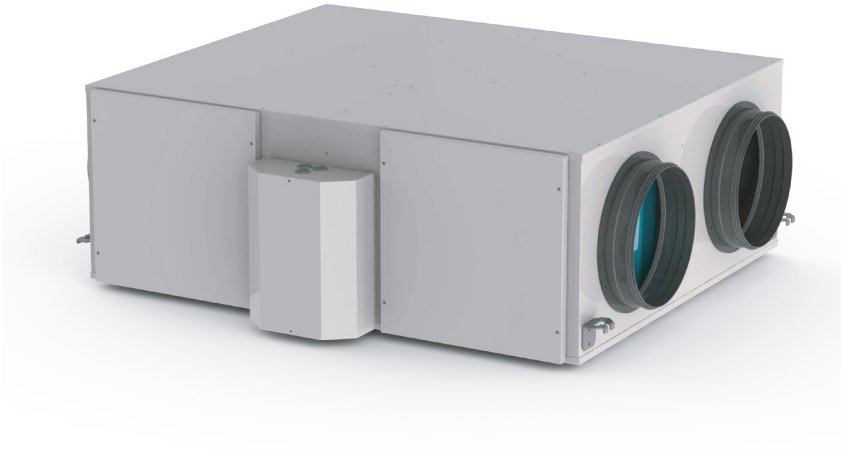
JRH74

400 EC; 800; 1000; 1500; 2000; 2500; 3000; 4000; 5000; 6000 EC;



Assembly & Maintenance Guide

CE

EN

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INTRODUCTION

Installation&Operation Manual has been prepared and given to customer as a guide for easy installation&operation of Jakka units. The manual contains description of the unit, components and basic informations and recommendations for proper and fail free operation. Please read the instructions and warnings given in this manual before starting installation, operation and maintenance works and keep this manual near the unit, within easy reach of service personnel.

Any damage, failure or hazard occurred because of use except this purpose is beyond the responsibility of manufacturer.

For technical service and questions, please contact with following information.

+381 11 2600 901

www.jakkagroup.com

jakkagroup@jakkagroup.com

PROHIBITED

- This unit has to be used under proper conditions according to its technical specification and design purpose. (Otherwise responsibility belongs to practitioner)
- Unauthorized personnel must not interfere in unit and/or must not use unoriginal spare parts. (Otherwise responsibility of failure that may occur belongs to practitioner)
- Do not install this product in a refrigerated warehouse, heated swimming pool or other location where temperature and humidity are significantly different. (Failure to heed this warning may result in electrical shock or malfunctioning.)
- Do not install this product where it will be directly exposed to rain. (Failure to heed this warning may result in electrical shock or malfunctioning.)
- Do not install this product in a location where acid, alkali or organic solvent vapors, paints or other toxic gases, gases containing corrosive components or high concentrations of oily smoke are present (Failure to heed this warning may result not only in malfunctioning but also fire, power leakage and electrical shock.)
- Do not use this product outside the range of its rated voltage and control capacity.

ATTENTION

- Install this product in an environment where the temperature ranges from 0 °C to +40 °C and the relative humidity is less than 60%. If condensation is expected to form, heat up the fresh outside air by a duct heater etc.
- Select an adequately sturdy position for installing the product and install it properly and securely.
- Use the designated electrical wires for the terminal board connections and connect the wires securely so that they will not be disconnected. (Failure to ensure proper connections may result in fire.)
- When passing metal ducts through wooden buildings clad with metal laths, wire laths or metal, these ducts must be installed in such a way that they will not make electrical contact with metal laths, wire laths or metal sheets. (Power leakage can cause ignition.)
- The outside ducts must be tilted at a gradient (1/30 or more) downwards toward the outdoor area from the main unit, and properly insulated. (The entry of rain water may cause power leaks, fire or damage to household property.)
- Gloves should be worn while installation. (Failure to heed this warning may result in injury.)
- A dedicated circuit breaker must be installed at the origin of mains power supply. This circuit breaker must be provided with a means for locking (lock and key).
- The body of the unit, room control panel and cables keep away the unit 3 m. distance.

- This product must not be disassembled under any circumstances. Only authorized repair technicans are qualified to conduct disassembly and repairs.
  (Failure to heed this warning may result in fire, electrical shock or injury.)

- Connect the product properly to the ground. (Malfunctioning or power leaks can cause electrical shock.)

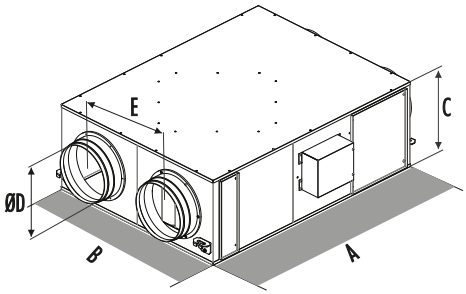
- An isolator switch having minimum contact gap of 3 mm in all poles must be provided as a means of disconnecting the power supply.

NOTE: The installations, which is not available for installation and operation manual, is out of guarantee. 2

CHECK LIST

In the event of unit failure and pre-commissioning checks to be made are determined as follows; after checking this information, please contact our company in case failure continues.

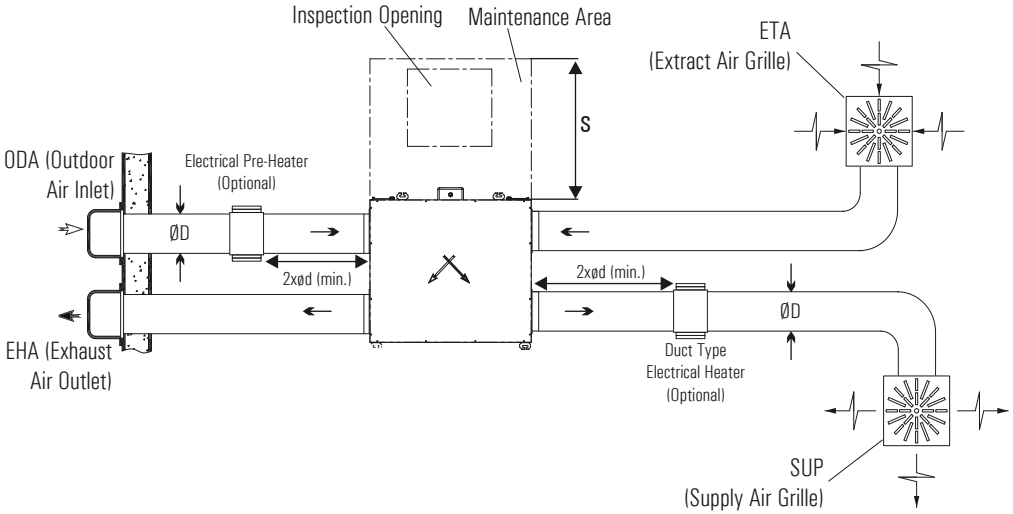
Controls	√
Make sure that the unit receives power and electrical grounding is made!	
Make sure that the electricity cables are drawn from in the correct cross section! (Please check whether there is heating on cables or not.)	
Please check whether the cables in unit control panel are shielded (shielded magnetic field) or not; make sure shielding is grounded. If not, please change them!	
Make sure that fresh air and exhaust air filters are clean and they do not block the flow of air!	
Make sure there is the connection of drainage on the unit, check any possible clogging in drainage line and clean if necessary!	
Please check whether the diameter of the air duct connection of the unit and the diameter of the spigot are the same. If the duct connection is smaller, change it with the correct one.	
Make sure the electrical connections of the unit are made as suggested on the unit and in this guide, check if there is incorrect connection.	
Make sure during the installation of the unit there is enough space for the service and if there is not enough space, re-install again.	
In extremely cold climate applications, frost may occur on the exchanger, apply electric heater in fresh air intake section of the unit to get the temperature to -3°C and above.	
After installing the unit, make sure that it does not create an abnormal sound or vibration, if there is, make sure that rubber pads are used.	



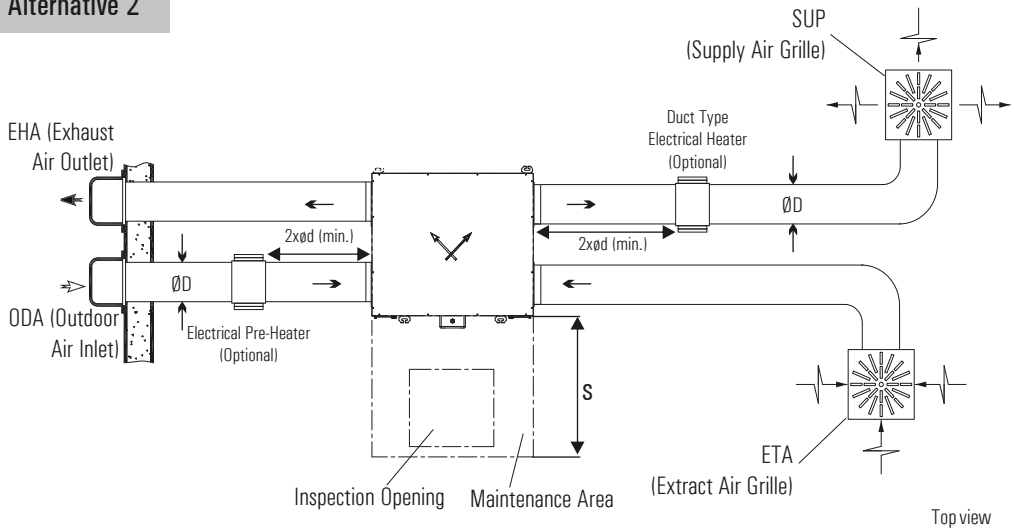
	A	B	C	E	ØD	S
JRH74/400 EC	820	550	275	260	160	500
JRH74/800	930	680	342	340	200	500
JRH74/1000	930	680	342	340	250	500
JRH74/1500	1072	826	379	420	250	500
JRH74/2000	1193	980	433	490	300	600
JRH74/2500	1335	1120	433	560	355	700
JRH74/3000	1570	1160	535	580	355	700
JRH74/4000	1570	1160	535	580	355	700
JRH74/5000	1800	1170	650	580	450	750
JRH74/6000 EC	1800	1170	650	580	450	750

* All measurement values are mm.
* The gaps of the maintenance area values are specified as “S” on the table. (Please see Installation pages.)

Alternative 1



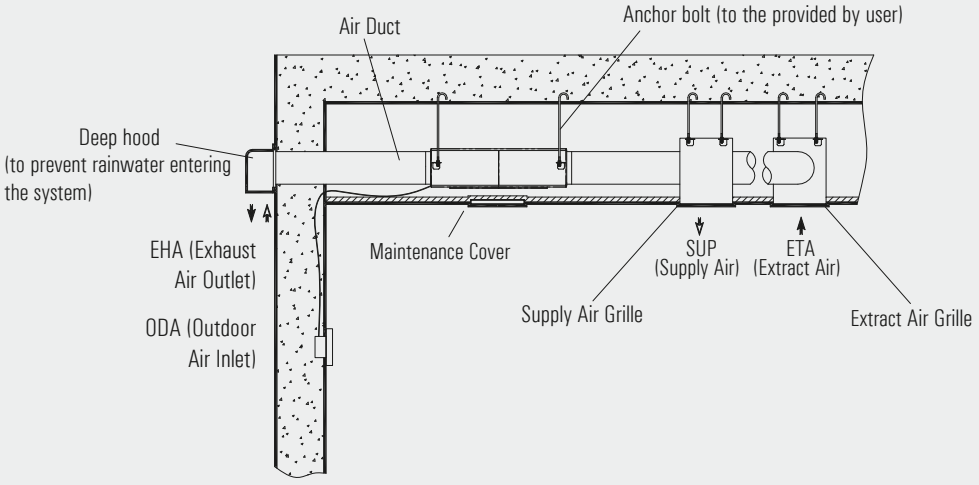
Alternative 2



Top view

The gaps of the maintenance area are specified as "S" on the technical picture.
(Please see Unit Dimension pages.)

* Drain pipe must be installed.



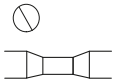
Check these warnings before installation.

Extremely Sharp Bends

Multiple Bends

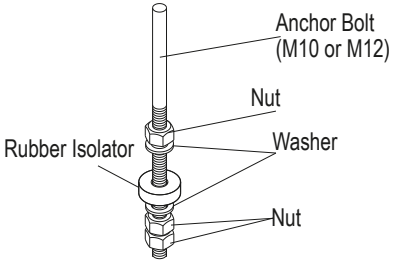
Bends right next to the outlet

Extreme Reduction in the diameter of the connected ducts



1- Install the electric heater at a distance of two times away from duct connection diameter.
2- Connect the drainage line with downward slope.
3- Water condensed in the exchanger should be discharged byconnecting 10mm. diameter drain hose to the drain outlet under the unit.
4- The applications which can prevent the flow of water in the drainage line should be avoided.
5- The drainage line shall never be moved to an upper level than the drain pan.

Preparing The Sling Bolts

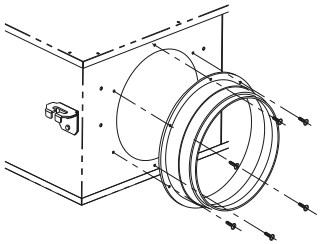


Hang the suspension braket on the anchor bolts and adjust in such a way that the unit is installed horizontally. Tighten up securely using double nuts in order to prevent looseness.

! WARNING

Check the stability of sling bolts during the installation.

Attaching The Duct Connection Flanges

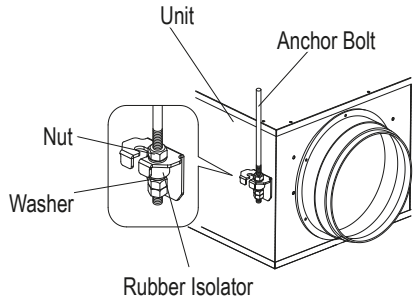


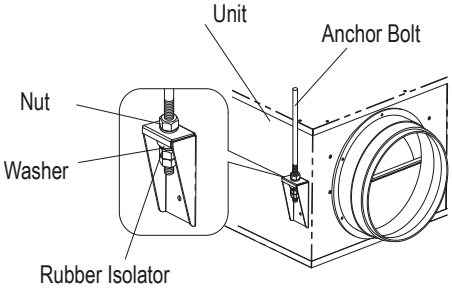
If the duct connection flanges are not connected to the unit, use the screws that can be found in the installation package to connect the flanges to the unit as the figure on the left.

! WARNING

Before attaching the duct connection flanges, check that no foreign matter has found.

Installation Of The Unit





Hang the unit on the anchor bolts and adjust in such a way that the unit is installed horizontally. Tighten up securely using double nuts in order to prevent looseness.

! WARNING

Do not handle the unit in such way that force will be applied to the control box when suspending the main unit from the ceiling.

Unit Model JRH74	Unit Voltage (V)	Unit Power Input (kW)	Current (A)	Fuse (A)	Cable Cross-Section(mm^2) for 50M and PF = 0.8
800	230	0.24	1.08	2	1.5
1000	230	0.35	1.54	2	1.5
1500	230	0.69	3.02	3.15	2.5
2000	230	0.69	3.02	3.15	2.5
2500	230	1.06	4.68	5	2.5
3000	230	1.06	4.68	5	2.5
4000	230	1.02	4.92	6.3	2.5
5000	230	1.46	6.58	10	4

The data in the table shows the maximum power/current values. Please check unit label for updated values.

Unit Model JRH74 EC	Unit Voltage (V)	Unit Power Input (kW)	Current (A)	Fuse (A)	Cable Cross-Section(mm^2) for 50M and PF = 0.8
400	230	0.14	0.98	2	1.5
6000	400	6.14	9.58	3x16	2.5

The data in the table shows the maximum power/current values. Please check unit label for updated values.

Cable Cross-Section Formulas

1

$I_{current} = \frac{P}{U.Cos\Omega}$

$I_{cable} > I_{current}$

2

$\%e = \frac{100.P.L}{k.S.U^2}$, $S = \frac{100.P.L}{k.\%e.U^2}$

$\%e = \%3$

3

$I_{cable} > I_{fuse} \geq I_{current}$

Cable Cross-Section S = Max (S1, S2, S3, 1.5mm²)

P : Power
I : Current
U : Voltage
S : Conductor cross section
k : Conductor coefficient
L : Conductor length
%e : The voltage drop

Example of Cable Cross-Section Calculation

P : 2,6 kW **L** : 50m
U : 230V **%e** : %3
PF : **CosΩ**: 0,8 **k** : 56m / Ω

1

$I_{current} = \frac{2600\ W}{230.0,8} = 14.2\ A$

The cable will be used, is selected from the cable cross-section table so that the equivalent ampere value in the table should be higher than calculated "$I_{current}$" value.

S1 = 1.5 mm²

2

%e = %3

$S = \frac{100.2600.50}{56.3.230^2} = 1.46\ mm^2$

S2 ≥ 1.46 mm² ≥ 1.5 mm²

S2 = 1.5 mm²

3

$I_{cable} > I_{fuse} \geq I_{current}$

$I_{cable} > 16A \geq 14.2A$

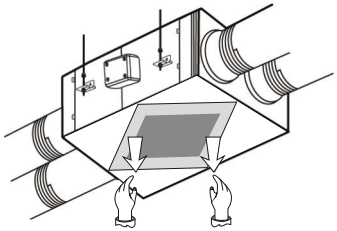
"I_{fuse}"which will be higher than "$I_{current}$", is selected.

The cable will be used, is selected from the cable cross-section table so that the equivalent ampere value in the table should be higher than selected "I_{fuse}" value.

I_{cable} = 24A
S3 = 1.5 mm²
Cable cross-section S = Max (S1, S2, S3, 1.5 mm²)
S = Max (1.5, 1.5, 1.5, 1.5)
S = 1.5 mm²

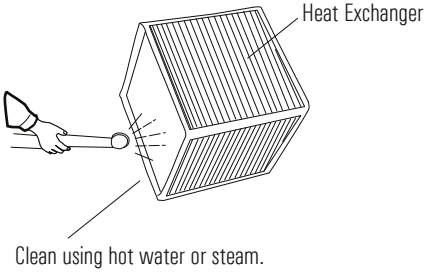
- TURN OFF all the power switches before the maintenance is performed.
- Do not operate the system without the air filter to protect the components of the unit against being clogged.
- Clean up the air filter more than once in a year.
- Clean up the heat exchanger more than once per year.

Heat Exchanger Cleaning



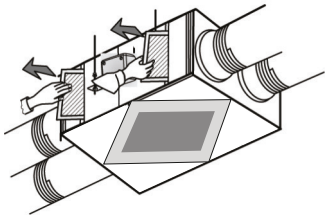
Step 1: Remove the exchanger's service cover, then remove the heat exchanger out from the main unit.

Note: The maximum weight of heat exchanger is 30 kg.

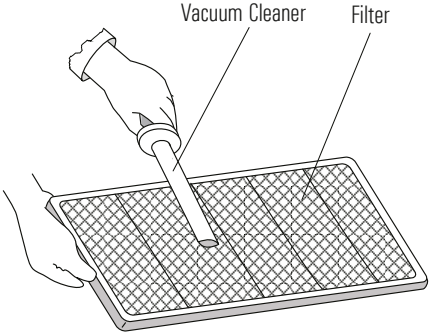


Step 2: Heat exchanger can be cleaned by hot water or steam. Leave to dry after cleaning heat exchanger. Connect the unit after making sure that the heat exchanger has dried.

Air Filter Cleaning



Step 1: Open the maintenance cover. Draw out the air filters from the unit.



Step 2: Use a vacuum cleaner to clean the dust from the coarse air filter. Dirty fine filters should be changed.