



Semi-hermetic Reciprocating Compressor
USER MANUAL

Zhejiang Daming Refrigeration Technology Co.,Ltd

The strength of the compressor has been tested with the Chinese national standard of GB/T10079-2001, JB/T5446-1999. A leak test is necessary before using.

The leak test instruction:

1. Do not use gas that is inflammable and explosive.
2. Do not check the leakage with high pressure above 1.63MPa. Industrial N2 is suggested.
3. Do not use the compressor to de-pressurize and start the compressor when it is under vacuum.

WARNING

1. The compressor and condensing unit have two types of motor, the high LRA motor, the mid and low LRA motor. The mid LRA compressor can't be used while the evaporating temperature is above -5°C. The high LRA condensing unit is suggested if the temperature is above 0°C.
2. Detect the overload prevention system before starting. The reason of overload must be found out if the system works. Forced start is not permitted.
3. The refrigeration system must keep clean. The oil level and color should be checked regularly. Oil should be recharged and the oil circulation system should be checked if the oil level is below the 1/4 of the sight glass. If the oil gets dirty and the color changed, the oil should be replaced. A relay should be equipped and detected to ensure it works if the compressor is equipped with oil pump. The installation of the relay can refer to the manual.
4. Only professional refrigeration mechanics are permitted to operate the compressor and unit. Related national safety standard should be awarded.
5. High on/off cycling rate will affect the service life of the machine. A 3 minutes' interval is suggested before restart.
6. The crankcase heater must be installed according to the instruction to prevent the liquid slugging that leads to the broken of the valve plate and the bearing seizure, and ensure the crankcase heater works normally while the machine is power off. The crankcase must be heated for 4 to 12 hours before restarting after been shut off for longer than 12 hours. The exact time is decided by the temperature of the oil.
7. The accumulator must be installed to the suction valve to prevent the liquid slugging. The suction valve and liquid valve should be closed if the compressor is to be power-off for longer than 12 hours.
8. A suction filter is necessary to ensure the service life of the machine and prevent the dirt from getting into the compressor. After the installation and test, the suction filter should be cleaned and replaced.
9. When the evaporating temperature is under -15°C, the refrigeration oil with low pour point and fine mobility and wax-free must be adopted to ensure the circulation.
10. To ensure the oil circulation of the system, the upside pipe of the evaporator should be suction pipe, and the downside pipe should be discharge pipe. The return pipe should avoid ascending angle. The level pipe should be connected to the compressor with a downward slope.
11. Operate the compressor beyond its approved application range will shorten its service life, therefore the suction temperature must be adjusted and additional cooling system is suggested. Air-cooled condensing unit must use the fan to cool the compressor.
12. The instruction should be well kept while using the machine.
13. The manufacturer will not discharge the responsibility for three guarantee if these above rules are not obeyed. Contact us when you meet any problem.
14. The manufacturer reserves the final right of interpretation.

1. Model Nomenclature

RFC4D-5.2	RFC	4	D	5	2
	Company name abbreviate	Number of cylinder	D for low temp. G for high temp. DS for double stage	HP	Signal

2. Characteristics

- Relatively small and light
- Wide range of application

The machine uses R22 as refrigerant. R134a, R404a, R407b and R407c are also approved. R12 and R502 are not suggested due to the international environment protection requirement. The machine can be used at a low or high condensing temperature.

- General spare parts

The spare parts like valve plate, the piston and connecting rod are generally used and it's convenient for maintenance.

- Low noise

Due to the scientific design and high precision, the machine owns a fine dynamic balance and works smoothly with a low noise.

- Excellent performance

The compressor has a scientific structure design, strictly chosen material and precise procession and it is strictly inspected. The factory has obtained the National Compulsory Products CCC Certification, the National Industrial Products Manufacture License, and the ISO9001:2008 International Quality Supervision System Certification. Thus the machine has an excellent performance.

- No leakage

The compressor could operate without the leak of refrigerant and oil since the motor is built-in without shaft seal device. The machine contains a oil separation device, so the oil won't spillover. The compressor could work stably at a low temperature environment.

- Reliable safety device

The compressor is equipped with motor protector and discharge temperature monitor to prevent the overheat of the motor and the compressor and the operation beyond approved application pressure.

3. Range of application

Item \ Ref.	R22	R134a	R404a	R407a	R407b	R407c
Evaporating Temperature	-40~12.5°C	-20~12.5°C	-40~10°C	-40~10°C		-30~10°C
Condensing Temperature	30~45°C (Water Cooled); 30~55°C (Air Cooled)					
Max Pressure Difference	1.83Mpa					
Max Compression Ratio	18					
Max Discharge Temperature	135°C (Measured on the discharge line)					
Suction Overheated Temperature	Lowest: 10°C		Highest: Lower than the Max discharge temperature at 135°C			
Highest Oil Temperature	80°C					
Power	3ph 380/440v 50/60Hz					
Motor Temperature	Under 105°C					
Refrigeration Oil	SUNISO 3GS		SUNISO SL32S			
Highest Environment Temperature	43°C					
Refrigerating Capacity	Refer to Diagram 1					

4. Technical Parameter

Model	Nominal Power HP/kW	Displacement (50Hz)/m ³ /h	Cylinder×Diameter ×Stroke (mm)	Oil (L)	Power (V/φ/Hz)	MRA (A)	LRA (A)	Dimension L×W×H(mm)	Install B×A(mm)	Heater (220V)W	Lubrication	Weight kg
RFC4D-3.2	3/2.2	18.1	4×Φ41×39.3	2	220-240△ /380-420Y /3/50	15.9/9.2	76.4/44.2	432×304×350	293×198	120	Centrifugal	82
RFC4G-5.2	5/3.7	18.1	4×Φ41×39.3	2	265-290△ /440-480Y /3/60	18.7/10.8	107.7/62.2	432×304×353	293×198	120		86
RFC4D-4.2	4/3.0	22.7	4×Φ46×39.3	2		18.5/10.7	92.7/53.2	432×304×353	293×198	120		84
RFC4G-6.2	6/4.4	22.7	4×Φ46×39.3	2		22.9/13.2	107.7/62.2	432×304×353	293×198	120		86
RFC4D-5.2	5/3.7	26.8	4×Φ50×39.3	2		13.4/13.5	107.7/62.2	432×304×353	293×198	120		85.5
RFC4G-7.2	7/5.1	26.8	4×Φ50×39.3	2		27.5/15.9	142.8/82.4	458×304×353	293×198	120		88.5
RFC4D-6.2	6/4.4	32.5	4×Φ55×39.3	2		27.5/15.9	142.8/82.4	458×304×353	293×198	120		90.5
RFC4G-9.2	9/6.6	32.5	4×Φ55×39.3	2		34.5/20	142.8/82.4	458×304×353	293×198	120		90.5
RFC4D-6.1	6/4.4	34.7	4×Φ60×42	2.6		14	39/68	619×306×385	367×256	140		134
RFC4G-10.2	10/7.5	34.7	4×Φ60×42	2.6		21	59/99	619×306×385	367×256	140		141
RFC4D-8.2	8/5.5	41.3	4×Φ65×42	2.6		17	49/81	634×306×385	367×256	140		134
RFC4G-12.2	12/8.8	41.3	4×Φ65×42	2.6		24	69/113	634×306×385	367×256	140		141
RFC4D-10.2	10/7.5	48.5	4×Φ70×42	2.6		21	59/99	634×306×385	367×256	140	139	
RFC4G-15.2	15/10.5	48.5	4×Φ70×42	2.6	31	81/132	657×306×385	367×256	140	147		
RFC4D-12.2	12/8.8	56.2	4×Φ70×42	2.6	24	69/113	634×306×385	367×256	140	141		
RFC4G-20.2	20/15	56.2	4×Φ70×42	2.6	37	99/158	657×306×385	367×256	140	150		
RFC4D-15.2	15/10.5	73.7	4×Φ70×55	4	31	81/132	693×417×453	381×305	140	183		
RFC4G-25.2	25/18.5	73.7	4×Φ70×55	4.5	45	116/193	741×417×453	381×305	140	203		
RFC4D-20.2	20/15	84.6	4×Φ75×55	4.5	37	97/158	711×417×453	381×305	140	192		
RFC4G-30.2	30/22	84.6	4×Φ75×55	4.5	53	135/220	741×417×453	381×305	140	206		
RFC6D-25.2	25/18.5	110.5	6×Φ70×55	4.75	45	116/193	765×452×445	381×305	140	224		
RFC6G-35.2	35/25.5	110.5	6×Φ70×55	4.75	61	147/262	795×452×445	381×305	140	235		
RFC6D-30.2	30/22	126.8	6×Φ75×55	4.75	53	135/220	765×452×445	381×305	140	228		
RFC6G-40.2	40/30	126.8	6×Φ75×55	4.75	78	180/323	795×452×445	381×305	140	238		
RFC6D-40.2	40/30	151.6	6×Φ82×55	4.75	78	180/323	795×452×445	381×305	140	239		
RFC6G-50.2	50/37	151.6	6×Φ82×55	4.75	92	226/404	795×452×445	381×305	140	241		
RFC6DS-20.2	20/15	110.5	6×Φ70/70×55	4.75	37	97/158	741×417×453	381×305	140	220		
RFC6DS-25.2	25/18.5	126.8	6×Φ75/75×55	4.75	45	116/193	741×417×453	381×305	140	233		
RFC6DS-30.2	30/22	151.6	6×Φ82/82×55	4.75	53	135/220	741×417×453	381×305	140	234		

5. Installation

5.1 General Principles

• The compressor must be installed levelly with proper protecting method under harsh environment(Corrosive gas or low temperature) and away from the rain.

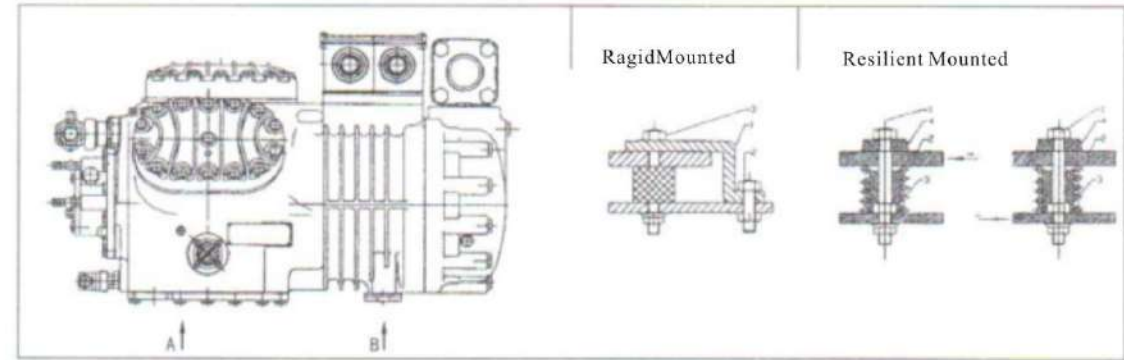
• The compressor could be rigidly mounted if the connecting pipe won't be broken caused by vibration. Otherwise the shock absorber must be installed especially in the water-cooled unit.

While installing the rigidly mounted unit, remove the fixed block (1) and bolt (2) and tighten the fixed bolt and nut (3).

While transporting the shock absorber equipped refrigeration unit, nut (1) must be tightened until pedal (2) pressed on the sleeve (3).

• The shock absorber must be locked while transporting the whole unit to prevent damage to the machine. These locking device must be released or removed before operating the machine.

Picture 1



5.2 Pipe Installation

• The compressor is charged with N2. Do not disassemble the joint before releasing the gas.

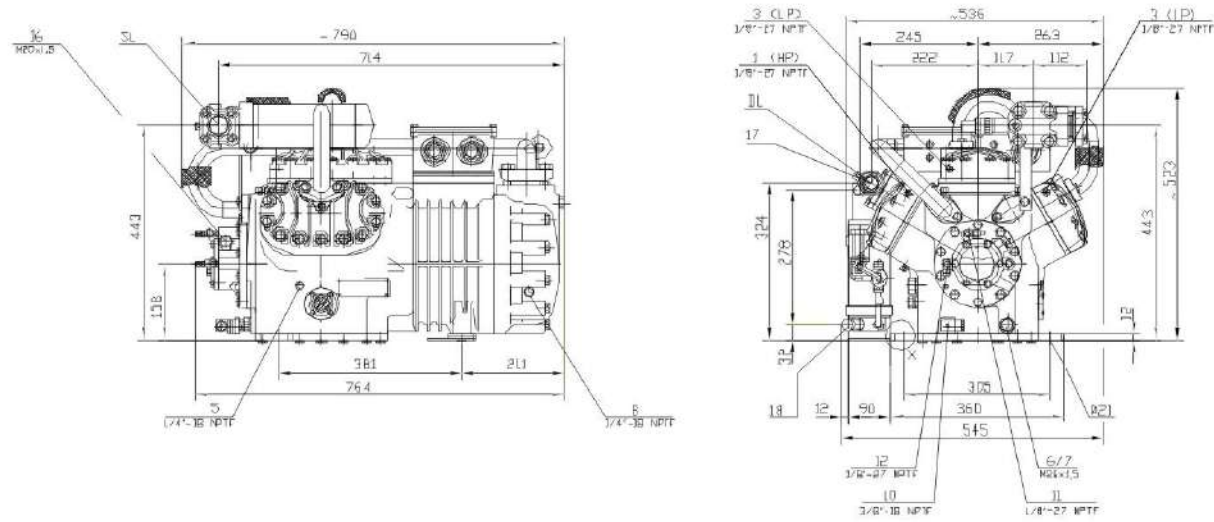
• The joint is designed with step due to the consideration that the pipe may be metric or inch. The pipe can be connected to different position that fits its size. The unnecessary larger end can be cut off.

• The pipe and spare parts must be clean and dry without dirt, welding slag, oxide, etc.

• Use the suction filter if the pipe is multi branches and made of steel or welded without gas shield.

• Refer to Picture 2 for the position and size of each interface.

RFC6DS-20.2---RFC6DS-30.2



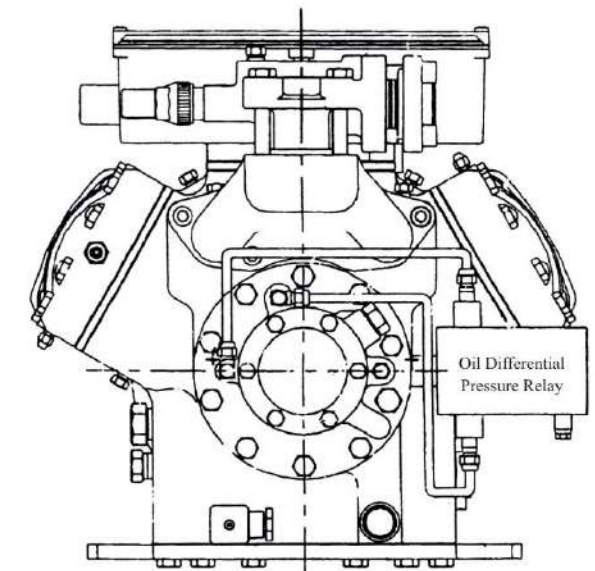
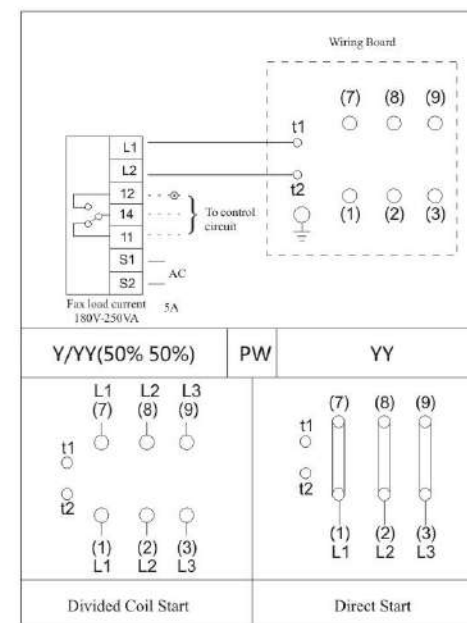
Remarks:

- 1.High-Pressure Connection(HP)
- 2.Discharge-Temperature Sensor Connection(HP)
- 3.Low-Pressure Connection(LP)
- 4.CIC-System Connection
- 5.Oil Charge Plug
- 6.Oil Drain Plug
- 7.Oil Filter(With Magnetic Bolt)
- 8.Oil Return Plug
- 9a.Gas Balance Connection
- 9b.Oil Balance Connection
- 10.Crankcase Heater
- 11.High Oil Pressure Connection
- 12.Low Oil Pressure Connection
- 16.Oil Pressure Difference Switch “Delta-p” Connection
- DL.Discharge Valve
- SL.Suction Valve

5.3 Electrical Wiring Diagrams

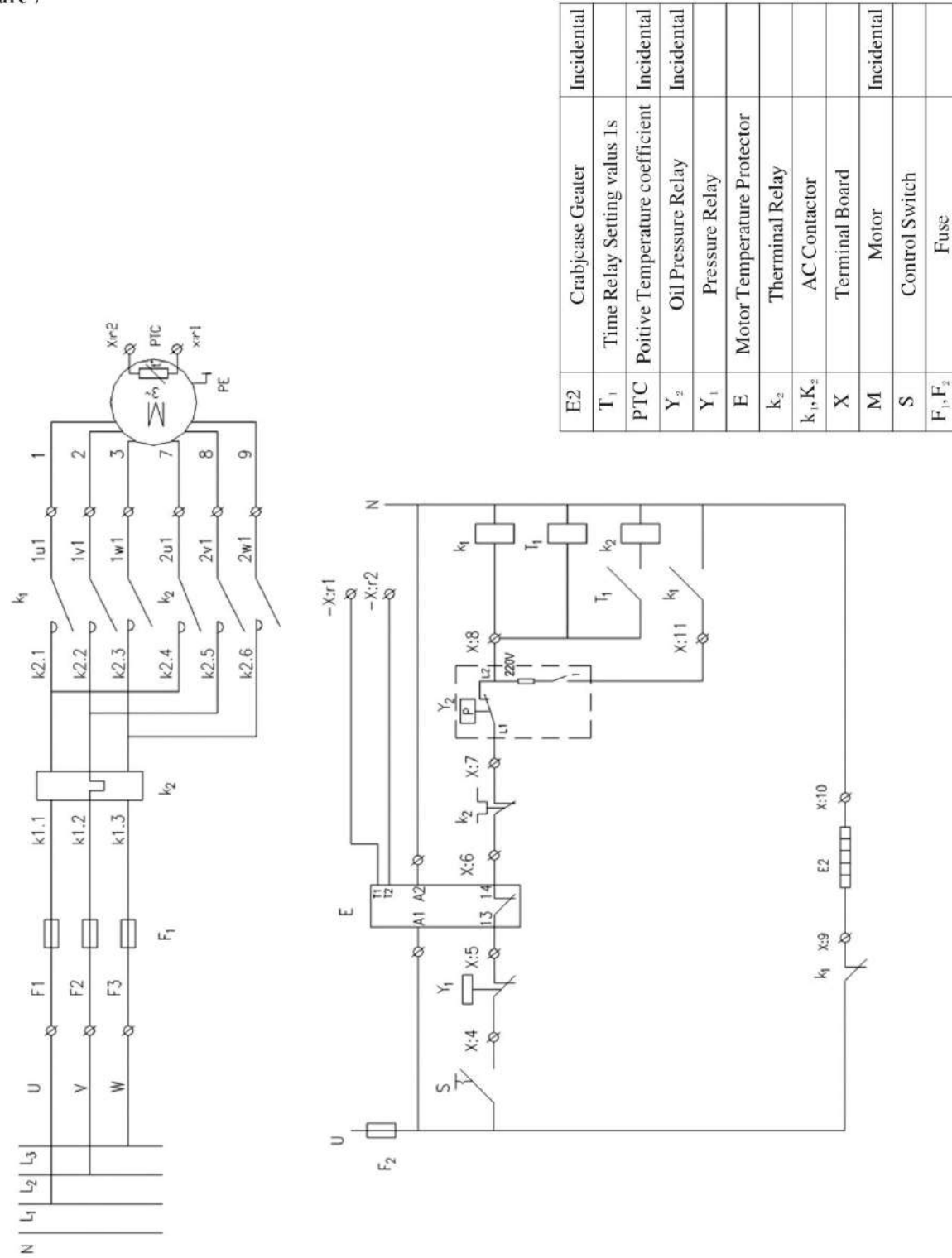
- Electrical wiring must in accordance with the diagram and in line with relative laws.
- The capacity of connector,wiring and fuse must take the max operating current and max power consumption of the compressor as reference.The power parameter must match with the voltage and frequency on the nameplate before connected to the motor.
- The connect of the wiring terminal must refer to the diagram on the junction box.The motor of compressor with 2-3 cylinders is different with the one with 4-6 cylinders,thus it’s necessary to check the motor.If the wiring is connected wrong,it would lead to an opposite or wrong phase and the motor would get locked with the danger of burnout.
- The motor protecting device has been installed in the junction box and connected with the PTC sensor(Picture 5).The wiring of the device must be connected right,or the manufactor will not discharge the responsibility for three guarantee.
- The crankcase heater is to prevent the refrigerant from mixing with the oil which will dilute the oil and lead to the damage to the moving parts.It must be connected with the normally closed contact of the AC contactor and 220V power to ensure the heater could still work while the compressor is power-off. The crankcase must be heated for 4 to 12 hours before starting after been shut-off for longer than 12 hours.The exact time is decided by the temperature of the oil.
- Electrical wiring of oil pressure relay can refer to Picture 7.
- For the consideration of safety, a relay should be equipped and detected to ensure it works if the compressor is equipped with an oil pump.

Picture 5



The wiring diagram of 4 to 6 cylinders compressor
 (RFC4D-3.2---RFC4G-9.2 RFC4D-8.2---RFC4G-20.2 RFC4D-15.2---RFC4G-30.2 RFC6D-25.2---RFC6G-50.2).
 To the divided coil starting,the relay is 0.5s(Maximum 1s).

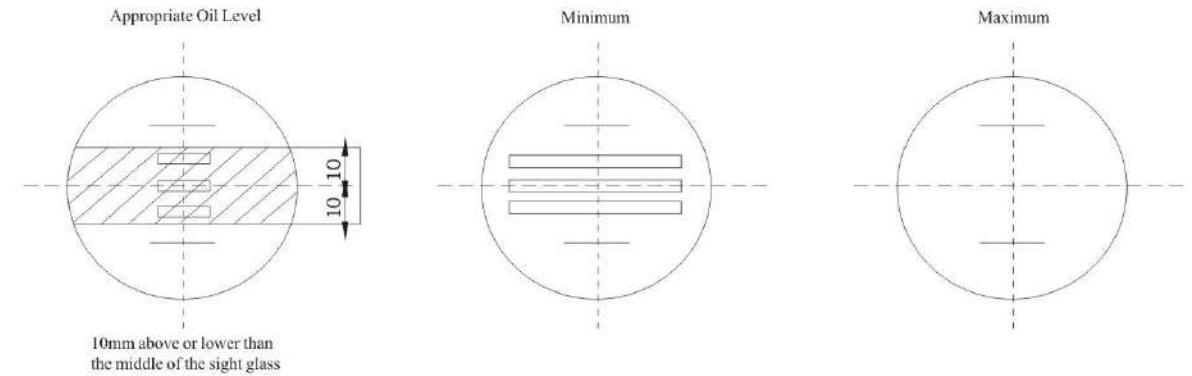
Picture 7



5.4 Trial Running

- The compressor has been dried and checked the leak and charged with nitrogen. Industrial nitrogen is suggested to check the leak. While using dry air to check the leak, the suction and discharge valve should be closed and separated from the system to avoid affecting the stability of the oil.
- The system including the compressor should use the vacuum pump to de-pressurize. It's not allowed to use the compressor to de-pressurize the system. The vacuum pump must be connected to the high- and low-pressure sides at the same time. The pressure should not change in 30 minutes when the absolute pressure is less than 150 Pa.
- Don't start the compressor when it is under vacuum and don't connect it with any power supplier.
- Check the oil level and heat the crankcase before the compressor is charged with refrigerant or power-on.
- The refrigerant should be liquid and charged into the condenser or storage device when the compressor is power-off. After start-up, refrigerant vapor can be charged through the suction side.
- While charging the liquid refrigerant through the suction side, following tips must be aware of: running with liquid slugging is dangerous; oil temperature should be 15-20°C higher than outside, it's better above 40°C; check the safety protecting system; check the set of time relay; check the delay of oil pressure difference relay and the pressure that shut-off the high and low pressure controllers.
- Check the oil level before start-up (The oil level should be in the range of the sight glass as the following picture shows). If the compressor of the unit is to be changed, the oil of the new compressor needs to be pour-out for there have already been much oil in the system. There may be the danger of oil slugging if there are too much oil in the system.

Picture 8

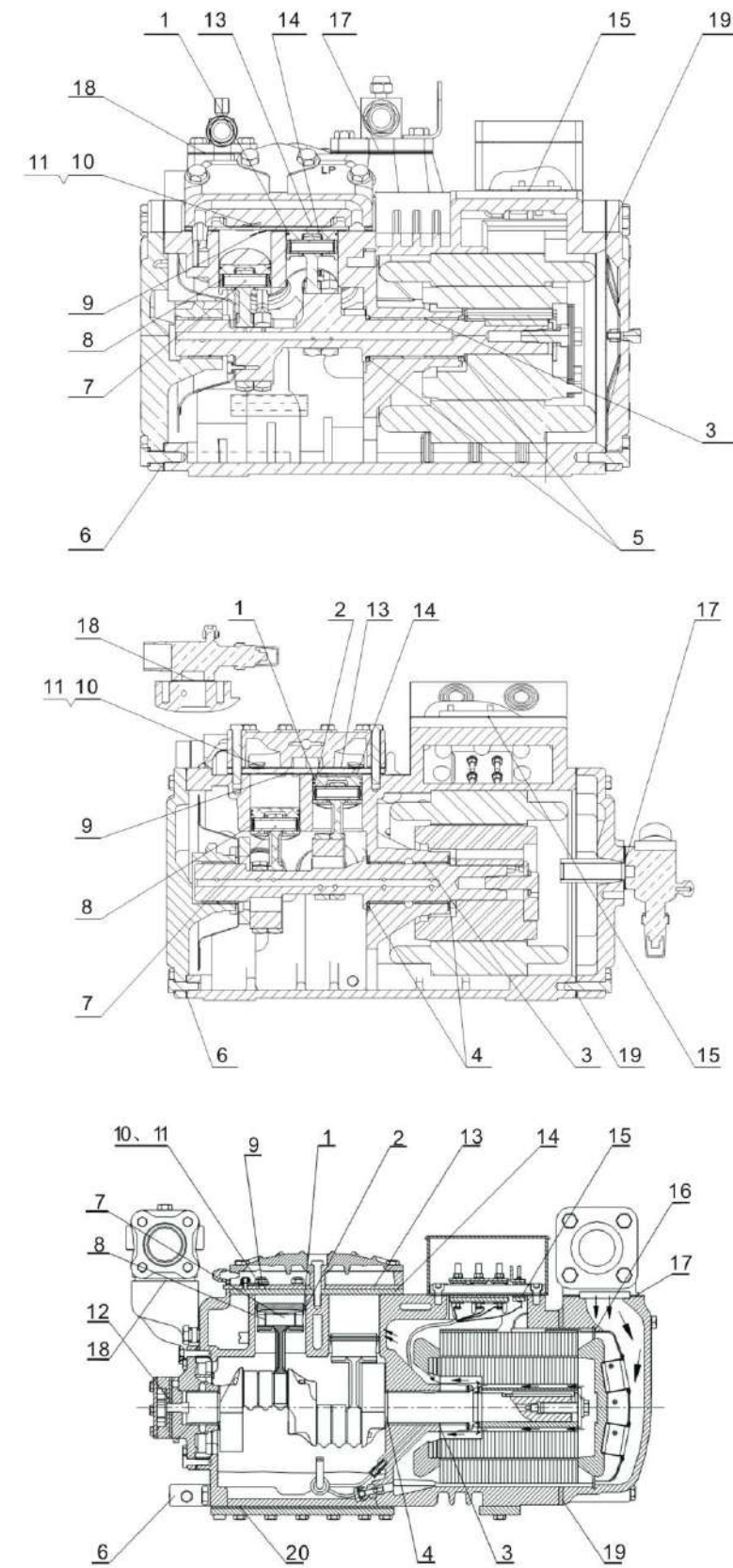


- Check the lubrication at the moment of starting. The oil level should be at the 1/4 to 3/4 parts of the sight glass (Picture 8). An oil pressure gauge can be installed to the oil pump to check the pressure. The monitor of the oil pressure relay works automatically. The system must be diagnosed if the switch is not connected. If the system is to be charged with much oil, the oil circulation must be checked since there would be the danger of oil slugging.
- Referring to the manual for the evaporating and condensing temperature, the suction and discharge temperature, the suction and discharge pressure, and the oil temperature. If abnormal vibration exists, the method must be taken to solve it.
- After the system has run for a period of time, it's up to whether the system is clean to decide if it's necessary to replace the oil or not. As to the on-site installed device and the unit operating under limited situation, it's necessary to replace the oil after running for 100 hours. The oil should be replaced every year.
- The level of the oil must be regularly checked. If it's lower than the normal position, the compressor needs to recharge oil and check if the oil circulation design, the water content, the volume of refrigerant, the expansion valve and the quality of the oil meet the requirement. These are the factors that would affect the oil circulation.
- While dismantling the compressor, the crankcase heater must keep working to prevent the refrigerant from mixing with the oil. The suction valve must be shut-off to pump the refrigerant out before dismantling the compressor. The refrigerant must be properly dealt with.
- Dismantling the compressor without releasing the pressure could cause serious injury, thus protective glasses are necessary. Loosen the connector or flange to release the refrigerant before dismantling the compressor. Much oil in the system. There may be the danger of oil slugging if there are too much oil in the system.

6. Wearing Parts
Diagram 4

No.	Name	Model		RFC4D-3.2	RFC4D-5.2	RFC4D-6.1	RFC4D-10.2	RFC4D-15.2	RFC6D-25.2
	
		RFC4G-6.2	RFC4G-9.2	RFC4G-12.2	RFC4G-20.2	RFC4G-30.2	RFC6DS-30.2		
1	Compression Ring	4	4	4	4	4	6		
2	Oil Scraper Ring	/	/	4	4	4	6		
3	Bearing Set	3	3	3	3	3	3		
4	Thrust Washer	/	/	2	2	2	2		
5	Plastic Thrust Washer	2	2	/	/	/	/		
6	Crankcase Heater	1	1	1	1	1	1		
7	Piston Pin	4	4	4	4	4	6		
8	Circlip	8	8	8	8	8	12		
9	Suction Valve Reed	4	4	4	4	8	12		
10	Discharge Valve Reed	4	8	8	12	16	24		
11	Discharge Spring	4	8	8	12	16	24		
12	Oil Pump Set	/	/	/	/	1	1		
13	Gasket For Cylinder	2	2	2	2	2	3		
14	Gasket For Valve Plate	2	2	2	2	2	3		
15	Gasket For Terminal Board	1	1	1	1	1	1		
16	Gasket For Filter	/	/	/	/	1	1		
17	Gasket For Suction Valve	1	1	1	1	1	1		
18	Gasket For Discharge Valve	1	1	1	1	1	1		
19	Gasket For Motor Cover	1	1	1	1	1	1		
20	Gasket For Bottom Cover	/	/	/	/	1	1		

7. Profile of Wearing Parts
Compressor with 4 to 6 cylinders
Picture 10



8.Regulations to free and paid repair

8.1 The compressor is manufactured and tested according to GB/T10079-2001,the standard for single-stage reciprocating refrigerant compressor.

Only the mechanic with certificate of professional refrigeration technical training could handle the installation,maintainment and repairment of the device.Before the installation,the manual must be well read and understood,all the technical requirement must be reached.If the user obeys the related maintaining and operating code,the manufactor would take the responsibility for the damage caused by the quality of the compressor(exclude the wearing parts),and replace or repair it for free in 12 months since the machine is sold,but we won't bear other lost except the machine.

If the customer itself installs,tests and dismantle the machine,the manufactor would not discharge the responsibility for free repairing and replacing.

8.2 Situation of paid repair

- The machine vibrates so fiercely that the wear of the bush is serious due to the installation which is not conformed with the requirement.
- The motor burns out due to the voltage instability(the fluctuation of the voltage at the wiring board is 10% more or less than rated).
- The motor burns out caused by starting or running while lacking of phase due to the malocclusion of the AC contactor.
- The motor burns out since it's not connected with the protector.
- The motor burns out due to a high off/on cycling rate(more than 6 time per hour),or restart the machine in less than 3 minutes after it's shut-off.
- The motor burns out and other malfunction caused by the water in the system.
- The failure of main moving parts caused by a dirty circulation system or too much impurity.
- The compressor runs without enough lubrication because the inefficient oil circulation system due to an incorrect pipe design and installation.
- The compressor runs without enough lubrication because the multi-compressor condensing system doesn't have the oil and pressure coordinating device.
- Using the compressor to de-pressurize the refrigerant system,which leads to the wear of the moving parts and the burn-out of the motor.
- Operating the compressor beyond its approved application range,which will cause damage to the compressor.
- Liquid slugging caused by following reason: inappropriate way of charging refrigerant or charged too much;solenoid valve failure;improper operation.
- The motor burns out because the wiring terminal is not sealed with glue after the wiring work finished.
- The crankcase doesn't get preheated or heated for enough time,thus the compressor doesn't get enough lubrication and the moving parts wear seriously,ve already been much oil in the system.There may be the danger of oil slugging if there are too much oil in the system.
- The failure of oil pressure protector since the oil pressure relay is not installed or incorrect wiring for the oil pump equipped compressor.
- Lost caused by disaster.

9.Quality Guarantee

The single-stage reciprocating refrigerant compressor has been tested to be in line with national quality standard.The fault that caused by the quality of the compressor during the warranty period could be repaired with this certificate.

Inspector:
 Inspector Chief:
 Date:
 Purchase Order:
 Purchase Date:
 Shipping Clerk:

10.Attachment
 Refrigeration Capacity(R22)

Model	Condensing temperature℃	Refrigerating Capacity(W)														
		Evaporating Temperature(℃)														
		12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
RFC4D-3.2	30						12760	10380	8310	7070	5540	4160	3190	2500		
	40						11220	9030	7140	6010	4650	3510	2560	1790		
	50						9650	7670	5950	4960	3770	2770	1940			
RFC4G-5.2	30	24400	22350	20500	18720	15540	12780	10190	8320	6550	5030	3740				
	40	21800	19960	18250	16650	13750	11230	9040	7150	5530	4130	2950				
	50	19180	17510	15980	14510	11920	9640	7660	5950	4480	3220					
RFC4D-4.2	30						15780	12860	10350	8820	6930	5340	4010	2910		
	40						13840	11180	8880	7550	5860	4440	3270	2300		
	50						11860	9450	7360	6160	4490	3450	2420			
RFC4G-6.2	30	29950	27500	25200	23050	19160	15800	12880	10360	8200	6350	4780				
	40	26750	24500	22400	20450	16930	13860	11190	8890	6910	5210	3770				
	50	23450	21450	19570	17810	14630	11850	9440	7350	5560	4020					
RFC4D-5.2	30						19140	15600	12540	10300	8110	6260	4690	3380		
	40						16830	13590	10800	8830	6880	5220	3820	2650		
	50						14480	11550	9020	7280	5570	4120	2920			
RFC4G-7.2	30	36400	33400	30600	28000	23250	19160	15610	12540	9910	7670	5760				
	40	32500	29750	27200	24850	20550	16830	13600	10800	8400	6340	4590				
	50	28500	26100	23800	21700	17830	14480	11560	9030	6850	4970					
RFC4D-6.2	30						22950	18740	15120	12000	9340	7070				
	40						20250	16410	13090	10230	7780	5700				
	50						17510	14010	10990	8390	6160					
RFC4G-9.2	30	43300	39750	36450	33350	27800	22950	18750	15120	12000	9330	7060				
	40	38900	35650	32600	29800	24700	20250	16420	13100	10240	7790	5710				
	50	34250	31350	28650	26100	21500	17500	14010	10990	8380	6150					
RFC4D-6.1	30						25150	20600	20450	16370	12880	9830	7320	5220		
	40						22200	18140	17840	14150	11000	8200	5920	4010		
	50						19210	15610	15250	11880	9050	6640	4610	2910		
RFC4G-10.2	30	47700	43800	40150	36750	30600	25250	20650	16630	13170	10220	7700				
	40	42250	38750	35500	32500	27000	22250	18100	14530	11440	8800	6540				
	50	36900	33800	30950	28250	23400	19200	15540	12380	9660	7340					
RFC4D-8.2	30						30700	25200	20450	16370	12880	9830	7320	5220		
	40						27100	22150	17840	15150	11000	8200	5920	4010		
	50						23450	19050	15250	11880	9050	6640	4610	2910		
RFC4G-12.2	30	57100	52400	48100	44000	36700	30350	24800	20050	15930	12410	9410				
	40	50800	46650	42750	39100	32550	26800	21850	17550	13850	10680	7980				
	50	44400	40700	37250	34050	28200	23150	18770	14980	11730	8950					
RFC4D-10.2	30						35650	29250	23700	18940	14590	11330	8390	5920		
	40						31450	25700	20700	16390	12550	9500	6850	4630		
	50						27300	22150	17700	13800	10610	11000	5330	3350		
RFC4G-15.2	30	68400	62800	57600	52700	43800	36150	29500	23750	18810	14860	9320				
	40	60900	55900	51200	46800	38850	31950	26000	20800	16360	12710	7700				
	50	53300	48900	44700	40800	33800	27700	22400	17860	13940	10510					

Suction temperature is 20℃, 50Hz,liquid is not supercooled.
 VARICOOL system,additional cool,position of suction valve changed.
 Additional cool or limit the suction temperature.
 Additional cool and C1C system.

10.Attachment
Refrigeration Capacity(R22)

Model	Condensing temperature °C	Refrigerating Capacity(W)																		
		Evaporating Temperature(°C)																		
		12.5	10	7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50				
RFC4D-12.2	30						41150	33750	27400	21900	17210	12990	9600	6760						
	40						36650	29950	24150	19170	14910	11040	7960	5400						
	50						32050	26050	20850	16150	12280	8980	6200	3880						
RFC4G-20.2	30	79100	72600	66600	61000	50800	41900	34250	27600	21900	16980	12810								
	40	70600	64800	59300	54200	45000	37000	30100	24100	18920	14500	10750								
	50	61900	56700	51900	47400	39250	32150	26000	20650	16050	12130									
RFC4D-15.2	30						52300	42700	34450	27350	21300	16400	12000	8310						
	40						46850	38100	30500	24050	18500	13840	9800	6440						
	50						41700	33700	26800	20900	15800	11500	7920	4970						
RFC4G-25.2	30	99300	91200	83600	76500	63700	52600	42950	34650	27500	21400	16200								
	40	89700	82300	75400	68900	57300	47150	38350	30800	24250	18670	13940								
	50	80500	73800	67600	61700	51100	41950	33950	27050	21100	16030									
RFC4D-20.2	30						60000	48950	39500	31400	24500	18940	13920	9670						
	40						53700	43700	35100	27750	21500	16080	11430	7530						
	50						47800	38750	30950	24200	18350	13390	9230	5790						
RFC4G-30.2	30	114200	104800	96000	87800	73100	60400	49300	39800	31650	24700	18840								
	40	103000	94500	86500	79100	65700	54000	44000	35350	27950	21650	16330								
	50	92300	84600	77400	70700	58600	48100	39000	31200	24500	18810									
RFC6D-25.2	30						78500	64100	51700	41050	31950	24600	18010	12460						
	40						70300	57200	45850	36100	27750	20750	14710	9660						
	50						62600	50600	40250	31350	23700	17240	11870	7440						
RFC6G-35.2	30	149100	136900	125500	114800	95600	79000	64500	52000	41300	32200	24400								
	40	134600	123500	113200	103500	86000	70800	57600	46200	36400	28050	20900								
	50	120900	110800	101400	92700	76800	63000	51000	40600	31700	24050									
RFC6D-30.2	30						90000	73500	59300	47100	36750	28400	20850	14480						
	40						80600	65600	52700	41600	32200	24100	17130	11280						
	50						71700	58200	46500	36300	27500	20050	13840	8670						
RFC6G-40.2	30	171300	157200	144100	131800	109700	90600	74000	59700	47500	37100	28300								
	40	154600	141800	129800	118600	98500	81100	66000	53000	41900	32450	24500								
	50	138500	127000	116200	106100	88000	72200	58500	46300	36750	28200									
RFC6D-40.2	30						106100	86800	70100	55900	43800	34000	25100	17600						
	40						95300	77700	62600	49650	38700	29150	20900	13960						
	50						85100	69200	55600	43600	33250	24450	17060	10890						
RFC6G-50.2	30	201400	184800	169400	155900	129100	106700	87300	70600	56300	44150	33900								
	40	181700	166700	152800	139800	116300	95900	78300	63100	50100	39050	29700								
	50	163200	149700	137100	125300	104100	85700	69700	56000	44250	34250									
RFC6DS-20.2	30													35500	29700	24500	19970	15960	12400	9180
	40													34750	29100	24050	19560	15560	11940	8590
	50													34050	28500	23600	19210	15220		
RFC6DS-25.2	30													40800	34050	28150	22900	18320	14230	10540
	40													39900	33400	27600	22450	17860	13700	9860
	50													39100	32750	27100	22050	17470		
RFC6DS-30.2	30													48800	40750	33700	27400	21900	17030	12610
	40													47750	39950	33000	26850	21350	16390	11790
	50													46750	39200	32450	26400	20900		

Suction temperature is 20°C, 50Hz, liquid is not supercooled.
 ■ VARICOOL system, additional cool, position of suction valve changed.
 ■ Additional cool or limit the suction temperature.
 ■ Additional cool and CIC system.

10.Attachment
Refrigeration Capacity(R404、R507)

Model	Condensing temperature °C	Refrigerating Capacity(W)																	
		Evaporating Temperature(°C)																	
		7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	
RFC4D-3.2	30								13720	11330	9260	7470	5940	4630	3510	2580	1800		
	40								11560	9520	7740	6200	4880	3750	2790	1980	1310		
	50								9450	7740	6260	4970	3860	2910	2110	1430			
RFC4G-5.2	30	21550	19790	16590	13810	11400	9320	7520	5970	4650	3530	2580							
	40	18240	16740	14020	11650	9580	7790	6240	4900	3760	2790	1970							
	50	14970	13730	11470	9500	7780	6280	4980	3860	2900	2090	1410							
RFC4D-4.2	30								17330	14290	11660	9400	7450	5800	4390	3210	2220		
	40								14440	11870	9650	7720	6070	4650	3450	2440	1590		
	50								11650	9550	7720	6130	4760	3590	2590	1750			
RFC4G-6.2	30	27500	25200	21100	17580	14500	11830	9530	7550	5860	4420	3210							
	40	23150	21250	17780	14750	12120	9840	7860	6160	4700	3470	2420							
	50	18930	17360	14490	11980	9790	7890	6240	4820	3600	2570	1710							
RFC4D-5.2	30								21100	17420	14220	11470	9100	7080	5370	3930	2730		
	40								17650	14520	11810	9460	7440	5720	4250	3010	1980		
	50								14300	11730	9490	7550	5880	4440	3220	2190			
RFC4G-7.2	30	32600	29900	25000	20800	17120	13950	11210	8860	6860	5160	3720							
	40	27500	25200	21100	17490	14350	11630	9270	7250	5510	4040	2800							
	50	22500	20600	17210	14230	11620	9350	7380	5690	4240	3010	1980							
RFC4D-6.2	30								24950	20650	16900	13670	10900	8540	6530	4840	3420		
	40								21100	17420	14200	11420	9030	6980	5240	3770	2540		
	50								17320	14220	11520	9190	7180	5460	4000	2770			
RFC4G-9.2	30	38800	35600	29900	24900	20600	16880	13660	10890	8530	6530	4840							
	40	32850	30150	25300	21100	17410	14210	11440	9050	7000	5250	3770							
	50	27050	24850	20900	17380	14310	11620	9280	7240	5480	3960	2660							
RFC4D-8.2	30								33050	27250	22200	17890	14170	10990	8300	6040	4150		
	40								27750	22800	18480	14760	11560	8830	6520	4580	2960		
	50								21850	17990	14790	11710	9070	6800	4880	3260			
RFC4G-12.2	30	51500	47200	39450	32750	26900	21900	17550	13830	10650	7960	5700							
	40	43500	39850	33300	27550	22600	18260	14530	11320	8590	6270	4320							
	50	35400	32400	27050	22350	18230	14650	11550	8880	6590	4650	3020							
RFC4D-10.2	30								38300	31600	25750	20700	16390	12690	9550	6910	4690		
	40								32300	26500	21500	17130	13400	10220	7520	5240	3350		
	50								21500	17290	13660	10550	7890	5640	3760				
RFC4G-15.2	30	61500	56400	47100	39050	32100	26000	20800	16320	12490	9240	6500							
	40	52200	47850	39950	33050	27050	21850	17360	13490	10190	7390	5020							
	50	42600	39000	32500	26750	21800	17430	13680	10460	7710	5380	3420							
RFC4D-12.2	30								44000	36250	29750	23750	18810	14580	11090	7980	5470		
	40								37300	30600	24810	19810	15510	11840	8740	6120	3950		
	50								24850	20820	16210	12210	9120	6510	4300				
RFC4G-20.2	30	71000	65100	54500	45250	37200	30200												

10.Attachment

Refrigeration Capacity(R404、R507)

Model	Condensing temperature(°C)	Refrigerating Capacity(W)																
		Evaporating Temperature(°C)																
		7.5	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70
RFC4D-15.2	30				58500	48400	32200	25750	20250	20250	15560	11630	8350					
	40				49850	41150	27100	21500	16730	16730	12660	9240	6380					
	50					33950	22050	17330	13270	13270	9820	6920						
RFC4G-25.2	30	90700	83200	69700	57900	47750	31350	24800	19210	19210	14460	10460						
	40	77400	71000	59500	49400	40650	26450	20800	15930	15930	11800	8320						
	50	64500	59100	49500	41000	33600	21600	16830	12740	12740	9260	6340						
RFC4D-20.2	30				67100	55500	36750	29350	23000	23000	17600	13060	9260					
	40				57200	47200	31200	24800	19250	19250	14540	10540	7160					
	50					38750	25450	20100	15480	15480	11510	8120						
RFC4G-30.2	30	103800	95300	79900	66500	54900	36250	28800	22450	22450	17040	12480						
	40	89100	81800	68600	57000	47000	30700	24200	18610	18610	13860	9850						
	50	74300	68200	57100	47400	38900	25100	19580	14840	14840	10810	7410						
RFC4D-25.2	30				87900	72500	47800	38000	29700	29700	22650	16740	11850					
	40				74700	61600	40400	31900	24700	24700	18590	13440	9130					
	50					50500	33000	25950	19920	19920	14760	10390						
RFC6G-35.2	30	136000	124800	104500	86900	71600	47000	37200	28800	28800	21700	15720						
	40	116300	106600	89300	74100	60900	39600	31100	23800	23800	17670	12480						
	50	96600	88600	74100	61400	50400	32400	25250	19160	19160	14000	9670						
RFC6D-30.2	30				98300	81200	53600	42700	33350	33350	25400	18760	13210					
	40				84000	69300	45550	36050	27900	27900	21000	15130	10210					
	50					57600	37600	29550	22600	22600	16720	11710						
RFC6G-40.2	30	156100	143200	120000	99900	82500	54300	43150	33600	33600	25550	18730						
	40	133400	122400	102700	85400	70300	46000	36300	28000	28000	20900	14940						
	50	110800	101800	85400	70900	58300	37800	29550	22500	22500	16450	11330						
RFC6D-40.2	30				118800	98100	64700	51400	40100	40100	30500	22400	15600					
	40				100900	83100	54300	42800	32950	32950	24600	17570	11680					
	50					68300	44650	34300	26050	26050	18990	13060						
RFC6G-50.2	30	184400	169300	142200	118600	98100	65200	52100	40900	40900	31400	23450						
	40	157900	145000	121700	101300	83600	55000	43600	33850	33850	25600	18620						
	50	131000	120200	100800	83800	68900	44800	35150	26950	26950	19960	14090						
RFC6DS-20.2	30							31900	27450	27450	23300	19440	15910	12760	10020	7690	5770	4230
	40							30600	26350	26350	22350	18610	15230	12240	9640	7420	5540	
	50							29350	25200	25200	21350	17810	14630	11800	9280			
RFC6DS-25.2	30							36200	31300	31300	26600	22250	18220	14620	11480	8830	6630	4870
	40							34900	30100	30100	25500	21300	17420	14000	11040	8500	6350	
	50							33450	28750	28750	24350	20350	16720	13490	10620			
RFC6DS-30.2	30							43400	37400	37400	31750	26500	21700	17420	13690	10540	7920	5800
	40							41500	35700	35700	30300	25300	20700	16680	13170	10150	7590	
	50							39500	34000	34000	28850	24100	19870	16060	12650			

Suction temperature is 20°C, 50Hz, liquid is not supercooled.
 VARICOOL system, additional cool, position of suction valve changed.
 Additional cool or limit the suction temperature.
 Additional cool and CIC system.

