

USER MANUAL

CONCEALED FAN COILS

SF-xxDS
SF-xxDT



“Original instructions”

User Notice

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

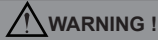
This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.



Contents

| | |
|-----------------------------------|---|
| 1 APPLICATION SCOPE..... | 1 |
| 2 INSTALLATION INSTRUCTIONS | 1 |
| 3 OPERATION INSTRUCTIONS..... | 4 |
| 4 MAINTENANCE | 4 |
| 5 TROUBLESHOOTING | 5 |



WARNING !

- | |
|---|
| ① . All installation and commissioning shall be performed by the qualified serviceman in accordance with instructions covered in the manual, otherwise it would cause water leakage, electric shock or fire hazard etc. |
| ② . The unit shall be wired as per the wiring diagram, otherwise the electric motor would be burned out. |
| ③ . The unit shall be grounded reliability to avoid hurt on the human body or damage on property due to poor insulation. |

1 APPLICATION SCOPE

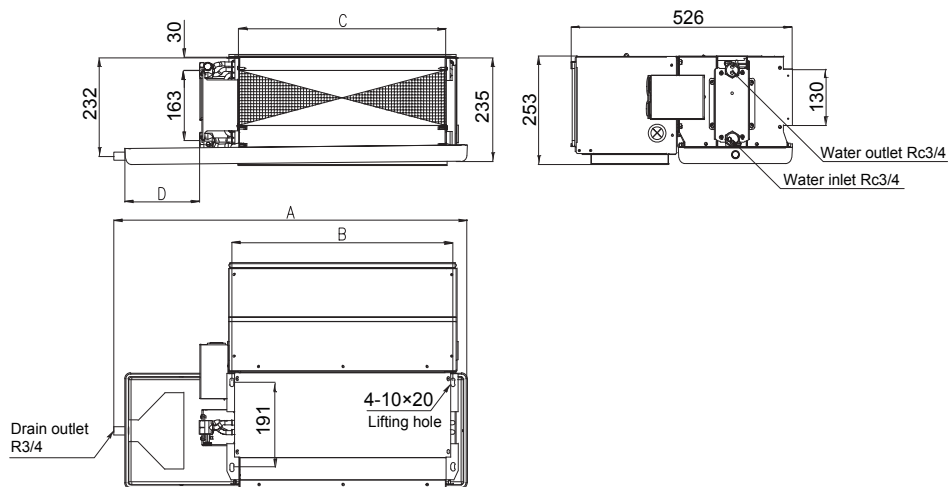
- (1) The entering water temperature for cooling shall not be lower than 5°C, otherwise it would cause sweating on the surface of the unit. The entering water temperature for heating shall not be higher than 80°C(60°C), otherwise it would corrode the copper tube .
- (2) The range of the ambient temperature for cooling shall be 16-40°C and be 10-35°C for heating. The relative humidity shall be or less than 95%.
- (3) The unit is categorized into the comfort air conditioning unit and shall not be installed where there is corrosive, inflammable gas or smog (like, kitchen), otherwise the unit would fail to operate properly and the service life would be shortened.

2 INSTALLATION INSTRUCTIONS

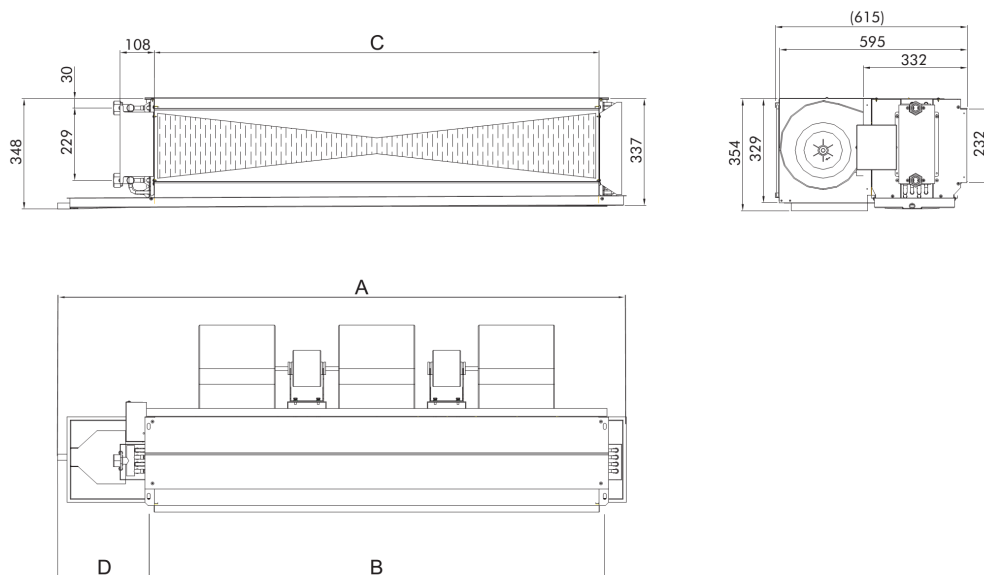
- (1) The unit shall be installed by the skilled servicemen who have well knowledge of this product and also the local laws and regulations.
- (2) See the figures below for installation dimensions. (Unit: mm)

Concealed Ceiling Type Fan Coil Unit

SF-34D* - SF-204D*



SF-238D* - SF-340D*

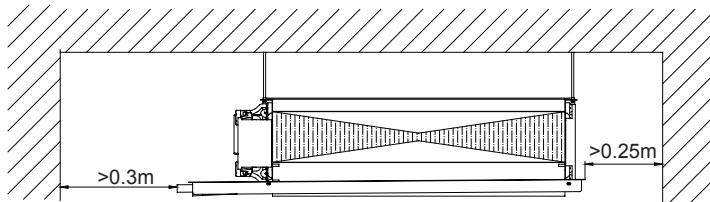


"*" stands for version S (2-pipe version) or T (4-pipe version)

| | A | B | C | D | | A | B | C | D |
|---------|------|-----|-----|-----|----------|------|------|------|-----|
| SF-34D* | 838 | 526 | 490 | 175 | SF-102D* | 1328 | 1016 | 980 | 175 |
| SF-51D* | 968 | 656 | 620 | 175 | SF-136D* | 1718 | 1436 | 1400 | 115 |
| SF-68D* | 1088 | 776 | 740 | 175 | SF-170D* | 1878 | 1536 | 1500 | 175 |
| SF-85D* | 1168 | 856 | 820 | 175 | SF-204D* | 1878 | 1536 | 1500 | 175 |

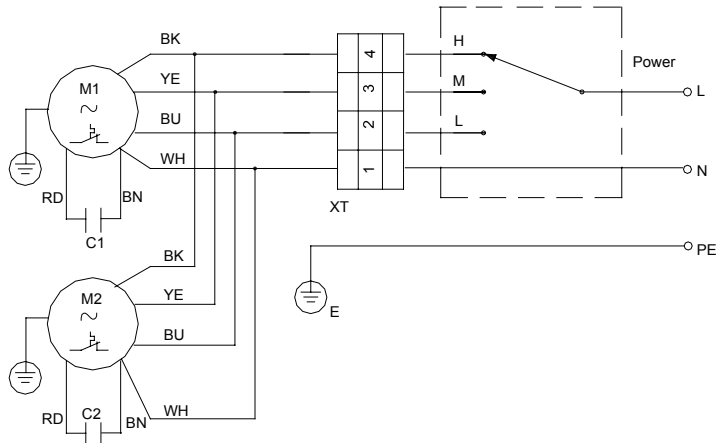
| | A | B | C | D | | | | | |
|----------|------|------|------|-----|--|--|--|--|--|
| SF-238D* | 1541 | 1286 | 1250 | 180 | | | | | |
| SF-272D* | 1541 | 1286 | 1250 | 180 | | | | | |
| SF-306D* | 1791 | 1536 | 1500 | 180 | | | | | |
| SF-340D* | 1791 | 1536 | 1500 | 180 | | | | | |

- (3) The unit shall be installed securely. When installing hanger bolts, be sure they are capable of withstanding 4 times the weight of the unit. If unsure, they shall be reinforced. The weight of the unit is specified on the nameplate.
- (4) Enough service space shall be left around the unit as shown in the figure below.



- (5) The drain pan shall tilt toward the drain outlet with a desired downward slope. Hanger bolts are only intended to bear the weight of the unit other than the outside force of the duct, water pipe and others.
- (6) The length of the duct shall be compatible with the rated static pressure, otherwise the unit would fail to run properly. The inlet and outlet of the duct shall be attached with flexible connections.
- (7) Water pipes shall be cleaned up prior to installation, and the outlet shall be equipped with a filter to prevent valves from being clogged by foreign matters.
- (8) The unit shall be protected again dust during installation.
- (9) A filter shall be installed at the return air inlet and be cleaned frequently to guarantee the expected heat exchange efficiency.
- (10) The duct shall comply with requirements stated below.
 - 1) The duct shall be designed and installed as per the applicable local standards.
 - 2) The duct shall be designed so that its sectional area won't change suddenly and the air direction won't change at the outlet.
 - 3) The duct shall be insulated reliably to prevent sweating under the cooling operation.
- (11) Water pipes shall comply with requirements stated below.
- (12) The drain pipe and inlet/outlet pipe shall be with the standard threaded pipe fittings. Water pipes shall be installed as per applicable local standards. During installation, do not over-tighten the pipe fittings to avoid any damage on the header and connections of the coil.
 - 1) The inlet/outlet pipe shall be installed in accordance with the applicable labels and equipped with the quakeproof flexible connections and movable joints, as well as

- suitable filters to prevent the heat exchanger from scaling which then would lower the heat exchange efficiency.
- 2) The inlet/outlet pipe shall be equipped with valves to control and cut off the water flow. The weight of water pipes shall not be withstood by the main unit.
 - 3) The inlet/outlet pipe, drain pipe and valves shall be insulated to prevent sweating under the cooling operation in summer.
 - 4) The condensate drain pipe should be installed downward with a slope larger than 5% to facilitate drainage.
 - 5) Do not drag and pull water pipes forcibly and seal them with Teflon tape to avoid water leakage.
- (13) Be sure the power supply coincides with that specified on the nameplate and is cut off prior to electric installation. Electric wiring shall be performed in accordance with the electric wiring diagram as shown the figure below and the unit shall be grounded reliably.



Note: Some units are equipped with only one motor.



WARNING !

All wiring and piping shall be performed by the skilled servicemen.

3 OPERATION INSTRUCTIONS

- (1) For the initial operation, open the release valve of the return water pipe to expel air inside the coil until water flows out, and then close the release valve.
- (2) Before startup, clean away foreign matters in the coil, volute casing of the fan and around the unit.
- (3) Before the initial operation, rotate fan blades by hand to see if there is friction between fan blades and the volute casing.
- (4) Be sure the power supply is wired properly before startup.
- (5) All hot and cold water shall be softened.

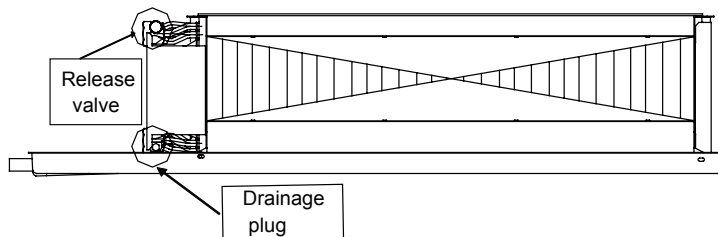
4 MAINTENANCE

- (1) The filter shall be cleaned in accordance with the actual working environment. It is strongly recommend to clean the filter once every two month and clean pipes once every two years.
- (2) Overall maintenance shall be performed every 2~3 year, including cleaning away the scale on the inner surface of the coil with chemical agent to guarantee expected heat exchange efficiency.
- (3) When the unit is not to be used for a long period in winter, in order to prevent the pipeline from being frozen up, it is required to drain the water system by opening the drainage plug which is located at the same side with the outlet of the drain pan.. Detailed steps are:

Step 1: Open the release valve.

Step 2: Loosen anticlockwise the drainage plug to drain the water system.

Step 3: After that, tighten the drainage plug and close the release valve.



- (4) Routine maintenance shall be performed, including cleaning foreign matters in the drain pan, cleaning the main unit, and checking if the motor and the main unit are attached securely.

5 TROUBLESHOOTING

| No. | Faults | Possible Causes | Solutions |
|-----|---|--|--|
| 1 | The unit failed to run | There was no power supply or the power supply was switched off. | Provide a power supply or switch on the power supply. |
| | | The plug of the power supply was not placed properly. | Place the plug properly. |
| | | The motor was burnt out. | Replace the motor and check the wiring. |
| 2 | The unit generated unusual sound. | The volute casing or the fan blades deformed or there was friction between them. | Replace the volute casing or the fan blades. |
| | | The filter was clogged or tipped over | Clean the filter |
| | | The motor ran with unusual sound. | Replace the motor |
| | | Setscrews of the motor were loosened. | Tighten setscrews. |
| 3 | The air flow was insufficient | The filter was clogged. | Clean the filter |
| | | The return air inlet or air outlet was clogged. | Clean way foreign matters. |
| | | The resistance of the duct was beyond the designed value. | Lower the resistance of the duct or reselect the unit model. |
| 4 | The unit failed to perform cooling or heating | The filter was clogged. | Clean the filter. |
| | | Valves were not opened. | Open valves. |
| | | Fins were clogged. | Clean or repair fins. |
| | | Entering water temperature for cooling was too high or was too low for heating. | Regulate the entering water temperature. |
| 5 | Water leaked | The drain pipe was clogged. | Clean the drain pipe. |
| | | The unit was not installed as required. | Adjust the location of the unit to let the drain pan tilt toward the drain outlet with a desired downward slope. |
| | | The relative humidity was too high. | Lower the relative humidity and prevent hi-temperature moist air from entering. |
| | | The fan stopped but the water inlet valve was not closed. | Close the water valve or start the unit. |
| | | The release valve was not closed tightly. | Close the release valve. |

NOTE CONCERNING PROTECTION OF ENVIRONMENT



This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

PRODUCER

SINCLAIR CORPORATION Ltd.
1-4 Argyll St.
London W1F 7LD
Great Britain

www.sinclair-world.com

This product was manufactured in China (Made in China).

REPRESENTATIVE, TECHNICAL SUPPORT

NEPA spol. s r.o.
Purkyňova 45
612 00 Brno
Czech republic

Tel.: +420 541 590 140
Fax: +420 541 590 124

www.sinclair-solutions.com
info@sinclair-solutions.com

