

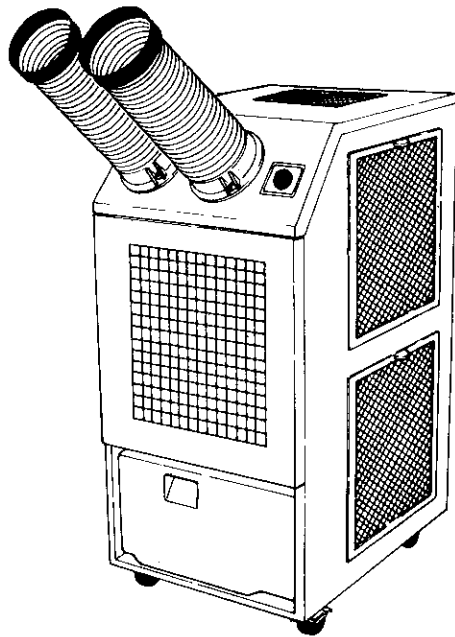
MOVINCOOL®
Spot Cooling Systems

**INSTRUCTION
MANUAL**

**MODEL : 15SFE
15SFE-1**



Utilizes HFC Refrigerant



ENGLISH
NEDERLANDS
DEUTSCH
FRANÇAIS
ESPAÑOL
ITALIANO

MOVINCOOL®

Spot Cooling Systems

INSTRUCTION MANUAL
MODEL : 15SFE, 15SFE-1

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PREFACE

This MovinCool spot cooling system has been manufactured according the highest Japanese quality and safety standards. The unit complies with the European standards for safety as well and carries the CE mark.

Read this manual before installing and using this MovinCool spot cooling system. We advise that you keep the manual in your possession for future reference.

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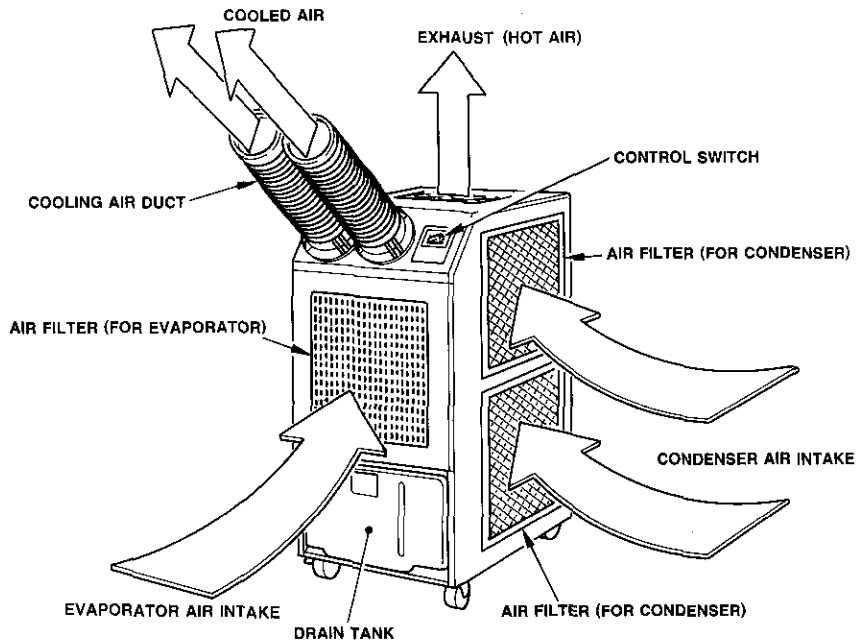
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1997 DENSO CORPORATION

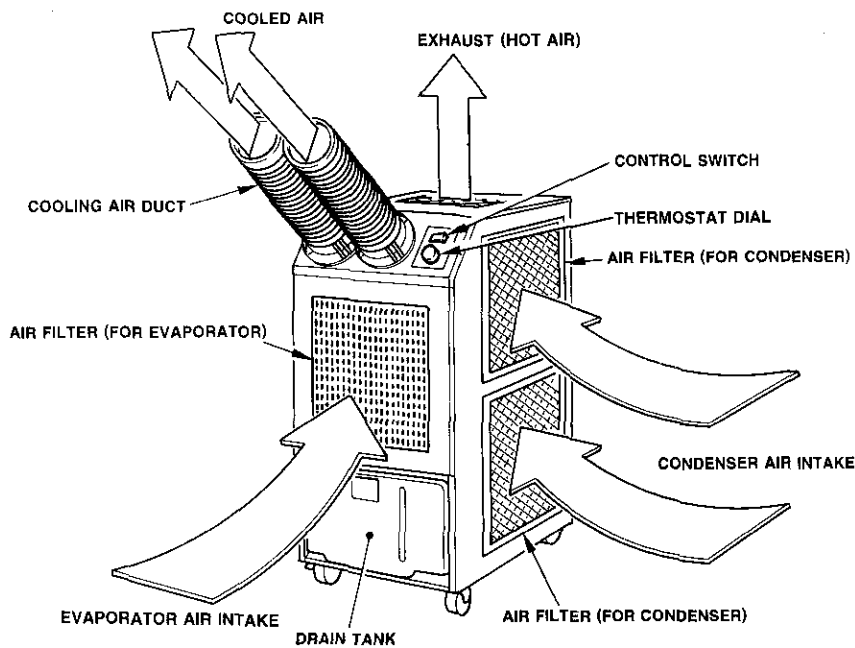
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PART NAMES

[15SFE]



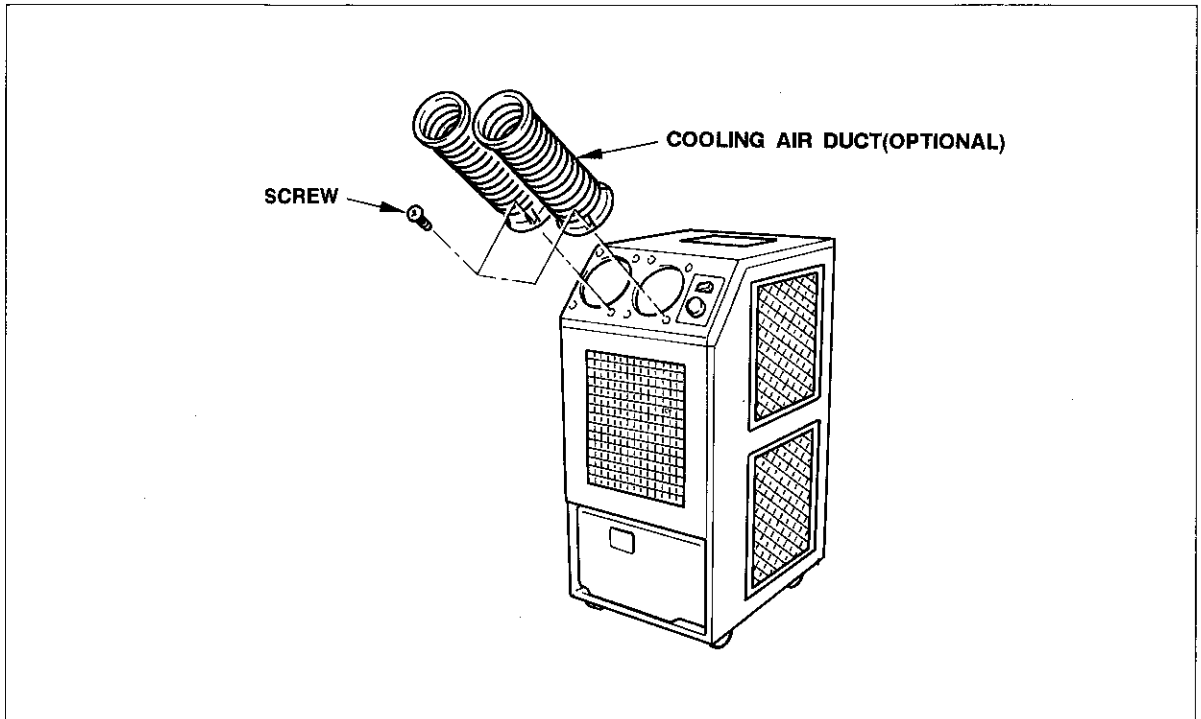
[15SFE-1]



ASSEMBLY

Cooling air duct

Install the two cooling air duct prior to operation, using the eight screws to tighten the ducts.



Power cord connection

Do not use an extension lead with this unit.

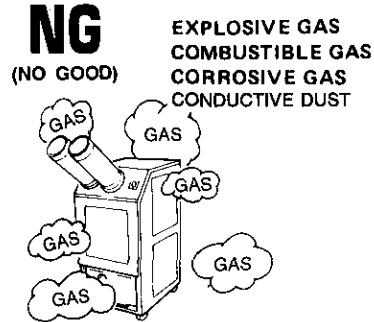
IMPORTANT SAFETY PRECAUTIONS

1

Do not operate the unit in the following areas

- (1) Areas containing explosive gas.
- (2) Areas containing combustible gas.
- (3) Areas containing corrosive gas.
- (4) Areas containing conductive dust.

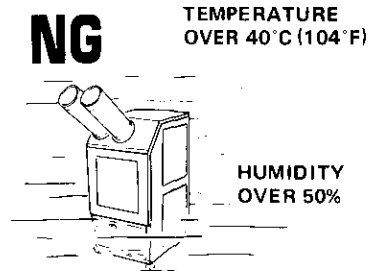
Otherwise it will cause the electrical problems.
And this Spot Cooler is not explosion proof.



2

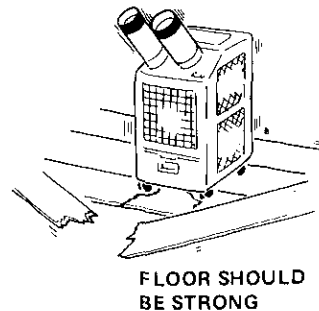
Environmental conditions during operation

The temperature range should be between 20°C (68°F) and 40°C (104°F) with a relative humidity of 50% or less. If the unit is used in an area where this temperature and humidity range is exceeded, the protection device may activate. For example, the unit might stop running or the compressor might not function correctly.



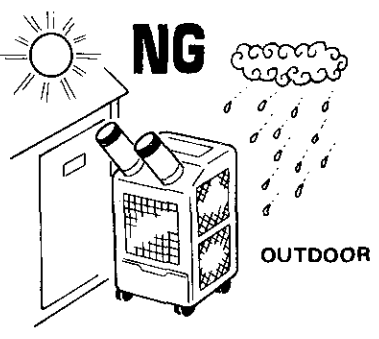
3

Make sure the unit is placed securely on a flat, stable foundation free from vibrations. The floor should be strong enough to support the weight of the unit.



4

This unit should be used indoors only. Do not place it in areas exposed to rain, direct sunlight or splashing liquid. If water or liquid enters the unit, it may affect the insulation, resulting in electrical failure.



5

Do not use this unit for any application other than cooling and or air circulation.

PRECAUTIONS FOR USE

Operating precautions

1

The air filters should be installed before the unit is activated. This will prevent the entry of dirt into the Spot Cooler, and a subsequent reduction in cooling efficiency, or even failure.

2

[15SFE]

When the machine is switched off, a 3-minute delay period should be observed. Turning the unit on before this time has elapsed may cause the circuit breaker to activate. Turn the control switch to 0/OFF after a power failure. When the power is restored, restart the unit.

[15SFE-1]

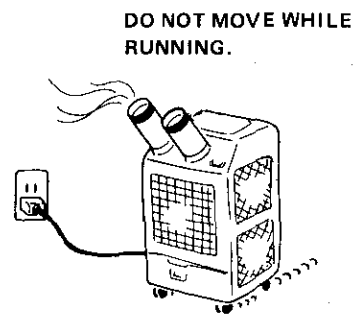
For protection purposes, a built-in relay circuit will prevent initial operation of the compressor. These delays are part of the normal operation of model 15SFE-1, and should not be diagnosed as malfunction. The unit will restart itself after a power failure.

3

If any abnormal conditions are observed during operation, such as excessive vibration, noise, or burning smells, switch the unit off at the main power supply immediately and contact your dealer.

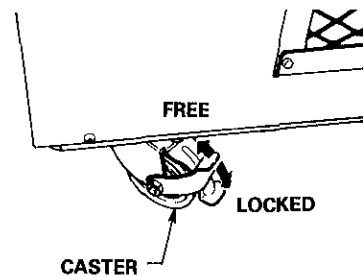
4

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



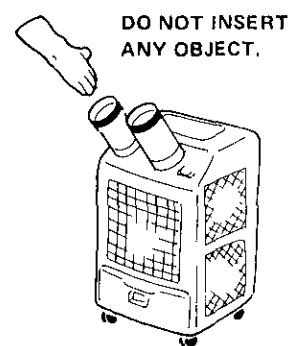
5

Casters should be locked at all times, other than when moving the unit.



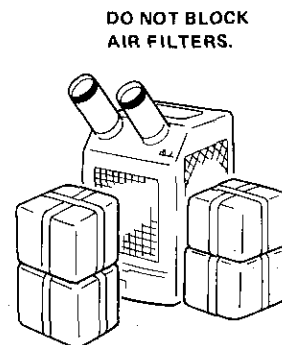
6

Do not insert your hands or other objects into the air outlets. Touching the rotating fan is very hazardous. Caution should be taken when using the unit near children or pets.



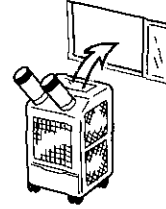
7

Do not obstruct the air inlets or outlets, as restricted air flow will reduce cooling performance and possibly activate the protection cut-off device.



8

This cooler is a Spot Cooler; In enclosed spaces it is recommended to use ducting to discharge the condenser (warm exhaust) air via a window or door etc.

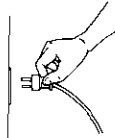


9

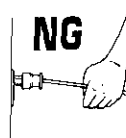
Always use wire filters in areas where sparking may occur and cover the power cord with a non-flammable protection cover.

10

Do not remove the plug from the socket by pulling the cord. Hold the plug when connecting or disconnecting the power supply.



PULL PLUG

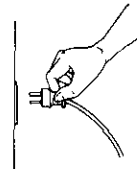


DO NOT PULL
POWER CORD

Maintenance precautions

1

Remove the plug from the socket before attempting inspection or maintenance work.



PULL PLUG

2

To avoid electrical shock or leakage, do not clean the Spot Cooler by pouring water directly on to electrical components.



Attention

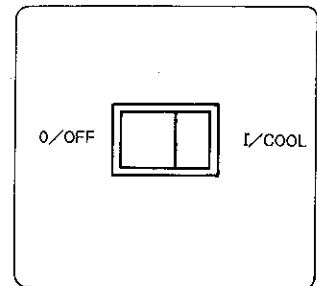
Do not forget to attach the adhesive caution plate (supplied separately) to the unit, where it can be seen when the unit is in operation.

INSTRUCTIONS FOR USE

Control switch 15SFE/15SFE-1

The unit can be operated by turning the control switch to the required position.

1. In position I/COOL the compressor is activated as well and the cooling operation will start.
2. Turn the control switch to 0/OFF position to switch the unit off.



Additional information 15SFE-1

1. Compressor protection

There is a time delay circuit included in the electrical system to prevent a heavy load from being applied on the compressor. This delay is activated any time when the compressor is activated (by turning the control or thermostat switch, thermostatic control, or resumption of power after a power interruption). The delay time is 75 ± 15 seconds.

2. Automatic restart after power interruption

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 time delay circuit (see previous paragraph).

3. Temperature control

The compressor is controlled by a 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.



Thermostat Dial Setting		1	2	3	4	5	6
Return Air Temperature (Approx.)	°C	32	29	27	24	21	18
	°F	90	85	80	75	70	64

Note

When the unit is operated continuously at maximum cooling capacity (dial set to 5 or more), the compressor will occasionally stop to avoid freezing of the evaporator.

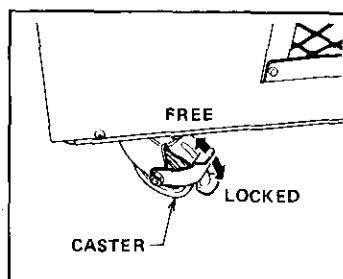
When moving the unit

Before moving the unit, make sure as follows.

- (1) switch off
- (2) remove plug from socket
- (3) unlock the casters

Note

After moving, be sure to lock the casters.



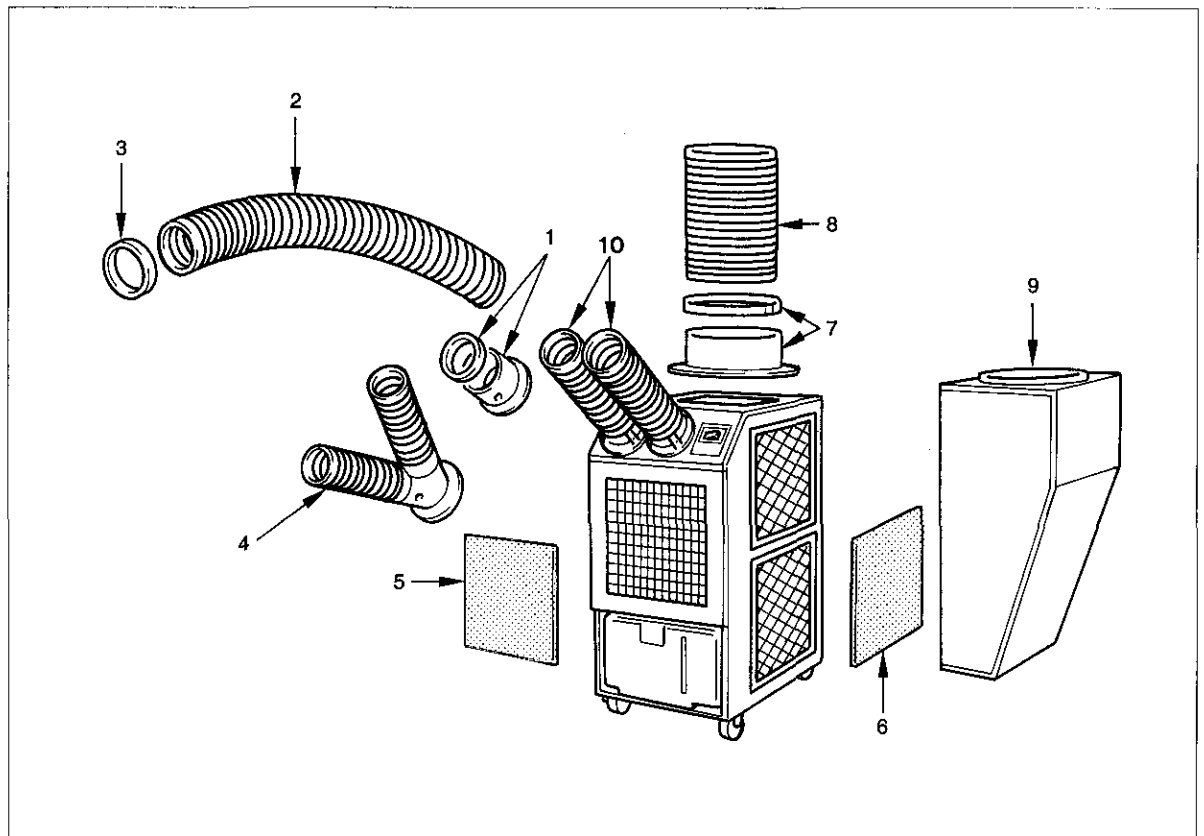
APPLICATION AND ACCESSORIES

Most conventional airconditioning systems cool the entire area. MovinCool spot cooling systems, however, produce a powerful stream of refrigerated air, which can be focussed directly on the "hot spot", ignoring the surrounding area. Just aim the cold head ducts on the spot to be cooled and switch the unit on.

In order to enhance the number of applications, various accessories are available separately. They are listed below:

ACCESSORIES 15SFE / 15SFE-1

No.	Description	Part number
1	Flange assy, \varnothing 135 mm	481170-0180
2	Extension duct \varnothing 125 mm ivory	481744-0090
3	Trim ring \varnothing 125 mm soft	481851-0120
4	Two way duct	484209-0030
5	Filter, evaporator (Wire filter)	484401-0330
6	Filter, condenser (Wire filter)	484401-0330
7	Flange assy, \varnothing 300 mm	481170-0190
8	Extension duct \varnothing 300 mm	481744-0060
9	Make-up air plenum kit	ND9110-0001
10	Cooling air duct	484209-0190



INSPECTION AND MAINTENANCE

Cleaning the air filter: why?

If a filter is clogged with a substantial amount of dust, air ventilation will be impaired, as will the outlet flow rate and cooling performance. Moreover, the compressor might be adversely affected. Remove the air filter and wash it once a week under normal circumstances, or, when the unit is used in a dusty environment, a few times a week.

1

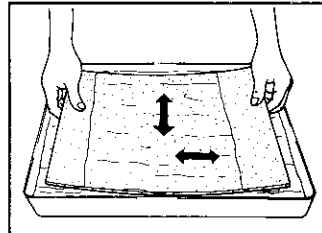
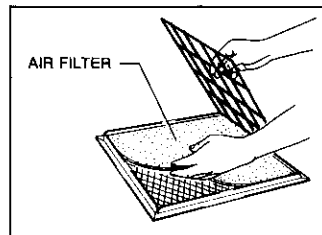
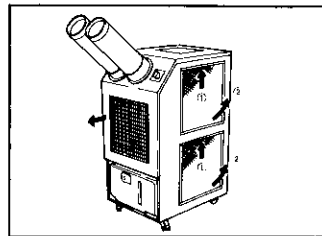
Removing and washing the air filter

(1) Removing an air filter

Lift the handle of the air filter with one hand and pull the bottom part towards you with the other. Follow the reverse procedure to install it. The filter in the front panel can be removed by loosening the two screws. Pull the panel towards you and lift it out of its holders.

(2) Washing the air filter

Use a vacuum cleaner to vacuum the dust from the air filter or rinse it with cold or lukewarm water. If the filter is extremely dirty, use a neutral detergent to wash it. Afterwards rinse it well with clean water and dry it before re-installing. Do not use organic solvents such as trichlene, gasoline, or thinners.



2

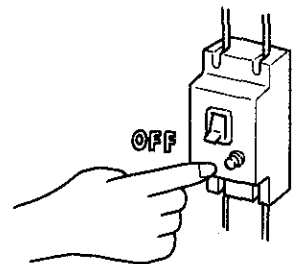
Cleaning the external panels

Wipe off dirt with a soft cloth. If it is extremely dirty, use a cloth with a neutral detergent for cleaning. Then wipe off and dry it using a dry cloth afterwards. Do not use organic solvents such as trichlene, gasoline, or thinners.



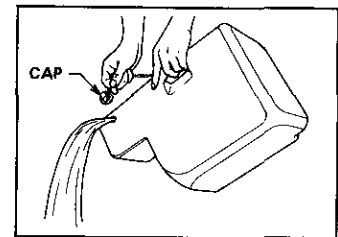
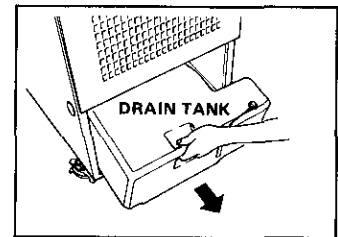
3**Inspection of circuit breaker operation**

The circuit breaker should be tested at least once a month. Make sure it operates correctly by pressing the button.

**4****Drain tank check**

How long it will take until the drain tank is full depends very much on the humidity in the air. Although the unit is provided with an overflow switch we advise to check the unit every six hours on a humid day.

When the tank is full, empty it. Do not forget to switch the unit off and wait for 3 minutes before you switch the unit on. Model 15SFE-1 can be switched on immediately. However, the time delay will protect the compressor from being damaged.

**5****Abnormal noises, shaking**

The unit should not shake or make abnormal noises while it is in operation.

SEASONAL INSPECTION

Inspection at the start of the season

The cooling ability of the Spot Cooler during the season will depend upon the condition of the unit at the start. Inspection and maintenance should be conducted properly and carefully.

1

Inspection of the drain pipe

Check if the drain pipe is blocked. Run water through the drain pipe and make sure it runs smoothly.

2

Inspection of the electrical wiring

As with all electrical devices, ensure that the plug is removed from the mains power supply, before inspection. Check if the wires of the connection terminals inside the control box are not loose. Special care should be taken for the terminals listed below.

- Terminals through which a large current is running
- Earth terminal

Inspect both the earth terminal and the power supply cord carefully, as they might have been disconnected during the off-season.

3

Inspection of the circuit breaker

Press the inspection button and make sure it operates. (Refer to page 13)

4

Inspection of abnormal sound and vibration

Check for abnormal sound or vibration, as well as for missing or loose nuts. It is possible, shortly after the unit has been stopped or started, that you can hear the sound of liquid moving inside the unit. This sound is no cause for concern as it is the coolant moving inside the unit.

5

Inspection of the air filters

Determine if the air filters are clogged. If this is the case they should be cleaned with water. For instructions regarding the removal and washing of the air filter, refer to "Inspection and Maintenance".

Inspection at the end of the season

1

Turn off the power supply.

2

Re-install the air filters after cleaning. (Refer to page 12)

3

Empty the drain tank. (Refer to page 13)

4

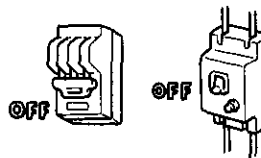
Store the unit for the next season, in a clean and dry environment.

PRIOR TO REQUESTING REPAIR

This Spot Cooler is manufactured under strict quality control. If, however, during operation an abnormality occurs check the following items.

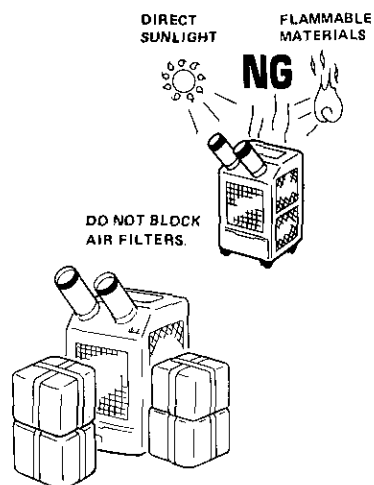
When the unit is not working:

- 1 - Check if the power is on.
- 2 - Check if the fuse has blown.
If the fuse blows again after replacement ,
repairs may be necessary.
In this case, contact your dealer.



When the cooling ability is insufficient:

- 1 - Is there a hidden heat source near the unit?
➔ Remove the heat source.
- 2 - Is the unit standing in direct sunlight?
➔ Use blinds or curtains to obstruct the direct sunlight.
- 3 - Is the air filter clogged?
➔ Clean the air filter.
- 4 - Are there any obstacles obstructing the air inlet or outlet?
➔ Remove the obstacles.

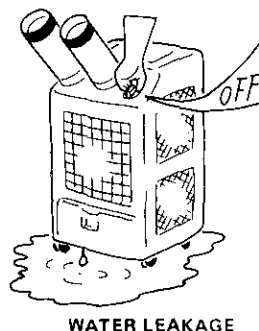


If the problem persists after checking all the items mentioned above, switch the unit off, disconnect the power cord and contact your dealer.

When water leaks from the unit:

Switch the unit off and empty the drain tank.

Before putting the drain tank into position check the overflow switch. Switch the unit on and push the plate on which the drain tank is normally located downwards. If the unit does not stop contact your dealer. If the unit stops, follow the normal procedure after emptying the tank.



SPECIFICATIONS

Item	Unit	15SFE	15SFE-1
[Rating Condition] Temperature DB Temperature WB Relative humidity	°C (°F) °C (°F) %	35°C (95°F) 28.2°C (83°F) 60	35°C (95°F) 28.2°C (83°F) 60
[Features] Power frequency Line Voltage Power consumption Current consumption Power factor Starting current Power wiring	Hz V kW Amp % Amp mm ²	50 Single phase 230 1.7 8.2 90 32 1.00	50 Single phase 230 1.7 8.2 90 32 1.00
[Cooling Unit] Cooling capability Cooling system	kcal/h Btu/h kW	3800 15200 4.4 Direct expansion	3800 15200 4.4 Direct expansion
[Blower] Type of fan Air volume evaporator Air volume condenser Motor output	- m ³ /h ft ³ /min m ³ /h ft ³ /min kW	Centrifugal fan 800 470 1500 881 0.35	Centrifugal fan 800 470 1500 881 0.35
[Compressor] Type Output Refrigerant Packed amount of refrigerant	- kW - kg lbs	Hermetically sealed rotary type 1.1 R407C 0.74 1.6	Hermetically sealed rotary type 1.1 R407C 0.74 1.6
[Safety Devices] Compressor overload relay Fan motor protector Drain warning switch Anti-freezing thermostat Restart relay Time delay relay	- - - - - -	with with with with without without	with with with with with with
[Control Device] Temperature control	-	without	with
[Dimensions and Weight] W x D x H Weight	mm inch kg lbs	490 x 670 x 1045 19.3 x 26.4 x 41.1 76 168	490x670x1045 19.3x26.4x41.1 76 168
[Sound level] distance 1 m	dB(A)	64	64
[Operating conditions] Intake air temperature range (Relative humidity 50%)	min. max.	20°C (68°F) 40°C (104°F)	20°C (68°F) 40°C (104°F)