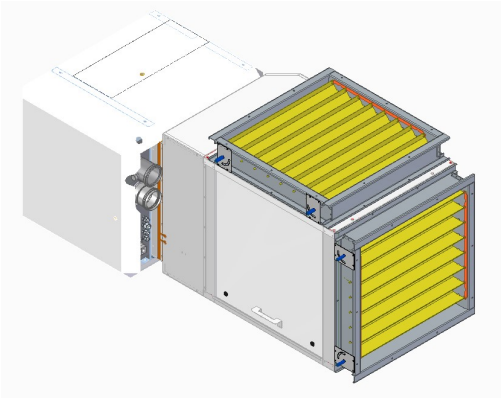
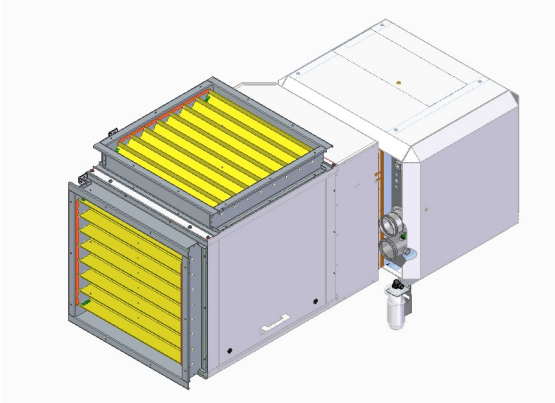
SUPPLEMENTARY INSTRUCTION BOOKLET

Fanbox for HR/XR+ heaters

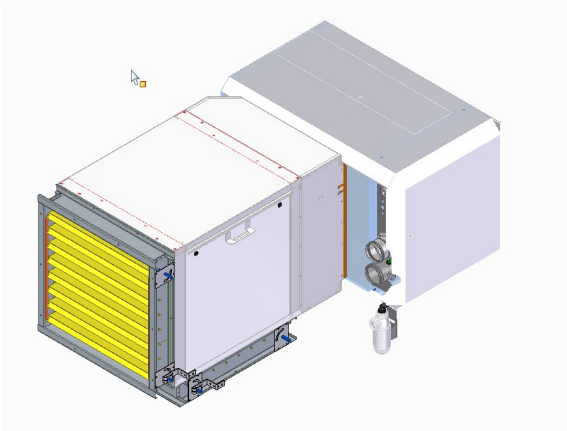
EN 1.0a



Fanbox ➔ XR40+, XR50+, XR60+



Fanbox ➔ HR30, HR40



Fanbox ➔ HR50, HR60

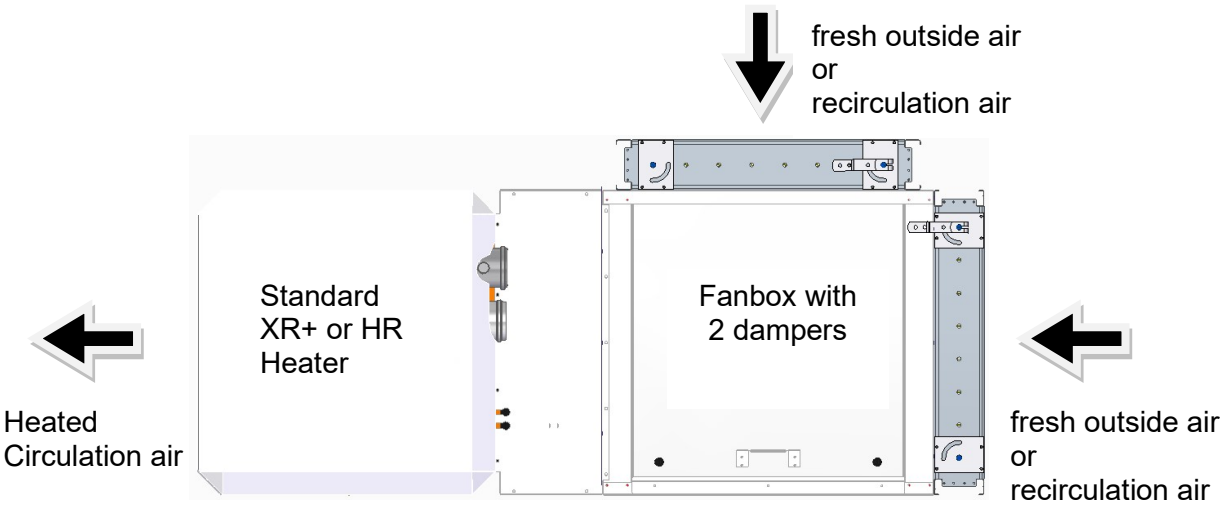
READ THIS DOCUMENT BEFORE COMMENCING INSTALLATION.
THE USER MUST BE INSTRUCTED IN USING THE APPLIANCE.
KEEP THIS DOCUMENT NEAR THE APPLIANCE.

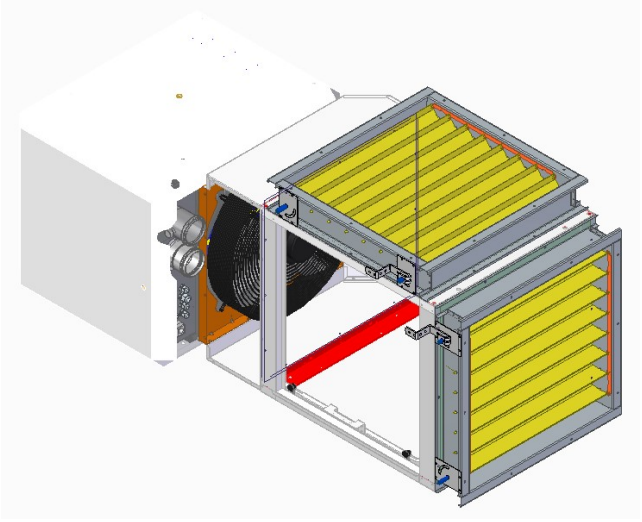
Instructions fanbox HR/XR+
version EN 1.0a
date: 2023-04-25

Contents

1 Foreword

These operating and installation instruction is a supplement for the fanbox for the HR/XR+ series heaters.
The XRA/HRA is a standard XR+ or HR heater combined with a fanbox with two dampers to supply the heater with circulation fresh outside air and/or recirculation air of the building.





Important!
The installation and maintenance of this air heater should be performed by an authorised competent installer and in accordance with this manual.

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.

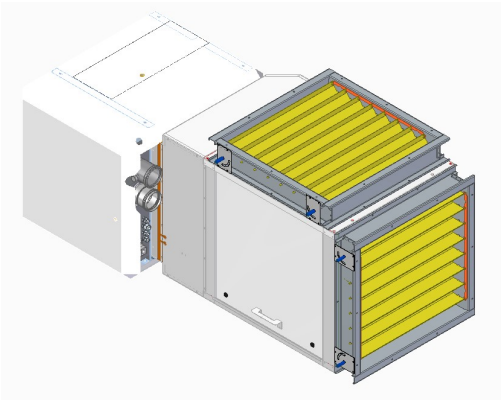
This installation and user manual for the HRA/XRA heater is the leading document for the installation of this appliance. These operating and installation instructions deal with the specific matters that apply to supplementary use and installation of a fanbox design.

2 Design

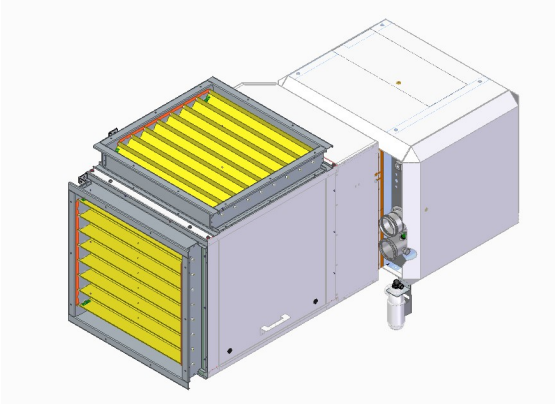
2.1 Fanbox

The fanbox can be combined with the following standard heaters:

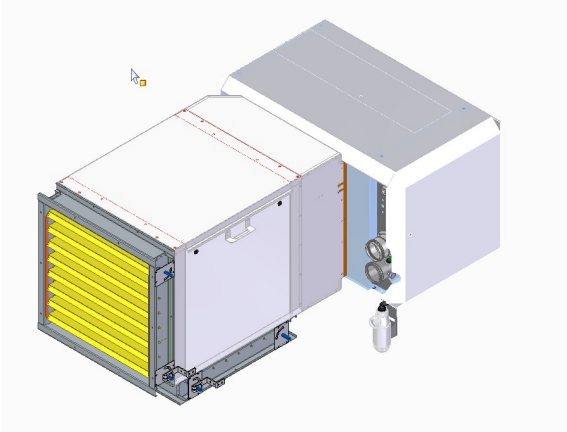
- XR40+, XR50+ or XR60+
- HR30, HR40, HR50 or HR60



XRA ➔ XR40+, XR50+, XR60+



HRA ➔ HR30, HR40



HRA ➔ HR50, HR60

Important!

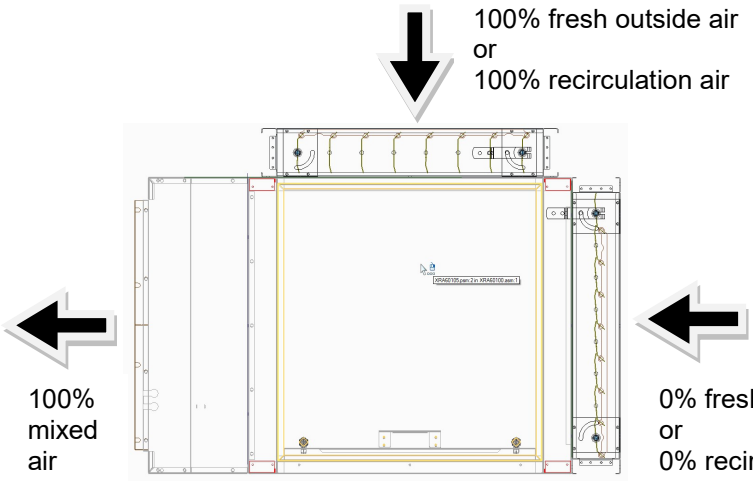
This fanbox is designed for systems without ducting. No additional resistance must be added on the front or rear side!

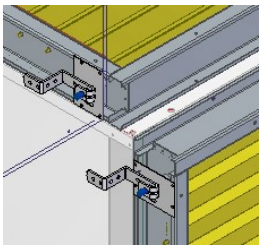
Connection duct fresh air inlet	➔ min. □ 600 x 600 mm
Length connection duct fresh air inlet	➔ Length max. 1000mm
Free distance recirculation air inlet	➔ min. 400 mm

2.2 Position valve section of the dampers.

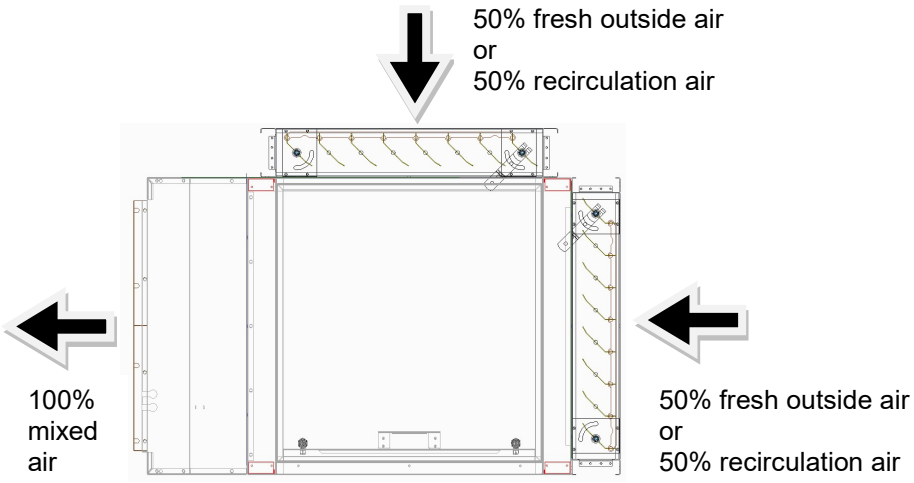
The two dampers are connected to each other.
The setting of the valve position to control the amount of fresh outside air versus the amount of recirculation air is ➔ 100% up to 0% fresh outside air versus 0% up to 100% recirculation air.

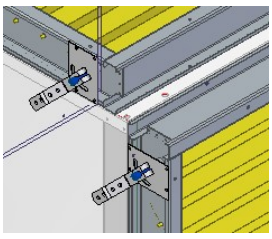
- **100% / 0%**



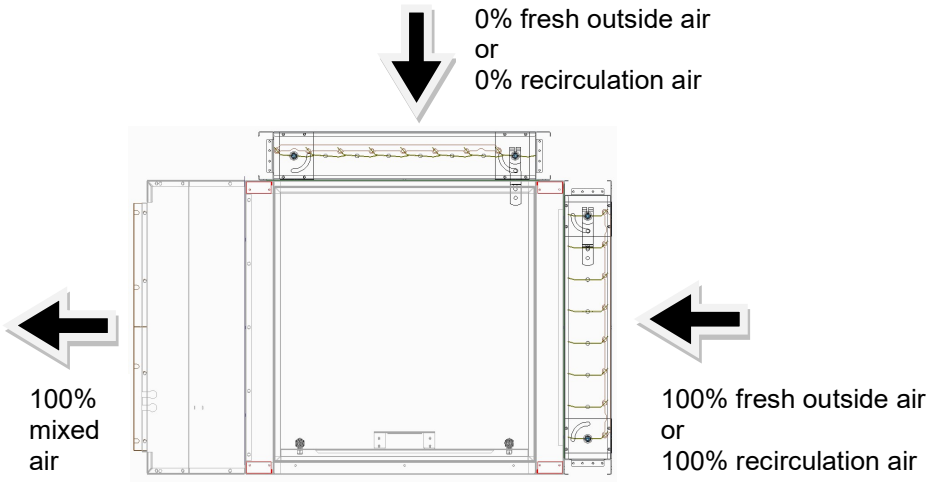


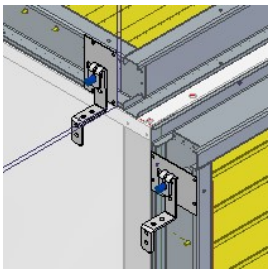
- **50% / 50%**





- **0% / 100%**





2.3 Assembly fanbox

The fanbox must be assembled with the standard XR+ or HR heater on site.

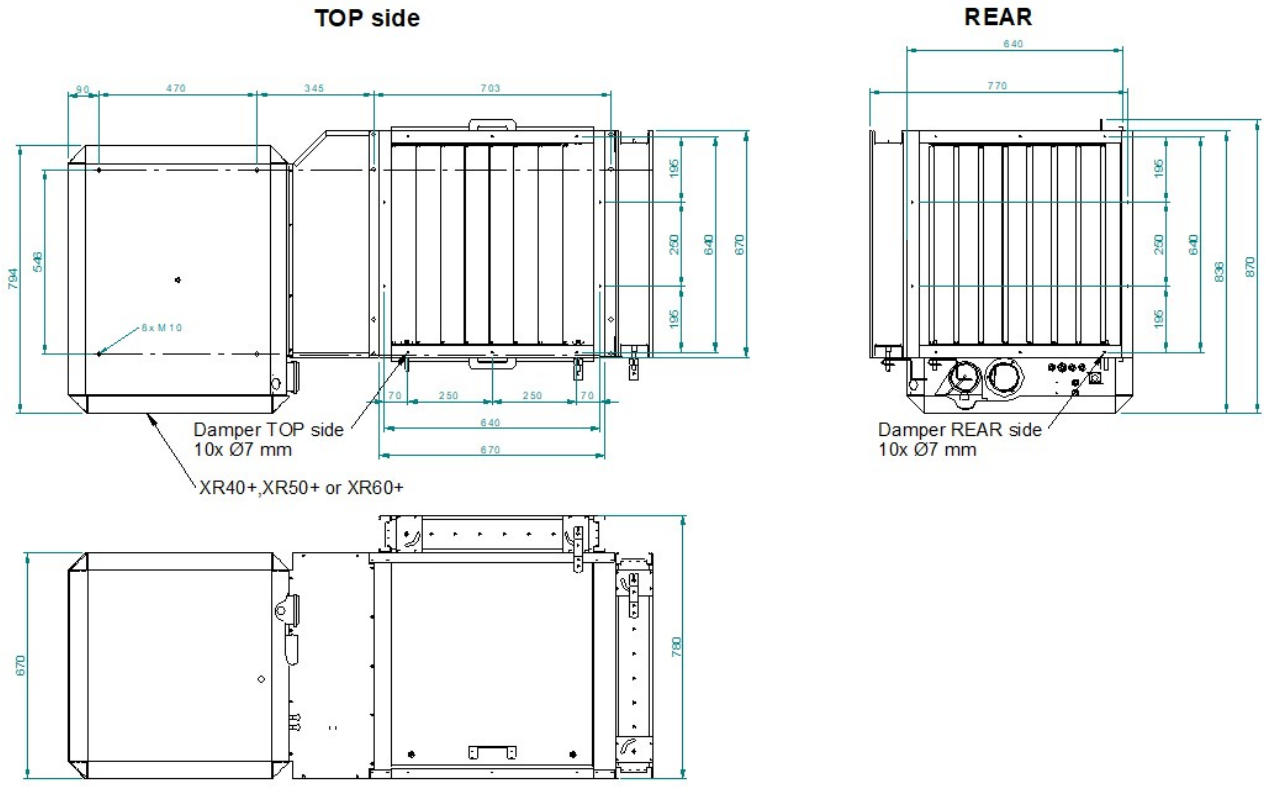
In the appendix the method of the assembly of the fanbox and the standard XR+ or HR heater in 5 steps is shown.

The position of the dampers is standard supplied on the transport pallet ➔ Top / Rear!
In case where the position of the dampers must be ➔ Down / Rear.
The complete fanbox with dampers must be rotated 180° before starting the assembly at the heater.

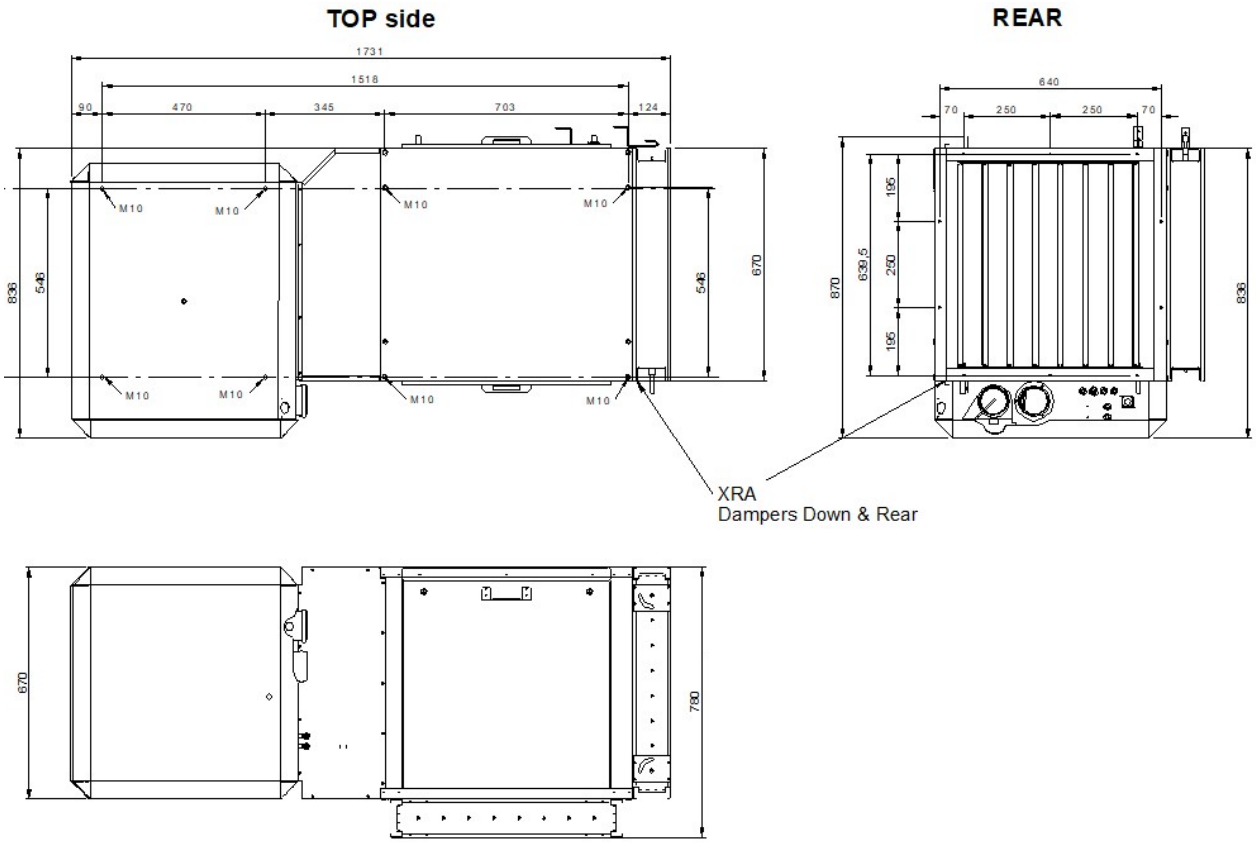
2.4 Dimensions

2.4.1 Fanbox ➔ XR40+, XR50+, & XR60+

2.4.1.1 Dampers: TOP / REAR

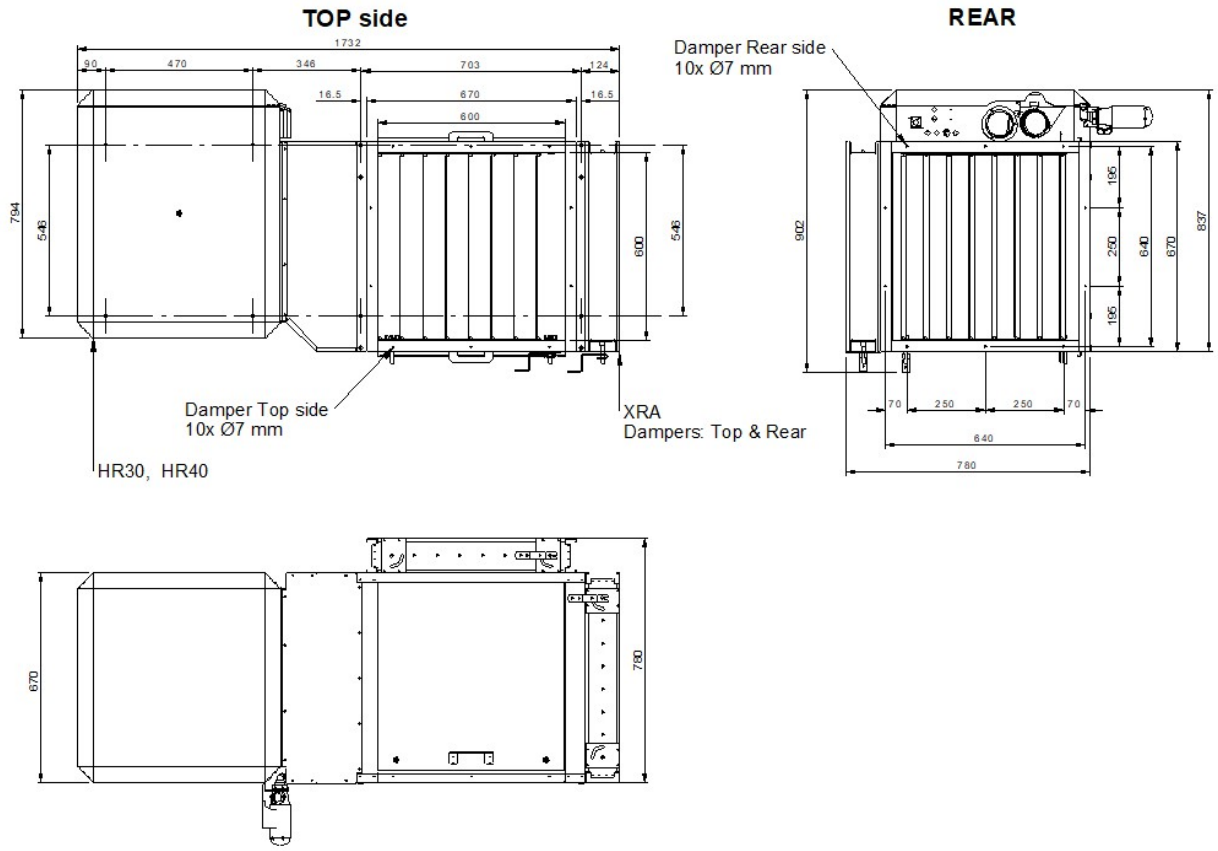


2.4.1.2 Dampers: Down / REAR

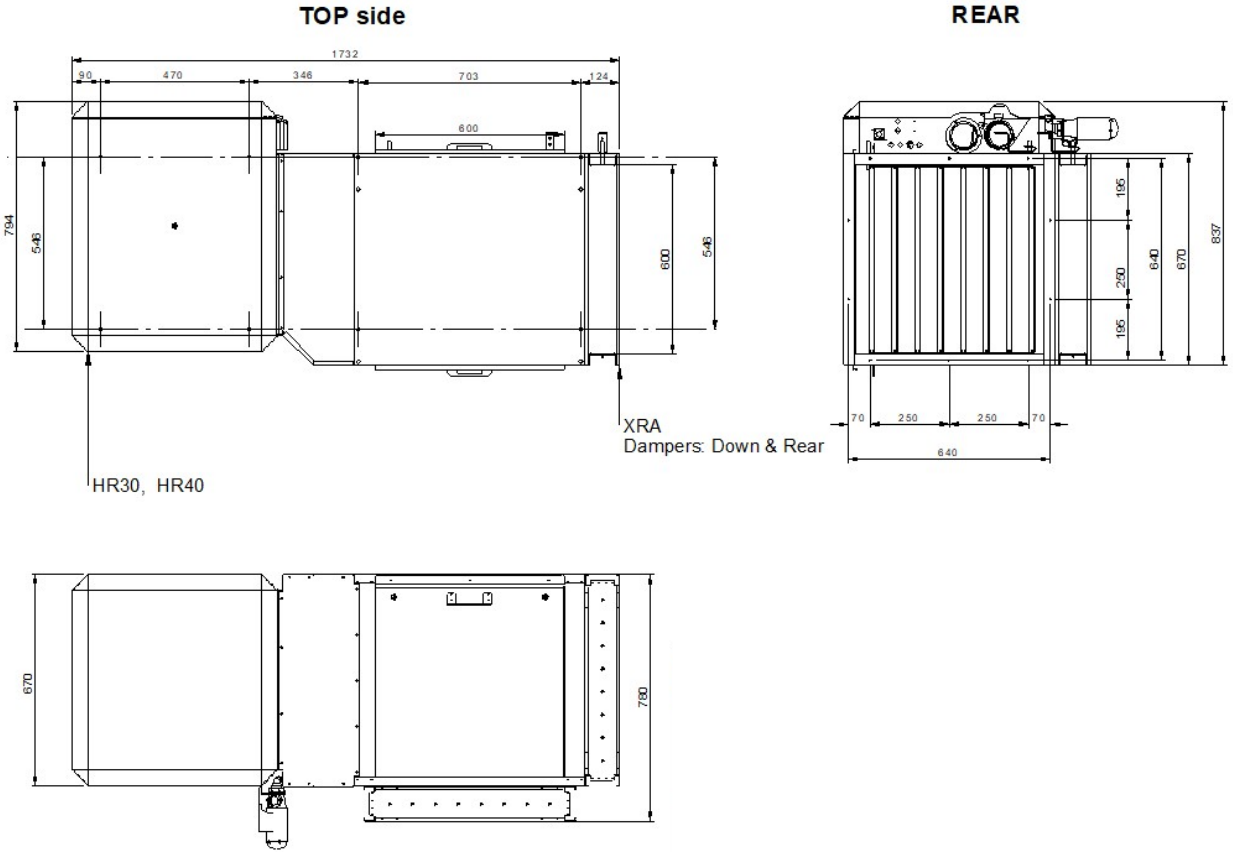


2.4.2 Fanbox ➔ HR30, HR40

2.4.2.1 Dampers: TOP / REAR

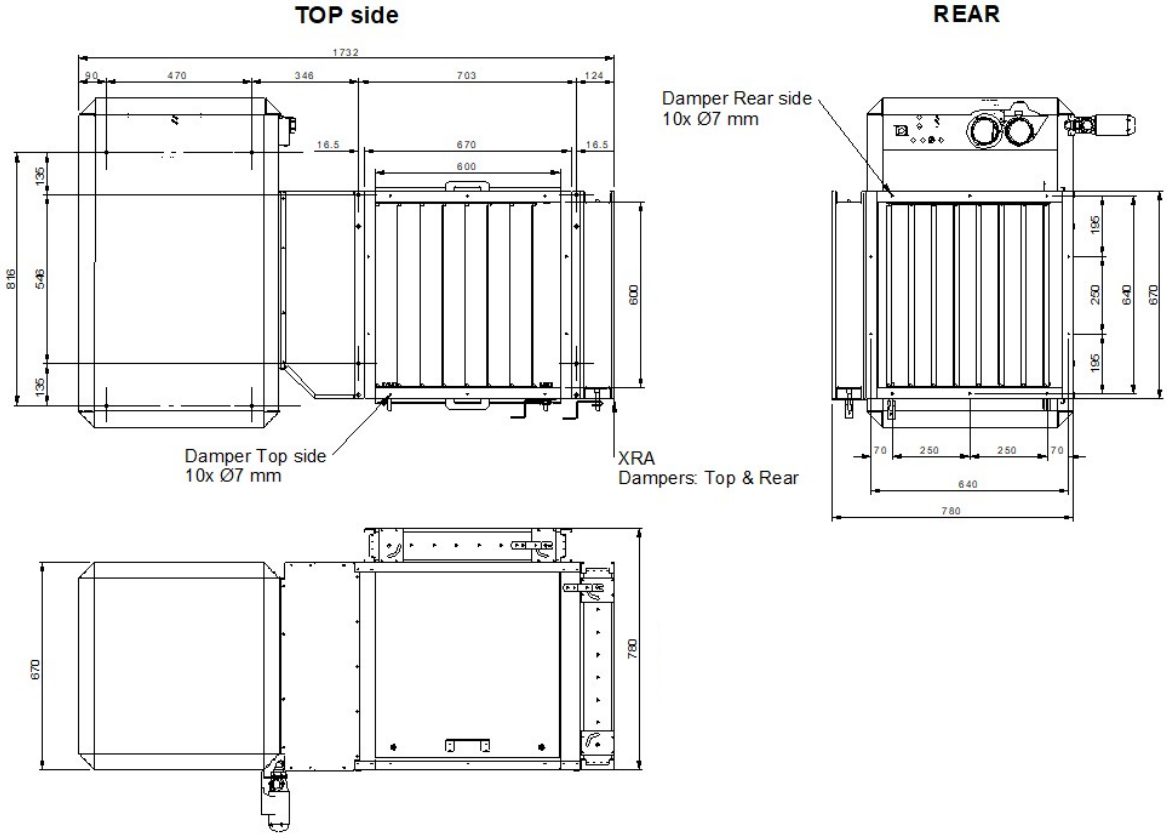


2.4.2.2 Dampers: Down / REAR

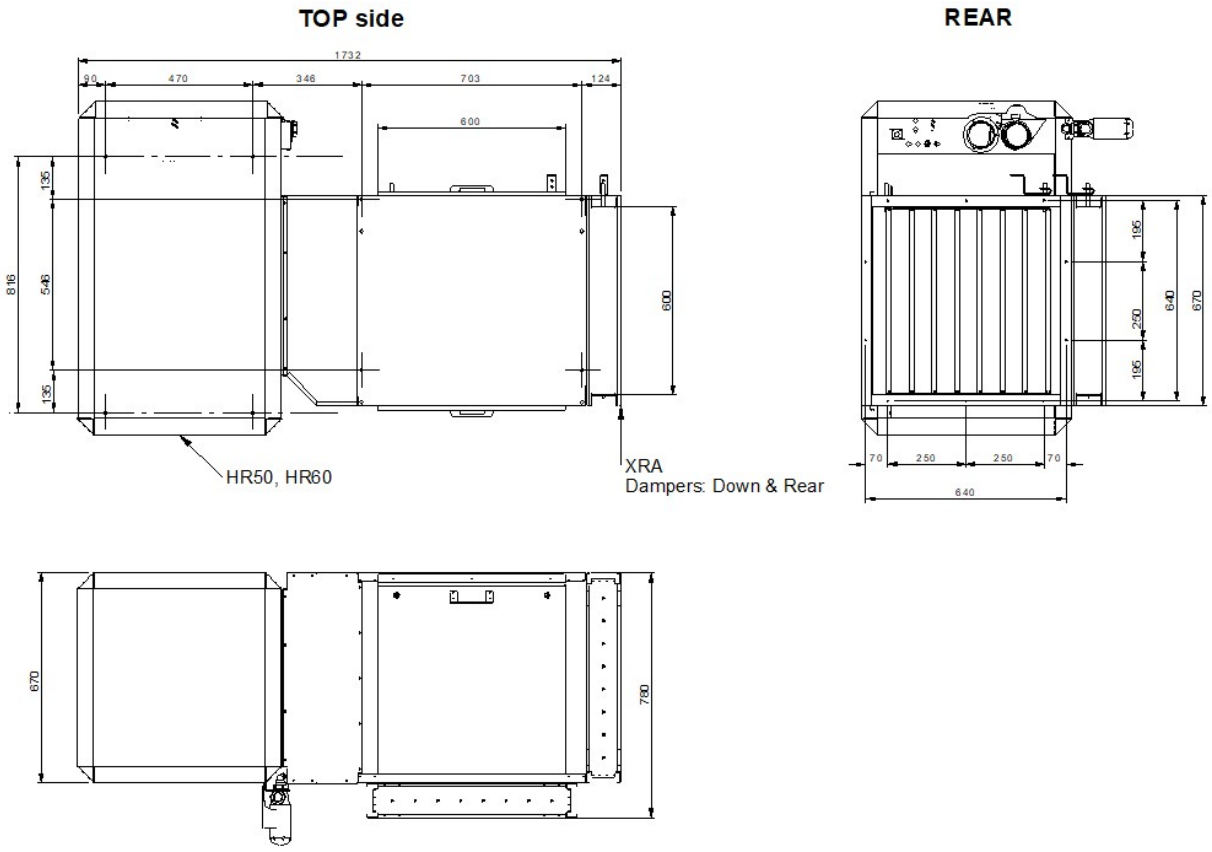


2.4.3 Fanbox ➔ HR50, HR60

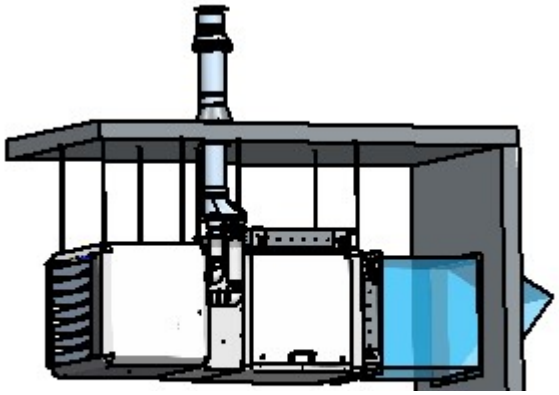
2.4.3.1 Dampers: TOP / REAR



2.4.3.2 Dampers: Down / REAR

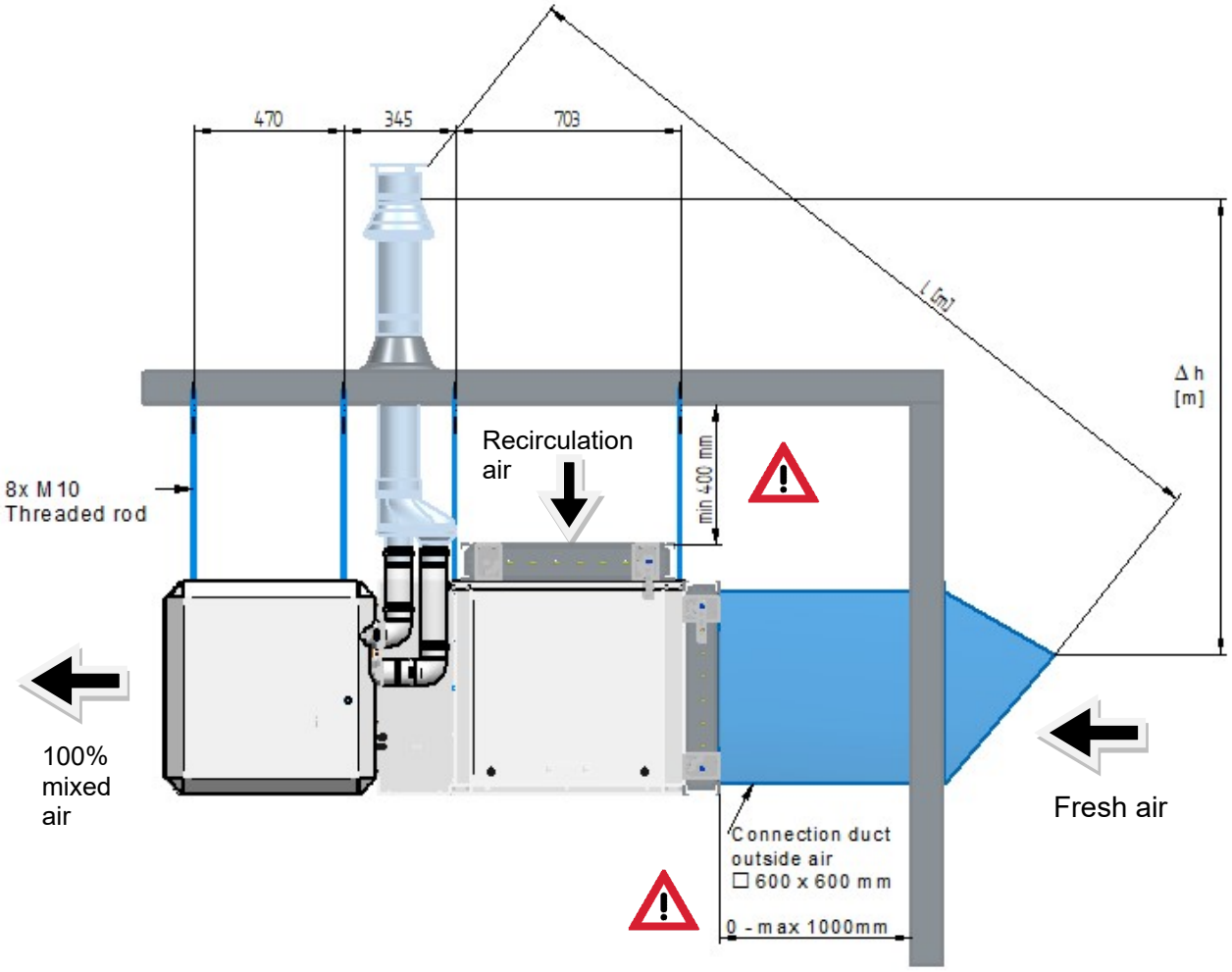


3 Installation fanbox



3.1 Fanbox installation example 1

Fanbox ➔ XR40+, 50+, 60+
Dampers Top / Rear
Flue outlet terminal vertical on the roof
Fresh air inlet on the wall



Connection duct fresh air inlet ➔ min. □ 600 x 600 mm
Length connection duct fresh air inlet ➔ Length max 1000mm

Free distance Inlet recirculation air ➔ minimum 400 mm

Distance L and Δh between flue outlet and fresh air inlet
The dilution factor f must be < 0,01.
Calculation method:

$f = \sqrt{B} / (C_1 * L * C_2 * \Delta h)$

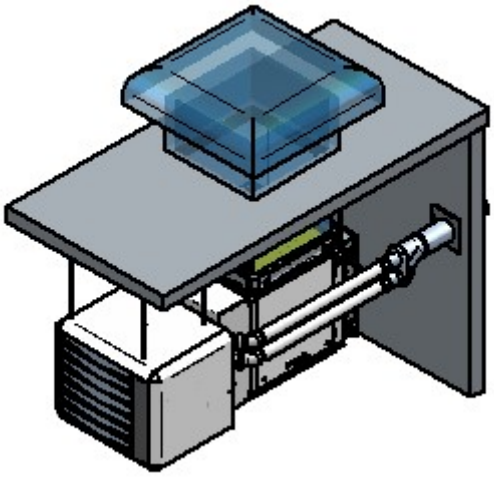
B max. = 66 kW (XR60+)

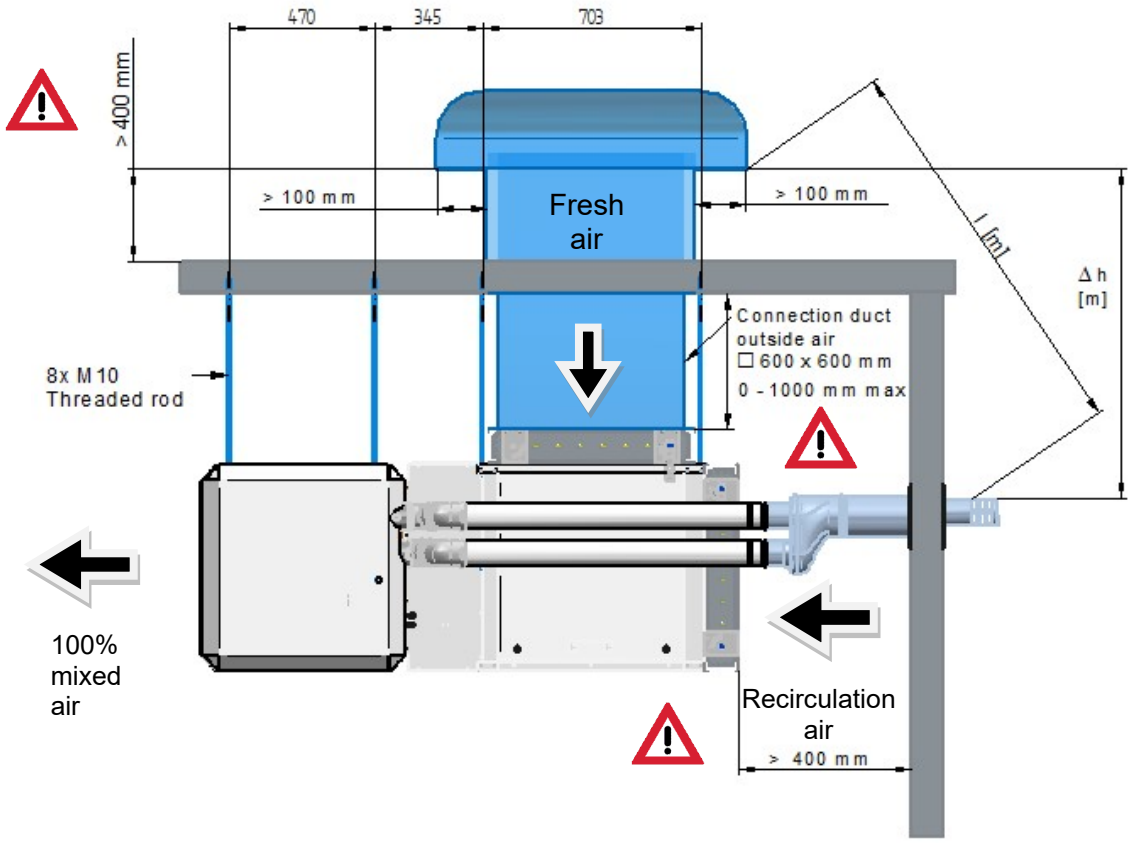
C_1	= 163	L min	= 1,2 m
C_2	= 325	Δh	= 1,0 m

Dilution factor f min. = 0,00012 ➔ < 0,01 OK!

3.2 Fanbox installation example 2

Fanbox ➔ XR40+, 50+, 60+
Dampers Top / rear
Flue outlet terminal horizontal on the wall
Fresh air inlet on the roof





Connection duct fresh air inlet ➔ min. □ 600 x 600 mm
Length connection duct fresh air inlet ➔ Length max 1000mm

Free distance Inlet recirculation air ➔ minimum 400 mm

Distance L and Δh between flue outlet and fresh air inlet
The dilution factor f must be < 0,01.
Calculation method:

$f = \sqrt{B} / (C_1 * L * C_2 * \Delta h)$

B max. = 66 kW (XR60+)

C_1	= 163	L min	= 1,0 m
C_2	= 80	Δh	= 0,6 m

Dilution factor f min. = 0,001 ➔ < 0.01 OK!

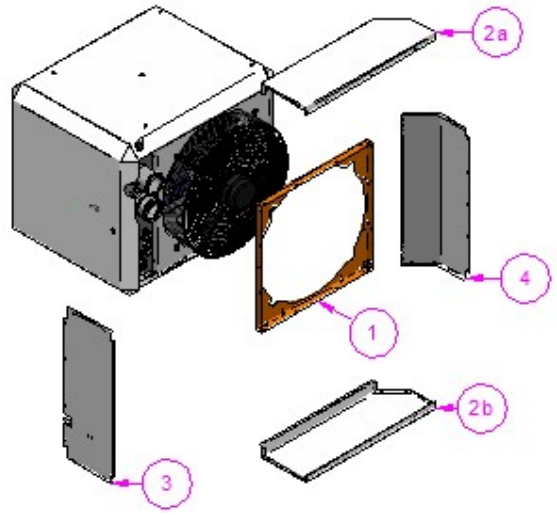
4 Appendix

Assembly fanbox ➔ XR+ or HR heater

4.1 Assembly fanbox ➔ XR40+, XR50+ or XR60+

4.1.1 Dampers: position Top / Rear

XR40+, XR50+, XR60+

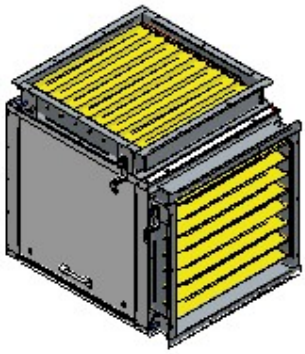


Connection plates 1 - 4

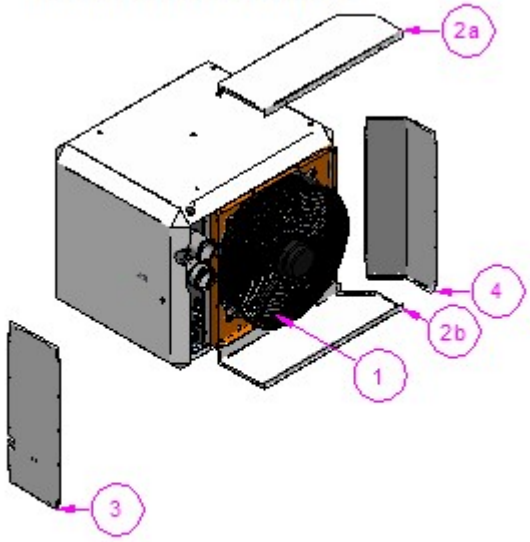
Step 1

- Starting position

XRA
Dampers Top / Rear



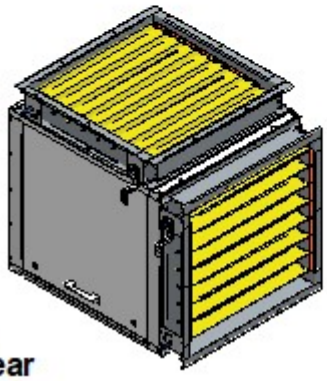
XR40+, XR50+, XR60+



Step 2

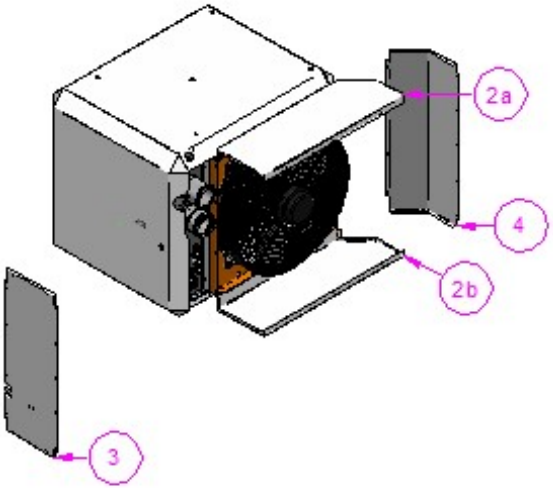
- plate 2b ==> plate 1
  (4x flange bolt M5 x 12)

- plate 1 ==> Heater
  (12x self-drilling screw)



XRA
Dampers Top / Rear

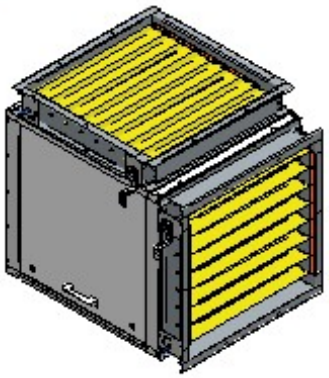
XR40+, XR50+, XR60+



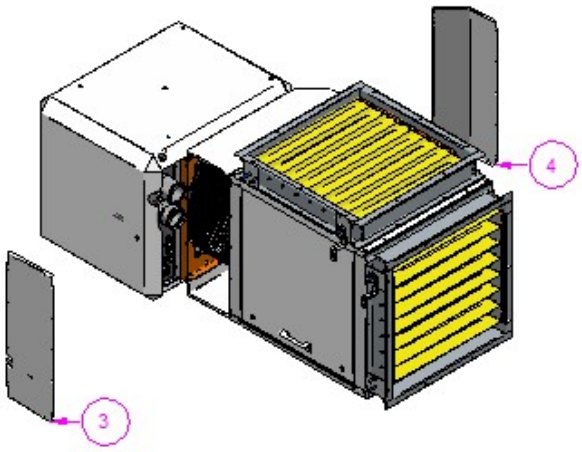
Step 3

- plate 2a ==> Heater
  (4x flange bolt M5 x 12)

XRA
Dampers Top / Rear



XR40+, XR50+, XR60+

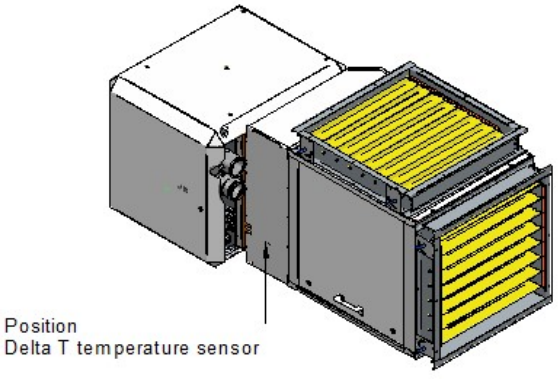


Step 4

- XRA ==> plate 2a & 2b / Heater
  (6x flange bolt M5 x 12)

XRA
Dampers Top / Rear

XR40+, XR50+, XR60+



Step 5

- Plate 3 & 4 ==>XRA / Heater
  (28x flange bolt M5 x 12)
- Position Delta T temperature sensor

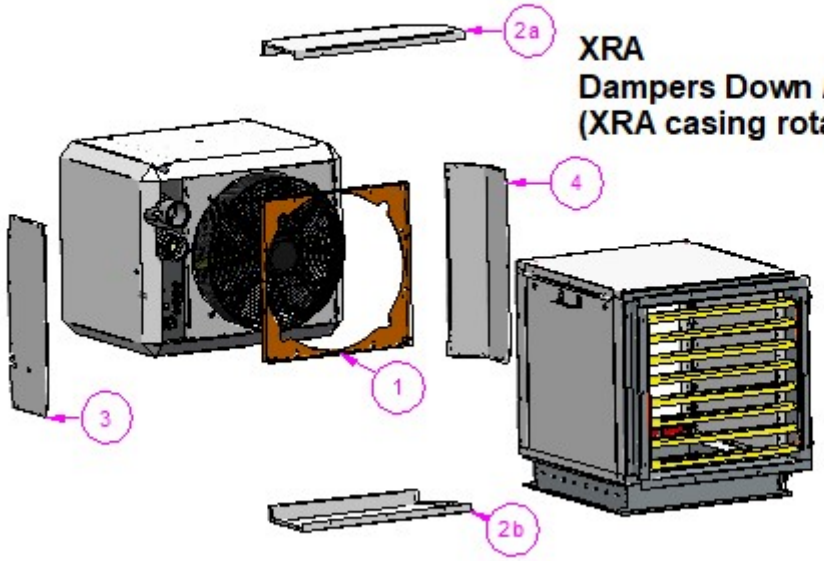
XRA
Dampers Top / Rear

4.1.2 Dampers: position Down / Rear

Step 1

XR40+, XR50+, XR60+

- Starting position



XRA
Dampers Down / Rear
(XRA casing rotated 180°)

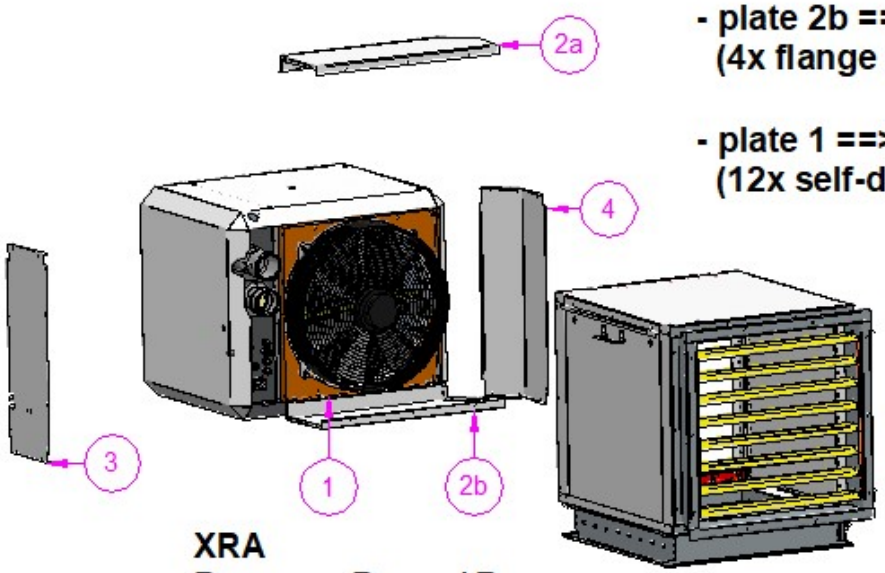
Connection plates 1 - 4

Step 2

XR40+, XR50+, XR60+

- plate 2b ==> plate 1
(4x flange bolt M5 x 12)

- plate 1 ==> Heater
(12x self-drilling screw)

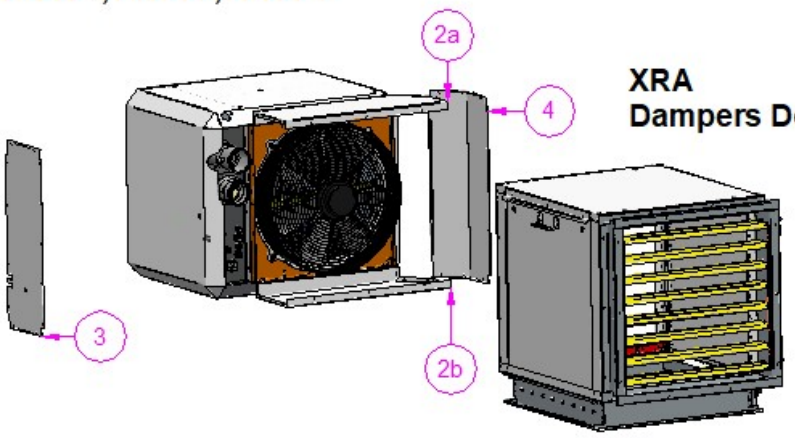


XRA
Dampers Down / Rear

Step 3

- plate 2a ==> Heater
  (4x flange bolt M5 x 12)

XR40+, XR50+, XR60+

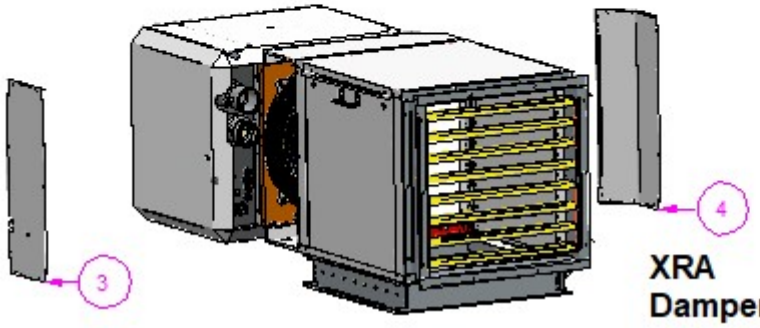


XRA
Dampers Down / Rear

Step 4

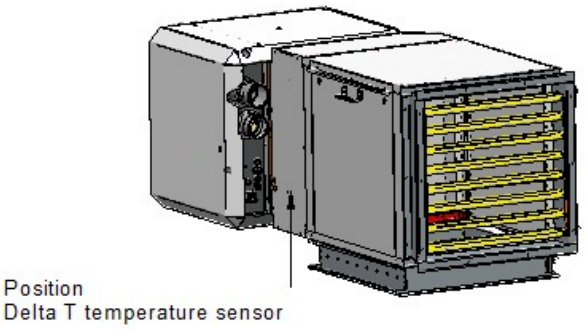
- XRA ==> plate 2a & 2b / Heater
  (6x flange bolt M5 x 12)

XR40+, XR50+, XR60+



XRA
Dampers Down / Rear

XR40+, XR50+, XR60+



Position
Delta T temperature sensor

Step 5

- Plate 3 & 4 ==>XRA / Heater
  (28x flange bolt M5 x 12)
- Position Delta T temperature sensor

XRA
Dampers Down / Rear

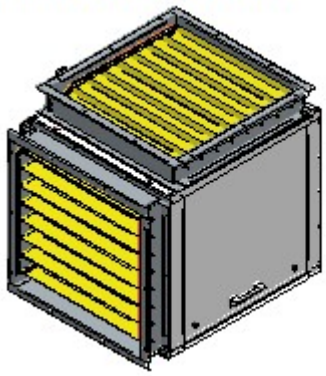
4.2 Assembly fanbox ➔ HR30, HR40

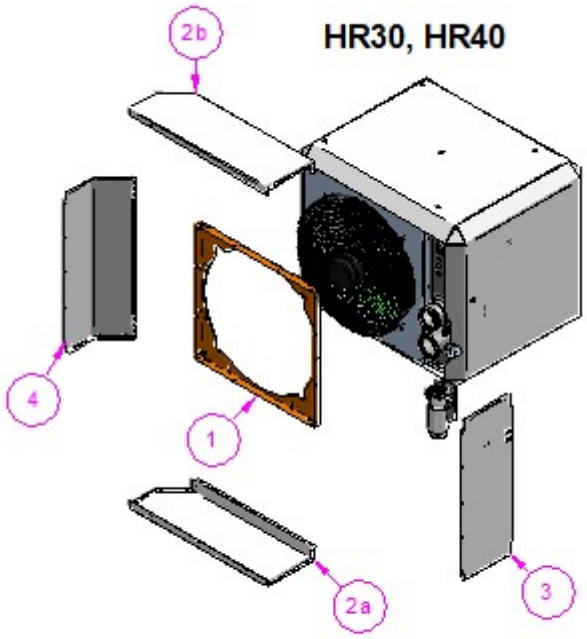
4.2.1 Dampers: position Top / Rear

Step 1

- Starting position

XRA
Dampers Top / Rear



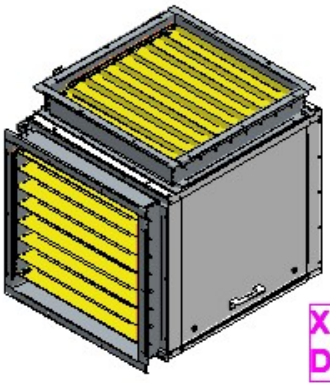


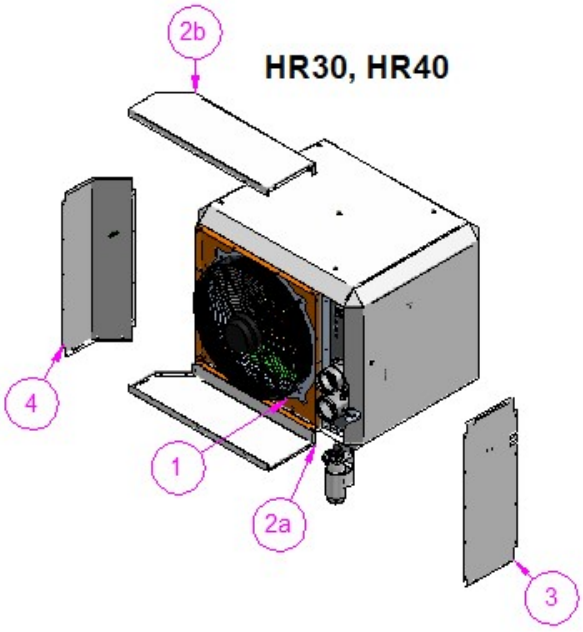
Connection plates 1 - 4

Step 2

- plate 2a ==> plate 1
  (4x flange bolt M5 x 12)

- plate 1 ==> Heater
  (12x self-drilling screw)



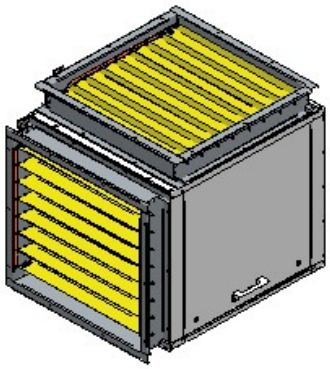


XRA
Dampers Top / Rear

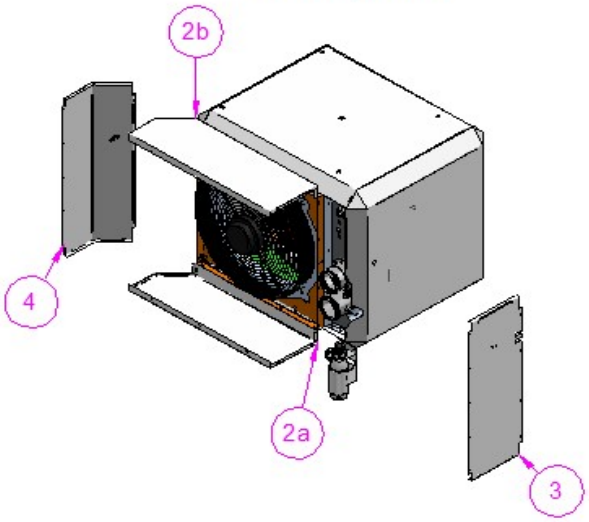
Step 3

- plate 2b ==> Heater
  (4x flange bolt M5 x 12)

XRA
Dampers Top / Rear



HR30, HR40

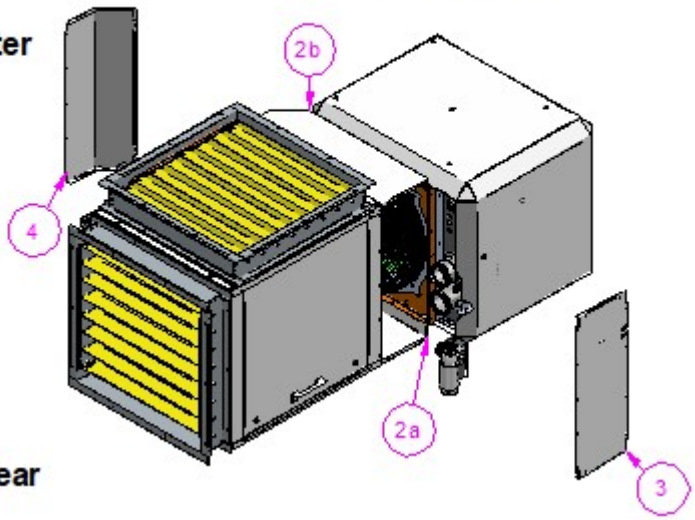


Step 4

- XRA ==> plate 2a & 2b / Heater
  (6x flange bolt M5 x 12)

XRA
Dampers Top / Rear

HR30, HR40

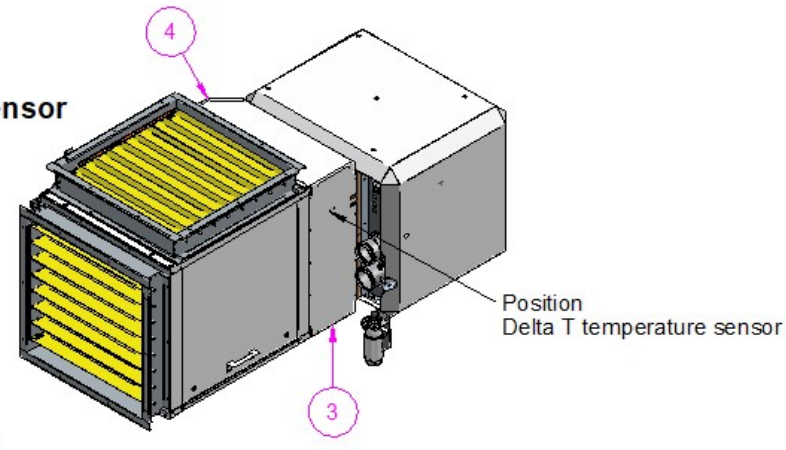


Step 5

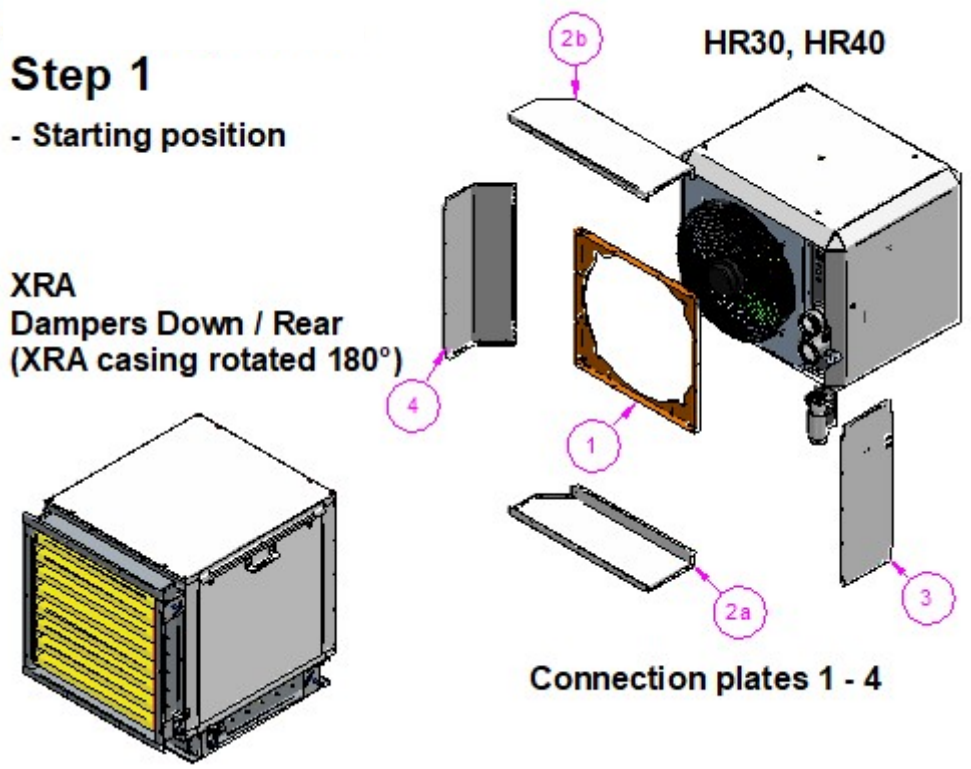
- Plate 3 & 4 ==>XRA / Heater
  (28x flange bolt M5 x 12)
- Position Delta T temperature sensor

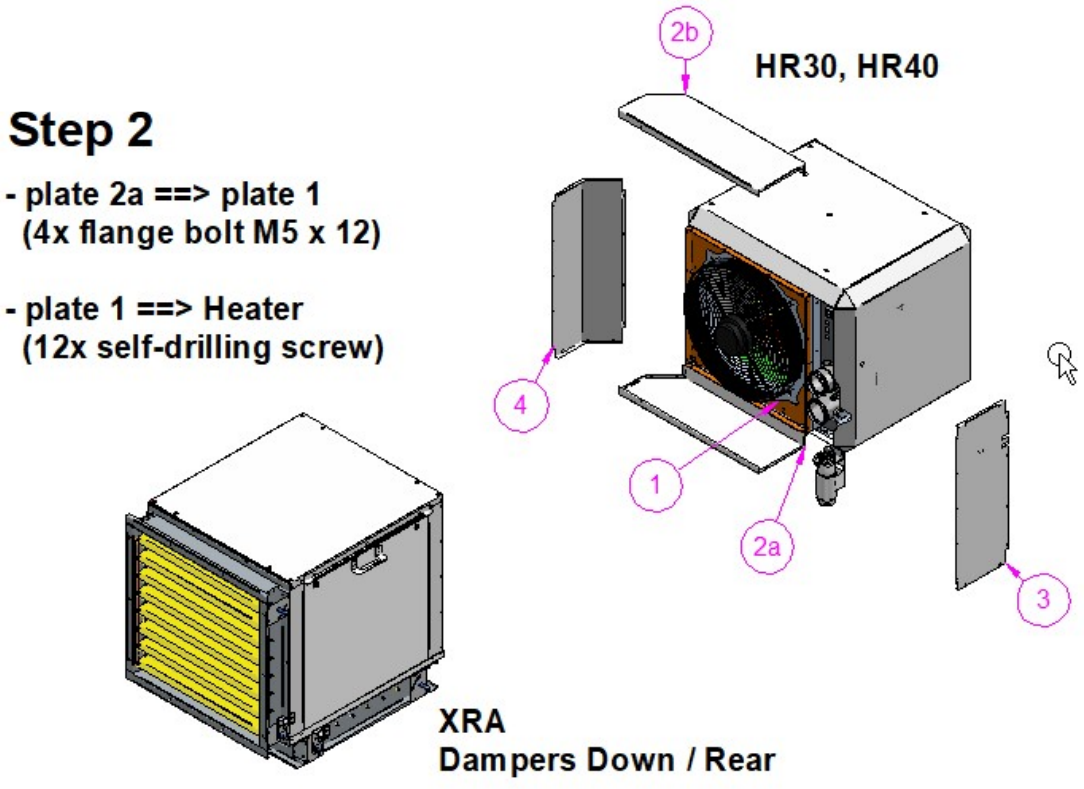
XRA
Dampers Top / Rear

HR30, HR40



4.2.2 Dampers: position Down / Rear



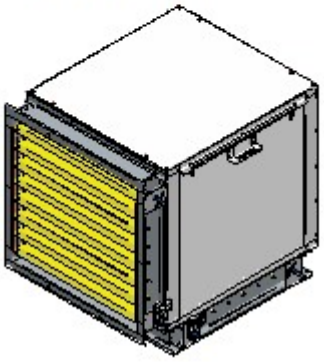


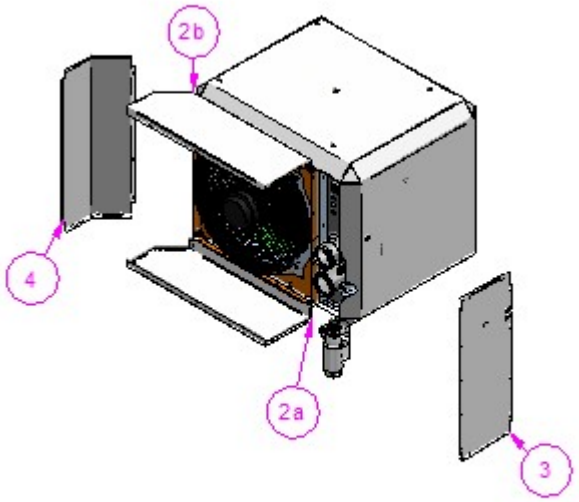
HR30, HR40

Step 3

- plate 2b ==> Heater
  (4x flange bolt M5 x 12)

XRA
Dampers Down / Rear



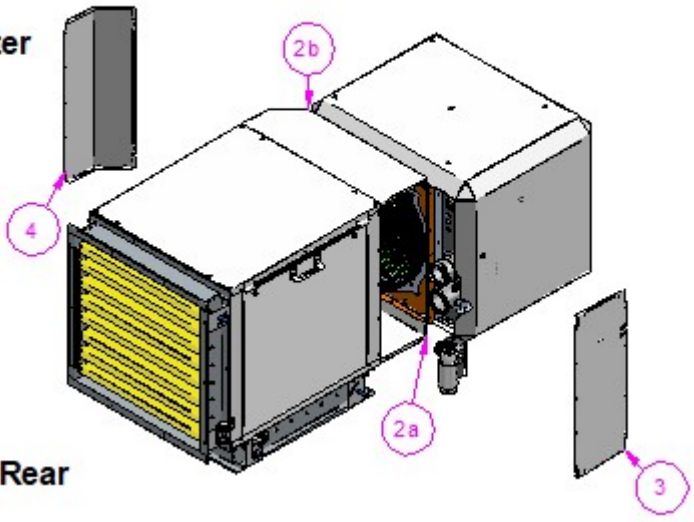


HR30, HR40

Step 4

- XRA ==> plate 2a & 2b / Heater
  (6x flange bolt M5 x 12)

XRA
Dampers Down / Rear

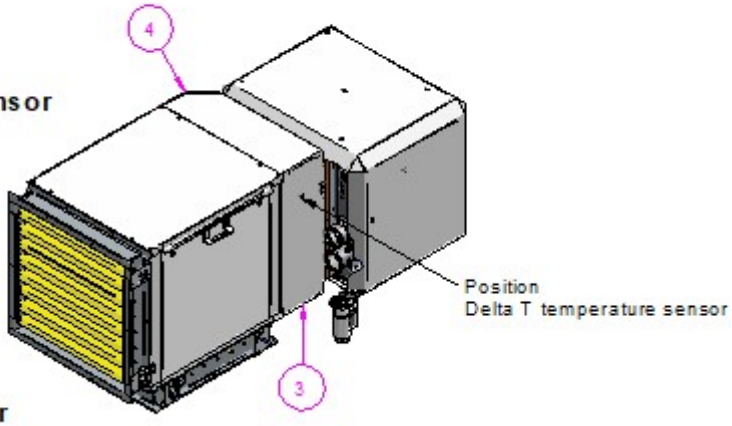


HR30, HR40

Step 5

- Plate 3 & 4 ==>XRA / Heater
  (28x flange bolt M5 x 12)
- Position Delta T temperature sensor

XRA
Dampers Down / Rear

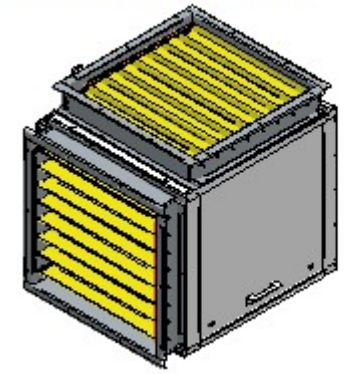


4.3 Assembly fanbox ➔ HR50, HR60

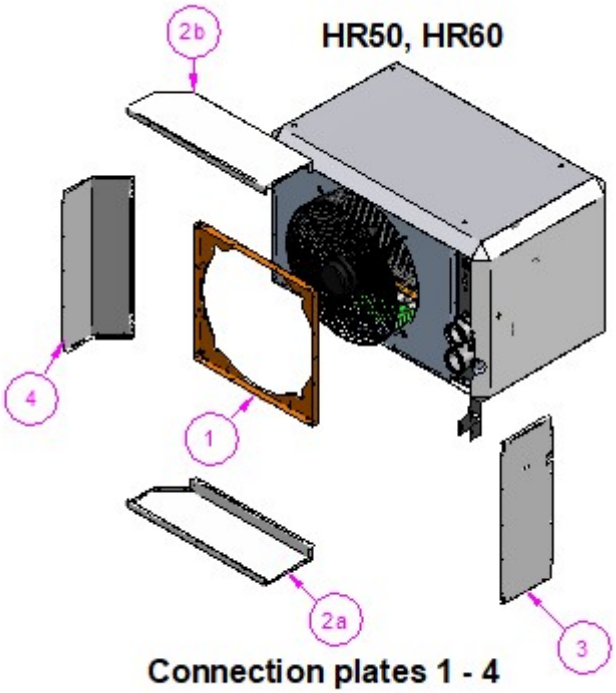
4.3.1 Dampers: position Top / Rear

Step 1

- Starting position



XRA
Dampers Top / Rear

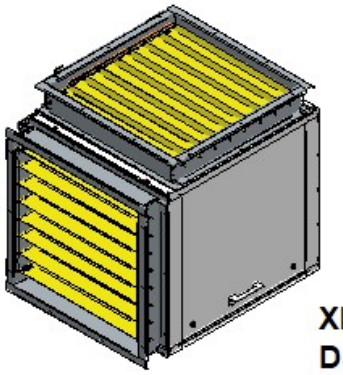


Connection plates 1 - 4

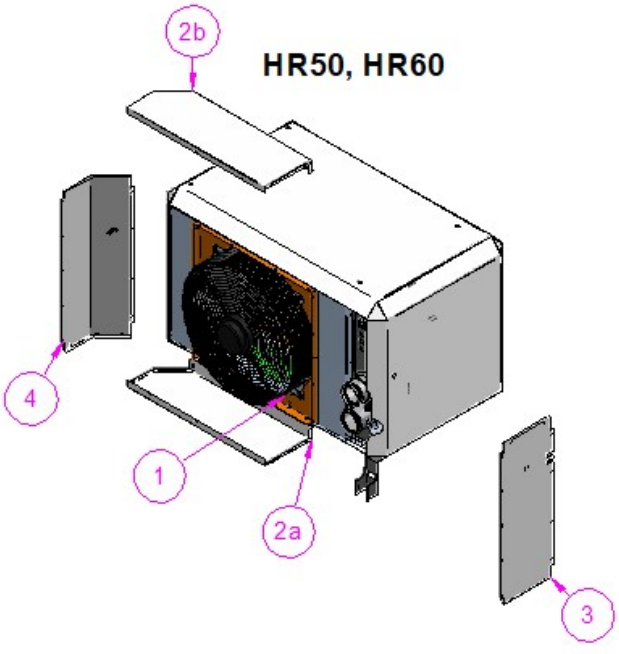
Step 2

- Plate 2a ==> plate 1
  (4x flange bolt M5 x 12)

- plate 1 ==> Heater
  (12x self-drilling screw)



XRA
Dampers Top / Rear

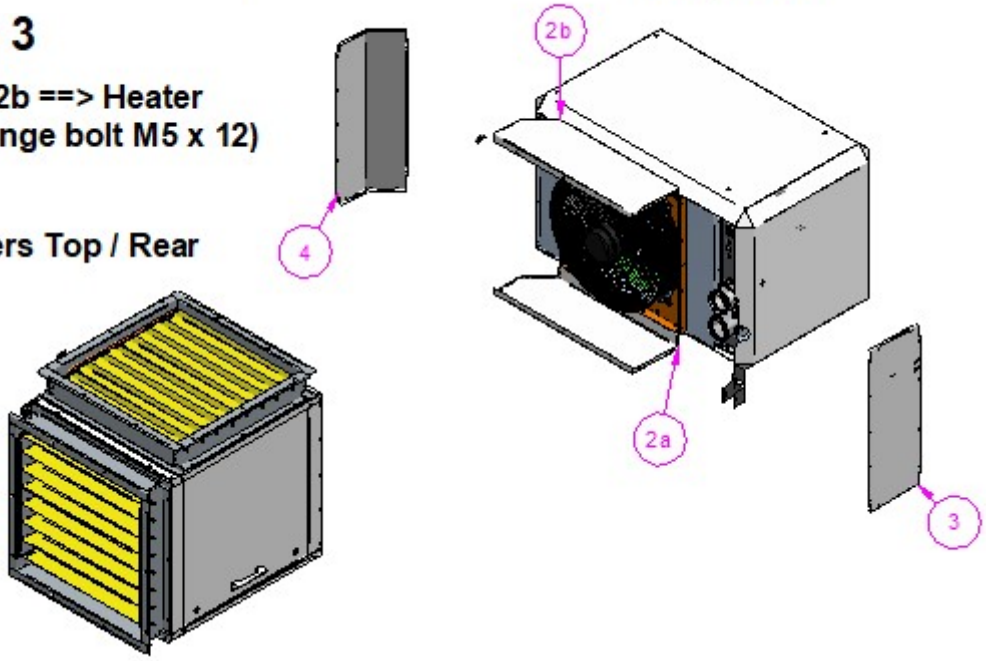


HR50, HR60

Step 3

- plate 2b ==> Heater
  (4x flange bolt M5 x 12)

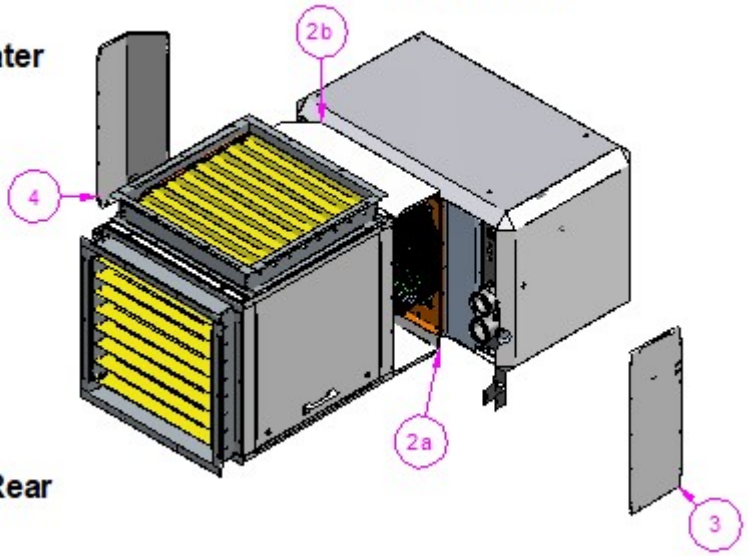
XRA
Dampers Top / Rear



HR50, HR60

Step 4

- XRA ==> plate 2a & 2b / Heater
  (6x flange bolt M5 x 12)

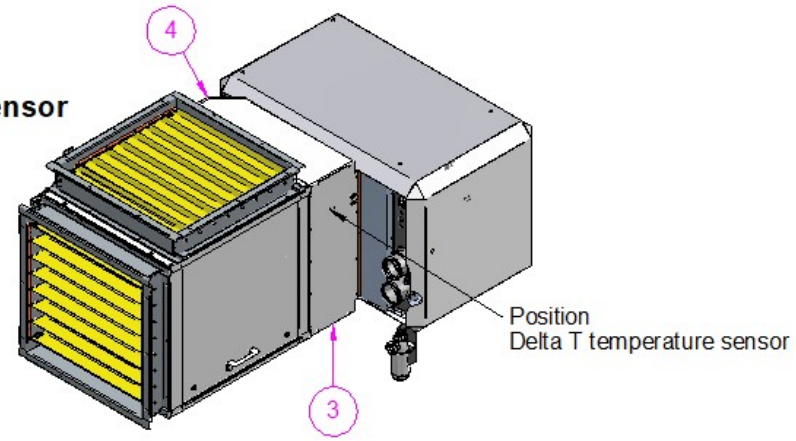


XRA
Dampers Top / Rear

HR50, HR60

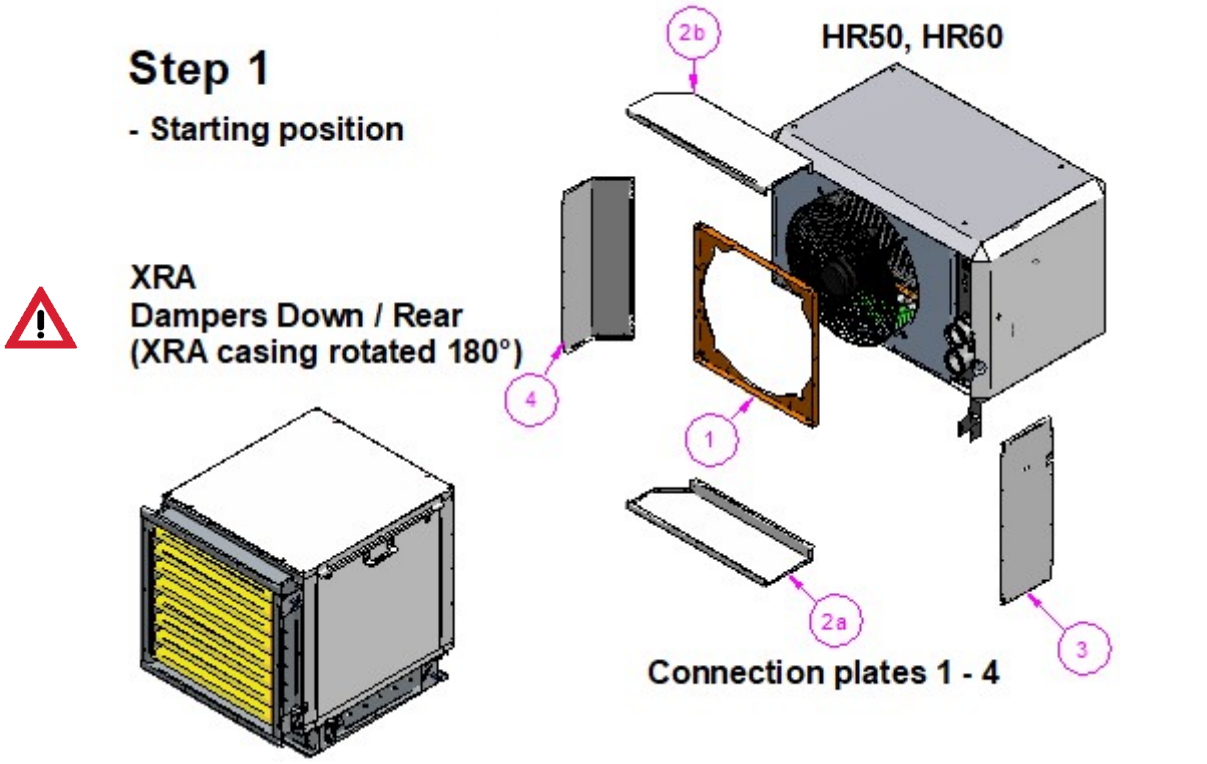
Step 5

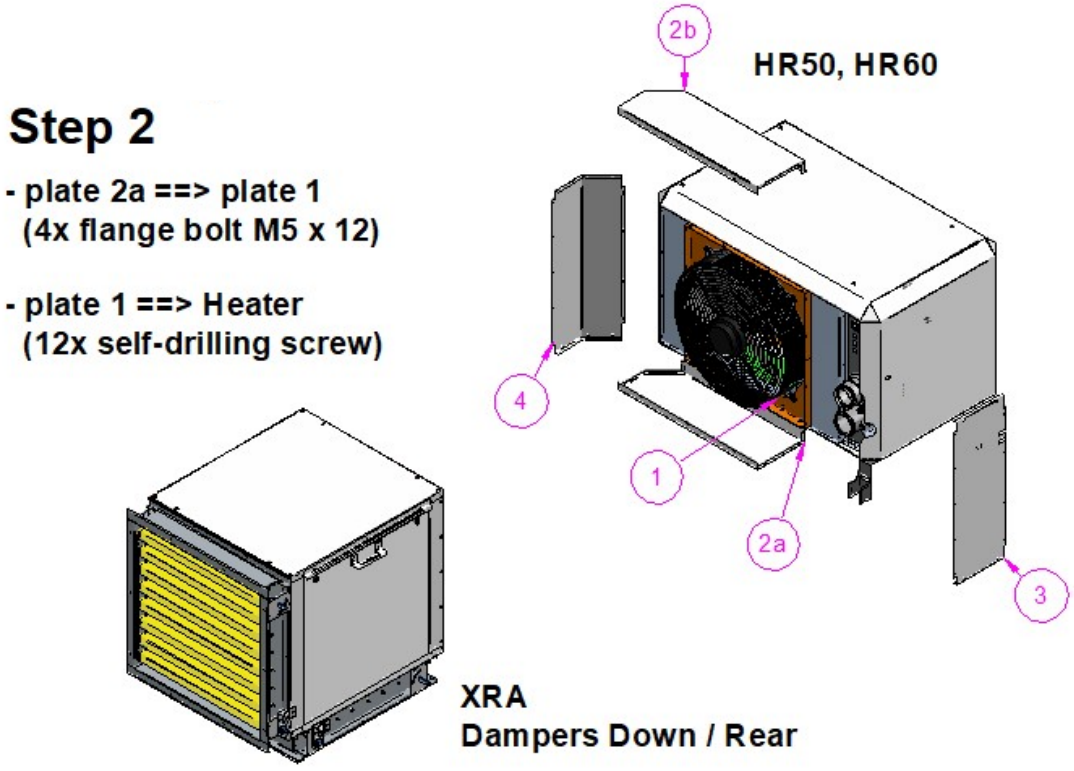
- Plate 3 & 4 ==>XRA / Heater
  (28x flange bolt M5 x 12)
- Position Delta T temperature sensor



XRA
Dampers Top / Rear

4.3.2 Dampers: position Down / Rear



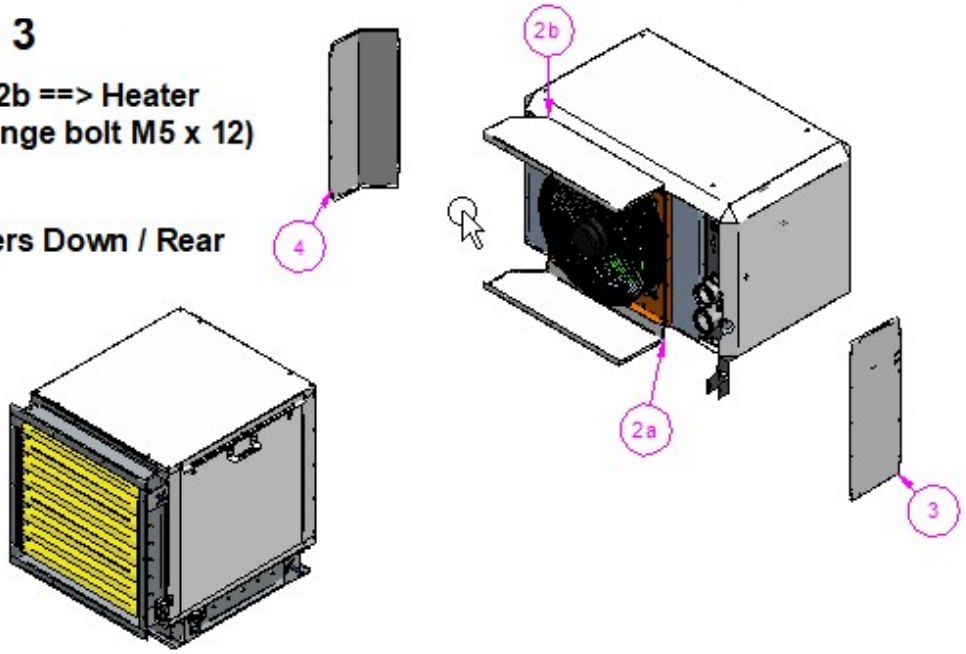


HR50, HR60

Step 3

- plate 2b ==> Heater
  (4x flange bolt M5 x 12)

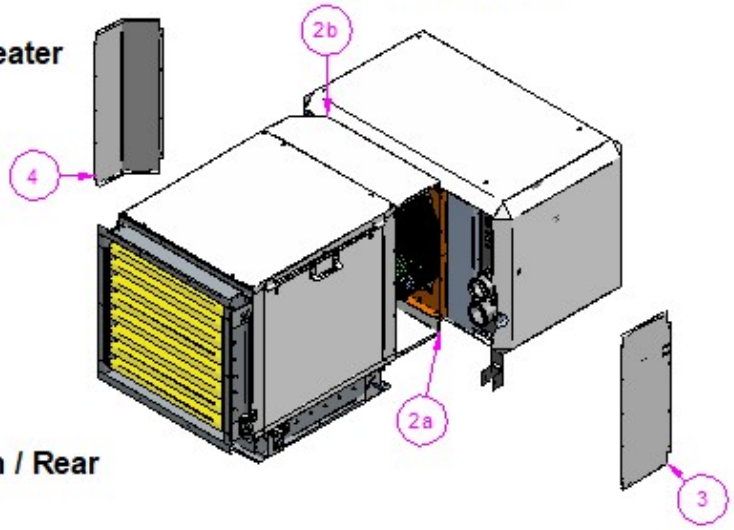
XRA
Dampers Down / Rear



HR50, HR60

Step 4

- XRA ==> plate 2a & 2b / Heater
  (6x flange bolt M5 x 12)

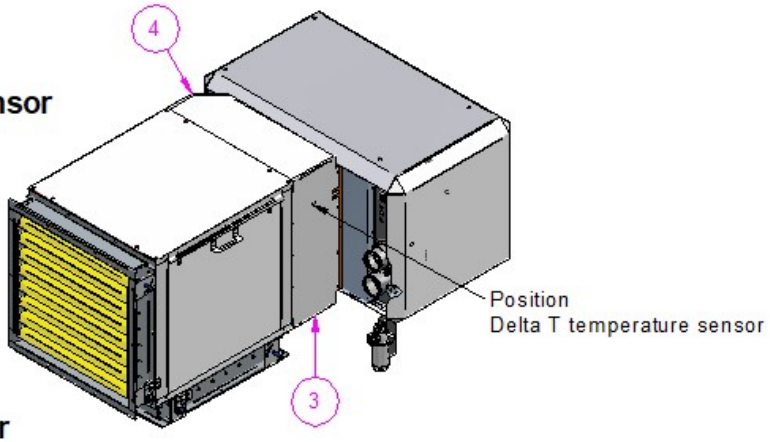


XRA
Dampers Down / Rear

HR50, HR60

Step 5

- Plate 3 & 4 ==>XRA / Heater
  (28x flange bolt M5 x 12)
- Position delta T temperature sensor



XRA
Dampers Down / Rear