

### **SPOT COOLER**

SS-40DG-8BT II

SS-40EG-8BT II

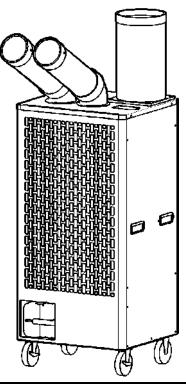
# INSTRUCTION MANUAL

### Index

	1. For your safety! 1
	2. Product specification3
	3. Parts 4
	4. Setup 5
	Placing the unit 5
	Attaching the cool air ducts5
	Attaching the hot air exhaust duct6
	(Optional) Exhaust air duct extension 6
	(Optional) Cool air duct extension7
	Connecting to a power source
	• Trial operation8
	5. How to use
	Operating the unit8
	Adjusting the direction of airflow9
	The swivel function
	The drain tank 10
	6. Safety devices11
	7. Maintenance and storage 12
	• Cleaning the filter 12
	• External maintenance
	Before storing the unit
	8. Safety inspection
	9. Troubleshooting14
1	10. Maintenance and repair15

#### $\Delta$ Note:

Do not use the unit in places with gases or vapour containing hydrochloric acid, sulphuric acid, or any other corrosive substances.



Be sure to thoroughly read this manual to the end before commencing operation of the unit. Please also store this instruction manual in a place where it can be accessed by anyone who needs it at all times.

Thank you for purchasing this product from the world brand **SUIDEN**. Please use this product correctly after having thoroughly read this manual. After having finished reading, please store it in a place where it is easily accessed by people using the unit. If during use the unit malfunctions, or if something is unclear, please consult this manual.

# 1 For

### For your safety!

Please do not operate the unit before carefully reading and understanding the content of this section. The items treated in this section are to ensure safe use of the unit and to beforehand prevent harm or injury to you and others. Further, to clarify the severity of the harm and injuries that can result from incorrect use, the items in this section are divided into two categories; Warnings and Caution. However, since the actions explained under caution also sometimes can cause severe harm, please follow all instructions in this section carefully regardless of category.

This appliance is not intended to be used by persons (including children) with reduced or impaired physical, sensory or mental capabilities or persons lacking appropriate knowledge or experience, unless a person responsible for their safety provides either supervision or appropriate instructions concerning use of the appliance prior to its use.

Children should be supervised to ensure they do not play with the appliance.

Ą

**Narning**: Incorrect use can cause death or severe injury.

Caution: Incorrect use can cause bodily harm or can damage the unit.

 $\triangle$  **Note**: Additional useful information other than warnings and caution.

### •General caution

### 



Do not use the unit in any other way than is described in this manual.

\*Incorrect use can cause electric shock, short circuit, water leakage and other accidents, as well as can damage the unit.



Do not use the unit on ships or in vehicles.
\*Use on ships or in vehicles can result in

\*Use on ships or in vehicles can result in water leakage and a short circuit.

# • Carrying / Moving the unit

### **⚠** Caution



When carrying, or moving the unit in any other way, please keep it balanced and adapt your movement to the shape and weight of the unit at all times.

\* If the unit is dropped, there is a risk of injury and other accidents.



When packing the unit into and out of a vehicle, be sure to use 2 or more people to ensure safe operation.

\* If the unit is dropped, there is risk of physical injury and damage to the unit.



If the unit is transported in a vehicle after it is unpacked, be sure to fasten it thoroughly with a rope or a strap.

\* If unfastened the unit can move unexpectedly and cause an accident.

# •Testing and operating the unit

### **⚠** Warning



Do not put wet hands on the plug, the switch or the electric wires.

\* This can cause electric shock and injury.



Do not expose to water or oil.

\* Water or oil can cause a short circuit, electric shock and other accidents.



Earth the unit securely, and use a earth leakage circuit breaker (bought separately).

\* When the unit is broken or has a short circuit, there is risk of electric shock.



Use a 20A rated electrical outlet. Do not plug in any other electrical appliance in the same outlet.

\* If other appliances are connected in the same outlet at the same time, the outlet can overheat and catch fire.



Please do not use the unit close to kerosene, gasoline, thinner, ether, paints or other flammable or explosive objects.

\* This can result in fire or explosion.



Do not use the unit close to, or in an atmosphere of, combustible dust such as aluminium, magnesium, titanium, zinc or chemical substances.

\* This can result in fire or explosion.

### Caution Do not use the unit in a place with dust that is harmful to the human body. If harmful dust sticks to the unit, there is risk of harmful dust dispersal when the unit is in operation. If the unit is not working properly, pull the plug immediately and turn it in for service or repair.

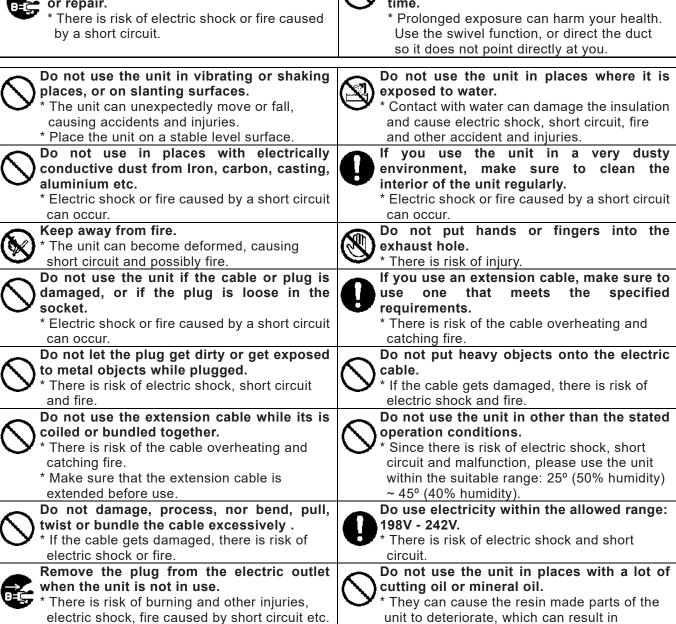
When you unplug the plug, be sure not to pull it by the cable, but to pull it out holding

\* There is risk of electric shock, short circuit

the plug directly.

and fire.

Do not expose your body to the cool air from the unit for an extended period of time.



accidents and injuries.

Lock the casters with the caster brakes

The unit can start to move unexpectedly and

before starting to operate the unit.

cause accidents and injuries.

# •Maintenance

### **↑** Caution

a

Make sure that the unit is unplugged when in storage.

\* There is risk of injury and electric shock.

Disassembly, repair and reassembly is not to be attempted by anyone other than an authorized repairer/technician.

\* Inadequate or poor handling can result in fire, malfunction and injuries.

All maintenance must be conducted while the unit is unplugged.

\* There is risk of electric shock and physical injuries.

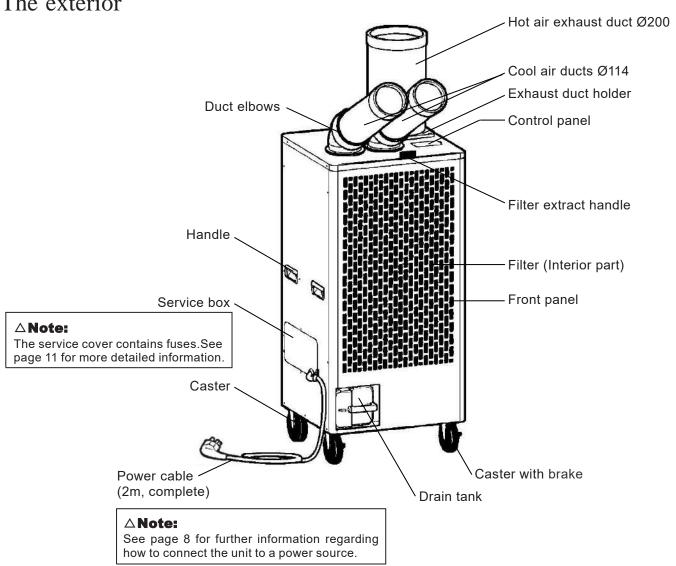
# **Product specification**

Model number			SS-40DG-8BTII	SS-40EG-8BTII
Automatic swivel			Yes	No
Power supply			Single phase 220V / 50Hz	
Cooling capacity			4.0kW	
Compressor / output			Air tight rotary model / 1.1kW output	
	Cool air	Power output	135W	
Air		Air flow volume	10.5m <sup>3</sup> / min (Strong) — 9.6m <sup>3</sup> / min (Weak)	
flow	Hot air Exhaust	Power output	270W	
		Air flow volume	19m³ / min	
Dimensions (mm)			W 520 x D 470 x H 1120 (Not including hot/cool air ducts)	
Operating condition			25°C (50%) — 45°C (40%)	
Power consumption			1.90kW	
Starting current			40.0A	
Running current			8.9A	
Refrigerant			R407C	
Refrigerant charge			660g	
Power factor			97%	
Net weight			73kg	
Remarks			All values are measured during operation in 35°C / 60% humidity	

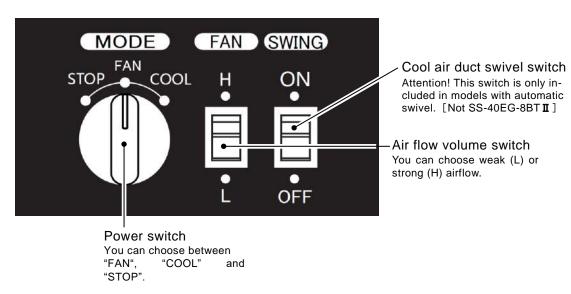
<sup>\*</sup> For indoor use only

# **Parts**

### The exterior



# The control panel



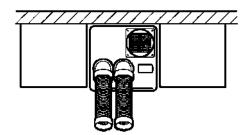
# Setup

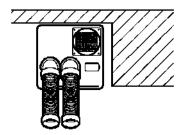
### Important: To ensure safety, read section one " 1 For your safety!" first.

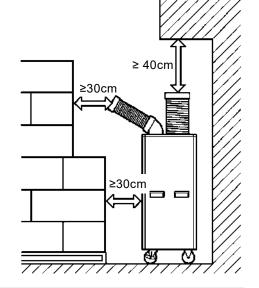
### 1. Placing the unit

Make sure that the unit is placed so that there is nothing blocking the front side filter, the cool air ducts or the hot air exhaust duct.

There is only an air inlet on the front side, and the only air outlets are on the top, so the unit can be placed with the other sides directly against a wall, in a corner or in any other confined space.







△ Note: Do not use the unit in places containing hydrochloric acid, sulphuric acid or any other corroding gas or

\* There is risk of gas leak or deterioration of performance.

### 2. Attaching the cool air ducts

- (1) Attaching the duct elbows
- I. Insert the duct elbows into the elbow holders, fitting the attachment notch to the black mark on the inside of the
- II. After you have inserted the duct elbows into the holders, fasten them so they do not come loose by turning them to either side.

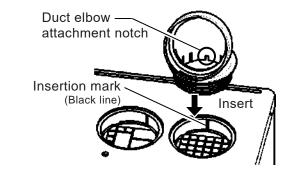
### △Note:

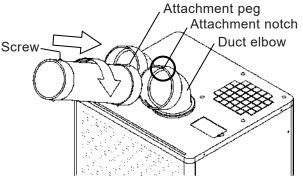
Make sure that the duct elbows are correctly inserted into the holders. If the duct elbows are not attached evenly, reattach them correctly.

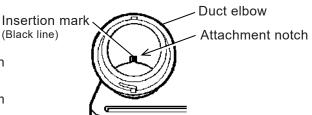
- (2) Attaching the cool air ducts
- I. Insert the cool air duct into the duct elbow, fitting the attachment peg on the duct to the attachment notch in the elbow, then turn it to the right.

#### △ Be sure <u>not</u> to insert the end with the screws!

- II. Point the duct in the direction you want the air to blow in, fixing the duct elbow with your other hand.
- Please see page 9 for more information.
- (3) Removing the duct elbows
- I. Remove the cool air ducts from the elbows.
- II. Turn each elbow until the attachment notch is aligned with the insertion mark.
- III. Remove the duct elbows by pulling them straight up from the holder.





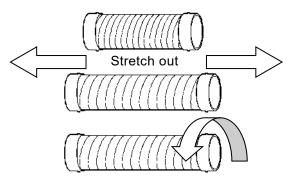


(Black line)

• Adjusting the firmness of the cool air ducts

If the cool air ducts are too loose, they might droop down, not maintaining the desired direction of the cool airflow. If this is the case, tighten the ducts in the following manner.

- I. Hold both ends of the duct and stretch it until it is fully extended.
- II. Make the duct tighter by twisting the right end of the duct one or two times, fixing the left end of the duct with your other hand. Now the duct should maintain any shape desired by the user.



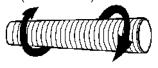
Hold firmly with your left hand and twist towards your body with your right hand

### 3. Attaching the hot air exhaust duct

- I. Attach the hot air exhaust duct with four screws to the top of the unit like is illustrated in the picture to the right.
- II. Adjust the exhaust air duct to fit into the exhaust air duct holder.

The duct is made from flexible polypropylene.

By grabbing the ends and twisting in opposite direction the diameter can be increased or decreased to a maximum of 30%. (See below)



III. Place the duct onto the duct holder

#### △ Note:

- \* If something is dropped into the exhaust air vent, do not use a stick or similar object to try to retrieve it. You may damage internal parts and cause malfunction.
- \* Do not block the exhaust air vent in any way. This will obstruct the function of the unit and cause malfunction.

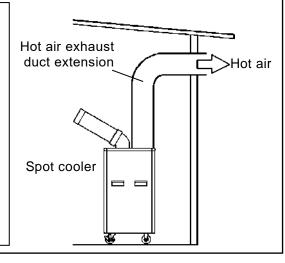
### Optional Exhaust air duct extension

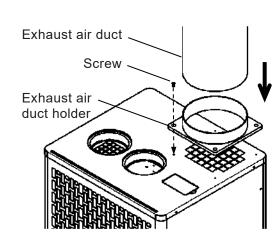
By attaching the optional hot air exhaust duct extension ( $\emptyset$  200mm, length 4m ) you can lead the hot air out of the room, preventing it from heating up the room.

Attach the hot air exhaust duct extension to the normal exhaust duct. Attaching the hot air exhaust duct extension is done in the same way as the optional cool air duct extension is attached. Therefore, please see instructions on attachment on the next page: "Optional cool air duct extension".

#### $\Delta$ Note:

- \* If you will make an opening for the duct extension in the wall, ensure sure that it is done by a trained professional. Unprofessional installation can lead to water leakage and other problems.
- \* Do not squeeze, press or bend the duct extension in a way that will obstruct the air flow.
- \* If something is dropped into the exhaust air vent, do not use a stick or similar object to try to retrieve it. You may damage internal parts and cause malfunction.
- \* Refrain from using the duct extension If the room temperature is higher than 40°C. There is risk of deterioration of the units cooling effect.





### Optional

### Cool air duct extension

The cool air duct extension (Ø 125mm, length 5m) can be used when the unit cannot be placed close to the workplace where it is needed.

• Cutting the cool air duct extension

Cut the cool air duct extension according to required length in the following way.

I. Make a hole in the duct extension where you want II. Cut the duct extension all the way around to cut it with a flat screwdriver or similar tool. using scissors or a side cutter.



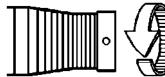
Changing the diameter

You can reduce the diameter of the cool air duct by twisting it to the left, thereby increasing the air flow velocity.

Be careful not to make the duct extension too narrow. This could cause deterioration of performance and malfunction.



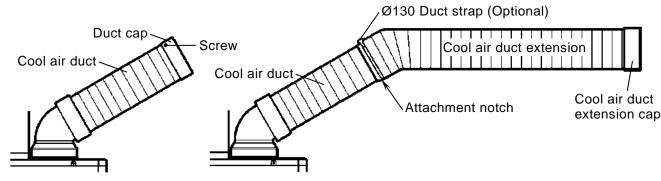
Optional cool air duct extension



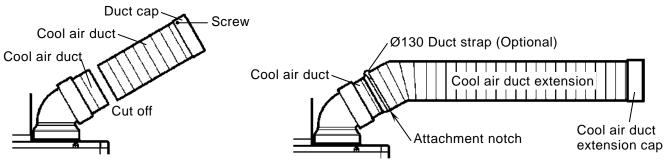


Twist to the left

- Attaching the cool air duct extension to the cool air duct
- I. Loosen the screws on the duct cap, and then remove the duct cap from the cool air duct.
- II. Mount the cool air duct extension to the cool air duct, narrow the end until the gap is completely sealed, then tighten the duct strap.
- III. Attach the accessory cool air duct extension cap onto the duct extension with glue.



- Attaching the cool air duct extension to a previously cut cool air duct
- I. Cut the cool air duct.
- II. Mount the cool air duct extension to the cool air duct, narrow the end until the gap is completely sealed, then tighten the duct strap.
- III. Attach the accessory cool air duct extension cap onto the duct extension with glue.



• Fastening the cool air duct extension

Suspend the cool air duct extension with wires from the ceiling or fasten it securely to the wall.

#### $\Delta$ Note:

Do not use the swivel function when the duct extension is attached.

This will damage the swivel device.

### 3. Connecting to a power source

△ **Note:** Do not connect any other electrical appliance to the same power source that the unit is connected to.

(1) Electrical wiring

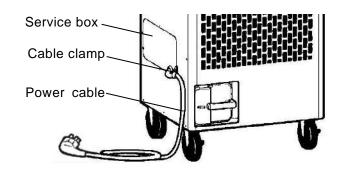
Make sure that no other electrical appliance is connected do the same power source as the unit.

(2) The circuit breaker

Use a 20A, 30mA ≤0.1sec. circuit breaker.

(3) Connecting the unit to a powersorce Insert the plug into the power source

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.



### 4. Trial operation

Turn on the power switch, the airflow adjustment switch and the swivel switch to make sure that everything works correctly.

- I. The functions of all the switches are explained further in the next section "How to use".
- II. If the unit does not work correctly, please consult page 13 "Trouble shooting" for further guidance.

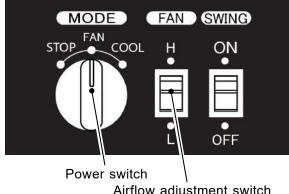
△ Note: When you turn off the "COOL" airflow (the compressor) with the power switch and change it to "STOP" or "FAN", wait at least 3 minutes before turning the switch back to "COOL" again.

# How to use

### Important: To ensure safety, read section one " 1 For your safety!" first.

- 1. Operating the unit
- (1) Operating the power switch (MODE)
- I. Open the control panel cover on the top of the unit.
- II. Turn the power switch on the control panel to "FAN" or "COOL".
  - "FAN": The fan is working but not the compressor (No cool air is coming).
  - "COOL": The fan and compressor are both working (Cool air is coming).

SS-40DG-8BT II Control panel (With swivel)



Airflow adjustment switch

△ Note: When you turn off the "COOL" option with the power switch and change it to "STOP" or "FAN", wait at least 3 minutes before turning the switch to "COOL" again.

(2) Operating the airflow adjustment switch

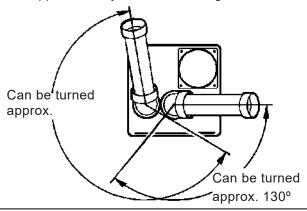
Set the airflow to strong (H) or weak (L).

### 2. Adjusting the direction of airflow

The cool air ducts can be adjusted, so please operate the unit after having pointed it in the desired direction.

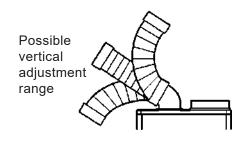
#### • Horizontal adjustment

The left cool air duct in the picture below can be turned approximately 230°, and the right one 130°.



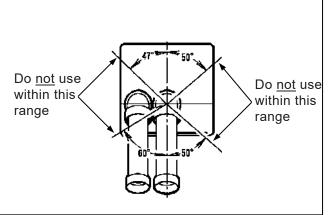
#### • Vertical adjustment

The cool air ducts are flexible and can be bent in any desired way within its possible range.



#### △ Note:

- I. Bend the cool air ducts gently, firmly holding the duct elbow with your other hand.
  - \* The duct can get damaged if forcedly bent too far.
- II. If something is dropped into the exhaust air vent, do not use a stick or similar object to try to retrieve it.
  - \* You may damage internal parts and cause malfunction.
- III. Where the duct's attachment peg and the air vent's attachment notch align, the ducts come off. Therefore only use the cool air ducts within the indicated range.



#### 3. The swivel function

This function is only available on SS-40DG-8BT II .

Model SS-40EG-8BT II does not have a swivel function.

(1) Operating the swivel switch (SWING)

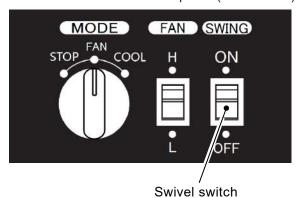
Operate the swivel switch on the right of the control panel.

- \* "ON": Both cool air ducts swivel to the right and left.
- \* "OFF": The cool air ducts do not move.

#### △ Note:

- \* Make sure that nothing obstructs the swivel path of the cool air ducts when the swivel function is turned on.
- \* Do not use the swivel function with anything other than the standard cool air ducts delivered with unit. If the swivel function is turned on, for example, when the duct extension is attached, the swivel device will be strained and can break.

SS-40DG-8BT II Control panel (With swivel)



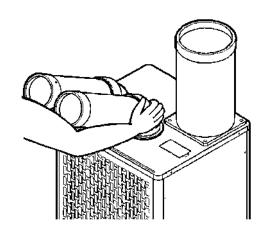
#### (2) Changing the position of the swivel

You can change the direction of the swivel in any desired direction.

- I. First turn off the swivel.
- II. Push the cool air ducts lightly into desired position.

#### △ Note:

- \* If the hot air exhaust duct is attached, the cool air duct can not swivel in that direction.
- \* The duct elbow comes off at the point where the elbow attachment notch and the unit's attachment marker are aligned. Therefore, avoid swivel in that direction.



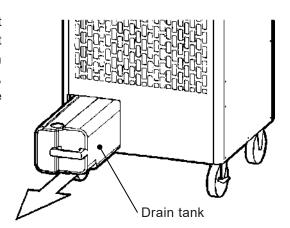
#### 4. The drain tank

#### (1) The drain tank collects the condensed water

Part of the condensed water that appears in the upper cold part of the heat exchanger on the front of the unit vaporises when it passes through the warm lower part on the way down to the drain tank. In certain environments almost all water will vapor-ize, leaving nothing for the drain tank. This does not mean that the unit is not working.

#### △ Note:

- \* The amount of condensed water that gathers in the drain tank varies depending on the temperature and humidity of the environment where the unit is used, as well as how clean or dirty the heat exchanger is. The amount of condensed water increases remarkably during rainy seasons and other times with high humidity, so be extra attentive at these times.
- \* When the drain tank becomes full the water will start spilling out on the floor, so check the amount of water in the drain tank frequently and empty it before it gets full.
- \* Since the condensed water in the drain tank will spill when the unit is moved, be sure to empty the tank first.

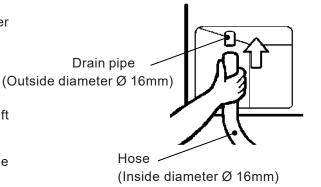


#### (2) Draining the condensed water with a hose

You can drain the condensed water directly to a drain or other desired place by attaching a hose onto the drain pipe.

The inside diameter of the hose should be 16mm.

- I. Remove the drain tank.
- II. Attach the hose to the drain pipe, located on the upper left side of the drain tank compartment.
- III. Place the other end of the hose in a drain or other suitable place.



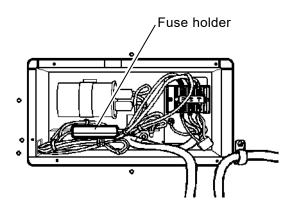
# 6 Safety devices

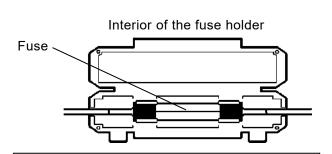
- (1) The compressor overload relay
- I. The overload relay protects the compressor from overcurrents and overheating motor.
- II. The compressor overload relay is automatic. If the overload relay starts to work frequently (and the unit stops working), please take steps to eliminate the cause of the problem. If the cause is left unrectifiles, the unit can break down or malfunction.

Please consult "Trouble shooting" on page 13 for more information.

#### (2) The fuse

The fuse is located inside the service box. A 6.3A glass fuse is used.





#### $\triangle$ Note:

When you change the fuse, please consult with a authorized electrician or your local suiden dealer.

# **Maintenance and storage**

### Important: To ensure safety, read section one " 1 For your safety!" first.

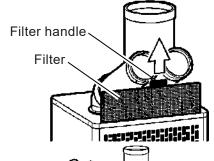
- 1. Cleaning the filter
- I. Remove the filter by pulling it straight up.
- II. Remove off the dust from the filter with a vacuum cleaner.
- III. If the filter is dirty, it should be cleaned with water.
  - IV. Reinstall the filter into the unit after it has dried completely.

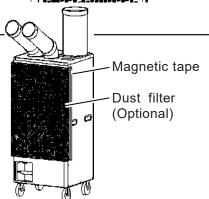
### Optional Dust filter

For customers who use the unit in locations with a lot of cotton, fibre, glass fibre and other kinds of dust.

If you are experiencing that the heat exchanger frequently clogs up and the "cool air" function stops working correctly, we recommend you to replace the standard filter with the optional dust filter to solve this problem.

\* If the dust filter becomes clogged with dust the unit will not work correctly. If that happens, clean the filter thoroughly.





### Optional Oil

Oil mist filter

For customers who use the unit in places with a lot of oil mist.

If you use the unit where there is a lot of oil mist in the air, we recommend that you replace the normal standard filter that comes delivered with the unit with a "Oil mist filter".

The oil mist filter prevents deterioration of cooling effect caused by the heat exchanger becoming greasy, and prevents the condensed water from scattering.

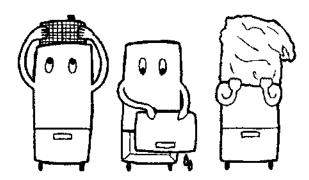
 $\Delta$  Note:

#### 2. External maintenance

Wipe the ducts and other external parts clean with a dry piece of cloth, or a cloth with diluted neutral detergent.

### 3. Before storing the unit

- I. Clean the filter and the exterior of the unit.
- II. Empty the drain tank and let it dry completely.
- III. Turn on "Ventilation" for approximately one hour to let the internal parts dry completely.
- IV. Cover the unit with a suitable cover to prevent dust from gathering.
- V. Store all the parts in a secure place so that nothing gets lost or damaged.
- VI. Clean the power cable before storing it.
- \* Regarding cleaning of the heat exchanger, the sirocco fan and other internal parts, please consult with your local dealer. If you clean the internal parts before storage, the unit can be used immediately afterwards.



Be very careful if you use thinner, benzine,

chemicals or polishing powder or similar

substances when cleaning the unit. You can easily damage the coating or cause malfunction.

#### $\triangle$ Note:

Store the unit in a vertical standing position. Do not store it lying down.

\* If the unit is stored lying down, the compressor or other parts can break down or malfunction.

# 8 | Safety inspection

### Important: To ensure safety, read section one " 1 For your safety!" first.

To ensure safe operation, please perform the following inspections before use. If any fault or malfunction is discovered, please take measures immediately.

Inspection	Measure	
Is the electric cable damaged or deformed?	Change the cable after having consulted with an authorized electrician.	
Is the plug deformed or broken?	Change the plug after having consulted with an authorized electrician.	
Is the cable and the power source connected correctly?	If not, connect them correctly.	
Are the ducts deformed or torn?	Change them for new ones.	
Is the filter clogged with dust or dirt?	Clean the filter.	
Is the filter installed correctly?	If not, install it correctly.	
Is the filter torn or damaged?	Change it for a new one?	
Are the fins of the heat exchanger broken?	Hand the unit in for inspection and repair at your local retailer.	
Are the heat exchanger fins covered with dust or greasy dirt?		
Is the filter or cool air duct blocked?	Remove the obstructing object.	
Is the drain tank installed correctly?	If not, Install it correctly.	
Is the drain tank damaged?	Change it for a new drain tank.	
Are the casters worn out?	Change the casters.	
Are the caster brakes working normally?	If not, change the casters.	
Are all the switches and buttons working collectly?	If not, consult page 14 of this manual and follow the instructions. If the problem remains even after that, please consult with your local dealer regarding inspection and repair.	
Is the unit emitting strange sounds or smells?	Please consult with your local dealer regarding inspection and repair.	

# 9 Troubleshooting

Important: To ensure safety, read section one "I For your safety!" first. What to check **Symptom** Measure Turn the power switch to "STOP" until the power is back on again. If the Is there power supply? (The power could be off switch is turned to "COOL" when the because of blackout etc.) power comes back on, the fuse might blow. Is the plug correctly Insert the plug correctly into the outlet. connected in the outlet? Is the power cable broken I can not turn on the Fix the cable if possible, otherwise or damaged in any other unit change it for a new one. Is the electric fuse blown Please consult with an electrician or or the breaker down? your local retailer. The unit will restore itself automatically. Is the overload relay Wait for the unit to be restored, turn running? the switch to "STOP", wait 3 minutes and then restart the unit. Make sure that no other appliance is Is the capacity of the connected to the breaker or the breaker sufficient? branch circuit. If you have turned off the unit, make The fuse blew or the Did you keep the cooler sure to wait at least 3 minutes before breaker is down. turned off for three turning on the "COOL" again. (This does not apply to "FAN", which minutes? can be turned on immediately.) Is the voltage too low? Consult with your electric company. The unit turns itself on and off frequently Is the voltage too low? Consult with your electric company. (The overload relay) Is the power switch not set Set the switch to "COOL". to "COOL"? Are the filter or cool air The air from the unit Remove the obstructing object. is not cool ducts blocked? If the filter clogged with Clean the filter. dust or dirt? Is the room temperature Improve the ventilation to lower the too high? temperature of the room, or use the The cooling effect is (Higher than 45°C is too unit in a room that corresponds to weak high) required conditions: 25°C - 45°C. The cool air ducts do not swing Is the swivel switch turned Turn the swivel switch to "ON". off? (Only SS-40DG-8B II) Is the drain pipe clogged? Clean the drain pipe. Is the drain tank full? Empty the drain tank. Is the drain tank placed Water is leaking If not, place it in its correct position. from the unit correctly? Is the drain tank Repair it or change it for a new one. damaged?

If the problems do not get resolved by the above suggested measures, please consult with your local dealer.

# 10 AFTER SERVICE

### 



Please use standard parts for maintenance and repair.

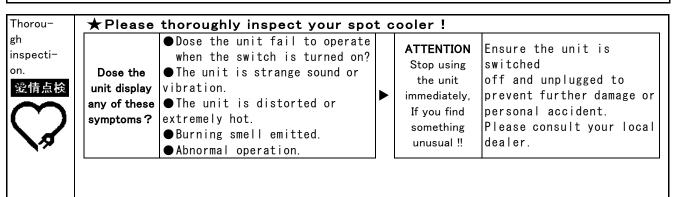
- \*If you use spare parts other than standard parts, there is risk that they will not fit properly and can cause malfunction or accidents.
- \*The same condition applies also to the case if Suiden spare parts are used in products from other
- companies.

#### ●REPAIR

For questions regarding acquiring spare parts or regarding repair, please contact the store where you purchased the unit, after having prepared the product number, the manufacturer's serial number and date of purchase.

### 

- \*If you intend to use the unit to preserve food products, animals and plants, precision machines, art objects etc., please check the specific requirements of those objects carefully before you commence. Inaccurate or inappropriate use can cause the quality of the objects to deteriorate.
- \*Sometimes it will be necessary to perform installation work and electric work the unit. In these cases, contact your local dealer or an experienced professional. If the works are preformed inadequately, there is risk of electric shock, fire or accidents.



Suiden Co., Ltd.

2-4-24 Osaka, Tennoji-ku, Osaka, 543-0062 Japan.

E-mail: info@suiden.com Web site: www.suiden.com