	260,7	890	224,3	1,86	6,35	1,60	140,1	1,03	6,38
liquid temp	5	41	319,6	1091	275,0	2,12	7,24	1,83	150,6	1,06	7,87
Tliq= 55/131	15	59	463,0	1581	398,4	2,70	9,23	2,33	171,3	1,13	11,63

## Model

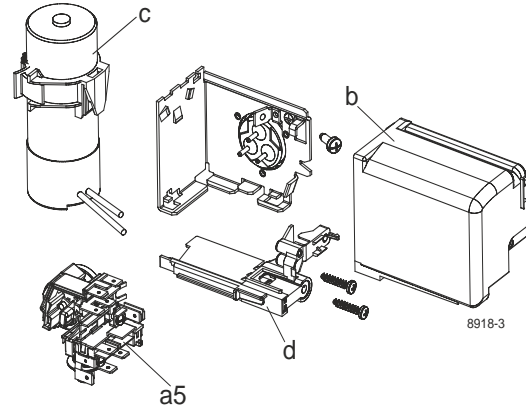
Designation	<b>FRK5G</b>	<b>208-230V/60Hz</b>	Conf. 2	Sales code:	<b>106G5453</b>
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## Configuration

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

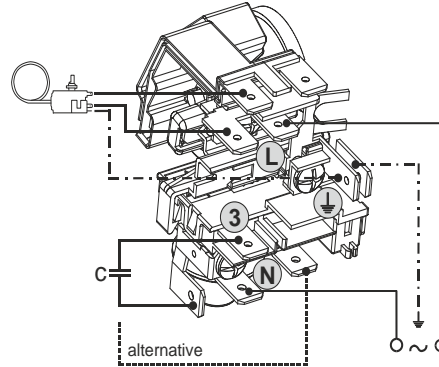
## Electrical accessories / wiring diagram

CSIR

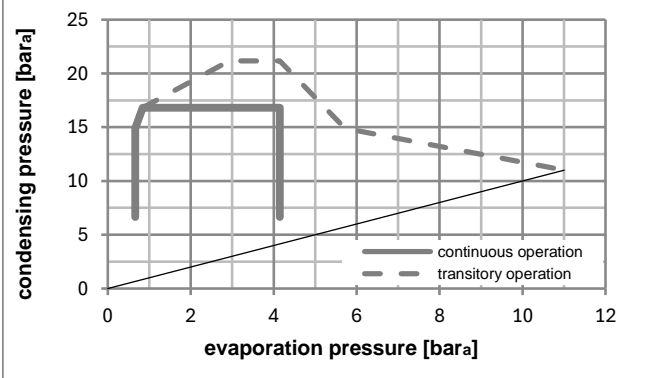
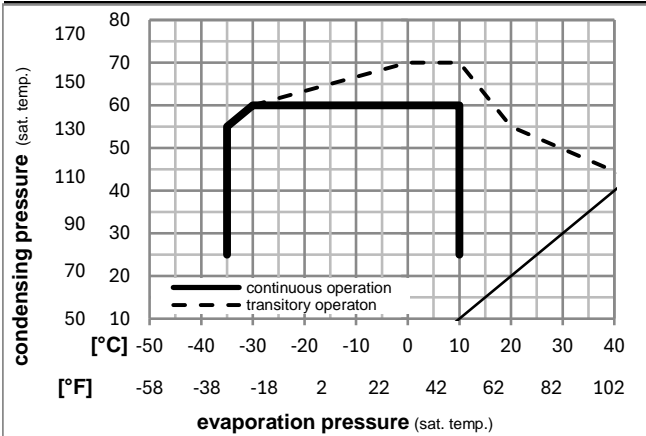


## Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	static



## Operation pressure range



## 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

## Model

Designation **FRK5G** **208-230V/60Hz** Conf. 2 Sales code: **106G5453**

## Optimization + standard conditions

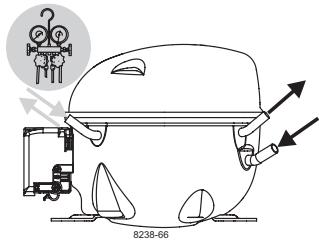
R134a, 230V/60Hz, CSIR, static, VDE, CB, UL in progress

	Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			Return gas temp.			Liquid temp.			Cooling capacity			COP	EER	Power consumption			ASHRAE
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	P1	I	Ref. mass flow	[W]	[A]	m			[kg/h]			
[°C]	-23	54	32	32	119,2	407	102,6	1,17	3,98	1,00	102,2	1,10	2,32								ASHRAE LBP	
[°F]	-10	130	90	90																		
[°C]	-7	54	35	46	253,7	866	218,3	1,77	6,03	1,52	143,7	1,19	5,53								ASHRAE MBP	
[°F]	20	130	95	115																		
[°C]	7,2	54	35	46	451,2	1541	388,3	2,50	8,54	2,15	180,3	1,28	10,01								ASHRAE HBP	
[°F]	45	130	95	115																		
[°C]	-35	40	20	40	53,4	182	45,9	0,71	2,41	0,61	75,6	1,06	1,17								EN12900 LBP	
[°F]	-31	104	68	104																		
[°C]	-10	45	20	45	217,7	744	187,4	1,71	5,85	1,47	127,2	1,15	5,10								EN12900 MBP	
[°F]	14	113	68	113																		
[°C]	5	50	20	50	383,8	1311	330,3	2,27	7,74	1,95	169,4	1,25	9,67								EN12900 HBP	
[°F]	41	122	68	122																		

## Performance tables

R134a, 230V/60Hz, CSIR, static, VDE, CB, UL in progress

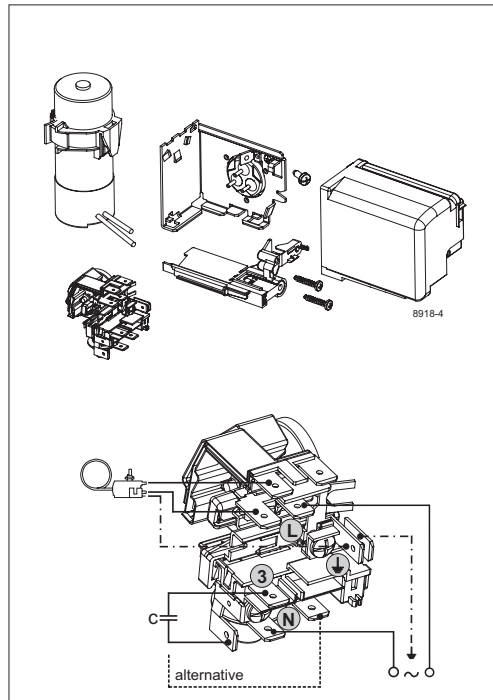
	pe		Cooling capacity			COP	EER			P1	I	m
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]		[W/W]	[Btu/Wh]	[kcal/Wh]			
[°C / °F]	-35	-31	49,3	168	42,5	0,66	2,27	0,57	74,4	1,06	1,06	
cond. pressure	-25	-13	101,4	346	87,3	1,07	3,65	0,92	94,9	1,09	2,20	
pc= 45/113	-15	5	176,9	604	152,3	1,52	5,20	1,31	116,2	1,13	3,86	
return gas temp.	-10	14	225,9	771	194,4	1,78	6,06	1,53	127,2	1,15	4,94	
RGT= 32/90	0	32	351,1	1199	302,1	2,33	7,97	2,01	150,4	1,20	7,76	
liquid temp	5	41	429,3	1466	369,4	2,64	9,01	2,27	162,6	1,23	9,56	
Tliq= 45/113	15	59	621,6	2123	534,9	3,29	11,25	2,83	188,7	1,30	14,08	
[°C / °F]	-35	-31	37,7	129	32,5	0,51	1,74	0,44	74,0	1,06	0,90	
cond. pressure	-25	-13	86,8	296	74,7	0,88	3,01	0,76	98,5	1,10	2,07	
pc= 55/131	-15	5	153,9	526	132,4	1,25	4,27	1,08	123,2	1,14	3,70	
return gas temp	-10	14	196,7	672	169,2	1,45	4,95	1,25	135,7	1,17	4,76	
RGT= 32/90	0	32	305,4	1043	262,9	1,89	6,46	1,63	161,5	1,23	7,47	
liquid temp	5	41	373,4	1275	321,3	2,14	7,29	1,84	174,9	1,26	9,20	
Tliq= 55/131	15	59	541,3	1849	465,8	2,67	9,12	2,30	202,8	1,35	13,60	



# FRK Compressors

# SECOP

Keep electrical equipment  
clear from oil, chemicals,  
and water



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