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CKD

SM－436194-A

INSTRUCTION MANUAL

REFRIGERATED COMPRESSED AIR DRYER

Xeroaqua GK Series

GK3103D－AC100V
GK3103D－AC200V
GK3106D－AC100V
GK3106D－AC200V
GK3108D－AC100V
GK3108D－AC200V
GK3111D－AC100V
GK3111D－AC200V
GK5103 －AC100V
GK5103 －AC200V
GK5104 －AC100V
GK5104 －AC200V
GK5106 －AC100V
GK5106 －AC200V

- This product is "industrial use." Be careful of handling enough.
- Be sure to read this manual before installing and operating your dryer.
- The end of a book serves as WARRANTY. Please save carefully.

MAR. 2012　3rd edition
ＣＫＤ Corporation

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Safety instructions

This dryer must be operated by a person who has basic knowledge of electric, compressed air,liquid, piping, refrigerant, etc. We are not responsible for any accidents caused when a person who does not have the basic knowledge or who is not well trained installation, operation, repair, etc.
Improper operation may cause poor performance of the dryer or may cause accidents.
We applied a variety of safety measures to our dryers, but improper handling of dryers could cause accidents. Thus, be sure to read and fully understand this manual before using them.
"Keep this manual together with the dryer".

Caution for safety

Cautions at operation are indicated in the following two ways.

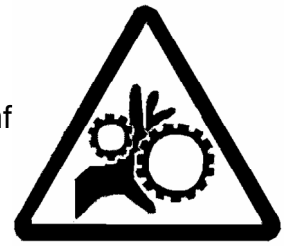
WARNING **CAUTION**

WARNING used when improper handling could kill or seriously harm operators

CAUTION used when improper handling could harm operators or damage objects

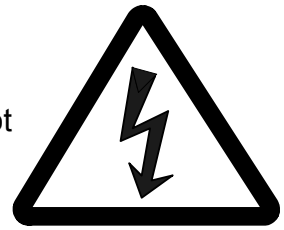
CAUTION: Being caught in the machine

★The fan may start rotating suddenly and may be harmf
Do not put your hands or objects into the fan area.
●Be sure to turn off the power before inspection.



WARNING: ELECTRICAL SHOCK

★Power supply terminal box, switches, etc. may cause you electrical shock.
●Be sure to turn off the power before inspection. Do not operate the dryer with your wet hands.



WARNING: HIGH PRESSURE AIR

★If compressed air remains, air will blow off, and may cause injury.
●Because to extract compressed air in checking.

This dryer is industrials. Be sure to fully attend to using the dryer.

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1. Introduction

Thank you very much for purchasing CKD Product.
This manual explains basic points of installation, operation, etc. to have our refrigerated air dryer, Xeroaqua GK Series perform at their best. Be sure to read this manual before using your dryer.
Keep this manual together with the dryer.

2. Cautions

2.1 Transportation

1) Do not fall down the dryer. Also do not give vibration or impact to the dryer.
*Internal parts could get damaged.

2) Do not climb up on the dryer or put objects on the dryer.
Avoid laying on its side or up side down.
*There is a risk of doing damage to modification of a panel, breakage, breakage of internal parts, and also a human body.

3) To lift the dryer, use grip ears provided on both sides of frame.

2.2 Operation Environment

1) Do not install the dryer outdoor.
*This product dose not have water-proof structure. Water or rain splashing to its electrical system could result in leak or fire.
2) Operating ambient temperature should be 2 to 40 °C (no condensation).
*Drain freezes under the temperature of 2℃ or below, and this could cause break-down. Operation under the temperature of 40 °C or above could stop the operation abnormally or could shorten the service life of the product.
3) Do not use the dryer in a place with direct sun light, powder dust, heat producing objects, corrosive gas, explosive gas, ignitable gas or combustible gas.
*Break-down, explosion, or fire may result.

2.3 Cautions at operation

1) Do not use the dryer to remove humidity of except compressed air.
Break-down, explosion, or fire may result.
2) Install an earth leakage breaker at main power line.
*Electric shock may result.
3) Ground to earth.
*Causes of an electric shock or a fire.
4) Use the dryer within specifications.
*Operation may stop abnormally, or the product's service life may be shortened.
5) Do not frequent start and stop the dryer.
Hold frequency of starting/shutting off within 6 times/hour, keep it running for at least 5 minutes before shutting it off and hold restarting it for 3 minutes or longer.
*Break-down or shorter service life of the product may result.
6) Do not turn on the main power line without the panel on.
*Electric shock or heat injury may result, or rotation parts could hurt workers.

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7） Remove drain before it enters the dryer when drain flows into the dryer with compressed air.

*Drain could leak to the secondary side of the dryer.

8） Be sure to attach an air filter (5 microns) just before the dryer inlet.

*The impurities in piping enter in a drier and cause performance decrement, blockage etc.

9） Don't carry out reconstruction of this machine.

*It becomes an unexpected accident and the cause of a life fall.

１０） Check the refrigerant pressure gauge during operation.

*If dew point temp. does not show the green belt, it will become the cause of an unusual stop or it will become the cause which shortens the life of a compressor etc.

１１） Do not use the dryer for pneumatic caisson shield or respiratory medical equipment.

*It could cause an accident includes injury.

１２） Do not use the dryer for transportation devices such as automobile, ship etc.

*Vibration could be a cause of break down of the internal components.

１３） Inspect the power plug regularly.

Also, insert the blade or pin fully into a receptacle.

*If the plug is covered with dust or loosely connected with a receptacle, it may result in electric shock or fire.

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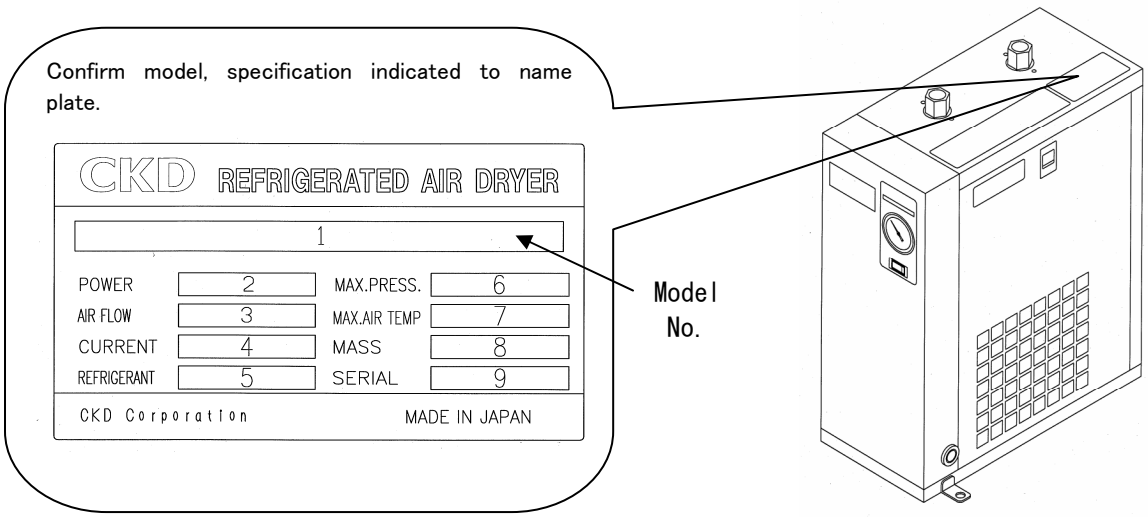
3． Installation

3.1 Confirm the following.

1） Check the name plate, whether model, voltage, and frequency correct.



POWER･･･operating voltage
MAX.PRESS･･･max. inlet air pressure
AIR FLOW･･･flow late
MAX.AIR TEMP･･･max. inlet air temperature
CURRENT･･･operating current
MASS･･･mass
REFRIGERANT･･･refrigerant type &mass
SERIAL No.･･･serial number

1	2	3	4	5	6	7	8
GK3103D-AC100V	1φ100/100,110V 50/60Hz	0.32/0.37 m^3/min ANR	2.2/1.9,2.0A	R-134a, 0.08kg	1.0MPa	50℃	15kg
GK3103D-AC200V	1φ200/200,220V 50/60Hz	0.32/0.37 m^3/min ANR	1.1/1.0,1.1A	R-134a, 0.08kg	1.0MPa	50℃	15kg
GK3106D-AC100V	1φ100/100,110V 50/60Hz	0.75/0.82 m^3/min ANR	2.7/2.4,2.5A	R-134a, 0.11kg	1.0MPa	50℃	18kg
GK3106D-AC200V	1φ200/200,220V 50/60Hz	0.75/0.82 m^3/min ANR	1.3/1.2,1.3A	R-134a, 0.11kg	1.0MPa	50℃	18kg
GK3108D-AC100V	1φ100/100,110V 50/60Hz	1.22/1.32 m^3/min ANR	3.5/3.3,3.3A	R-134a, 0.18kg	1.0MPa	50℃	29kg
GK3108D-AC200V	1φ200/200,220V 50/60Hz	1.22/1.32 m^3/min ANR	1.8/1.7,1.7A	R-134a, 0.18kg	1.0MPa	50℃	29kg
GK3111D-AC100V	1φ100/100,110V 50/60Hz	1.65/1.82 m^3/min ANR	4.5/4.8,4.6A	R-407C, 0.24kg	1.0MPa	50℃	32kg
GK3111D-AC200V	1φ200/200,220V 50/60Hz	1.65/1.82 m^3/min ANR	2.3/2.4,2.3A	R-407C, 0.24kg	1.0MPa	50℃	32kg
GK5103-AC100V	1φ100/100,110V 50/60Hz	0.32/0.37 m^3/min ANR	2.8/2.4,2.5A	R-134a, 0.11kg	1.0MPa	80℃	18kg
GK5103-AC200V	1φ200/200,220V 50/60Hz	0.32/0.37 m^3/min ANR	1.4/1.2,1.3A	R-134a, 0.11kg	1.0MPa	80℃	18kg
GK5104-AC100V	1φ100/100,110V 50/60Hz	0.52/0.57 m^3/min ANR	3.5/3.2,3.2A	R-134a, 0.18kg	1.0MPa	80℃	29kg
GK5104-AC200V	1φ200/200,220V 50/60Hz	0.52/0.57 m^3/min ANR	1.8/1.7,1.7A	R-134a, 0.18kg	1.0MPa	80℃	29kg
GK5106-AC100V	1φ100/100,110V 50/60Hz	0.75/0.82 m^3/min ANR	4.4/4.7,4.5A	R-407C, 0.24kg	1.0MPa	80℃	32kg
GK5106-AC200V	1φ200/200,220V 50/60Hz	0.75/0.82 m^3/min ANR	2.3/2.4,2.3A	R-407C, 0.24kg	1.0MPa	80℃	32kg

2） Confirm damage or transformation that is made during the transportation.

⚠ 【CAUTION】If the contents are not clear or there are any questions, contact CKD or distributors before using the dryer.

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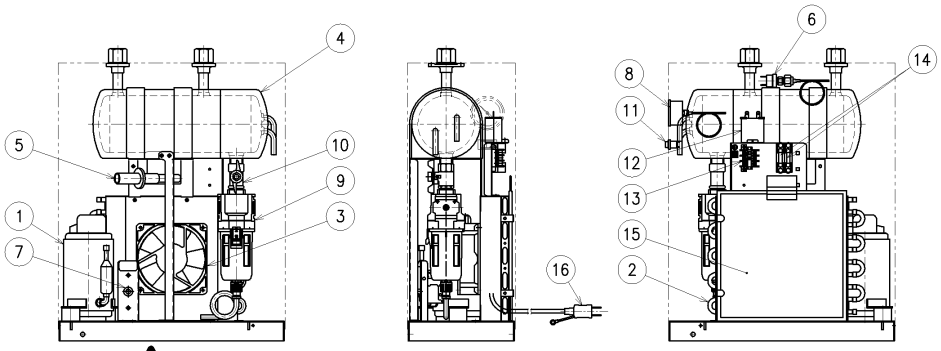
3.2 The name of each part

GK3103D-AC100V/AC200V

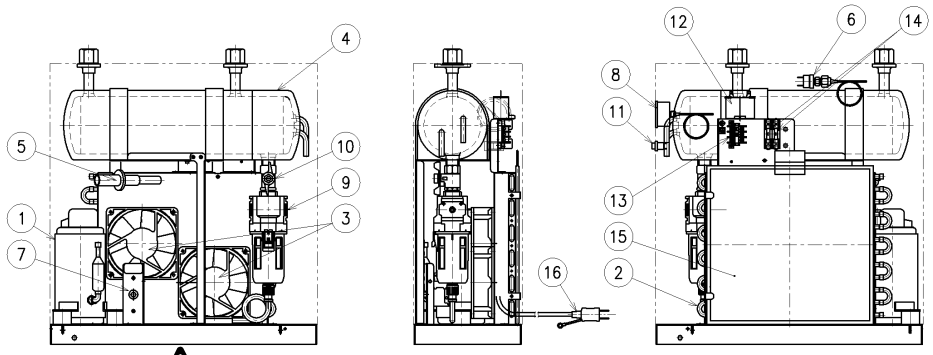


16	Plug cord (with earth wire)	1
15	Dust filter	1
14	Fuse	2
13	Terminal block	1
12	Run capacitor	1
11	Start-stop switch (with lamp)	1
10	Stop valve	1
9	Auto drain	1
8	Refrigerant pressure gauge	1
7	High pressure switch (manual reset)	1
6	Fan control switch	1
5	Capacity control valve	1
4	Heat exchanger	1
3	Fan motor	1
2	Condenser	1
1	Compressor	1

CAUTION

⑯ is only 100V AC.
Stop valve ⑩ is closed at the time of shipment.
Open the stop valve befor operating.

GK3106D, GK5103-AC100V/AC200V



16	Plug cord (with earth wire)	1
15	Dust filter	1
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13	Terminal block	1
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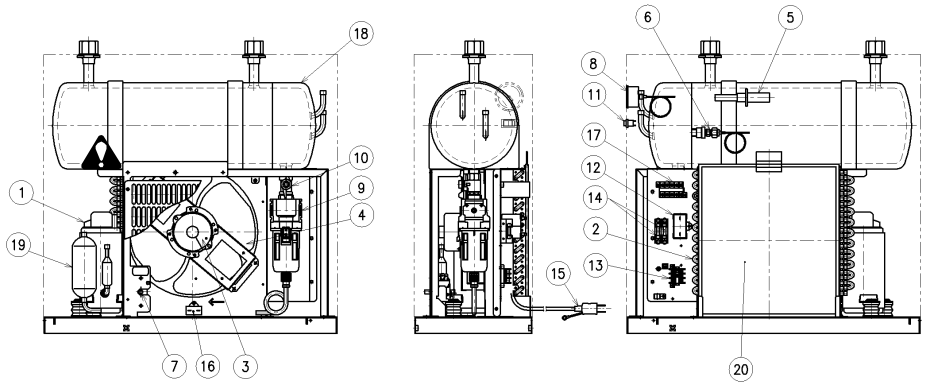
10	Stop valve	1
9	Auto drain	1
8	Refrigerant pressure gauge	1
7	High pressure switch (manual reset)	1
6	Fan control switch	1
5	Capacity control valve	1
4	Heat exchanger	1
3	Fan motor	2
2	Condenser	1
1	Compressor	1

CAUTION

⑯ is only 100V AC.
Stop valve ⑩ is closed at the time of shipment.
Open the stop valve befor operating.

GK3108D, GK5104-AC100V/AC200V



20	Dust filter	1
19	Accumulator	1
18	Heat exchanger	1
17	Electromagnetic contctor	1
16	Run capacitor	1
15	Plug cord (with earth wire)	1
14	Fuse	2
13	Terminal block	1
12	Run capacitor	1
11	Start-stop switch (with lamp)	1
10	Stop valve	1
9	Auto drain	1
8	Refrigerant pressure gauge	1
7	High pressure switch (manual reset)	1
6	Fan control switch	1
5	Capacity control valve	1
4	Fan blade	1
3	Fan motor	1
2	Condenser	1
1	Compressor	1

CAUTION

⑮ is only 100V AC.
Stop valve ⑩ is closed at the time of shipment.
Open the stop valve befor operating.

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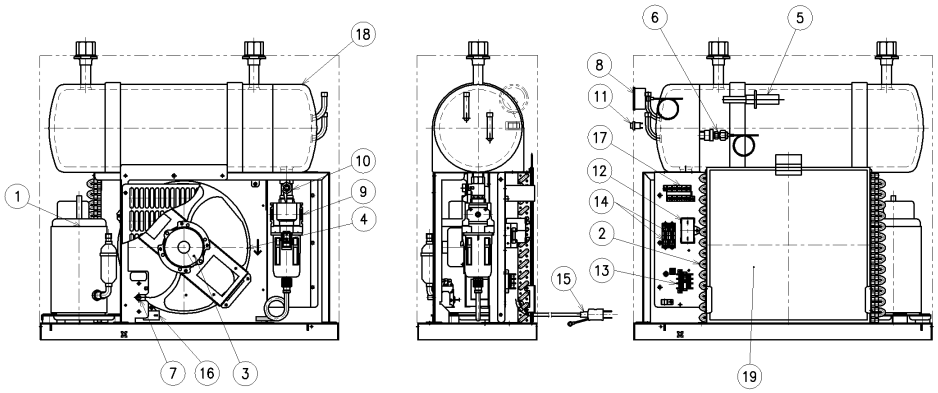
GK3111D, GK5106-AC100V/AC200V



19	Dust filter	1
18	Heat exchanger	1
17	Electromagnetic contctor	1
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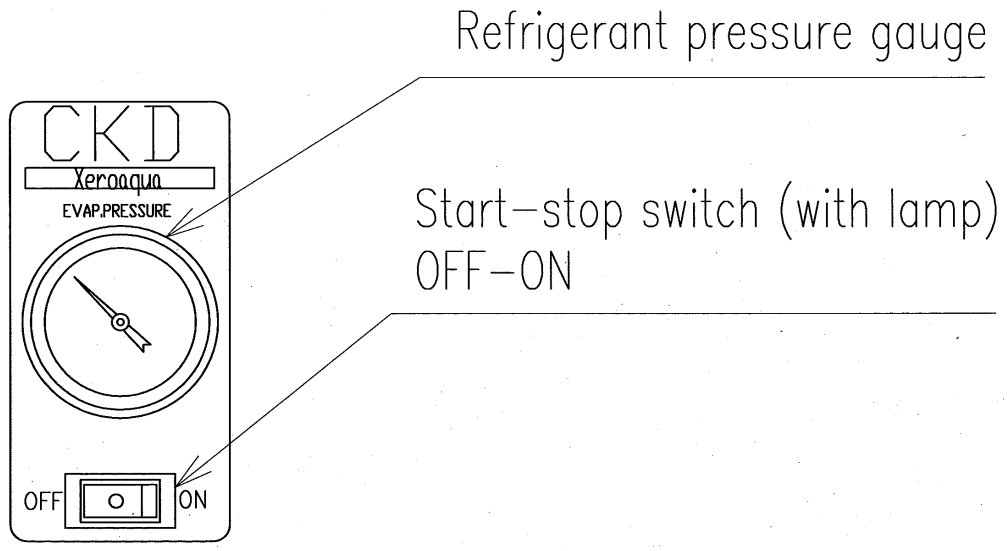
3	Fan motor	1
2	Condenser	1
1	Compressor	1

CAUTION

⑮ is only 100V AC.
Stop valve ⑩ is closed at the time of shipment.
Open the stop valve befor operating.

3.3 Display panel



3.4 Installation features

1） Do not install the dryer outdoor or high humidity place.
*This product does not have waterproof structure.
Water or rain splashing, high humidity (=85% RH or over) could cause leak or fire to electrical systems.

2） Operating ambient temperature should be 2 to 40℃ with no condensation.
*Drain freeze under the temperature of 2℃ or below, and this could cause breakdown.
Operation under the temperature of 40℃ or above could stop the operation abnormally or could shorten the service life of the product.

3） Install the dryer without direct sunlight, powder dust, heating elements, corrosive gas, explosive gas, inflammable gas or combustibles.
*Breakdown, explosion or ignition may result.

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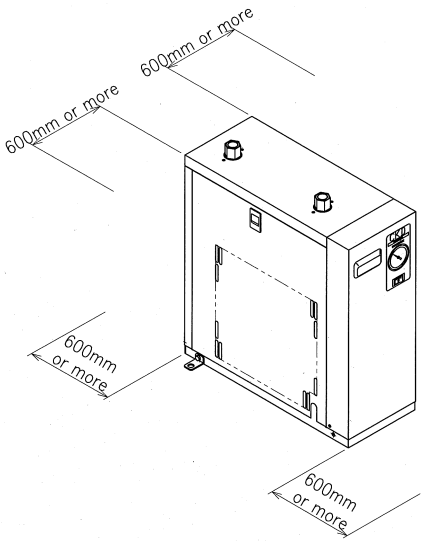
⚠ 4） The installation floor should have a solid concrete foundation with level and flat surface.
*Weak or inclin foundation may cause noise and vibration. (Less than ±5 degrees of floorlevels)

⚠ 5） Need to keep spaces as a following figure for maintenance
The direction of the exhaust air is inhaled from right-hand side, and is exhausted to left-hand side. Do not enter the exhaust air to suction part.
*Operation may stop abnormally



⚠ 6） Troubles caused by corrosion are out of warranty policy.
Copper tubes (Phosphorus deoxidation copper tube) are used for refrigerant gas pipes and inner pipes of heat exchanger of the Products. The refrigerant gas leaks to stop their operation and water comes out of the outlet of Air Dryers, if holes are made in the copper tubes by corrosion. Use it for a setting position after checking that corrosive gas is not contained.
The following are the examples of substances, among the data on chemical resistance, particularly corrosive to copper tubes.

Aniline Aniline dyestuff Ammonium (Wet nature) Sulfur (Fused) Ammonium chloride Zinc chloride Hydrochloride acid (Chloride) Ferric (II) chloride Copper chloride Chlorine (Wet nature) Sodium peroxide Chromic acid Iron acetate solution Potassium cyanide Sodium cyanide Hydrogen cyanic acid Sodium hypochlorite Hydrobromic acid Nitric acid Ammonium nitrate Copper nitrate Silver salt Mercury Mercury salts Sulfur lime Sodium thiosulfate Potassium dichromate (Acid) Sodium dichromate Hydrofluoric sulfide Hydrogen sulfide (Wet nature) Sodium sulfide Barium sulfide Ammonium sulfate Ferric sulfate

Note)The above is some examples of corrosive substances of copper, so it does not show the whole scope of such substances.

3.5 Fixiation

■Accessories

Fixing bracket for anchor bolt	2 pieces
Hexagon head bolt(M6)	2 pieces

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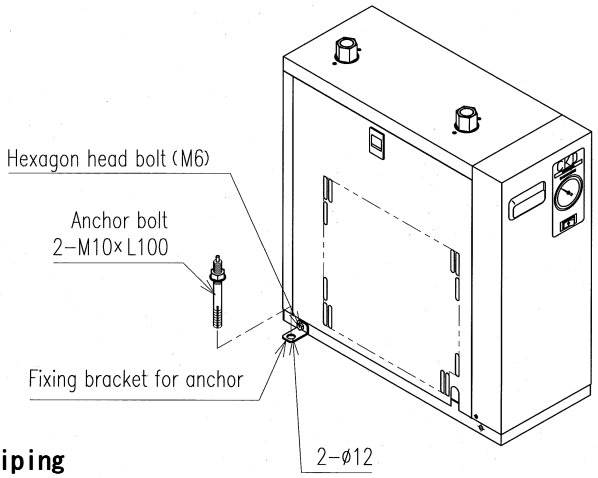
■**How to mount Fixing bracket for anchor bolt**

Mount the fixing bracket for anchor bolts with a hexagon head bolt (M6) to the base side (Diagonal both sides)

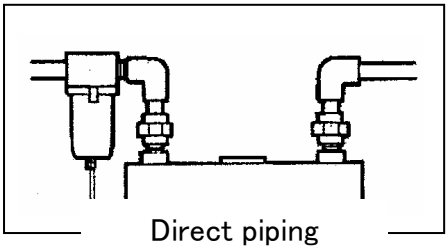


3.6 Air piping

1) Confirm inlet and outlet.

2) Make sure to install an air filter(5μ) immediately in front of dryer inlet.

Air compressor output kW	Dryer model	Suitable air filter (5μ)
～2.2kW	GK3103D GK5103	F3000-10-W-F
～3.7kW	GK3106D GK5104	
～5.5kW	GK3106D GK5106	F4000-15-W-F
～7.5kW	GK3108D	F6000-20-W-F
～11kW	GK3111D	F8000-20-W-F

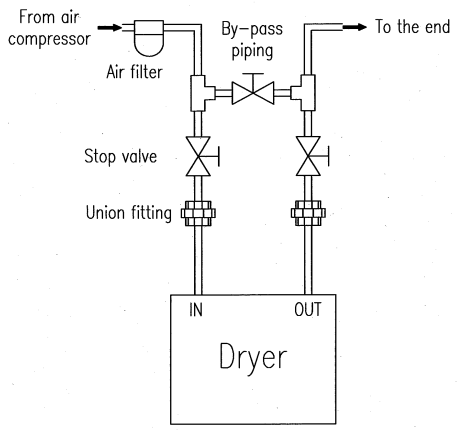


⚠ When air compressor capacity becomes small, use NC (normal close) type air filter.

3) Recommend a by-pass circuit in the air circuit.

〈On and off operation〉

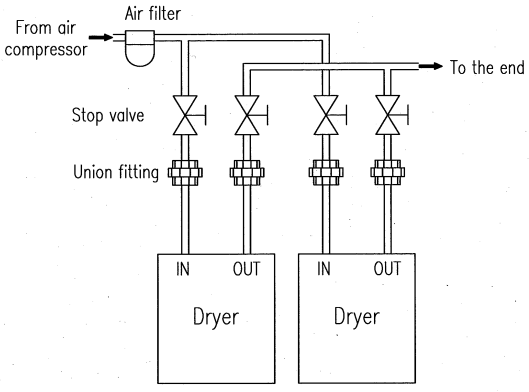
Installation of by-pass piping is recommended.



⚠ CAUTION By-pass piping is normally closed. Water comes out at the end if air flows when it is open.

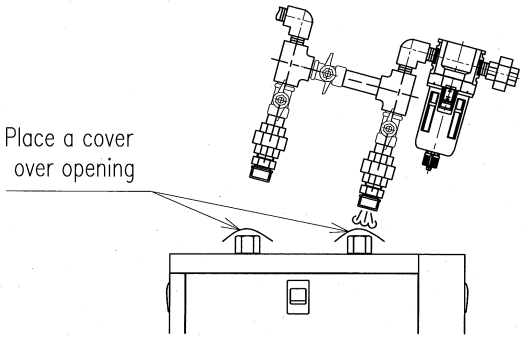
〈24 hours operation〉

Installation of two dryers is recommended. One is used regularly, and the other is for emergency.

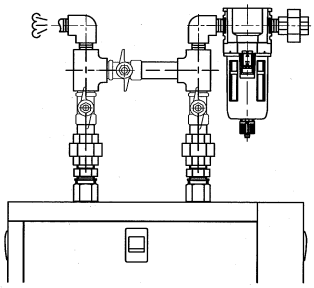


⚠ CAUTION Gate valve which isn't used the dryer is normally closed. Water comes out at the end if air flows when it is open.

4) Design the piping in the way not to apply the piping weight to the dryer body.
5) Vibration of the air compressor should not be transmitted.
6) Piping must be able to endure the operating pressure and temperature.No air leakage is allowed from connection parts.
7) Use zinc plated steel pipe or stainless pipe.
8) Flush air circuit before connecting pipes to remove dust, etc.



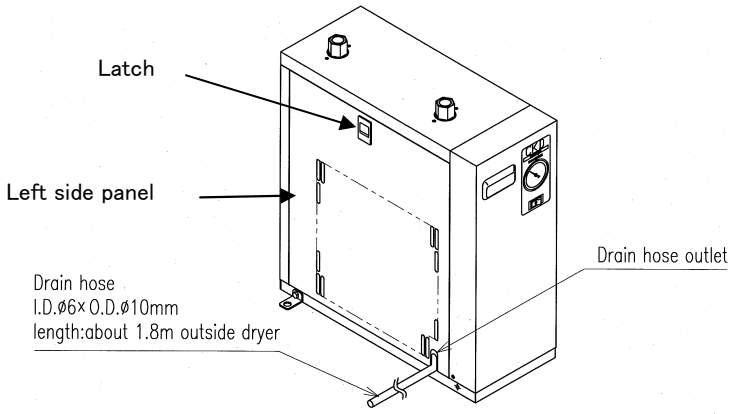
①Primary side flushing

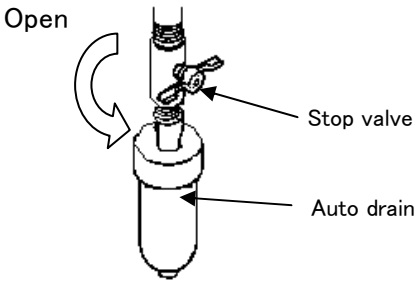

②Secondary side flushing

3. 7 Drain piping

1) Depress the latch of left side and remove left side panel.
2) Open the stop valve currently installed on auto drain.

【CAUTION】
When machine is operated, be sure to open the stop valve. Drain pipe may contain water as it is tasted before shipment. The stop valve is closed and is shipped.





3) Attach the left side panel.
4) Drain hose leads exhaust end to drain etc., release to air.
5) When drain hose tip is connected to piping, Drain may not be discharged due to back pressure if pipe rises in part or if pipe is too long or thin. Use down-slope piping to let drain flow smoothly.
6) Drain must be treated if oil is mixed in it. Consult industrial waste treatment companies for treatment.
7) At the time of drain discharge, please fix firmly so that a vinyl tube etc. does not sway.

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3. 8 Electrical wiring

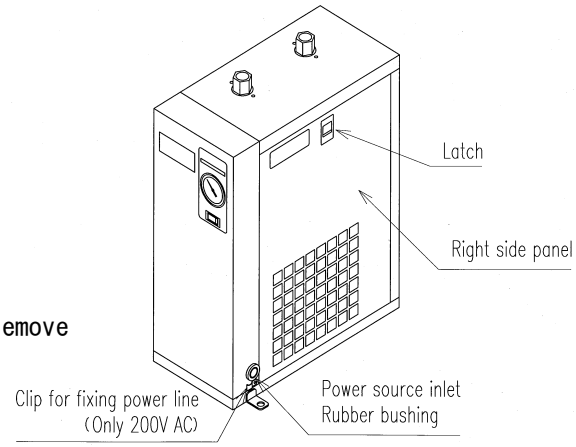
1) Use proper voltage.

- Voltage must be within +/− 10% of rated voltage.

2) Mount an earth leakage breaker with over-load protection (sensitivity current 30mA or less) to main power line.

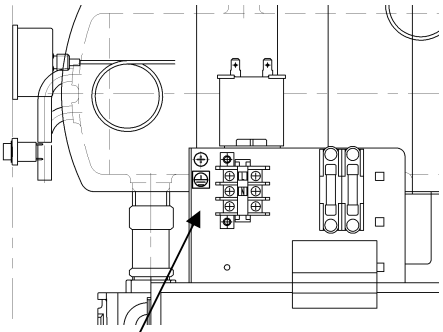
3) How to connect power code

- Make a hole for wiring on the rubber bushing at the upper back part of the dryer.

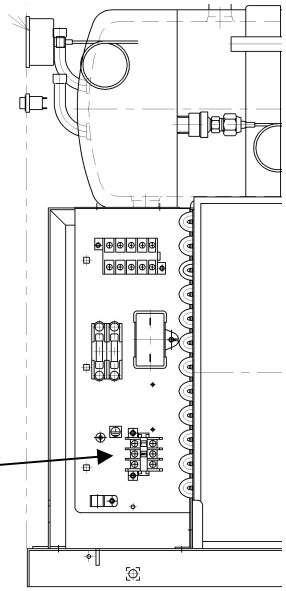


- Depress the latch of right side and remove right side panel.

- Connect the terminal block L1, L2, and the earth leakage breaker of main power line by wire.



Terminal block
GK3103D,3106D,5103



Terminal block
GK3108D,3111D,5104,5106

- Use the round terminal for safety.
- Fix power line with clip for fixing power line outside rubber bushing.
- Power cord with plug and earth terminal (round terminal 1.25-5) is attached to AC100V model.

⚠【 CAUTION】

- Insert a power code, and a ground cable to wire each terminals firmly without looseness or coming off.

  ※Looseness or coming off wiring could causes of a fire.

Discontinue

4） How to connect earth wire

As power supply code connection, connect the earth wire to the terminal box PE and the earth terminal in the panel.（The D sort grounding construction by the electric construction contractor is required.）

In addition, since it has already connected, AC100V is unnecessary.

⚠ 【CAUTION】Do not connect the earth wire to a water pipe, gas pipe, lightning conductor, etc.

5） Wiring capacity (A power cable and a ground cable)

Model	Recommendation breaker capacity （A）	Cable and earth wire size （mm^2）			
		Length 10m	Length 20m	Length 30m	Length 50m
GK3103D-AC100V	5	2.0	2.0	2.0	3.5
GK3103D-AC200V	5	2.0	2.0	2.0	2.0
GK3106D-AC100V	5	2.0	2.0	2.0	3.5
GK3106D-AC200V	5	2.0	2.0	2.0	2.0
GK3108D-AC100V	10	2.0	2.0	3.5	5.5
GK3108D-AC200V	5	2.0	2.0	2.0	2.0
GK3111D-AC100V	10	2.0	3.5	5.5	8.0
GK3111D-AC200V	10	2.0	2.0	2.0	2.0
GK5103 -AC100V	5	2.0	2.0	2.0	3.5
GK5103 -AC200V	5	2.0	2.0	2.0	2.0
GK5104 -AC100V	10	2.0	2.0	3.5	5.5
GK5104 -AC200V	5	2.0	2.0	2.0	2.0
GK5106 -AC100V	10	2.0	3.5	5.5	8.0
GK5106 -AC200V	10	2.0	2.0	2.0	2.0

※ Power cable is type VCT(600V grade polyvinyl chloride insulated and sheathed portable power cables), and ground cable is type IV (600V grade polyvinyl insulated wire) as shown by the above chart.

Discontinue

4． Functional explanation

4.1 Functional explanation

1） Air circuit

The compressed air which became wet warmly is precooled by precooler, and goes into an evaporator, carries out heat exchange to cold freon-gas, and is cooled to the dew point. Reheat of the compressed air cooled and dehumidified is carried out by reheater, and it turns into warm dry air.

2） Refrigerant circuit

The freon gas which became high temperature high pressure with the compressor (refrigerant compressor) is cooled and condensed with a condenser, and serves as high-pressure refrigerant liquid. And by decompressing in a capillary tube, it becomes the liquid of low-temperature low pressure. Using an evaporator, by carrying out heat exchange with the warm damp compressed air, coolant liquid evaporates and cools compressed air by the evaporation heat. The gasified refrigerant returns to a compressor again.

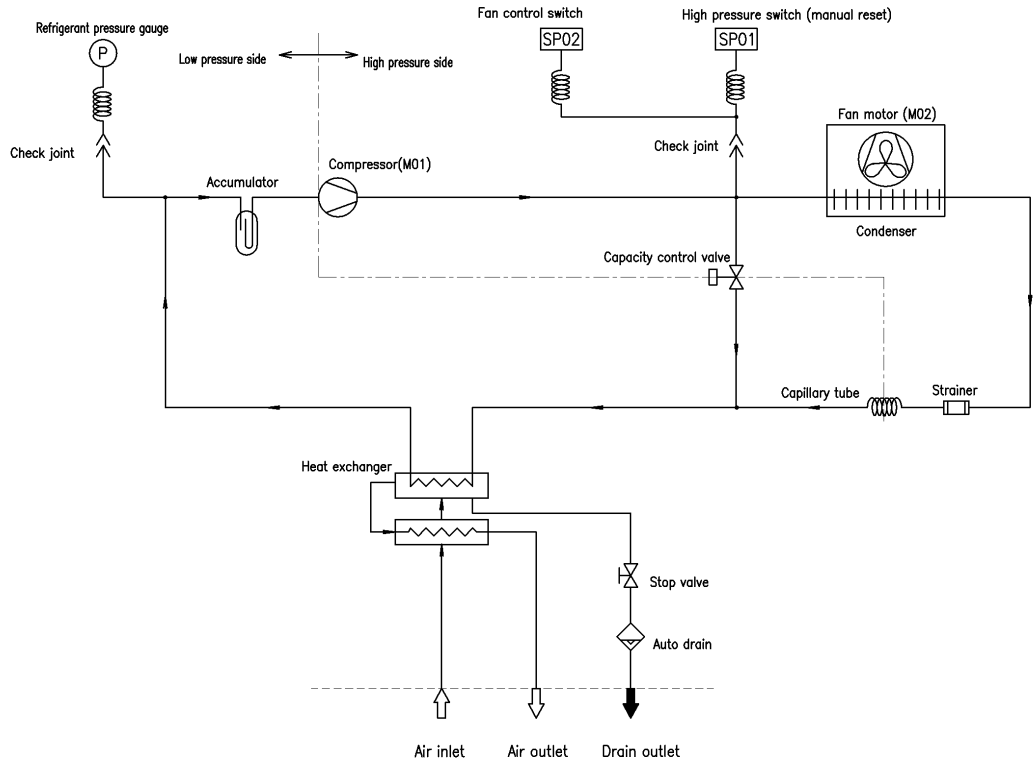
3） Drain circuit

The steam in compressed air is cooled and condensed with an evaporator, and it is serves as drain (moisture). Drain collects in the auto drain bowl. The drain collected in the auto drain bowl is discharged periodically.

4.2 System diagram

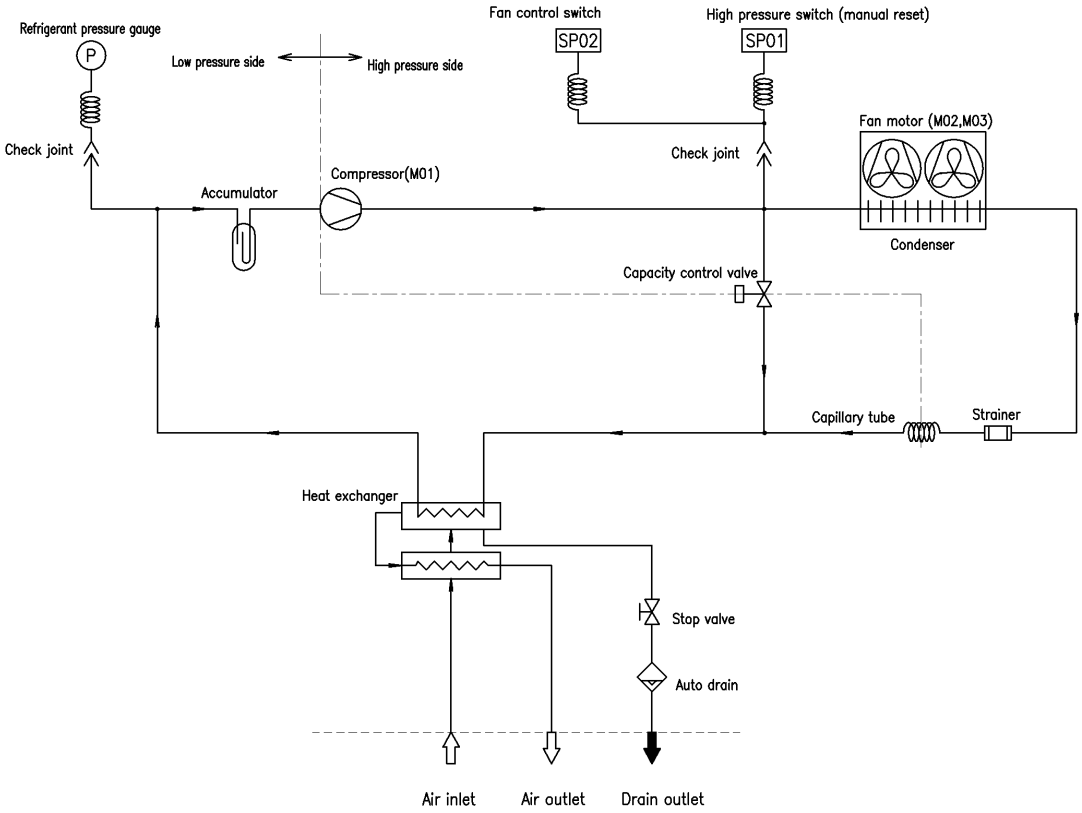
1） GK3103D, GK3111D, GK5106

High pressure switch is only 100V AC.

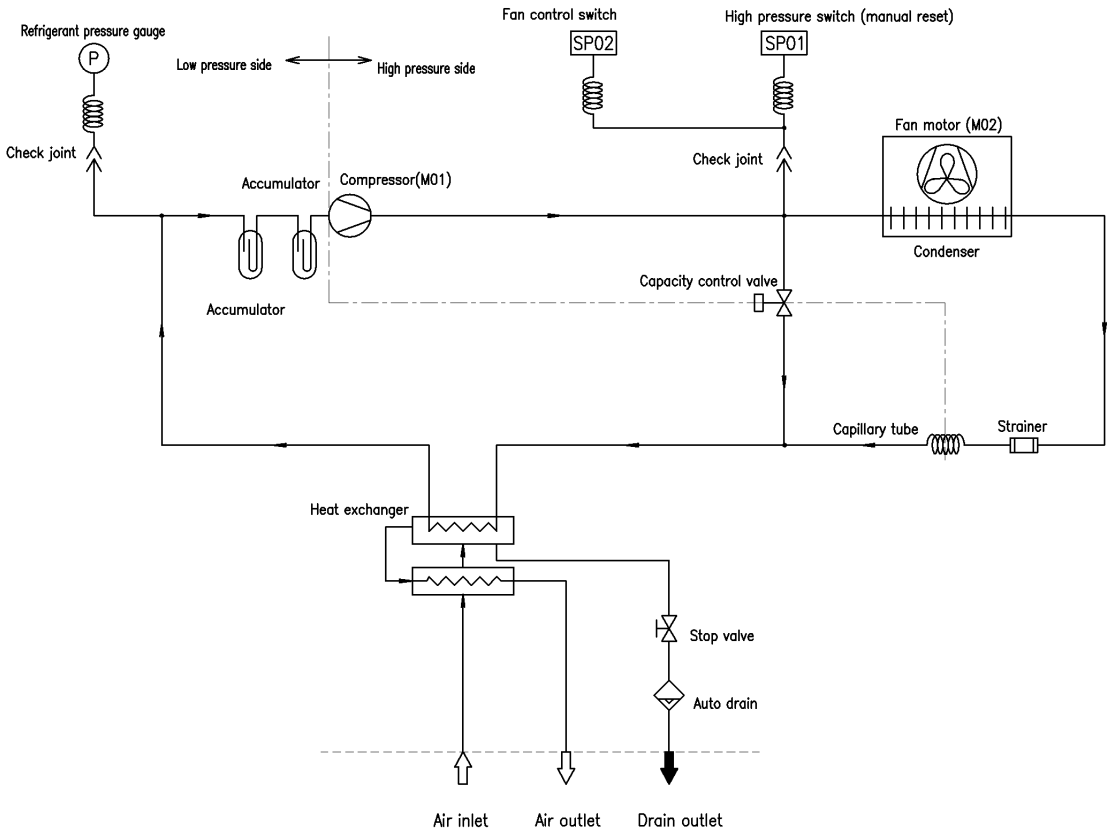


Discontinue

2） GK3106D, GK5103



3） GK3108D, GK5104



Discontinue

5. Preparation for operation & Operation

5.1 Preparation for operation

1） Confirm that air piping, electrical wiring and drain piping are properly connected.

2） Confirm that the gate valves next to the dryer and the gate valve of by-pass piping are closed. Confirm that the air pressure in the pipes is zero.

3） Confirm refrigerant pressure gauge. When pressure is much less to "the standard of the refrigerant pressure under stop" of the following table, the leakage of refrigerant gas can be presumed. Inform a purchase place, without starting operation then.

Standard of the refrigerant pressure under stop

model	GK3103D, GK3106D, GK3108D, GK5103, GK5104				GK3111D, GK5106			
Ambient temperature(℃)	0	20	30	40	0	20	30	40
Refrigerant pressure(MPa)	0.19	0.47	0.67	0.92	0.37	0.80	1.10	1.48

5.2 How to start and stop the dryer

1） Turn on the main power line.

2） Switch start-stop switch with lamp on, and lamp turns on, and the dryer starts running. After a while, refrigerant pressure gauge enters the green area.

⚠【CAUTION】

・During the dryer is running, the fan turns on and off repeatedly. This is normal.

3） Open the stop valve on the dryer inlet side gradually.

⚠【CAUTION】

Pass compressed air after about 3 minutes from starting. If compressed air is passed in time shorter than this, damp air may flow in piping and drain may occur within piping.

4） Open the stop valve on the dryer outlet side gradually. When it passes at once, it may have been wound by drain water, or the parts inside a heat exchanger may be damaged.

5） The drain removed by the dryer is regularly discharged by auto drain.

6） Switch start-stop switch with lamp off, and the dryer stops running.

⚠【CAUTION】

①Frequent turning on and off is causes of trouble. The frequency of starting/stop is carried out in 6 or less times/o'clock, and please do not let me stop for 5 minutes after starting, and also give stop time as the above for 3 minutes

※It becomes the cause of failure or a life fall.

②Stop an air compressor and extract residual pressure, before stopping this machine.

※The air which is not dehumidified may flow to a secondary side of this machine.

Discontinue

5.3 When safety device turns on and the dryer stops running

5.3.1 Safety device (Refer to 11 Electrical Circuit)

When a compressor becomes hot or when over current flows, safety device operates and start-stop switch with lamp turns off, and the dryer stops running.

If refrigerant becomes unusual high pressure, high pressure switch operates, start-stop switch with lamp turns off, and the dryer stops running.

Setting value list

Mark	Model	Parts list	Applications	Setting value	Reset method
FR01	GK3103D-AC100V	Overload protector	Temperature of the compressor upper part & current	3.05A (80℃)	Automatic reset (Thermal type)
	GK3103D-AC200V			1.35A (90℃)	
	GK3106D-AC100V			3.5A (90℃)	
	GK3106D-AC200V			1.6A (100℃)	
	GK3108D-AC100V			5.0A (95℃)	
	GK3108D-AC200V			2.3A (95℃)	
	GK3111D-AC100V			6.5A (95℃)	
	GK3111D-AC200V			3.0A (100℃)	
	GK5103-AC100V			3.7A (85℃)	
	GK5103-AC200V			1.85A (85℃)	
	GK5104-AC100V			4.7A (100℃)	
	GK5104-AC200V			2.1A (100℃)	
	GK5106-AC100V			6.0A (100℃)	
	GK5106-AC200V			3.0A (100℃)	
FU01	GK3103D-AC100,200V GK3106D-AC100,200V GK3108D-AC200V GK5103-AC100,200V GK5104-AC200V	Fuse	Electric circuit	5A	Exchange
	GK3108D-AC100V GK3111D-AC100,200V GK5104-AC100V GK5106-AC100,200V			10A	
SP01	GK3103D-AC100,200V GK3106D-AC100,200V GK3108D-AC100,200V GK5103-AC100,200V GK5104-AC100,200V	High pressure switch	Refrigerant high pressure	1.80MPa	Manual reset
	GK3111D-AC100,200V GK5106-AC100,200V			2.60MPa	

5.3.2 How to reset

1) Switch start-stop switch with lamp OFF, turn main power line 「OFF」.
2) Push red button of high pressure switch to reset high pressure switch.
3) Remove causes that stopped the dryer abnormally.
   (Refer to trouble shooting on “9.Trouble shooting”)
4) Turn on the main power line.

⚠【CAUTION】

・Be sure to turns off the main power line when remove causes of problems.

・The product carried thermal type safety device, you may not be able to restart the dryer even though removing the causes. In this case, turn off the main power line and wait till the compressor becomes cool. (normally 10 to 15 minutes)

・Thermal type safety device is Automatic reset (normally 10 to 15 minutes). If start-stop switch turns on, it may be repeated running and stopping.

Discontinue

6． Maintenance and check point

6.1 Items of maintenance and check point

Check following items for full performance and longer service life of the dryer.

Checking item	Model	Contents	Checking cycle		
			Daily	Weekly	Monthly
“RUN”lamp	Common	Start-stop switch with lamp is on.	○		
Refrigerant pressure gauge		Before operation: It is refrigerant pressure under stop.(P15) Under operation: Enter the green area.	○		
Dust filter for Condenser		Dust filter is not dirty.			○ (Cleaning)
Auto drain		Drain is discharged periodically.	○ (check of operation)	○ (Cleaning)	
Compressor		No abnormal noise is generated.	○		
Fan motor		No abnormal noise is generated.	○		
Air leak		No air leaks.			○

Cleaning methods

■Dust filter for condenser

Dirt is blown away using air gun. wash in water, when dirt condition is severe.

⚠【CAUTION】

If cleaning of dust filter is neglected, it will become the cause of failures, such as compressor and fan motor.

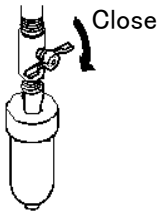
■Decomposition washing of auto drain

If it is used for a long time, each part becomes dirty and normal operation does not be carried out. Remove periodically once at one week and carry out decomposition washing.

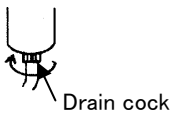
Decomposition cleaning time is a thing in standard use. When used in a severe situation, shorten decomposition cleaning time.

■ Cleaning methods

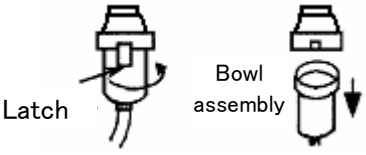
1）Close the stop valve.



2） Turn the drain cock of auto drain counterclockwise, discharge drain and compressed air within the unit.

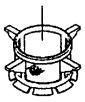


3）Bowl assembly comes down when it is pulled after turning it clockwise for approx.45 degrees while holding latch of bowl guard pressed.

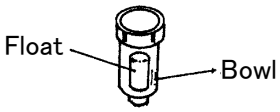


Discontinue

4） Remove the screen atop of bowl ass'y and clean it.



5） Pour a little bit of water into the bowl and shake bowl well to let dirt over float come out.



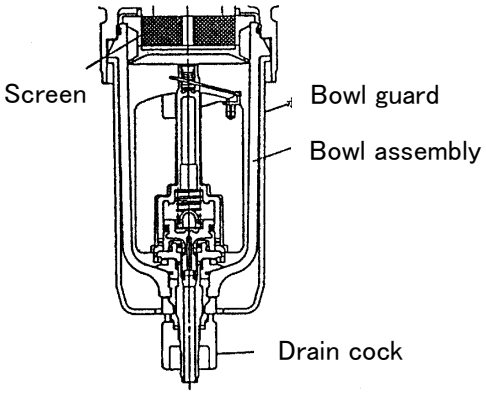
6） Place the washed screen back to the original place and assemble purger back complying with the reversed sequences as disassembled.

7） Close drain cock

8） Replace the cleaned ass'y with new set if the former set, by any reasons, does not function right.

9） Be sure to open stop valve, after assembling auto drain

Inside structure of auto drain



⚠【CAUTION】

Do not drop the water of a ball inside a dryer at the time of cleaning.
There is a possibility of becoming unexpected troubles, such as an electric shock accident.

Discontinue

6. 2 Consumables and maintenance parts

(Note: pcs/set is use quantity per 1 set of these devices.)

● Consumables (The parts which will be exchanged if the state exhausting was checked periodically and it has exhausted.)

Inspect the following parts periodically, and exchange it based on Exchange judgment standard

Parts name	pcs/set	Inspection frequency	Exchange judgment standard
Dust filter	1	Monthly	When it damages and dirt. When it does not come off.
Fuse	2	Each time	When being cut off.
Drain discharger	1	Every day	Even if it cleans, when drain is not discharged.

※ Clean the dust filter every month
Exchange, when dirt will not come off, even if it cleans up.

※ We recommend you to keep a fuse as spare parts.
Maker : Fuji terminal industry co., ltd.
Model : TWO
Specification
: GK3103D,3106D,5103-AC100V:125V,5A B class (Rushes-proof blowout type)
: GK3103D,3106D,3108D,5103,5104-AC200V:250V,5A B class (Rushes-proof blowout type)
: GK3108D,3111D,5104,5106-AC100V : 125V,10A B class (Rushes-proof blowout type)
: GK3111D,5106-AC200V:250V,10A B class (Rushes-proof blowout type)

● Periodic maintenance parts (The main parts for which exchange is needed with a use situation)
Check the following parts periodically and exchange them based on standard exchange time.

Parts name	pcs/set	Standard exchange time ※
Fan motor	*a	20,000 hours (6 years)
Start・stop switch with lamp	1	15,000 hours (4 years)

※Keep in mind that it is not a guarantee value since the operation time (years) indicated above changes with operating conditions (ambient temperature, installation environment, etc.). Years are a standard at the time of considering as 12 hours/day x 300 days of operating ratios. Moreover, since time for the rate of failure in the case where you use it above this time to increase is shown, although it is not necessary to necessarily exchange, this exchange time is exchanged when the case where there are abnormalities at the time of check, and preventive maintenance are performed

・How to exchange

Those who have the knowledge and experience of piping, electricity, etc. Need to perform exchange of parts.
(When there are not these knowledge and experiences, ask our company or a special contractor.).

*a : 1 pc./set (GK3103D,GK3108D,GK3111D,GK5104,GK5106)
2 pcs./set (GK3106D,GK5103)

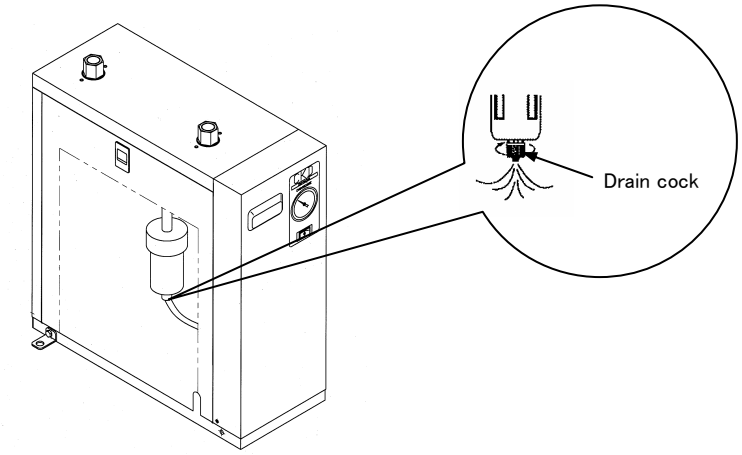
(Note) The others and failure of refrigerant circuit becomes product exchange.

Discontinue

6.3 Storage (When not using for a long time)

If you do not use the dryer for a long time, do the following

① Turn off main power line (breaker). (Pull out power supply plug.)
② Close all stop valves before and after dryer at all.
③ The drain cock of auto drain is turned and discharge drain completely.
④ Clean the dust filter.



⑤ Put sheet etc. over the dryer. Keep the dryer in a place where environment is the same as the operating environment.

⑥ When you run the dryer again, inspect each part of the dryer and run it as instructed in this manual.

7. Disposal

When you discard the product, be sure to entrust a special industrial waste treatment company and to process based on Wastes Disposal and Public Cleaning Law.

8. After sales service

1） Contact your distributor or CKD to request the repair service.
2） Provide the following information when requesting the repair service.
* model number of the dryer
* serial number
* date of installation
* name of the store where you purchased the dryer
* conditions of your dryer
3） We will repair your dryer even after the warranty period expires (charged). We will supply parts for 7 years after production of your dryer is terminated.

Discontinue

9. Trouble shooting

Condition		Causes	Measures
Main power line "short circuit breaker" falls.		Electric parts have leaked.	Insulation resistance measurement of electric parts (10MΩ or more)
			Check whether there is any adhesion of waterdrop in an electric part, if it is, Remove or exchange.
			Check whether covering of electric wire is torn and touched sheet metal etc., if it is touched, Fix it. (rebanding, electric wire and terminal exchange).
The dryer does not start, when start-stop switch with lamp turns on.	Start-stop switch with lamp does not turn on.	Start-stop switch with lamp was failed.	Replace the start-stop switch with lamp.
		Safety device is on.	Turn off the main power line, remove causes. (Refer 5.3 When safety device turns on and the dryer stops running)
		Safety device is bad.	Replace the safety device.
		Power supply voltage is abnormal.	Adjust the voltage.
		Connection of harness is bad.	Repair the harness
	Start-stop switch with lamp turns on.	Compressor is bad starting.	Start it after stopping 3 minutes or more.
Water comes out at the time of using.	Direction of "refrigerant pressure gauge" does not point out the green, and water comes from a secondary side.	Auto drain is bad.	Auto drain is decomposed and cleaned. Replace the auto drain.
		Excess water drips come in from the air inlet.	Install filter in front of the dryer to remove water drips.
		The pipe coming out of the dryer is lower than the dew point.	Cover the pipe coming out of the dryer with heat insulation material.
		The bypass circuit before and behind the drier is open.	Close the bypass circuit.
		Flow treated by the dryer is too much	Adjust the flow under specification's value (Refer to item 10)
	Although direction of "refrigerant pressure gauge" points out the green, water comes from a secondary side.	Load over ・ Ambient temperature is high. ・ Inlet temperature is high. ・ Inlet pressure is low. ・ Treated flow rate is large.	Lower the load to the level. ・ Lower the ambient temperature. ・ Lower the inlet temperature. ・ Raise the inlet pressure. ・ Lower the treated flow rate.
		Dust filter is clogged.	Clean the dust filter. When dirt is severe, it exchanges for a new one.
		Fan motor is bad.	Replace the fan motor.
		Ventilation is bad. (Supply/exhaust part of condenser is closed.)	Improve the ventilation. (Move something on the supply/exhaust part of the condenser.)
		Refrigerant gas leak	Refrigerant gas leak part is fixed and coolant filling is carried out.

Discontinue

Condition	Causes	Measures
Pressure drop before/after the dryer is too large.	Stop valve before/after the dryer is closed.	Fully open the valve.
	The garbage inside a heat exchanger is choked up.	Flow the air from outlet piping, take out the garbage blocked to inlet side. If there is no filter to inlet, attach it.
	Treated flow rate is too large.	Adjust the flow under specification's value (Refer to item 10)
	Congelation in the dryer. ・ Ambient temperature is low. ・ Inlet temperature is low. ・ Cooling wind directly blow to the dryer.	Prevent congelation. ・ Raise the ambient temperature. ・ Raise the inlet temperature. ・ Do not let cooling wind directly blow to the dryer
Stop during operation	Power supply is turned off.	Turn on the power supply.
	Power supply voltage is abnormal.	Adjust the voltage.
	Safety device is on. ・ Ambient temperature is high. ・ Inlet temperature is high. ・ Inlet pressure is low. ・ Treated flow rate is large. ・ Dust filter is clogged. ・ Fan motor is bad. ・ Refrigerant gas leak ・ The fuse has run out.	Turn off the main power supply, after removing causes. (Refer to 5.3 When safety device turns on and the dryer stops running) ・ Lower the ambient temperature. ・ Lower the inlet temperature. ・ Raise the inlet pressure. ・ Lower the treated flow rate. ・ Clean the dust filter. ・ Replace the fan motor. ・ Exchange new product. ・ Exchange the fuse.

Discontinue

１０． Specifications

Model number			GK3103D-AC100V	GK3103D-AC200V	GK3106D-AC100V	GK3106D-AC200V	GK3108D-AC100V	GK3108D-AC200V	GK3111D-AC100V	GK3111D-AC200V
User range	Media		Compressed air							
	Inlet air temperature	℃	5～50							
	Inlet air pressure	MPa	0.15～1.0							
	Ambient temperature	℃	2～40							
Rated	Treated flow rate (ANR) 50/60Hz(Note1)	m^3/min	0.32/0.37		0.75/0.82		1.22/1.32		1.65/1.82	
	Treated flow rate (suction condition) 50/60Hz(Note2)	m^3/min	0.34/0.39		0.79/0.86		1.28/1.39		1.73/1.91	
	Inlet air temperature	℃	35							
	Inlet air pressure	MPa	0.7							
	Ambient temperature	℃	32							
Rated functionality	Outlet air pressure dew point	℃	10^{+1}℃							
	Pressure drop (50/60Hz) (Note3)	MPa	0.002/0.003		0.015/0.018		0.010/0.012		0.011/0.014	
Electrical specifications	Power supply Single phase AC 50/60Hz	V	100/100-110	200/200-220	100/100-110	200/200-220	100/100-110	200/200-220	100/100-110	200/200-220
	Power consumption (50/60Hz)	kW	0.19/0.19	0.18/0.18	0.23/0.23	0.22/0.22	0.30/0.32	0.31/0.33	0.40/0.47	0.40/0.46
	Operating current (50/60Hz)	A	2.2/1.9	1.1/1.0	2.7/2.4	1.3/1.2	3.5/3.3	1.8/1.7	4.5/4.8	2.3/2.4
	Starting current (50/60Hz)	A	5.3/4.9	2.9/2.7	6.4/6.0	3.2/3.0	9.8/8.6	4.9/4.6	17.6/16.3	9.6/8.9
	Recommendation breaker capacity	A	5				10	5	10	
Refrigerant			R-134a						R-407C	
Exhaust heat (50/60Hz)		kW	0.30/0.33		0.58/0.63		0.77/0.85		1.04/1.15	
Mass		kg	15		18		29		32	

Discontinue

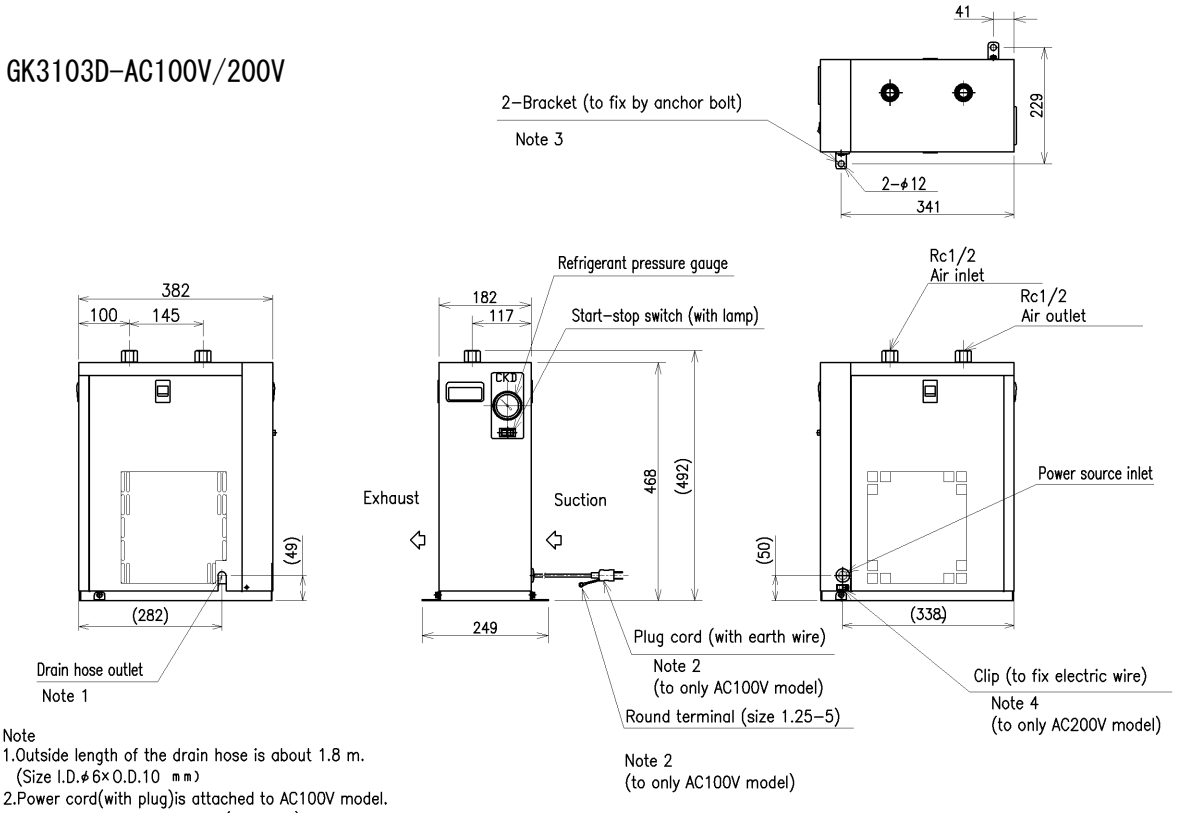
Model number			GK5103 -AC100V	GK5103 -AC200V	GK5104 -AC100V	GK5104 -AC200V	GK5106 -AC100V	GK5106 -AC200V
User range	Media		Compressed air					
	Inlet air temperature	℃	5～80					
	Inlet air pressure	MPa	0.15～1.0					
	Ambient temperature	℃	2～40					
Rated	Treated flow rate (ANR) 50/60Hz(Note1)	m^3/min	0.32/0.37		0.52/0.57		0.75/0.82	
	Treated flow rate (suction condition) 50/60Hz(Note2)	m^3/min	0.34/0.39		0.55/0.60		0.79/0.86	
	Inlet air temperature	℃	55					
	Inlet air pressure	MPa	0.7					
	Ambient temperature	℃	32					
Rated functionality	Outlet air pressure dew point	℃	10^{+1}℃					
	Pressure drop (50/60Hz) (Note3)	MPa	0.003/0.004		0.002/0.003		0.003/0.004	
Electrical specifications	Power supply Single phase AC 50/60Hz	V	100/ 100–110	200/ 200–220	100/ 100–110	200/ 200–220	100/ 100–110	200/ 200–220
	Power consumption (50/60Hz)	kW	0.23/0.23	0.23/0.23	0.29/0.31	0.30/0.32	0.4/0.47	0.4/0.47
	Operating current (50/60Hz)	A	2.8/2.4	1.4/1.2	3.5/3.2	1.8/1.7	4.4/4.7	2.3/2.4
	Starting current (50/60Hz)	A	6.4/6.0	3.2/3.0	9.8/8.6	4.9/4.6	17.6/16.3	9.6/8.9
	Recommendation breaker capacity	A	5		10	5	10	
Refrigerant			R-134a				R-407C	
Exhaust heat (50/60Hz)		kW	0.56/0.63		0.74/0.83		1.04/1.15	
Mass		kg	18		29		32	

Note1) ANR shows conditions where 20℃ atmospheric pressure and relative humidity 65%.
Note2) It is converted in the state of 32℃ atmospheric pressure and relative humidity 75%.
Note3) It is a representative figure, and a value of the pressure descent is not a guarantee value.

Discontinue

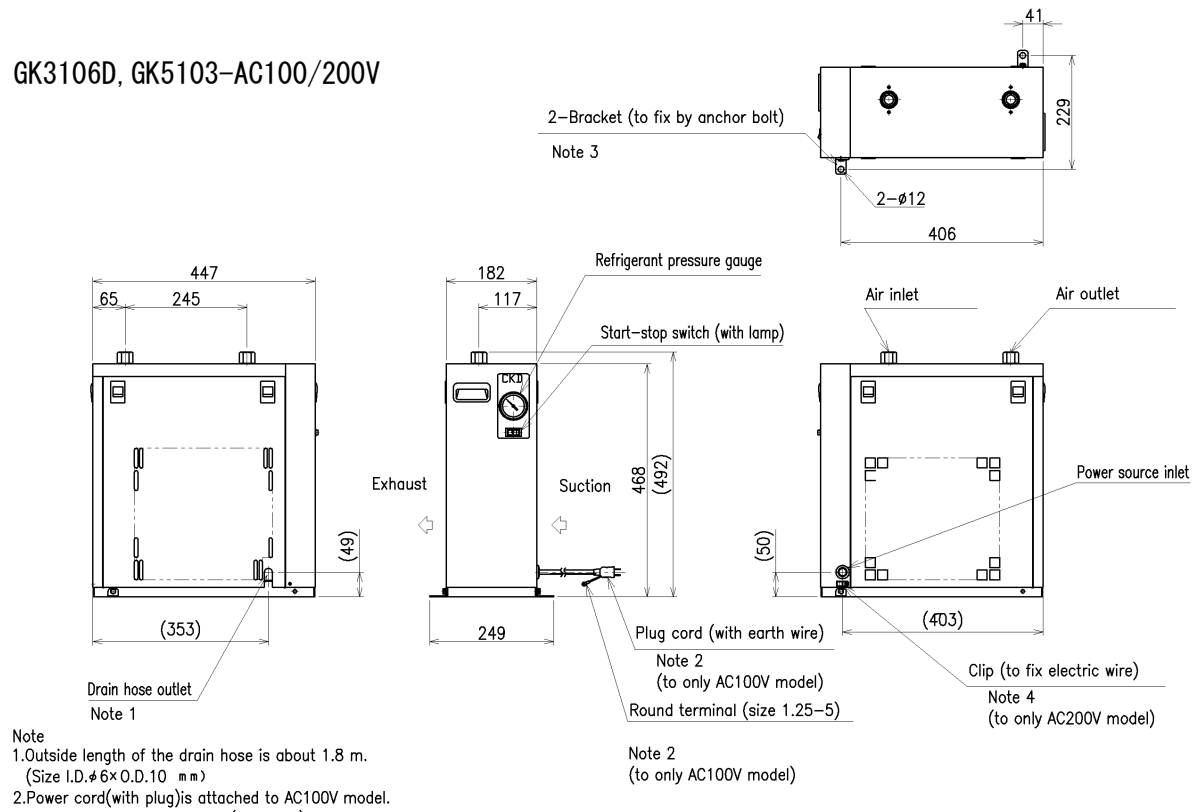
11. Dimensions

GK3103D-AC100V/200V



Note
1.Outside length of the drain hose is about 1.8 m.
(Size I.D.φ6×O.D.10 ㎜)
2.Power cord(with plug)is attached to AC100V model.
Outside length of power cord(with plug) is about 2.6 m.
3.The brackets are accessories.
4.Clip(to fix electric wire)is attached to AC200V model.

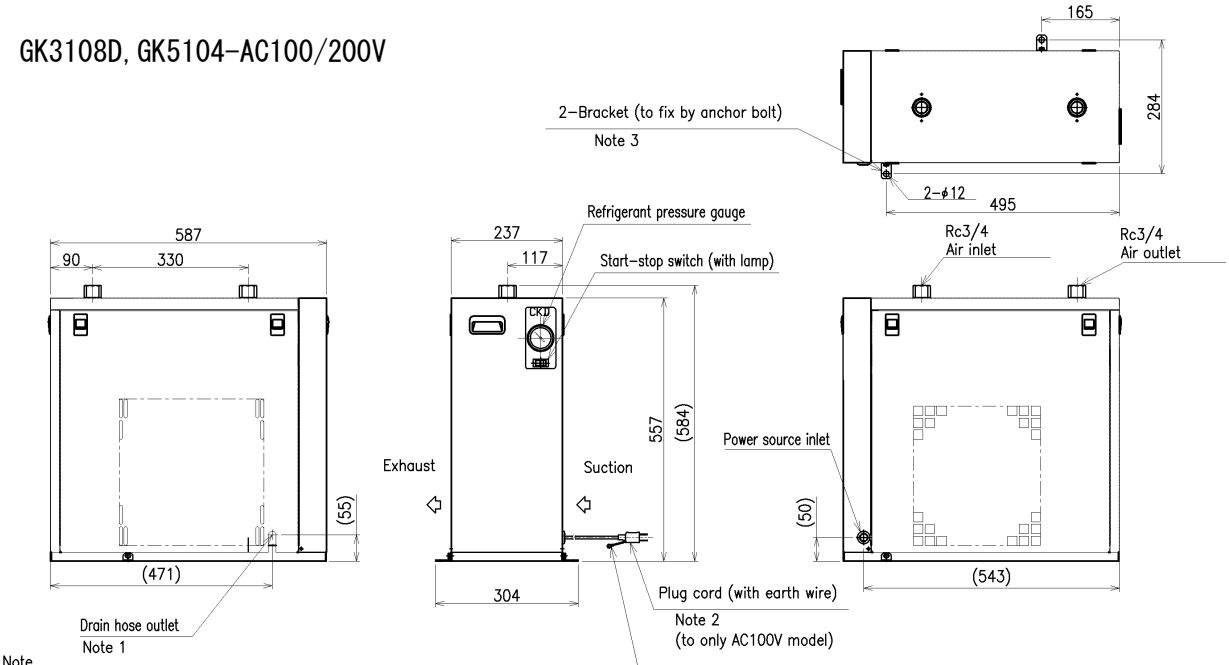
GK3106D, GK5103-AC100/200V



Note
1.Outside length of the drain hose is about 1.8 m.
(Size I.D.φ6×O.D.10 ㎜)
2.Power cord(with plug)is attached to AC100V model.
Outside length of power cord(with plug) is about 2.5 m.
3.The brackets are accessories.
4.Clip(to fix electric wire)is attached to AC200V model.

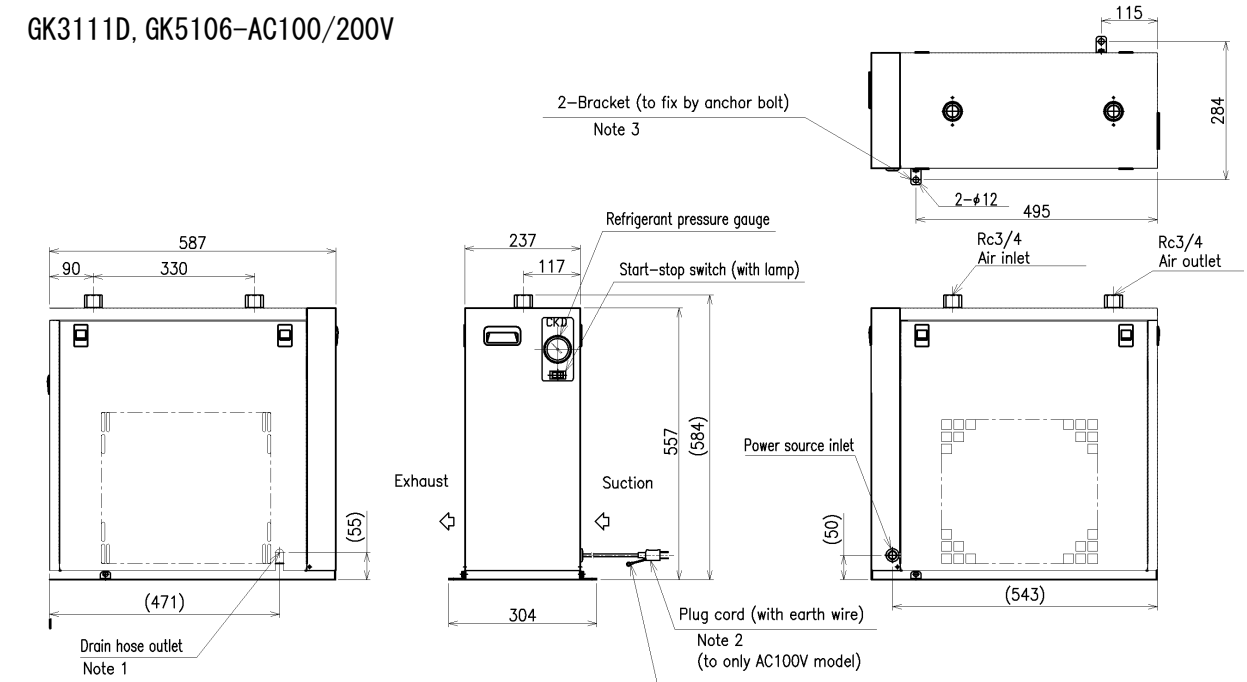
Discontinue

GK3108D, GK5104-AC100/200V



Note
1.Outside length of the drain hose is about 1.8 m.
(Size I.D.φ6×O.D.10 ㎜)
2.Power cord(with plug)is attached to AC100V model.
Outside length of power cord(with plug) is about 2.5 m.
3.The brackets are accessories.

GK3111D, GK5106-AC100/200V

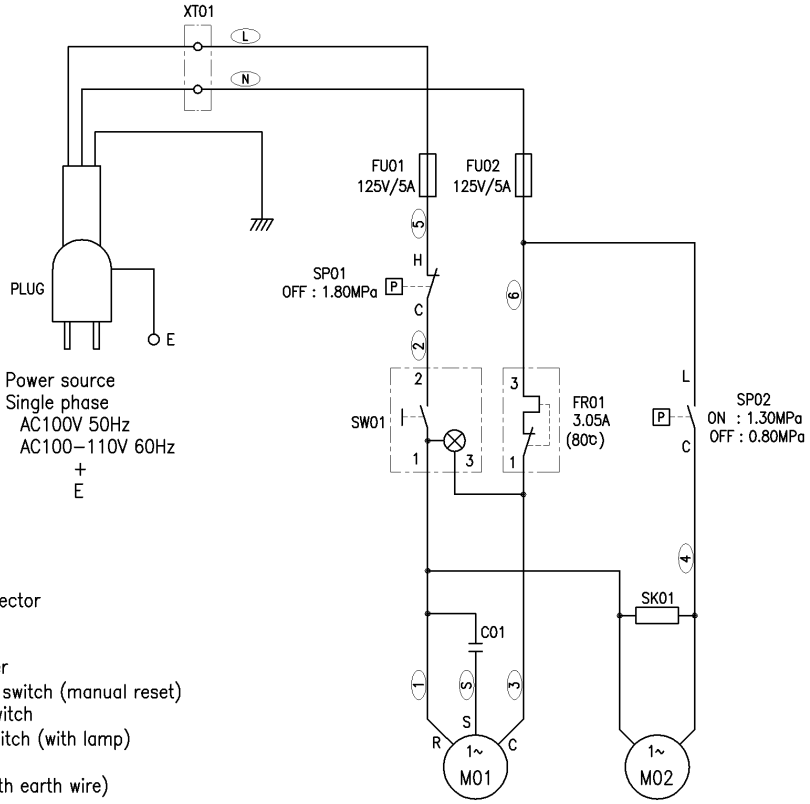


Note
1.Outside length of the drain hose is about 1.8 m.
(Size I.D.φ6×O.D.10 ㎜)
2.Power cord(with plug)is attached to AC100V model.
Outside length of power cord(with plug) is about 2.5 m.
3.The brackets are accessories.

Discontinue

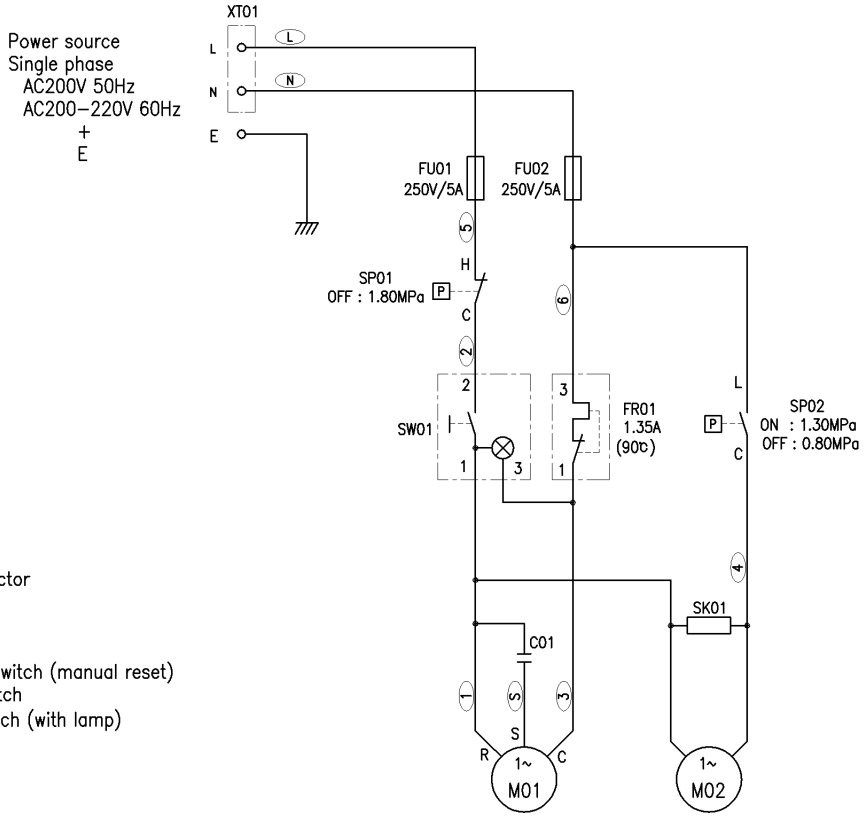
12. Electrical circuit

GK3103D-AC100V



M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
SW01 : Start-stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

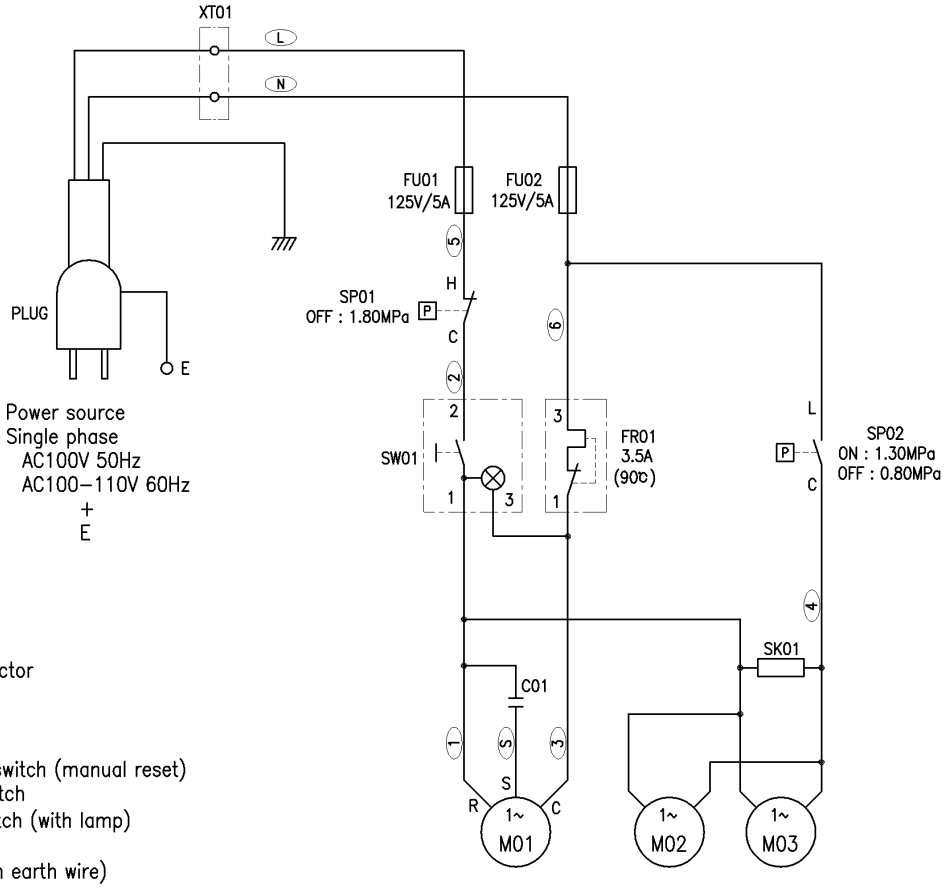
GK3103D-AC200V



M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
SW01 : Start-stop switch (with lamp)
XT01 : Terminal block

Discontinue

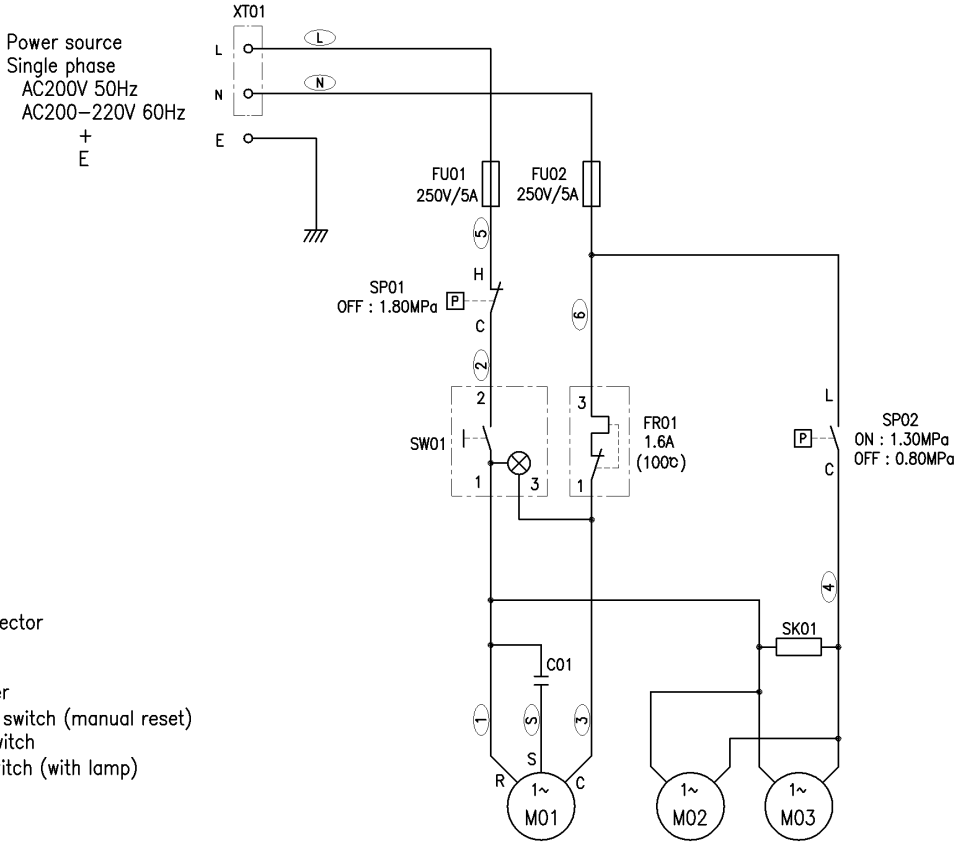
GK3106D-AC100V



Power source
Single phase
AC100V 50Hz
AC100–110V 60Hz
+
E

M01 : Compressor
M02 : Fan motor
M03 : Fan motor
C01 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

GK3106D-AC200V

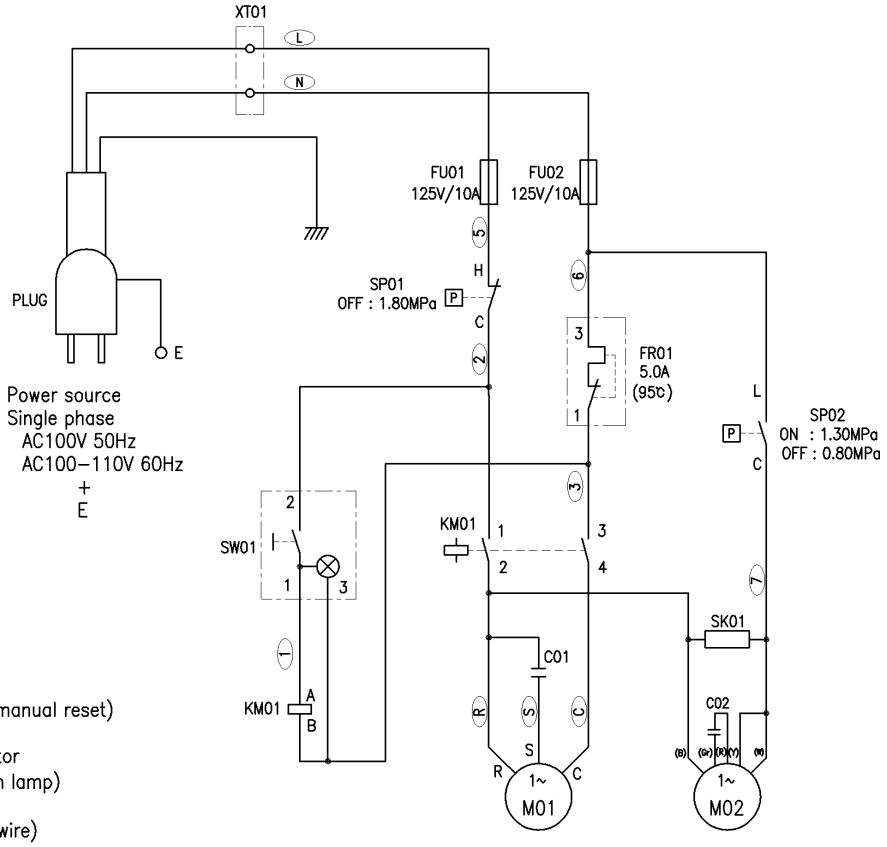


Power source
Single phase
AC200V 50Hz
AC200–220V 60Hz
+
E

M01 : Compressor
M02 : Fan motor
M03 : Fan motor
C01 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block

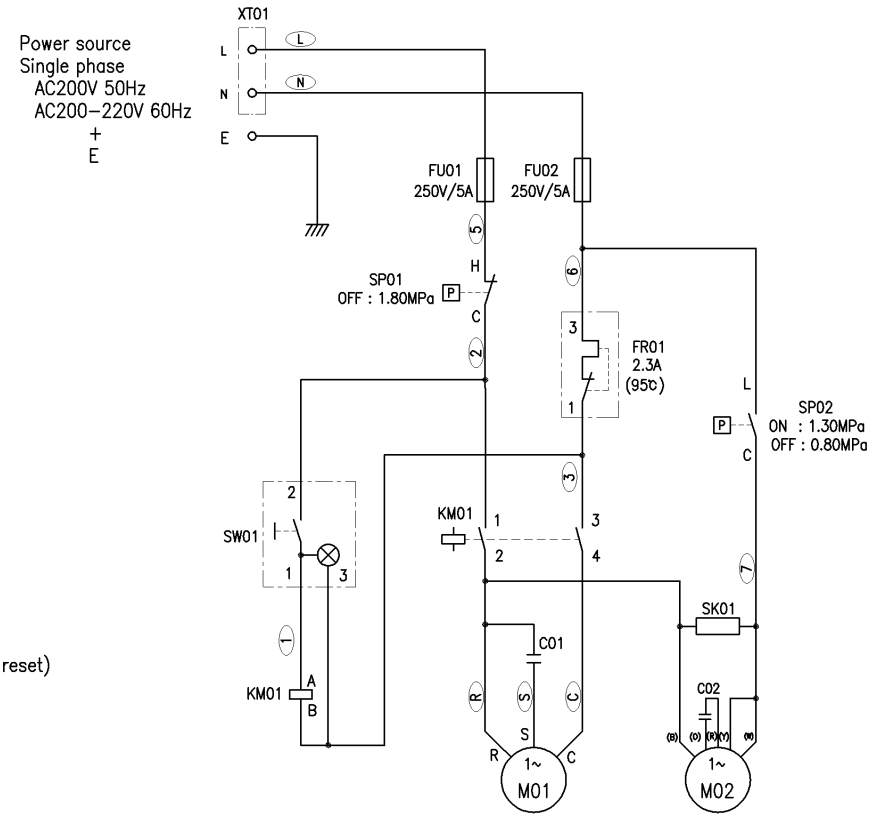
Discontinue

GK3108D-AC100V



M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start-stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

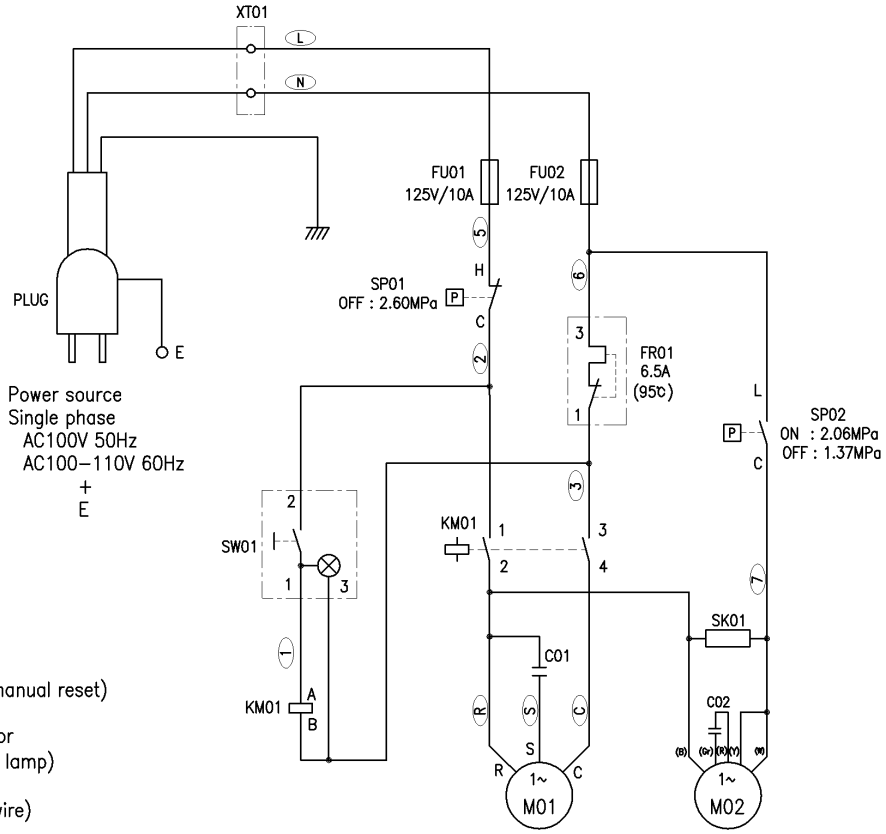
GK3108D-AC200V



M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start-stop switch (with lamp)
XT01 : Terminal block

Discontinue

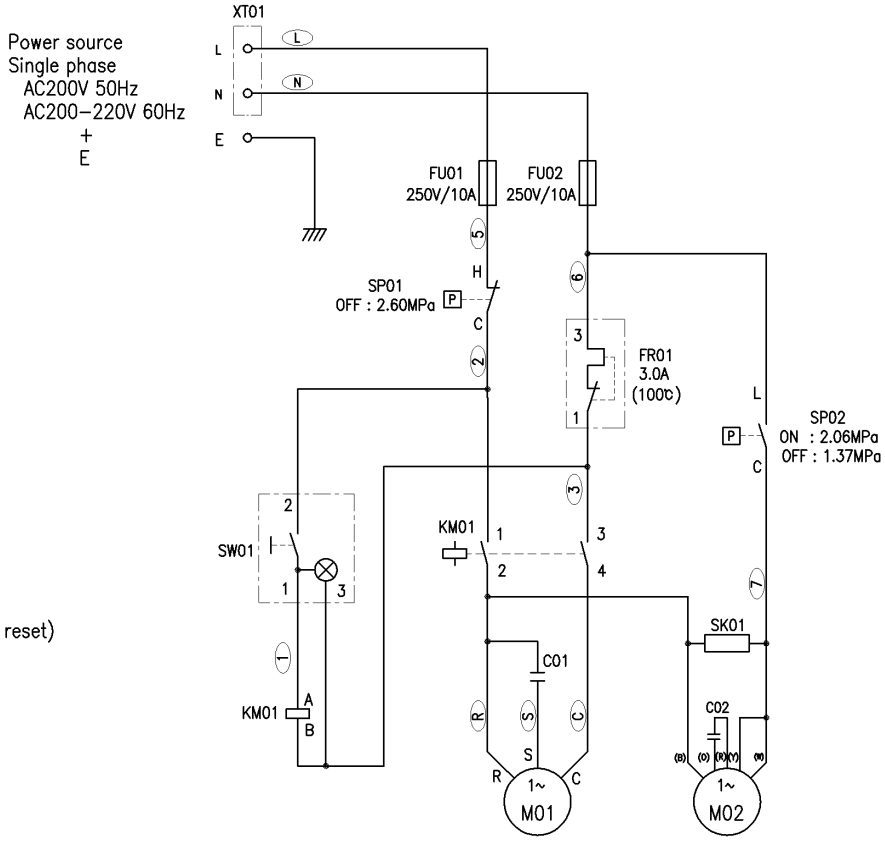
GK3111D-AC100V



Power source
Single phase
AC100V 50Hz
AC100–110V 60Hz
+
E

M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

GK3111D-AC200V

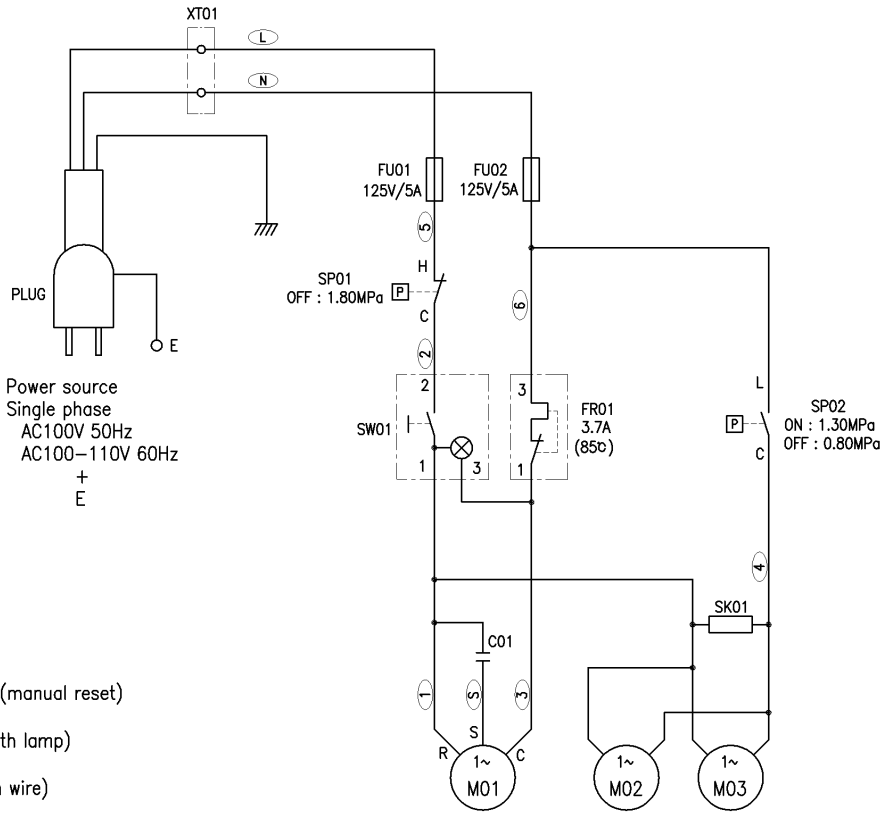


Power source
Single phase
AC200V 50Hz
AC200–220V 60Hz
+
E

M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block

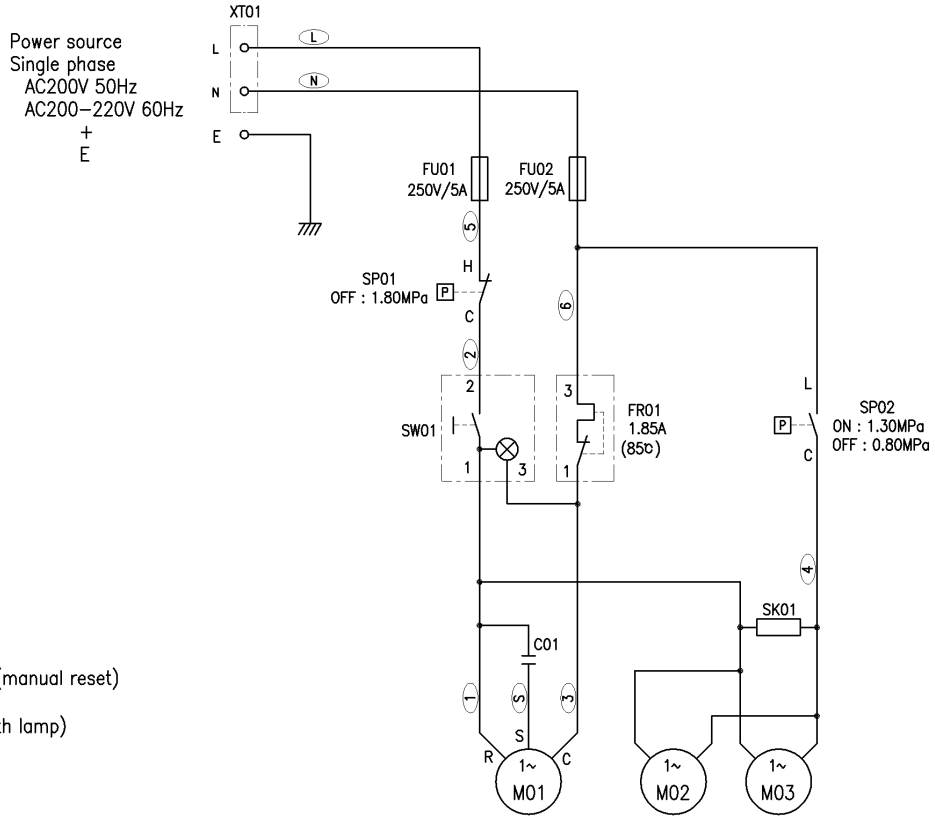
Discontinue

GX5103-AC100V



M01 : Compressor
M02 : Fan motor
M03 : Fan motor
C01 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

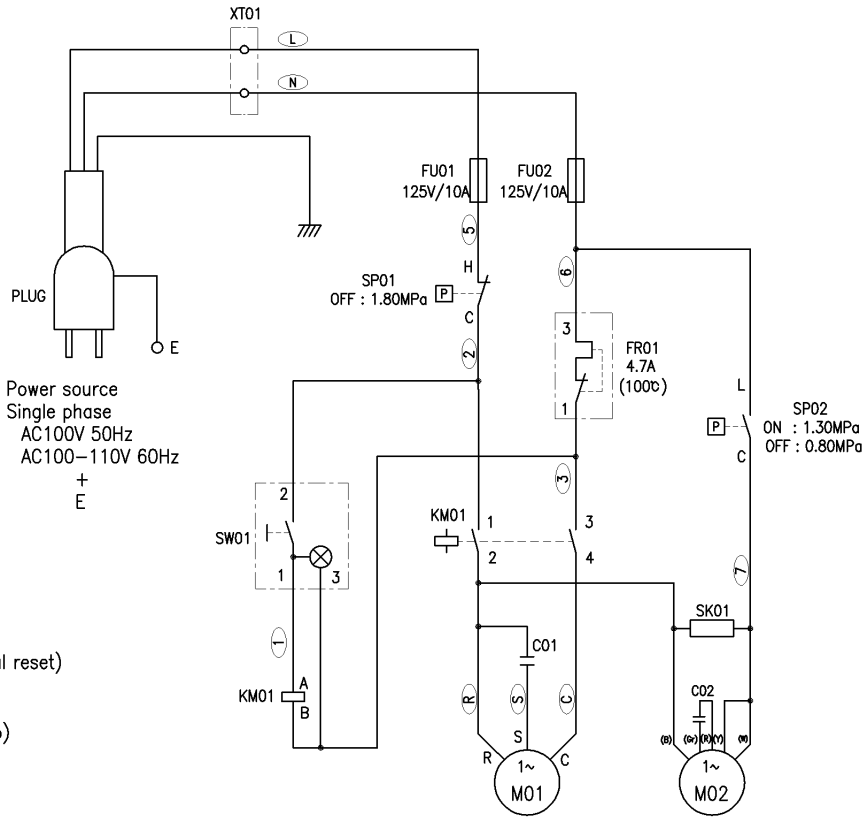
GX5103-AC200V



M01 : Compressor
M02 : Fan motor
M03 : Fan motor
C01 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block

Discontinue

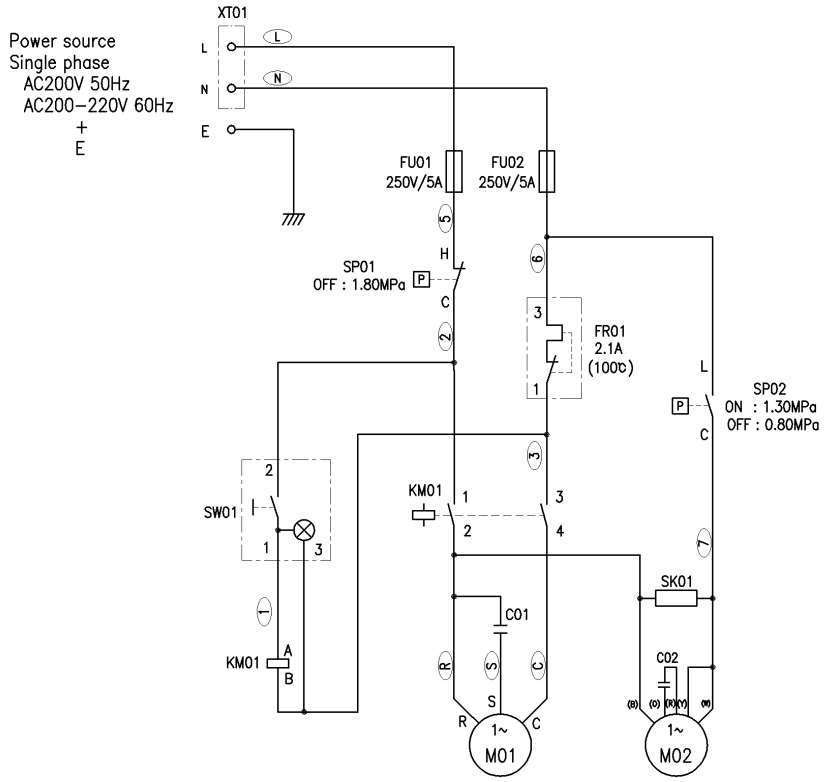
GX5104-AC100V



Power source
Single phase
AC100V 50Hz
AC100–110V 60Hz
+
E

M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

GX5104-AC200V

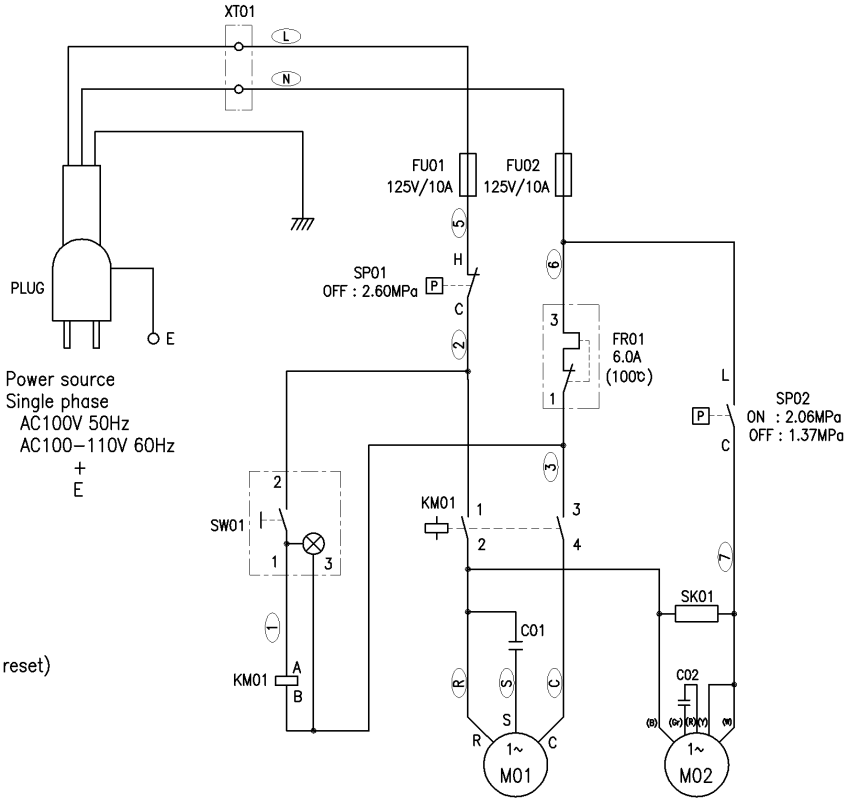


Power source
Single phase
AC200V 50Hz
AC200–220V 60Hz
+
E

M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start–stop switch (with lamp)
XT01 : Terminal block

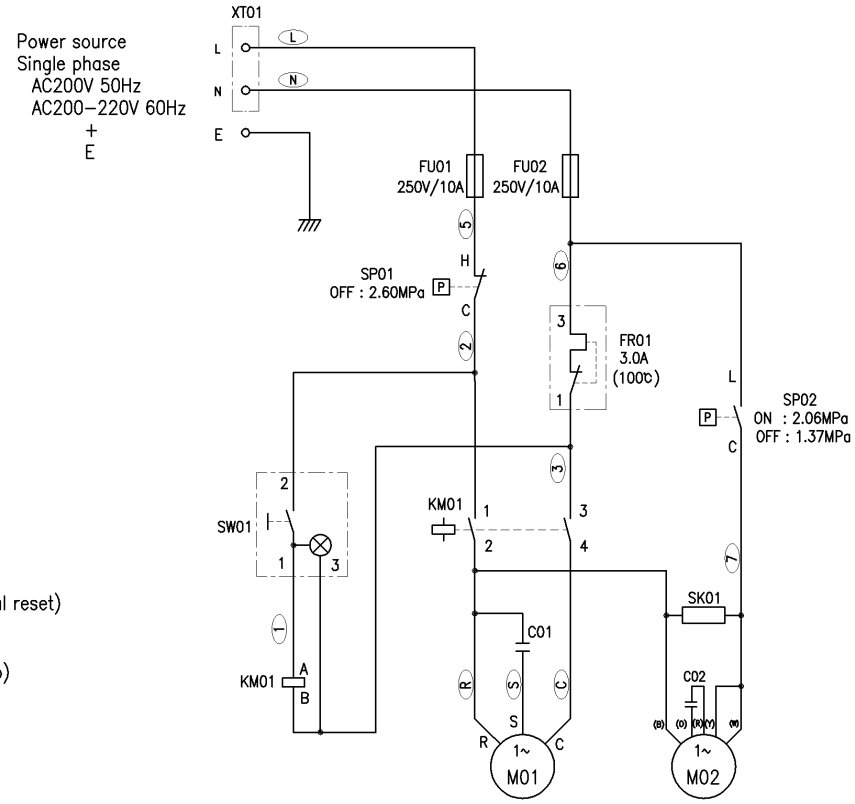
Discontinue

GX5106-AC100V



M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start-stop switch (with lamp)
XT01 : Terminal block
PLUG : Plug cord (with earth wire)

GX5106-AC200V



M01 : Compressor
M02 : Fan motor
C01 : Run capacitor
C02 : Run capacitor
FR01 : Over load protector
FU01 : Fuse
FU02 : Fuse
SK01 : Serge absorber
SP01 : High pressure switch (manual reset)
SP02 : Fan control switch
KM01 : Electromagnetic contctor
SW01 : Start-stop switch (with lamp)
XT01 : Terminal block

Discontinue

13. CKD WARRANTY

1. Warranty period

Warranty period of this product is one year after purchase. Warranty period of refrigerant circuit is two years after purchase. However, when the hours of operation reach to 10,000 hours within two years, it is considered as the end of the warranty period.

2. Scope of warranty

If any malfunction or damage occurs on the CKD's own responsibility within above warranty period, we will repair the product immediately free of charge.

However, the following are excluded from warranty.

① When using the product under the conditions or environment deviating from this specification.
②When the malfunction or damage results from mishandling or improper control.
③When the malfunction is caused by factors other than CKD product.
④When the product is used improperly.
⑤When the malfunction or damage results from the modification of functions, structures or specifications which CKD is not involved in, or repairs which is not designated by CKD after delivery.
⑥When the damage can be avoided if the machine and apparatus of your company which CKD product is installed in has functions and structures which commonly equipped with in the industry.
⑦When the malfunction or damage results from unforeseeable causes with the technology applied at the time of delivery.
⑧When the malfunction or damage results from fire, earthquake, flood, thunder, other natural disaster, pollution, salt hazard, gas hazard, abnormal voltage, abnormal water pressure or quality, congelation, or other external causes.
⑨In the case of repair parts which are used excessively.

The warranty refers to only delivered products. We do not warrant for any secondary damage or loss caused by the faults of delivered products.

This product is premised on transaction and use in Japan.

As for the warranty of the product which is exported outside Japan, the following are applied.

1 CKD will repair the products which returned to our factory freight prepaid. (We do not compensate transportation cost)
2 After repairing the product we will deliver it to the designated domestic place in Japan with domestic packaging specifications.

CKD corporation

〒485－8551 250, OUJI 2-CHOME, KOMAKI, AICHI 485-8551 JAPAN

PHONE 0568－77－1111

Purchased air drier

Model name	
Manufacture number	
Purchase date	
Beginning of using date	

Sales shop name

TEL

Charge

Discontinue

CKD株式会社

東北
●北上営業所
〒024-0034 岩手県北上市諏訪町 2-4-26
TEL(0197)63-4147 FAX(0197)63-4186
●仙台営業所
〒984-0015 仙台市若林区卸町 2-2-1(パックス 2・1 階)
TEL(022)239-1851 FAX(022)239-1856
●山形営業所
〒990-0834 山形県山形市清住町 3-5-19
TEL(023)644-6391 FAX(023)644-7273
北関東
●さいたま営業所
〒331-0812 さいたま市北区宮原町 3-297-2(杉ビル 6 5 階)
TEL(048)652-3811 FAX(048)652-3816
●茨城営業所
〒300-0847 茨城県土浦市卸町 1-1-1(関鉄つくばビル 4 階 C)
TEL(029)841-7490 FAX(029)841-7495
●宇都宮営業所
〒321-0953 栃木県宇都宮市東宿郷3-1-7(NBF 宇都宮ビル 3 階)
TEL(028)638-5770 FAX(028)638-5790
●太田営業所
〒373-0813 群馬県太田市内ケ島町 946-2(大槻総合ビル 1 階)
TEL(0276)45-8935 FAX(0276)46-5628
南関東
●東京営業所
〒105-0013 東京都港区浜松町 1-31-1(文化放送メディアプラス 4 階)
TEL(03)5402-3628 FAX(03)5402-0122
●立川営業所
〒190-0022 東京都立川市錦町3-2-30(朝日生命立川錦町ビル 3 階)
TEL(042)527-3773 FAX(042)527-3782
●千葉営業所
〒274-0825 千葉県船橋市前原西 2-12-5(朝日生命津田沼ビル 5 階)
TEL(047)470-5070 FAX(047)493-5190
●横浜営業所
〒222-0033 横浜市港北区新横浜2-17-19(日総第 15ビル 4 階)
TEL(045)475-3471 FAX(045)475-3470
●厚木営業所
〒243-0035 神奈川県厚木市愛甲 1212-3
TEL(046)226-5201 FAX(046)226-5208
●甲府営業所
〒409-3867 山梨県中巨摩郡昭和町清水新居 1509
TEL(055)224-5256 FAX(055)224-3540
●東京支店
〒105-0013 東京都港区浜松町 1-31-1(文化放送メディアプラス 4 階)
TEL(03)5402-3620 FAX(03)5402-0120

北陸・信越
●長岡営業所
〒940-0088 新潟県長岡市柏町 1-4-33(高野不動産ビル 2 階)
TEL(0258)33-5446 FAX(0258)33-5381
●松本営業所
〒399-0033 長野県松本市大字笹賀 5945
TEL(0263)25-0711 FAX(0263)25-1334
●富山営業所
〒939-8071 富山県富山市上袋 100-35
TEL(076)421-7828 FAX(076)421-8402
●金沢営業所
〒920-0025 石川県金沢市駅西本町 3-16-8
TEL(076)262-8491 FAX(076)262-8493
東海
●名古屋営業所
〒485-8551 愛知県小牧市応時 2-250
TEL(0568)74-1371 FAX(0568)77-3291
●豊田営業所
〒473-0912 愛知県豊田市広田町広田 103
TEL(0565)54-4771 FAX(0565)54-4755
●静岡営業所
〒422-8035 静岡県静岡市駿河区宮竹 1-3-5
TEL(054)237-4424 FAX(054)237-1945
●浜松営業所
〒435-0016 浜松市東区和田町 438
TEL(053)463-3021 FAX(053)463-4910
●四日市営業所
〒512-1303 三重県四日市市小牧町字高山 2800
TEL(059)339-2140 FAX(059)339-2144
●名古屋支店
〒485-8551 愛知県小牧市応時 2-250
TEL(0568)74-1356 FAX(0568)77-3317
関西
●大阪営業所
〒550-0001 大阪市西区土佐堀 1-3-20
TEL(06)6459-5775 FAX(06)6446-1955
●大阪東営業所
〒577-0083 大阪府守口市京阪本通 1−2−3
(損保ジャパン守口ビル 6 階)
TEL(06)4250-6333 FAX(06)6991-7477
●滋賀営業所
〒524-0033 滋賀県守山市浮気町字中ノ町 300-21(第 2 小島ビル 4 階)
TEL(077)514-2650 FAX(077)583-4198
●京都営業所
〒612-8414 京都市伏見区竹田段川原町 35-3
TEL(075)645-1130 FAX(075)645-4747
●奈良営業所
〒639-1123 奈良県大和郡山市筒井町 460-15(オッシェム・ロジナ 1 階)
TEL(0743)57-6831 FAX(0743)57-6821

●神戸営業所
〒673-0016 兵庫県明石市松の内 2-6-8 (西明石スポットビル 3 階)
TEL(078)923-2121 FAX(078)923-0212
●大阪支店
〒550-0001 大阪市西区土佐堀 1-3-20
TEL(06)6459-5770 FAX(06)6446-1945
中国
●広島営業所
〒730-0029 広島市中区三川町 2 番 6 号(くれしん広島ビル 3 階)
TEL(082)545-5125 FAX(082)244-2010
●岡山営業所
〒700-0916 岡山県岡山市北区西之町 10-104
TEL(086)244-3433 FAX(086)241-8872
●山口営業所
〒747-0801 山口県防府市駅南町 6-25
TEL(0835)38-3556 FAX(0835)22-6371
四国
●高松営業所
〒761-8071 香川県高松市伏石町 2158-10
TEL(087)869-2311 FAX(087)869-2318
●松山営業所
〒790-0053 愛媛県松山市竹原 2-1-33(サンライト竹原 1階)
TEL(089)931-6135 FAX(089)931-6139
九州
●福岡営業所
〒812-0013 福岡市博多区博多駅東 1-10-27(アステイア博多ビル 5階)
TEL(092)473-7136 FAX(092)473-5540
●熊本営業所
〒869-1103 熊本県菊池郡菊陽町久保田 2799-13
TEL(096)340-2580 FAX(096)340-2584
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