

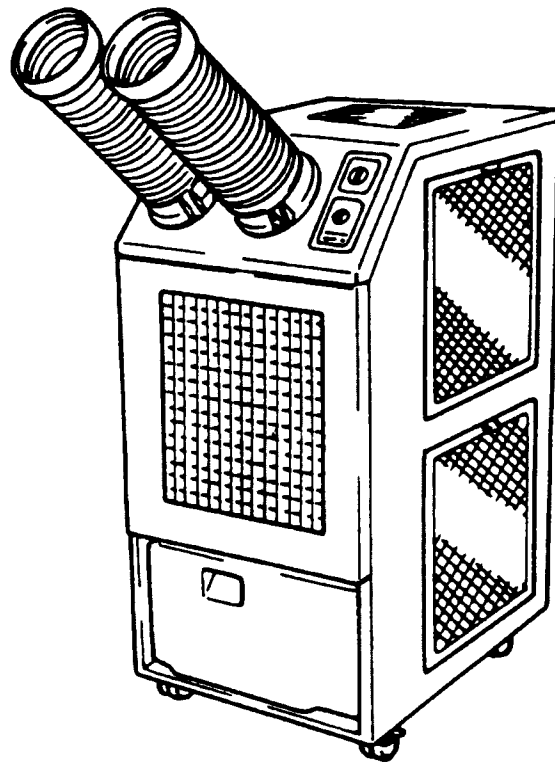
MOVINCOOL

SPOT COOLING SYSTEMS

INSTRUCTION

MANUAL

MODEL : 15SFU
15SFU-1



READ THIS MANUAL CAREFULLY FOR INSTRUCTIONS ON
CORRECT INSTALLATION AND USAGE, AND READ ALL
SAFEGUARDS.

NIPPONDENSO CO.,LTD.

FOREWARD

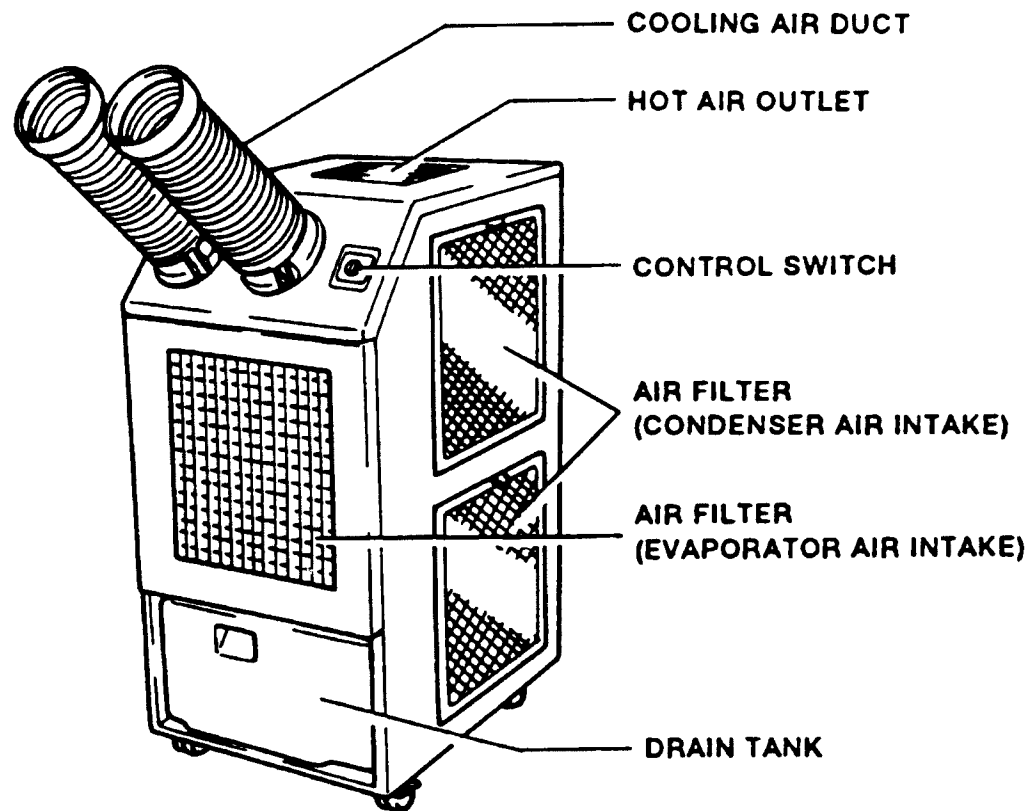
Before installing and using MovinCool Spot Cooling Systems, read this manual carefully for instructions on correct usage, and read all safeguards on pages 3 to 12. This manual should be retained for future reference.

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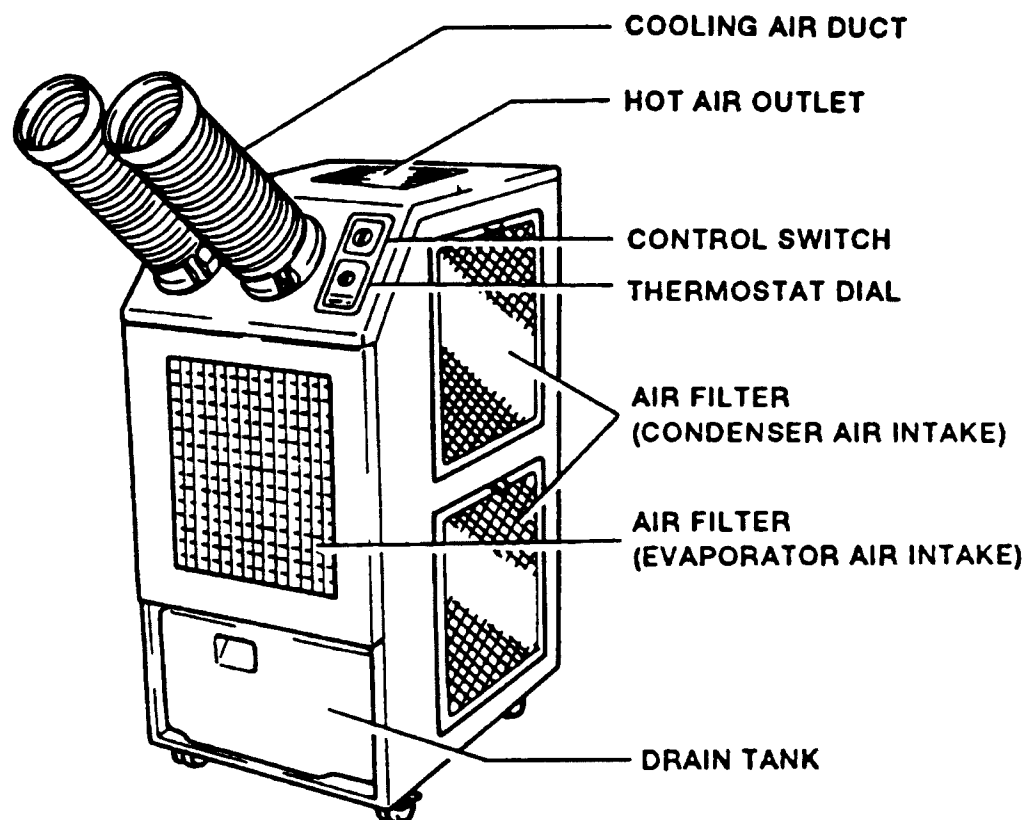
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1. PART NAMES

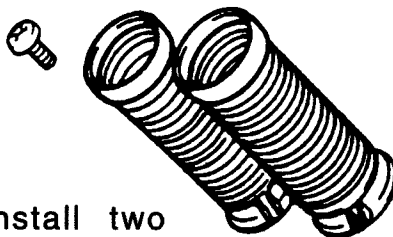
[Model : 15SFU]



[Model : 15SFU-1]



2. ASSEMBLY

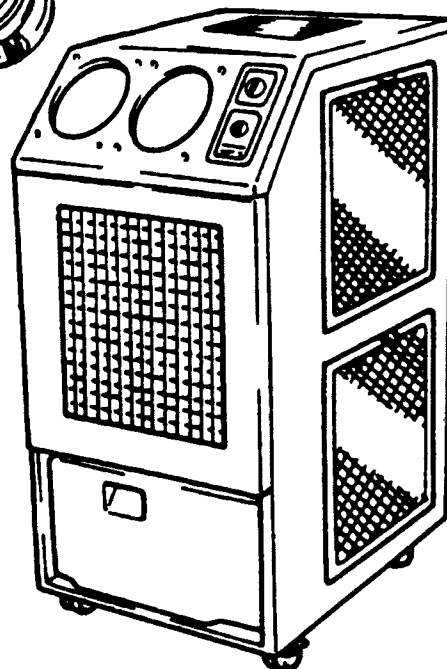


2-1. Air ducts

Using eight screws, install two cooling air ducts to the unit.

2-2. Power cord connection

Do not use any extension cords for connecting the unit.

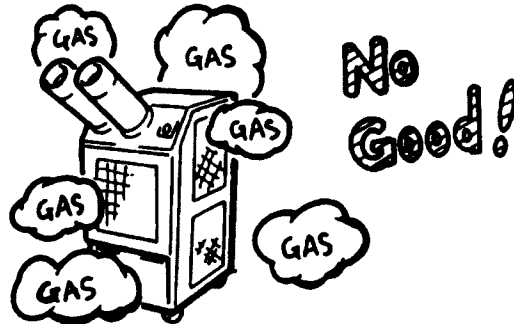


3. IMPORTANT SAFEGUARDS

Read the following safeguards carefully when installing the unit. This manual should be saved for future reference.

- 1) Do not install and operate the unit in a potentially explosive or combustible atmosphere.

EXPLOSIVE GAS
COMBUSTIBLE GAS
CORROSIVE GAS

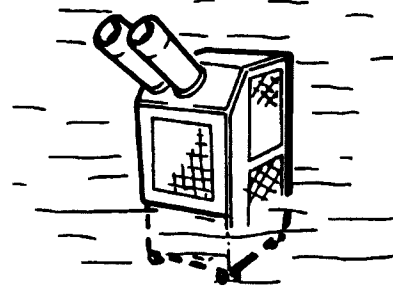


- 2) Do not operate the unit in an atmosphere of corrosive gases.

- 3) The environmental requirements of this unit at the installation site are 25°C (77°F) to 40°C (104°F) with a 50% relative humidity when the unit is in operation. If the unit is operated in an environment outside this range, its protective device is activated, stopping the unit or freezing the evaporator.

TEMPERATURE
OVER 40°C (104°F)

No
Good!



HUMIDITY
OVER 50%

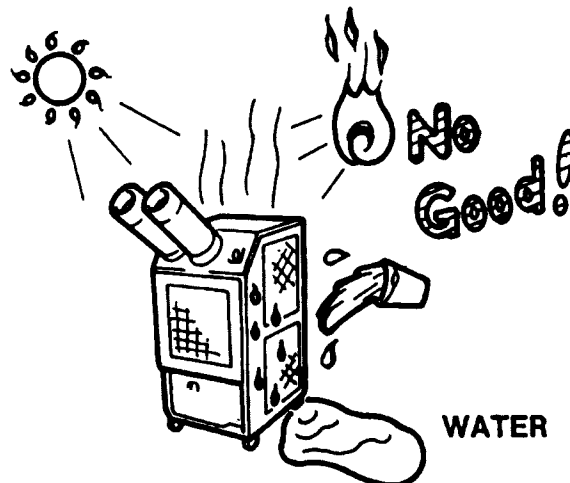
- 4) Do not place the unit in direct sunlight.

- 5) Keep the Unit away from flammable materials.

DIRECT
SUNLIGHT

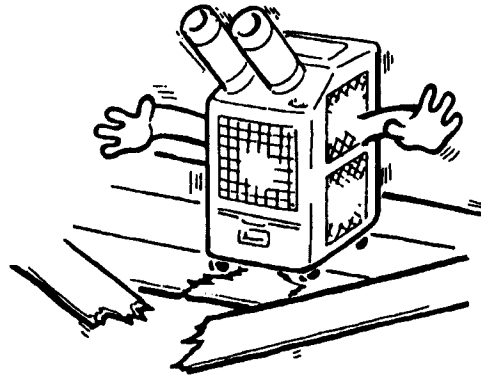
FLAMMABLE
MATERIALS

- 6) Keep the unit away from direct contact with water.



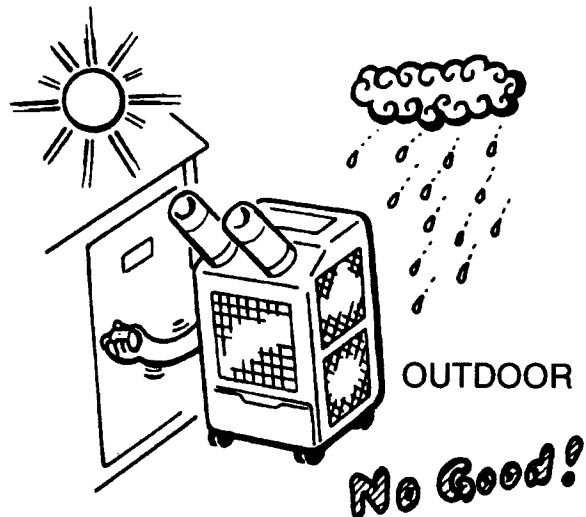
WATER

- 7) To insure the unit's stability the floor on which the unit is to be placed should be level and free from vibration. Make sure the floor is strong enough to support the weight of the unit.



**FLOOR SHOULD
BE STRONG**

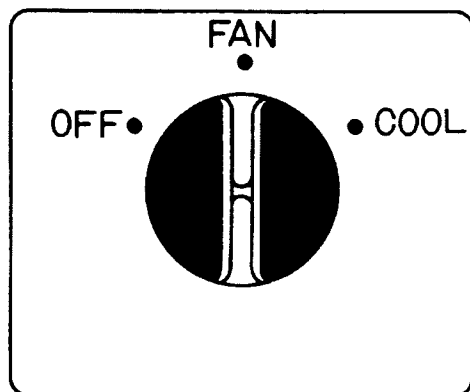
- 8) The unit is for indoor use only.



4. INSTRUCTIONS FOR USE

4-1. Control switch panel

The operation of the unit is controlled by the switch above the panel. Check the power supply before turning the unit on.



[FAN]

The fan will start when the switch is set to FAN.

[COOL]

To start cooling set the switch to COOL.

[OFF]

Set the switch to off, and the fan and cooler will stop.

Fig. 4-1. Control switch panel

NOTE:

- 1) When the overflow lamp lights the drain tank is full of water and the unit stops running automatically.

If this happens, be sure to set the switch to OFF, and drain the water from the tank.

- 2) COMPRESSOR PROTECTION (15SFU-1 only)

There is a time delay circuit included in the electrical system to prevent short-cycling the compressor. This delay is in effect any time when the compressor is turned on by the control switch, thermostatic control, or resumption after black-out.

Delay time 75 ± 15 seconds

- 3) AUTOMATIC RESTART AFTER POWER INTERRUPTION (15SFU-1 only)

The system will resume operation automatically after a power interruption, eliminating the need for manual reset of the control switch.

The compressor is also protected by a delay circuit (see paragraph 2) above) to prevent short-cycling.

4) TEMPERATURE CONTROL (15SFU-1 only)

The compressor is controlled by thermostat which senses the return air temperature. This thermostat can be set to approximate temperatures by means of the thermostat dial, located below the control switch.

Dial Setting		1	2	3	4	5	6	7
Return Air Temperature (Approx.)	°C	32	29	27	24	21	18	16
	°F	90	85	80	75	70	65	60

5) FAN MOTOR CONTROL SWITCH (15SFU-1 only)

The fan motor is controlled by a switch located in the control box. There are two positions:

- A. When the switch is set to the left, the fan motor will be controlled by the thermostat which controls the compressor. In this case, both the fan and the compressor will stop when the thermostatic control reads sufficiently low return air temperature. When the temperature rises again, the fan will restart automatically. The fan motor is not subject to the delay circuit which protects the compressor, so the fan will begin approximately 75 seconds before the compressor.
- B. When the switch is set to the right, the fan motor will be controlled only by the control switch. As long as the unit is set to FAN or COOL, the fan will operate continuously.

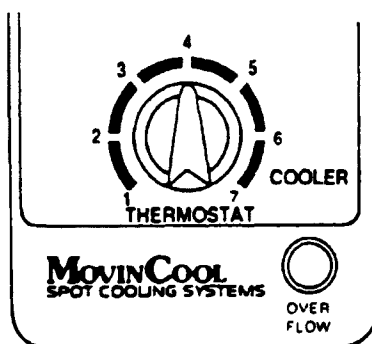


Fig. 4-2. Thermostat dial

■ Control range

Dial value		1 ↔ 7
Temperature	°C	32 ↔ 16
	°F	90 ↔ 60

4-2. Moving the Unit

When moving the unit, set the switch to the OFF position, and unplug the power source. After finishing the move, be sure to lock the casters.

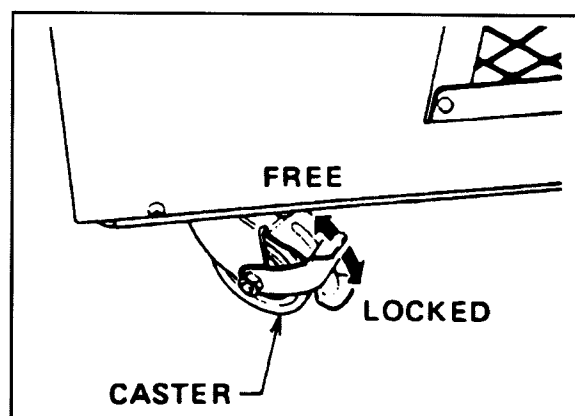


Fig. 4-3. Moving unit

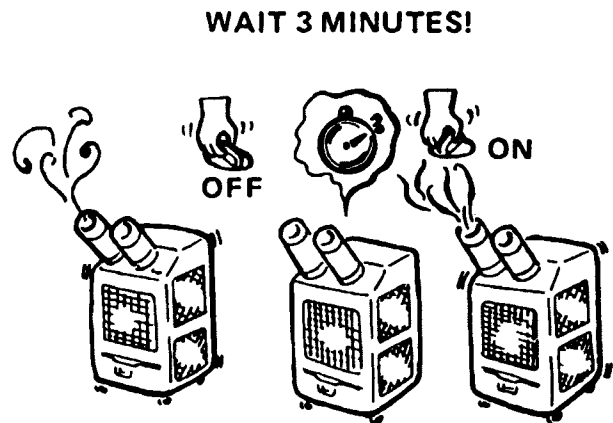
4-3. Condensate pump kit <option>

These models come standard with a condensate tank, which collects the water that forms on the evaporator during normal cooling operation. If the unit is required to operate continuously without periodic emptying of this tank, a condensate pump may be needed. A condensate pump kit is available for model 15SFU-1.

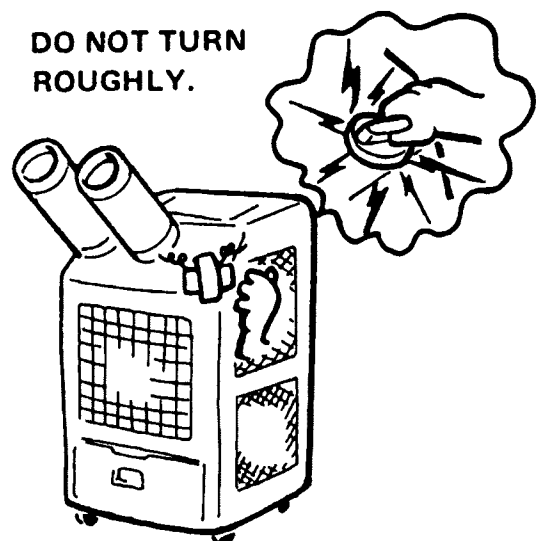
Condensate Pump Model CU-40-2

5. OPERATING SAFEGUARDS

- 1) Once the unit has been switched off, wait three minutes before restarting the unit. (15SFU only)

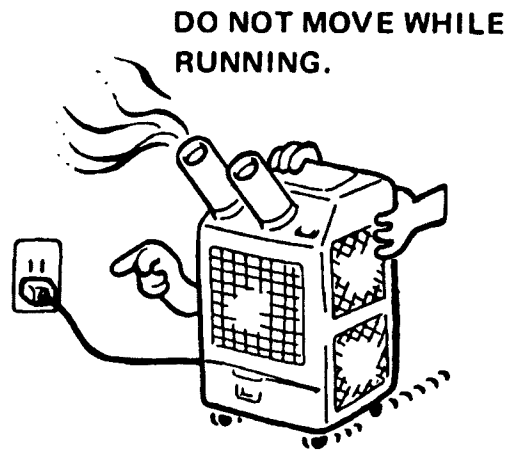


- 2) Do not turn the switch roughly or unnecessarily.

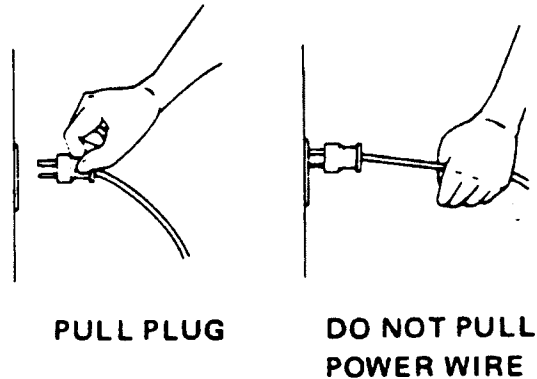


- 3) Do not move the unit while the fan or cooler is running.

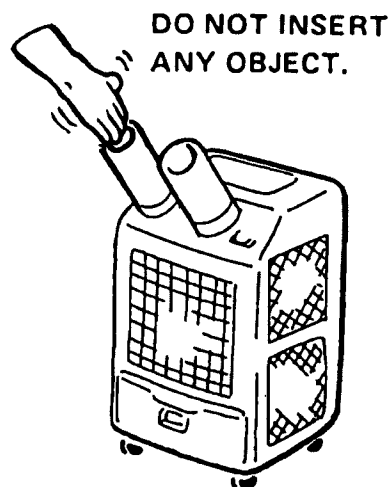
※15SFU-1 does not need waiting time.



- 4) Connect the power cable firmly into the socket. Disconnect the power cable by pulling the plug, not on wire. Connect plug to the proper power source: 208/230 volts.

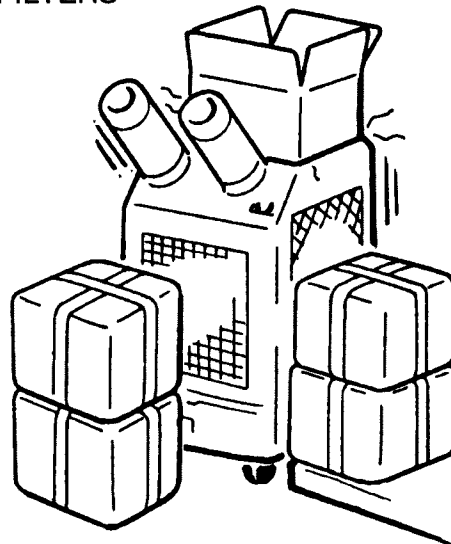


- 5) Do not insert your hand or any other object into the ducts. Close supervision is necessary when the unit is used near children and pets.



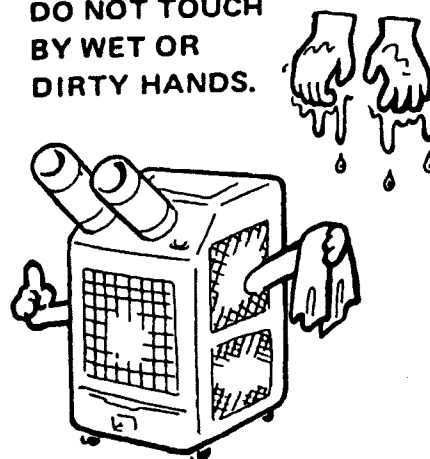
6) Do not block the air filters.

**DO NOT BLOCK
AIR FILTERS**



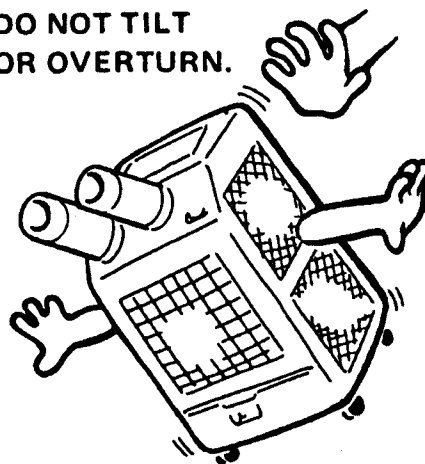
7) Do not touch the unit with wet or dirty hands.

**DO NOT TOUCH
BY WET OR
DIRTY HANDS.**

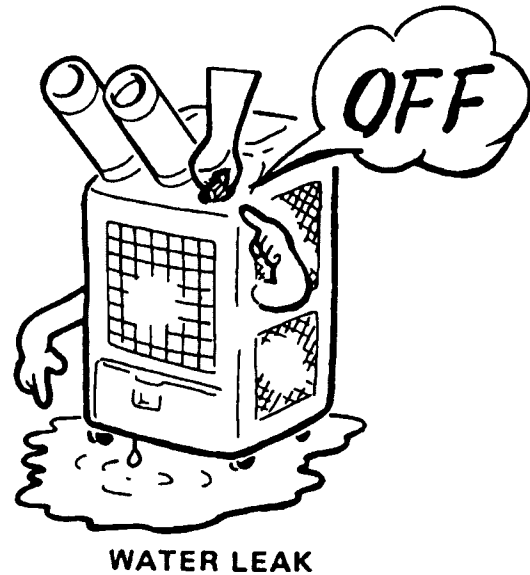


8) Do not tilt or overturn the cooler.
Never put anything on top of the unit.

**DO NOT TILT
OR OVERTURN.**



- 9) If water should leak from the unit, turn the switch to the OFF position, and drain the water from the tank.



6. INSPECTION AND CARE OF THE UNIT

Read the following instructions on the care and inspection of the unit carefully to help insure the utmost in cooling comfort.

Care of unit includes the following:

Daily inspection

In-season inspection — Should be carried out before putting the unit into use.

Off-season inspection — Unit should be completely checked out before storing away.

6-1. Daily and In-season inspection

A. Check air filters

At least once a week or every two or three days, remove the air filters and check them. If they are dirty, wash them as described below.

- i) Remove the filters.
- ii) Remove the filter element.
- iii) Submerge the filter element in cool or lukewarm water. Swirl the filter around to clean it.

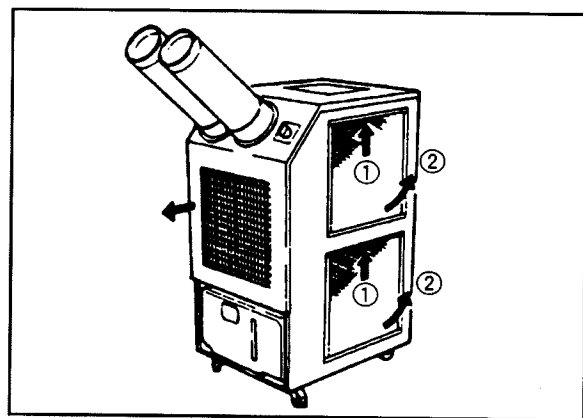


Fig. 6-1. Removal of air filters

If the element is exceptionally dirty, soak 10 to 15 minutes in soapy water.

Clean the element as described above, and rinse well in clear water. Let the element dry before using it.

Avoid the use of solvents such as gasoline or thinner to clean the filter element.

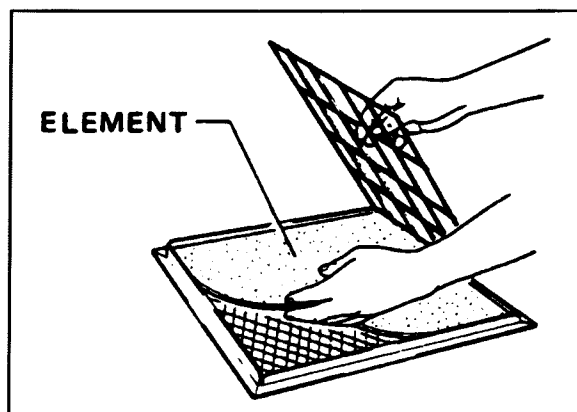


Fig. 6-2. Removal of filler element

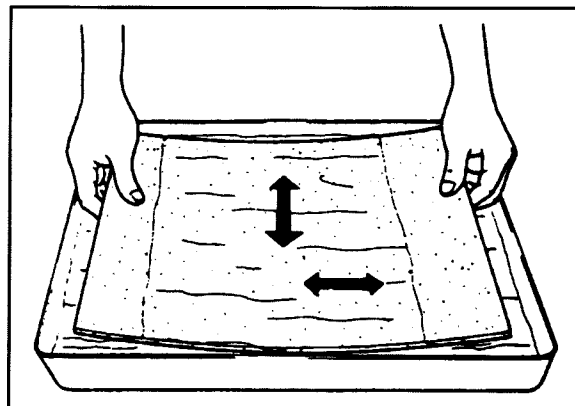


Fig. 6-3. Cleaning of filler element

B. Drain tank check

Every six hours drain the water that has collected in the unit's drain tank.

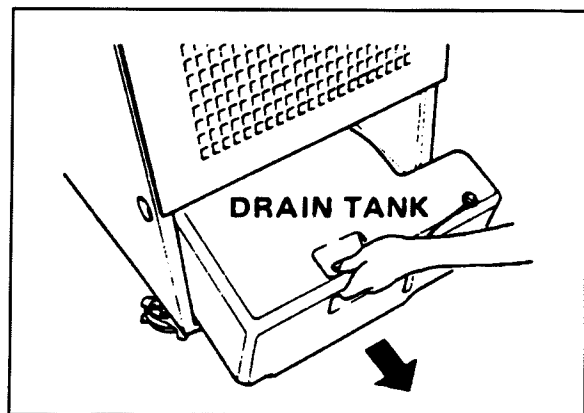


Fig. 6-4. Removing drain tank

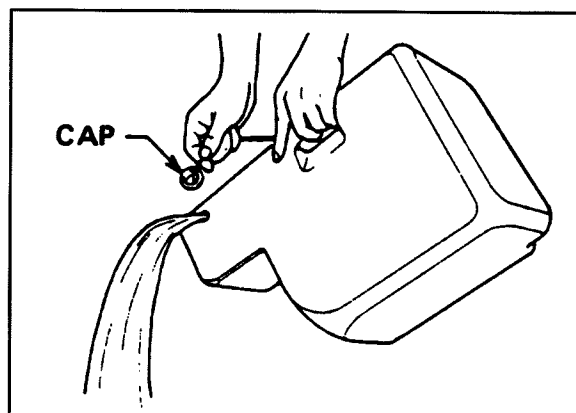


Fig. 6-5. Draining water

C. Abnormal noises, shaking

Please contact with repair shop if the unit is shaking or making abnormal noises in operation.

OFF-season inspection

A. Check air fillers

Check the air filters as described above.

B. Drying the unit

On a dry day turn the switch to FAN, and run the fan for about eight hours to completely evaporate any water within the unit. When the Unit is dry, cut the switch, remove the power cord, and store away for the next season.

7. HINTS FOR ENJOYING THE SPOT COOLING STSTEM

In contrast to most conventional coolers, which circulate cool air to the entire environment, this unit is designed for cooling particular areas or objects.

To cool the areas desired simply turn the cooling air ducts in that direction. The unit is particularly effective for providing spot cooling for workers with large open spaces.

8. IN CASE OF TROUBLE

In the case of “no air movement” or “insufficient cooling”, follow the inspection points listed below. If nothing out of the ordinary can be found, consult your dealer. Also, consult your dealer if any other problems occur with your unit such as abnormal noise or shaking.

- 1) Is there some hidden heat source in the room?

If so, remove or block it.

- 2) Are direct rays of sunlight entering the room?

If so, obstruct the rays by pulling the blinds or curtains.

- 3) Are the air filters blocked?

If so, clean them out.

CAUTION

Because there is a built-in delay circuit to protect the compressor, the compressor will never start up immediately, regardless of the type of operation. These delays are part of the normal operation of model 15SFU, and should not be diagnosed as malfunctions.

9. SPECIFICATIONS

Item \ Model	15SFU	15SFU-1
[Rating Condition] (Inlet air)	DB 35°C (95°F), 60%RH (WB 28.2°C (83°F))	DB 35°C (95°F), 60%RH (WB 28.2°C (83°F))
[Features] Power frequency (Hz) Line voltage (Volts) Power consumption (kw) Current consumption (Amp) Power factor (%) Starting current (Amp) Power wiring (AWG)	60 Single phase 208 / 230 2.1 / 2.1 10.8 / 10.0 93 / 91 38 / 40 14 (3-core)	60 Single phase 208 / 230 2.1 / 2.1 10.8 / 10.0 93 / 91 38 / 40 14 (3-core)
[Cooling Unit] Cooling capability (kcal/h) (Btu/h) Cooling system	4540 18000 Direct expansion	4540 18000 Direct expansion
[Blower] Type of fan Air volume (m ³ /h) (ft ³ /min) Motor output (kw)	Centrifugal fan 880 / 900 518 / 530 0.35	Centrifugal fan 880 / 900 518 / 530 0.35
[Compressor] Type Output (kw) Refrigerant Packed amount of (kg) refrigerant (lbs)	Hermetically sealed rotary type 1.10 R-22 0.72 1.59	Hermetically sealed rotary type 1.10 R-22 0.72 1.59
[Safety Device] Compressor overload relay Fan motor protector Drain warning switch Anti-freezing thermostat High pressure switch Restart relay for power interruption Time delay relay	With With With With With Without Without	With With With With With With With
[Control Device] Temperature control	Without	With
[Dimensions and Weight] W x D x H (mm) (inch) Weight (kg) (lbs)	490 x 670 x 1045 19.3 x 26.4 x 41.1 76 167	490 x 670 x 1045 19.3 x 26.4 x 41.1 76 167
[Operating Conditions] (Inlet air) MAX. MIN.	40°C (104°F), 50%RH 25°C (77°F), 50%RH	40°C (104°F), 50%RH 25°C (77°F), 50%RH



MEMO



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NIPPONDENSO CO.,LTD.

OVERSEAS SERVICE DEPARTMENT

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