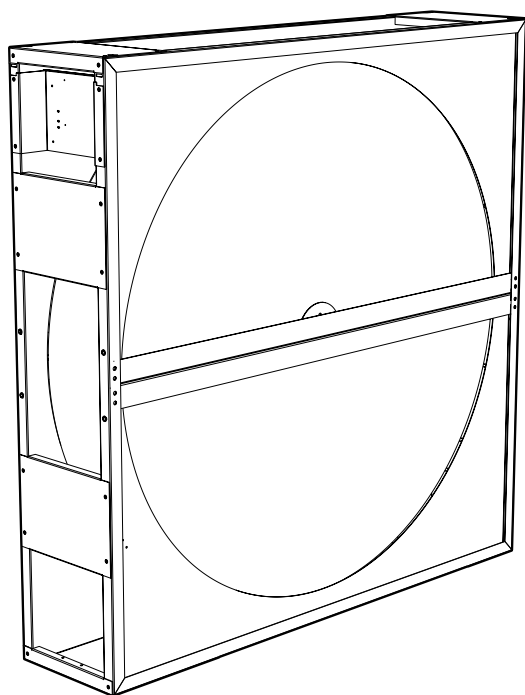


Installation and Maintenance

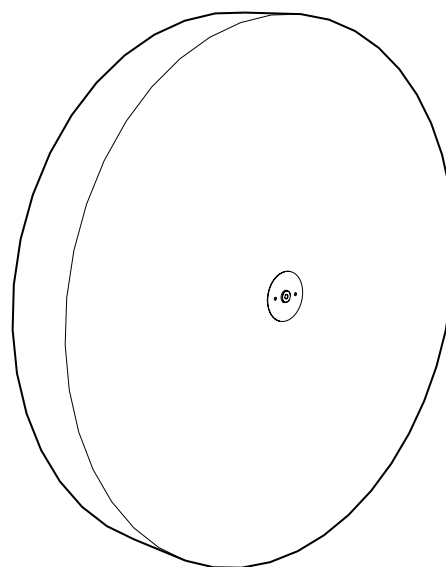
Rotary Heat Exchanger

Hoval
Enventus

One piece rotor with casing



One piece rotor without casing



Contents



Before installation, read the instructions carefully and make sure you understand the content. Please contact Hoval Enventus if you have any questions. Contact information can be found on page 13.

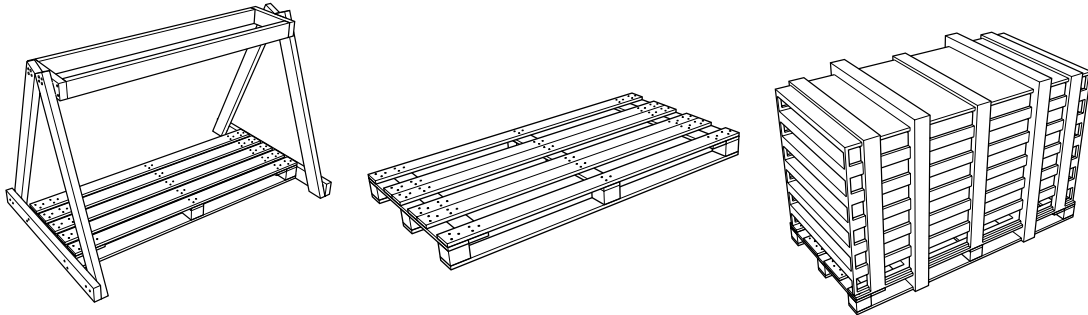
<u>Contents, what is included upon delivery</u>	<u>sid.1-2</u>
<u>Safety, tools and aids</u>	<u>sid. 3</u>
<u>1. Transport and storage</u>	<u>sid. 3</u>
<u>2. Lifting Instruction</u>	<u>sid. 4-6</u>
<u>3. Installation</u>	<u>sid. 7-11</u>
<u>4. Maintenance</u>	<u>sid. 12-13</u>
<u>5. Contact information</u>	<u>sid. 13</u>

What is included upon delivery



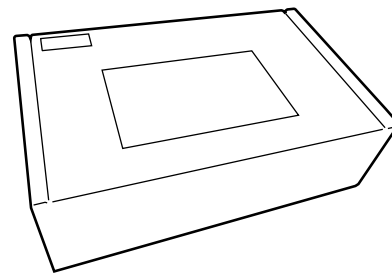
Check that the consignment matches your order and that the goods have not been damaged during transportation.

PACKAGING FOR ROTARY HEAT EXCHANGER



WHEN ADDITIONAL DETAILS ARE DELIVERED NOT MOUNTED

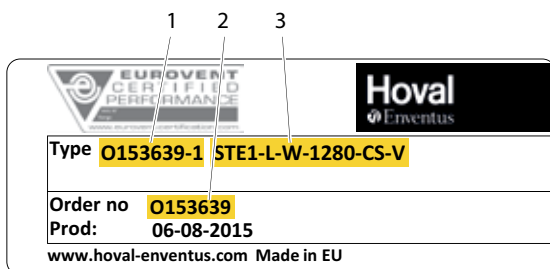
- Control unit
- Motorbracket
- Lifting accessory
- Brushsealing
- Additional belt and locks



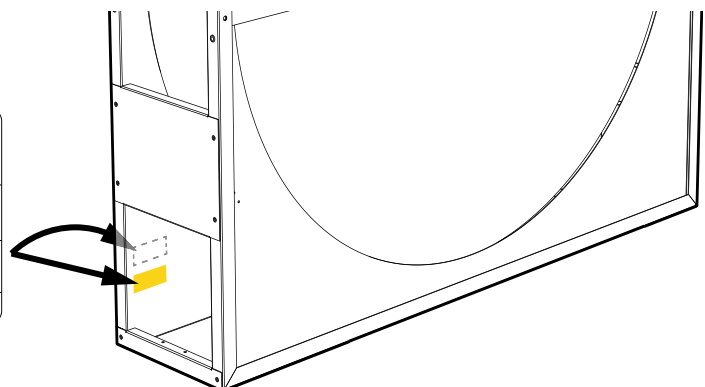
Depending on the space inside the casing, enclosed items are placed where space is available. The packaging is clearly labelled with content.

IDENTIFICATION OF UNIT

- Nameplate (silver label) states article number, order number and product code. The signs are placed on the inside and outside of the casing.



1. Article number
2. Order number
3. Product code



Safety

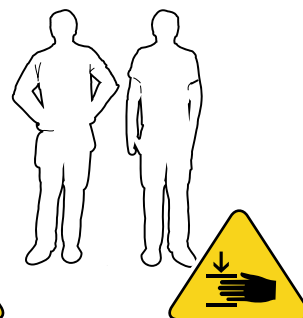
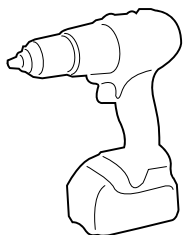


WARNING RISK OF CRUSHING



WARNING FALLING OBJECTS

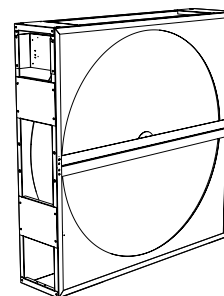
Tools and aids



1. Transport and storage

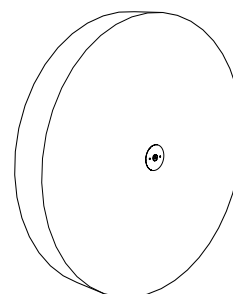
ONE PIECE ROTOR WITH CASING

- If the heat exchanger is not installed immediately, it should be stored in its original packaging, standing on a flat surface and protected from rain and direct sunlight.
- To avoid damages, the heat exchanger should be transported and handled in a vertical position.



ONE PIECE ROTOR WITHOUT CASING

- If the heat exchanger is not installed immediately, it should be stored in its original packaging, standing on a flat surface and protected from rain and direct sunlight.
- To avoid damages, the rotor must not be rolled.



2. Lifting Instruction



WARNING FALLING OBJECTS!



To ensure that the lifting of the heat exchanger takes place in a safe manner, and to avoid personal injury and damage to the heat exchanger, we refer to the following instructions. The Hoval Enventus product warranty applies only if the following instructions are followed.

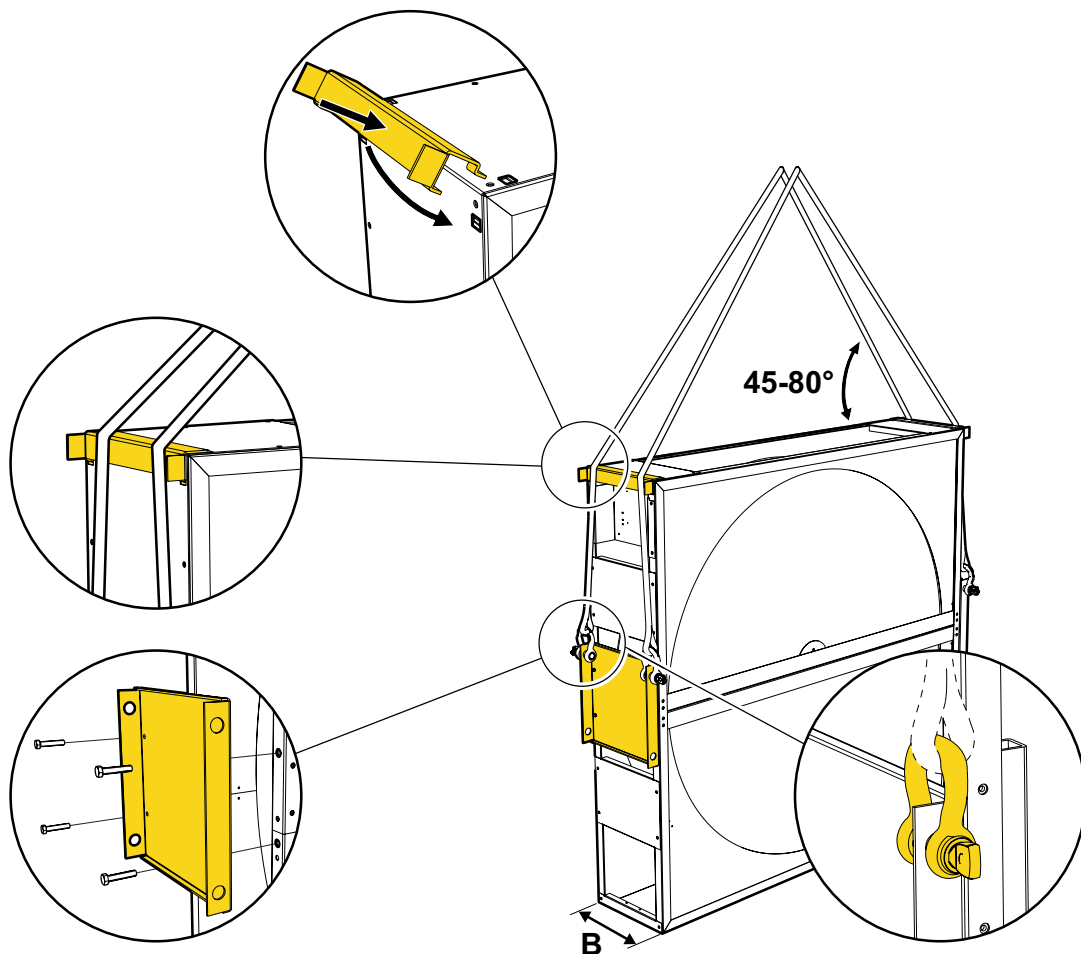


Lifting device is an accessory and is included inside the casing only if ordered.

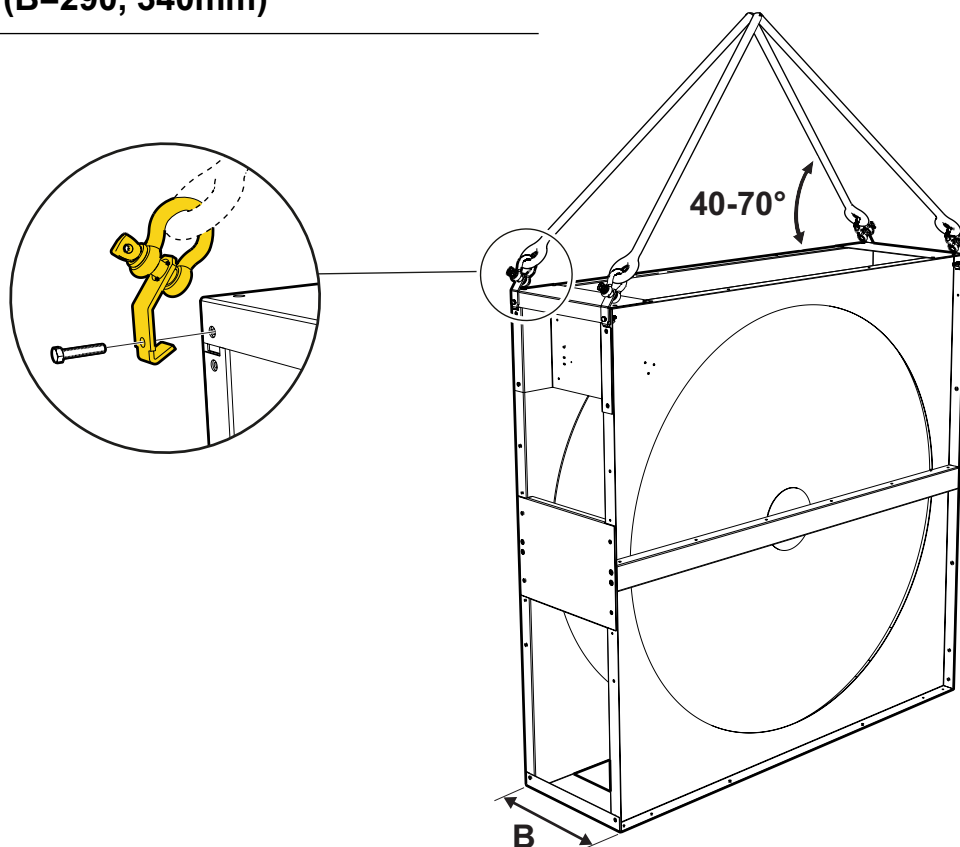
2.1 CS

(B=290, 340mm)

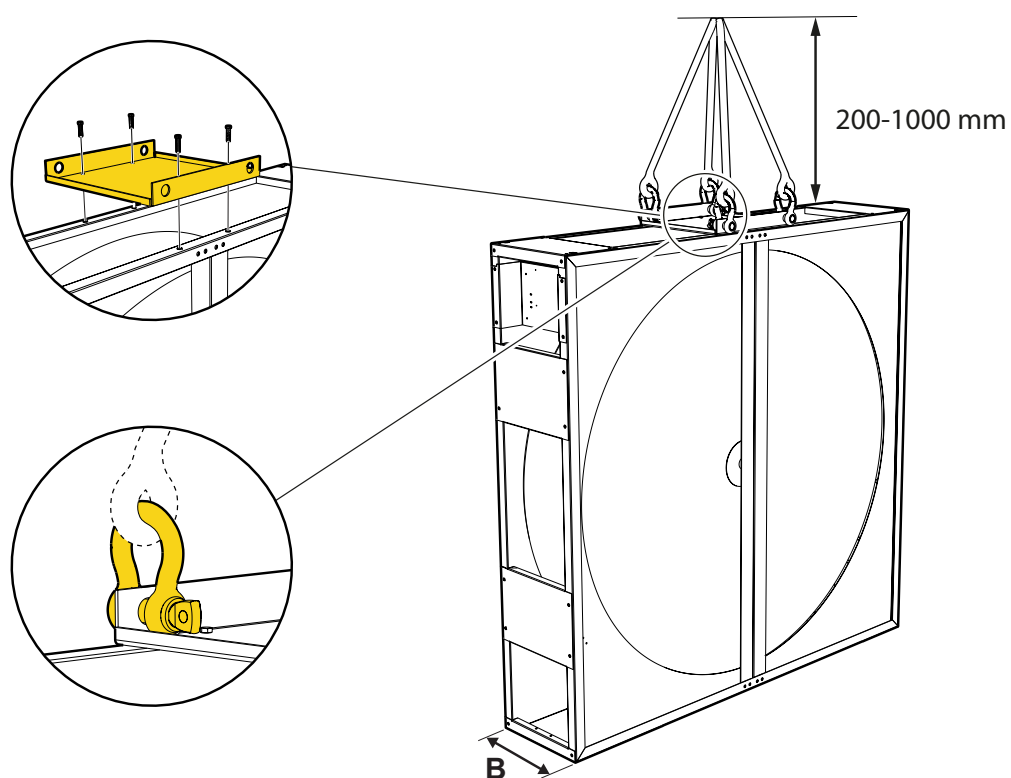
(NOTE! Exception CS $\varnothing \leq 1800$ mm, side by side, see section 2.3)



**2.2 CS $\text{\O} \leq 800\text{mm}$
(B=290, 340mm)**

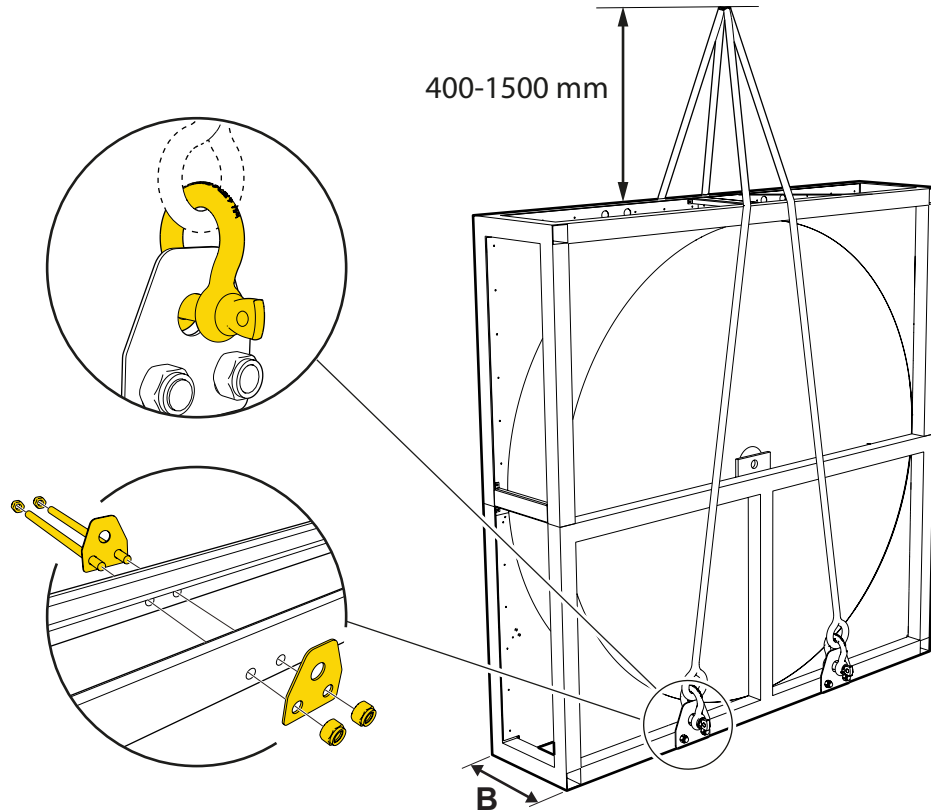


**2.3 CS $\text{\O} \leq 1800\text{mm}$ side by side
(B=290, 340mm)**

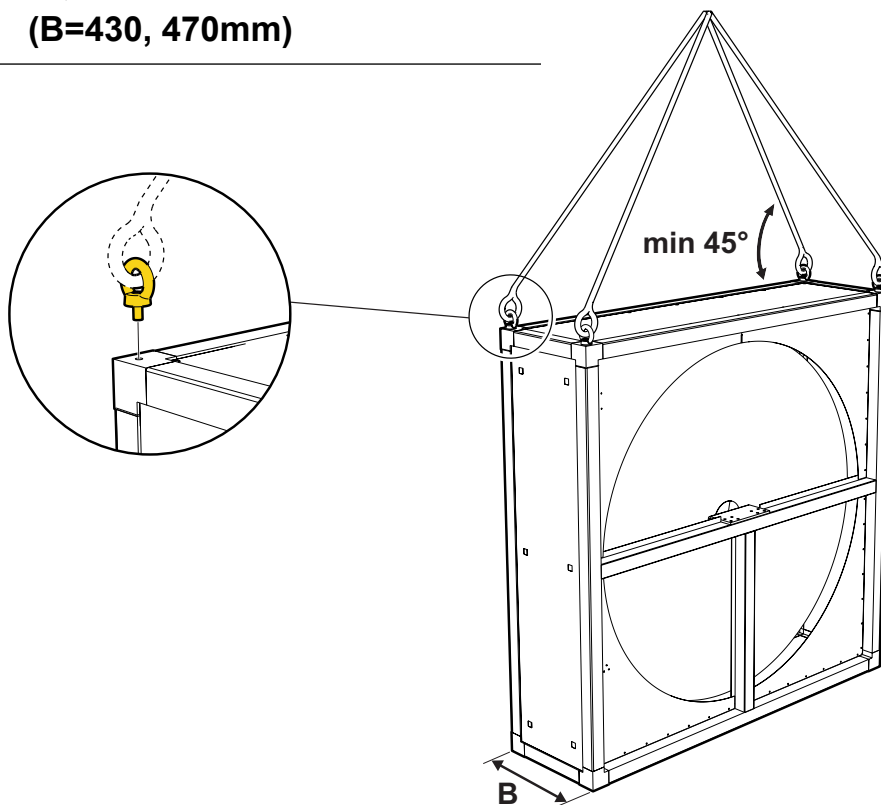


**2.4 CS
(B=330mm)**

**C ≥ 1660 mm
(B=430, 470mm)**



**2.5 C $\lt 1660$ mm
(B=430, 470mm)**



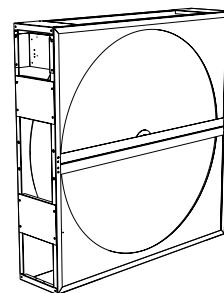
3. Installation



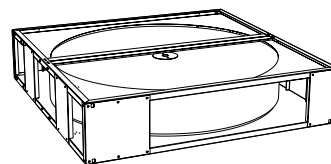
In order to ensure effective, hassle-free commissioning, it should be performed according to the commissioning protocol (BL036) included in delivery and according to the instructions below. The Hoval Enventus product warranty is conditional upon presentation of a completed commissioning record.

3.1 ROTARY HEAT EXCHANGER

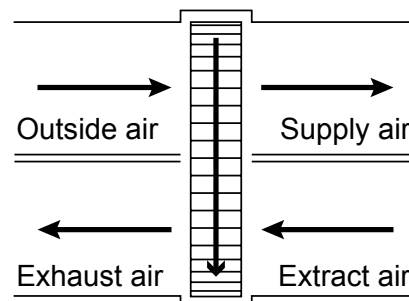
- The heat exchanger is in standard version designed for vertical installation.



- If the last letter of the product code is an H, then the heat exchanger is designed for horizontal installation. See section 3.3.



- To be able to inspect the heat exchanger area and to adjust the sealing, there should be inspection possibilities accessible on all four sides of the rotor (outside air, supply air, exhaust air and extract air).

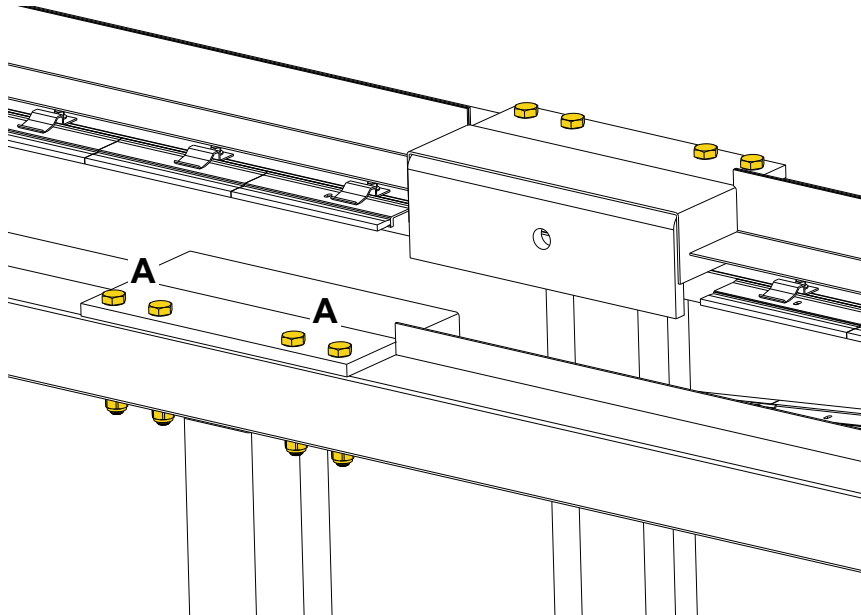


3.2 ADJUSTMENT OF ROTOR IN CASING



Fix the motor in the casing by means of wedges or equivalent before fastening screws (A) are tightened.

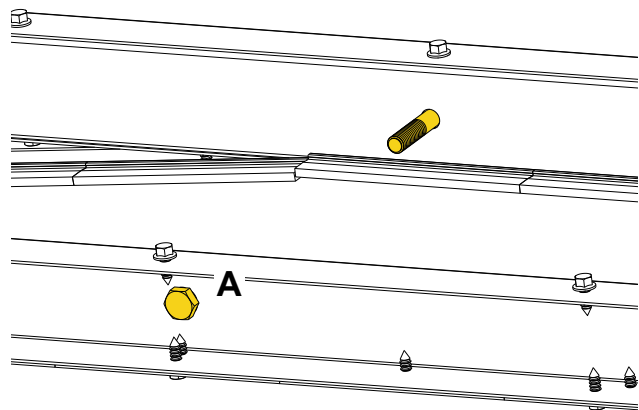
C



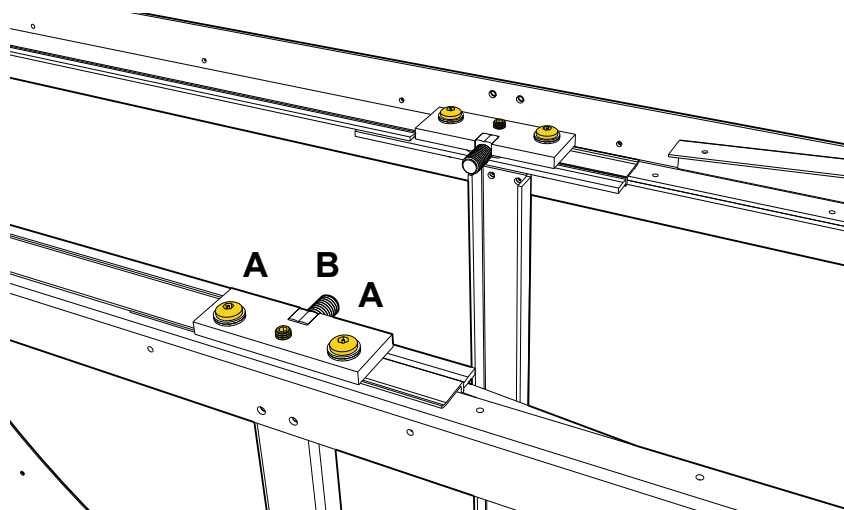
1. Loosen all four fastening screws (A) on both sides of rotor. The holes for fastening screws (A) are wider than the screw so that the rotor can be horizontally adjusted.
2. To adjust vertically; place washer or similar with applicable thickness under hanger. Tighten all fastening screws (A).
3. Check rotors position in casing.

CS $\text{\O} \leq 800\text{mm}$

1. Loosen fastening screw (A).
2. Adjust rotor vertically and horizontally as needed.
3. Tighten fastening screw (A).
4. Check rotors position in casing.



CS $\varnothing \leq 1800\text{mm}$



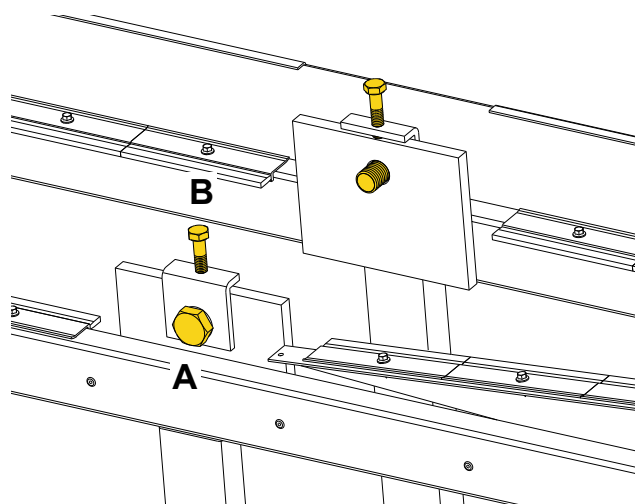
1. Loosen both fastening screws (A) on both sides of rotor.
2. By tightening resp. loosening adjustment screw (B) vertical angle of rotor is changed.
3. The holes for fastening screws (A) are wider than the screw so that the rotor can be horizontally adjusted.
4. Tighten all fastening screws (A).
5. Check rotors position in casing.

CS $\varnothing > 1800\text{mm}$

CS (B=330mm)

Vertical adjustment


1. Loosen fastening screw (A).
2. By tightening resp. loosening adjustment screw (B) vertical angle of rotor is changed.
3. Tighten all fastening screws (A).
4. Check rotors position in casing.



Horizontal adjustment

5. Loosen fastening screw (A).
6. Adjust the rotor.
7. Tighten fastening screw (A).
8. Check rotors position in casing.

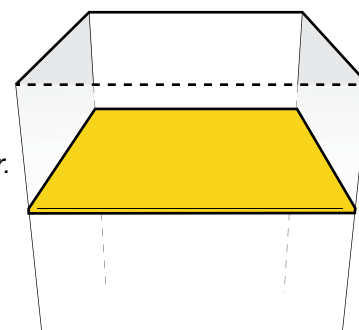
3.3 INSTALLATION OF HORIZONTAL UNIT

-  *The heat exchanger must be ordered for horizontal placement (-H), see section 3.1, and be placed on a flat and dry surface.*



WARNING FALLING OBJECTS!

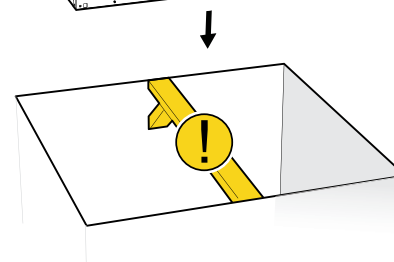
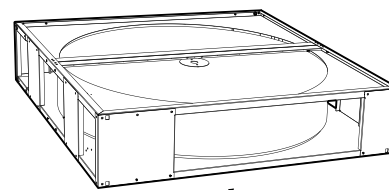
The ventilation duct has to be secured in order to prevent accidents. It should be secured directly beneath the intended location for the heat exchanger.



3.3.1 CENTRE SUPPORT BENEATH ROTOR

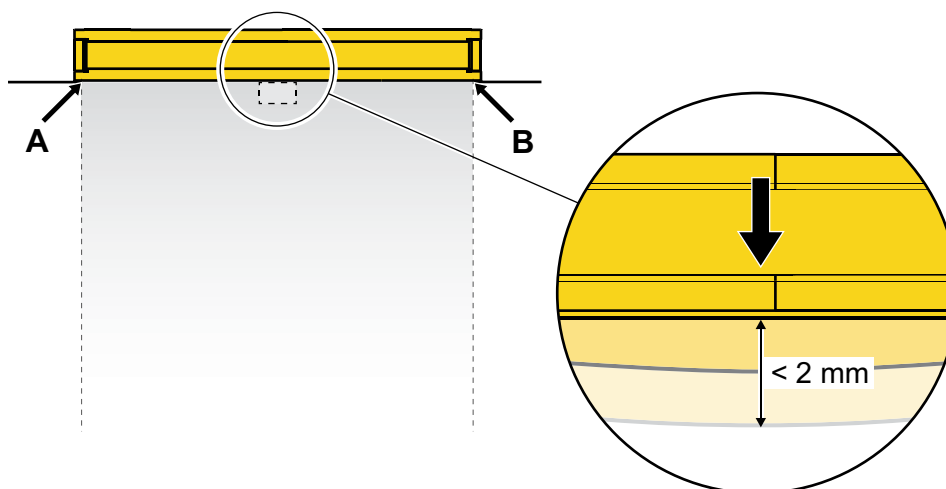
- Make sure that there is a centre support beneath the rotor.

-  *The centre support for the rotor is not supplied by Hoval Enventus.*



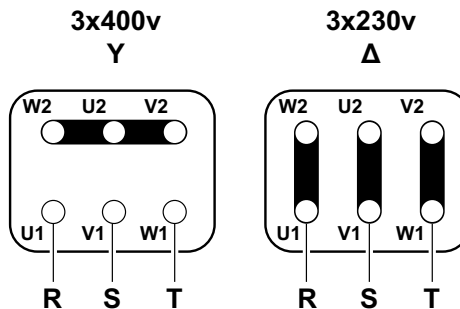
3.3.2 CHECKING THE WEIGHTING

- Check the weighting of the casing between points A and B.



3.4 DRIVE EQUIPMENT

- Consider safety!
Installation, wiring, commissioning, dismantling or other measures to the drive system may only be carried out by technically qualified personnel who have knowledge of the manuals.
Installation and wiring must be carried out in accordance with local regulations and standards.



- Driveunit and electrical wiring must be easily accessible.
- Ensure that the motor is correctly connected to the voltage to be used:
Y- connection for 3x400V / Δ-connection for 3x230V.
- For other manuals, installation and mounting instructions visit our website www.hoval-enventus.com.



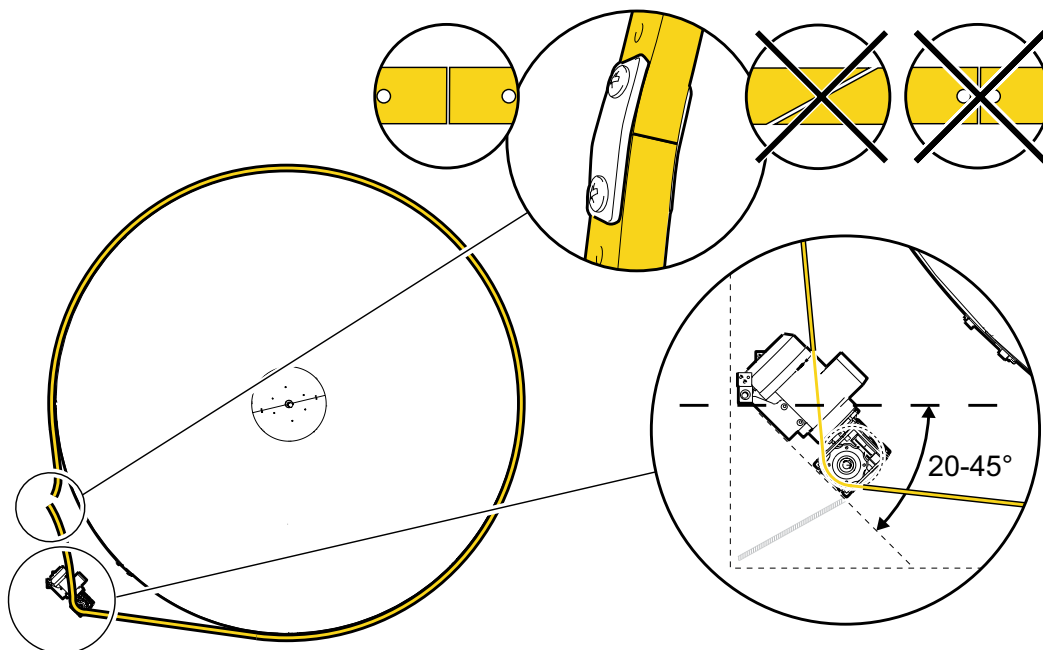
The Hoval Enventus product warranty only applies provided that:

- *Wiring and commissioning are done according to product manuals included with delivery.*
- *Correct voltage is used for drive equipment.*
- *No modification or disassembling of any part has been done to drive equipment.*
- *Cables must not be shortened unless performed according to enclosed manuals.*

4. Maintenance

4.1 MAINTENANCE

SCHEDULE MAINTENANCE	At Installation	After 2-3 weeks of operation	At least one time per year
Rotor	Acc. to BL036 (enclosed with delivery)	Check that rotor is vertical and centred in casing. Adjust vertical and horizontal position if needed.	Check that rotor is vertical and centred in casing. Adjust vertical and horizontal position if needed.
		Rotor spins freely.	Rotor spins freely.
Sealing	Acc. to BL036 (enclosed with delivery)	Adjust sealing to ensure contact with the rotor and side plates.	Adjust sealing to ensure contact with the rotor and side plates. Replace brushsealing if it is worn.
Belt (Hanging motorbracket)	Acc. to BL036 (enclosed with delivery)	Check that motorbracket is in 20-45° angle from horizontal line.	Check that motorbracket is in 20-45° angle from horizontal line.
		Adjust length of drive belt if needed.	Adjust length of drive belt if needed.
		Check condition of belt and belt lock (joint).	Check condition of belt and belt lock (joint).
Belt (Firm motorbracket)	Acc. to BL036 (enclosed with delivery)	Check that the belt is not slipping. Check condition of belt and belt lock (joint).	Check that the belt is not slipping. Check condition of belt and belt lock (joint).



4.2 CLEANING



Check the surface of the rotor on a regular basis. The fouling of the rotor is affected by air quality, type and condition of filter, air leakage etc. Inspection intervals should be adapted based on the factors mentioned above.

Hoval Enventus recommends that inspections are done at least once per year.

If the rotor is dirty, clean it using:

- a vacuum cleaner, if fouling is light.
- compressed air if fouling is heavy but not stuck too fast.
- hot water and mild degreasing cleanser if fouling is heavy and also stuck fast (applies to spoked rotors).
- Wash glued rotors with hot water.

If air contains large quantities of dirt, the rotor can be fitted with E-CLEAN, compressed air cleaning equipment. Contact us for more information.

4.3 SPARE PARTS

Hoval Enventus provides a large range of spare parts and accessories such as drive equipment (motors and control units), drive belts and brushsealing, independent of the type or manufacture of rotating heat exchangers.

We recommend the use of our original parts when replacing heat exchangers that come originally from us.

Most spare parts are in stock for immediate delivery.

Our spare parts price list can be found on our website at www.hoval-enventus.com. Please contact us if you have any questions. Our experience will help you make the right choice.

5. Contact

Hoval Aktiengesellschaft
Austrasse 70
9490 Vaduz,
Liechtenstein
Tel. +423 399 24 00
Fax +423 399 27 31
info.klimatechnik@hoval.com
www.hoval-enventus.com

Hoval Ltd.
Northgate, Newark
Nottinghamshire
NG24 1JN
U.K.
Tel. +44 1636 672 711
Fax +44 1636 673 532
heatrecovery@hoval.co.uk
www.hoval-enventus.com

Hoval Enventus AB
Hedenstorpsvägen 4
SE-555 93 Jönköping
Sweden
Phone +46-(0)36 37 56 60
Fax +46-(0)36 37 56 68
info@hoval-enventus.com
www.hoval-enventus.com