GREENHOUSE INSTALLATION MANUAL

Greenhouse No 6

www.lahehouse.com

Dear Customer

Thank you for choosing Lähe Greenhouse!

Please read this guide carefully before installing a greenhouse. Reading the installation manual will help you avoid mistakes when installing the greenhouse and ensure better results with less time.

If you have no previous experience in installing a greenhouse or construction work, we recommend using the services of an experienced craftsman or construction company.

ATTENTION: When opening the greenhouse packaging, the presence of parts and possible defects must be checked immediately. Missing details and defects must be reported before installing the greenhouse. Otherwise, the greenhouse may lose its warranty.

All Lähe greenhouses are made of natural, high-quality Nordic heat-treated pine. Wood is a natural material, so it is not possible to avoid twigs, cracks caused by drying, differences in shade and other characteristics of wood. Since the wooden parts of our greenhouses are made of natural wood and not chemically treated, it is natural that they will turn gray over time.

We wish you a successful installation!

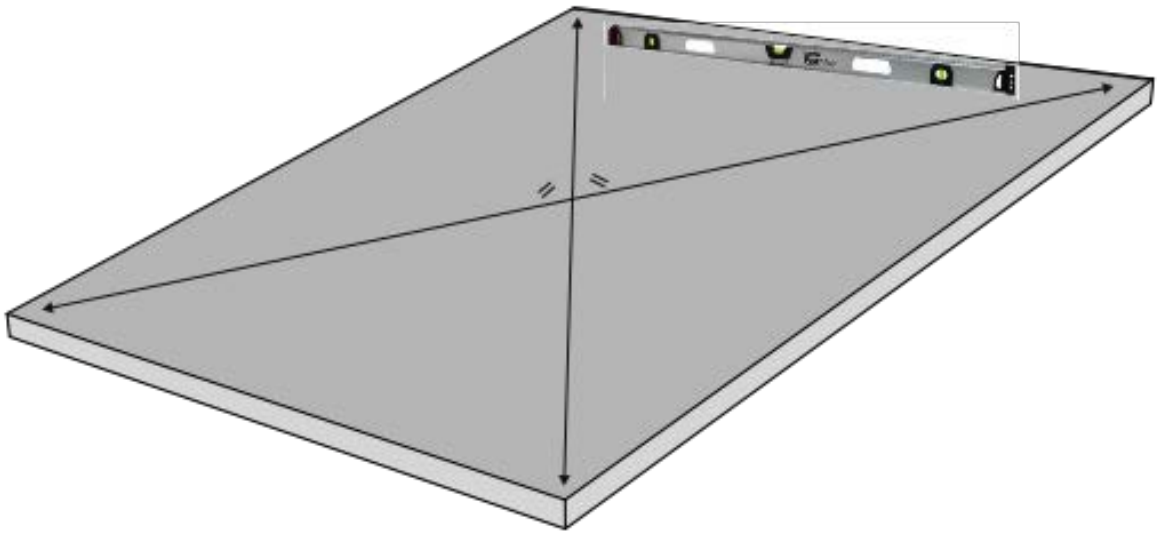
Lähe House

1. FOUNDATION

Greenhouse installation always starts from preparation of the foundation. The appropriate type of foundation depends on the soil, the purpose and the size of the greenhouse. For Lähe greenhouses, a strong concrete slab or tape foundation must be used.

The foundation must be horizontally level and all angles 90 degrees. Only a proper, level and load-bearing foundation ensures an impeccable result. A failed foundation makes it difficult to install details, causes problems with the operation of doors and windows, and reduces the stability and lifespan of the greenhouse. We recommend consulting a construction specialist when choosing a suitable foundation.

NB! Subsequent damage to the greenhouse due to the wrong foundation is not covered by the warranty!

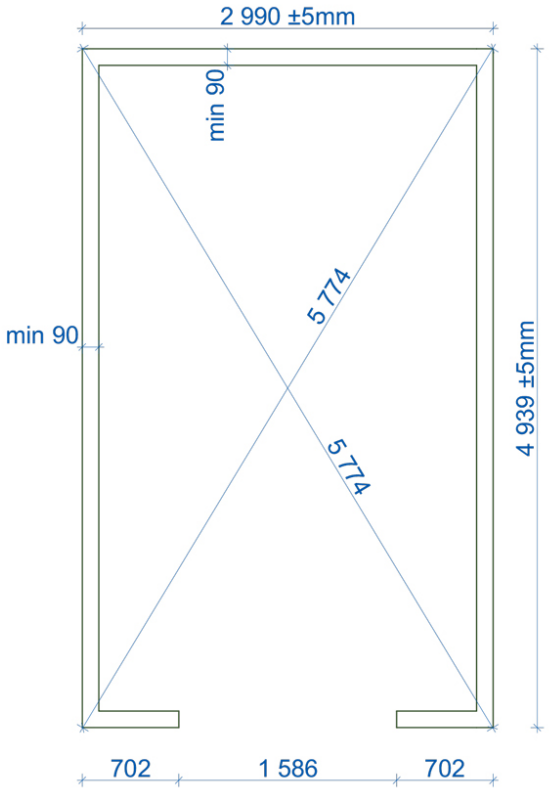


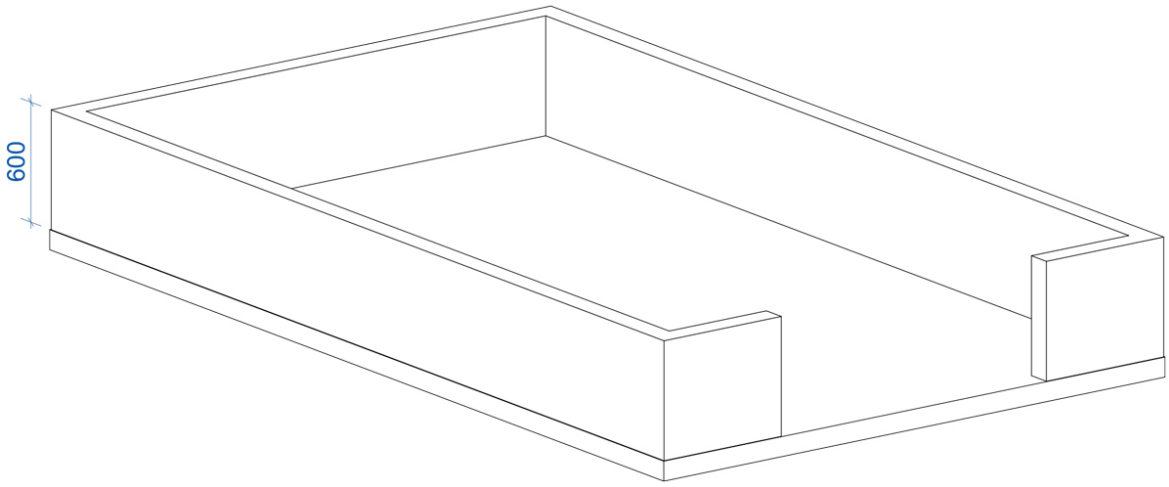
NB! Laying the foundation in the garden

Leave at least 2 meters of free space from both sides. Required for installing roof glasses!

Stone wall

For the correct installation of Greenhouse No 6, it is necessary to prepare a 60 cm high stone wall on which the wooden part of the greenhouse rests.





2. TOOLS

Please check that you have all neccessary tools and safety equipment before installation!

Cordless drill (preferably 2pcs), drill bits (TX20-25, HEX4), ladder (2pcs), clamping screws (2pcs), wood drill (2, 4 and 5mm), leveling tool, wrench 10mm (2pcs), wooden support bar (4pcs with lenght of ca 3m), glass lifting suction cups (preferably 2pcs).

3. DETAILS

Numerous wooden details can be confusing at the arrival of the greenhouse but sorting the details will help solve the buzzle.

Remove the parts from the package and assemble the similar parts into bundles. Follow the markings on the details. Two parts with the same symbol will be connected during installation.

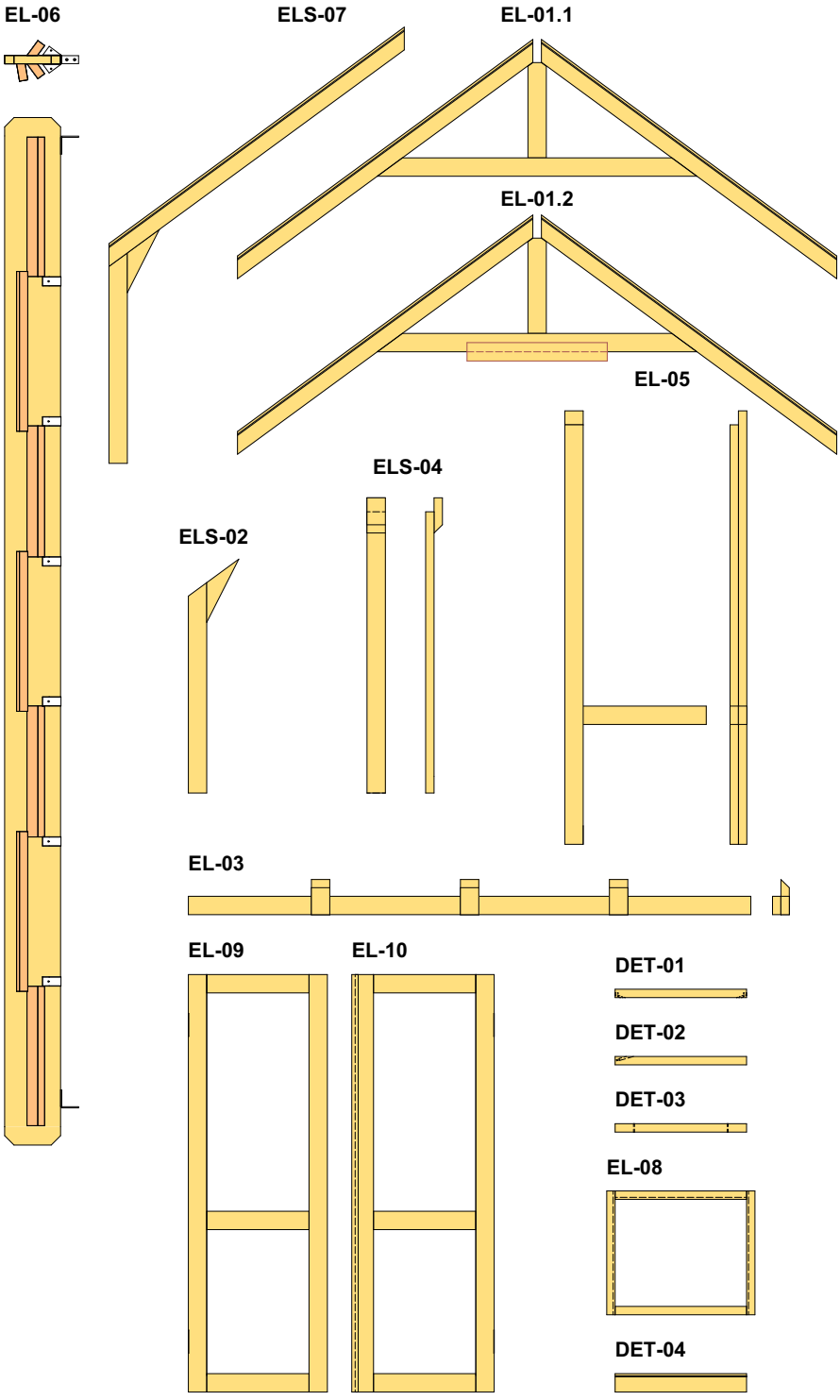
During sorting, you get full confidence that all the necessary details are present and without defects.

List of details

1. Back wall upper triangle (EL-01.1) – 1 pcs
2. Front wall upper triangle (EL-01.2) – 1 pcs
3. End wall post (ELS-02) – 4 pcs
4. Back wall base detail (EL-03) – 1 pc
5. Back wall inner post (ELS-04) – 3 pcs
6. Doorpost (EL-05) – 2 pcs
7. Ridge beam (EL-06) – 1 pc
8. Rafter (ELS-07) – 12 pcs
9. Roof window (EL-08) – 3 pcs
10. Left side door (EL-09) – 1 pc
11. Right side door (EL-10) – 1 pc
12. Rafter middle detail (DET-01) – 14 pcs
13. Lower base detail (DET-02) – 14 pcs
14. Upper base detail (DET-03) – 14 pcs
15. Roow window middle detail (DET-04) – 3 pcs

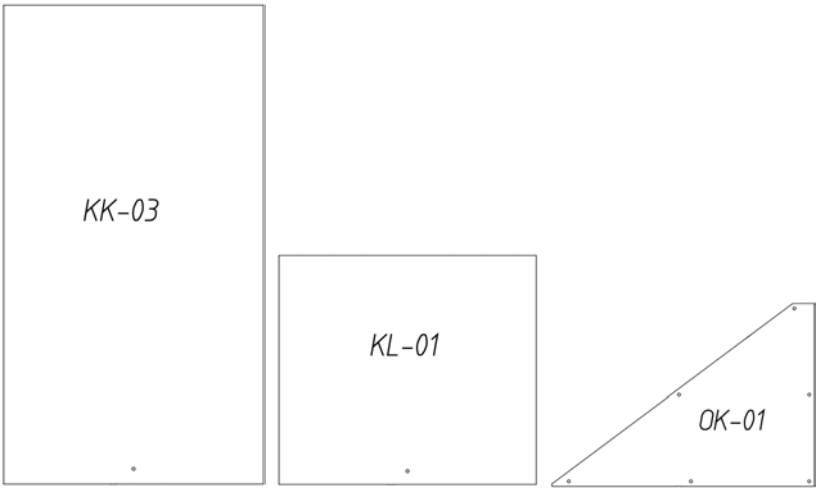
NB! Start installing the greenhouse on the foundation only after sorting the details and thoroughly reading the installation manual.

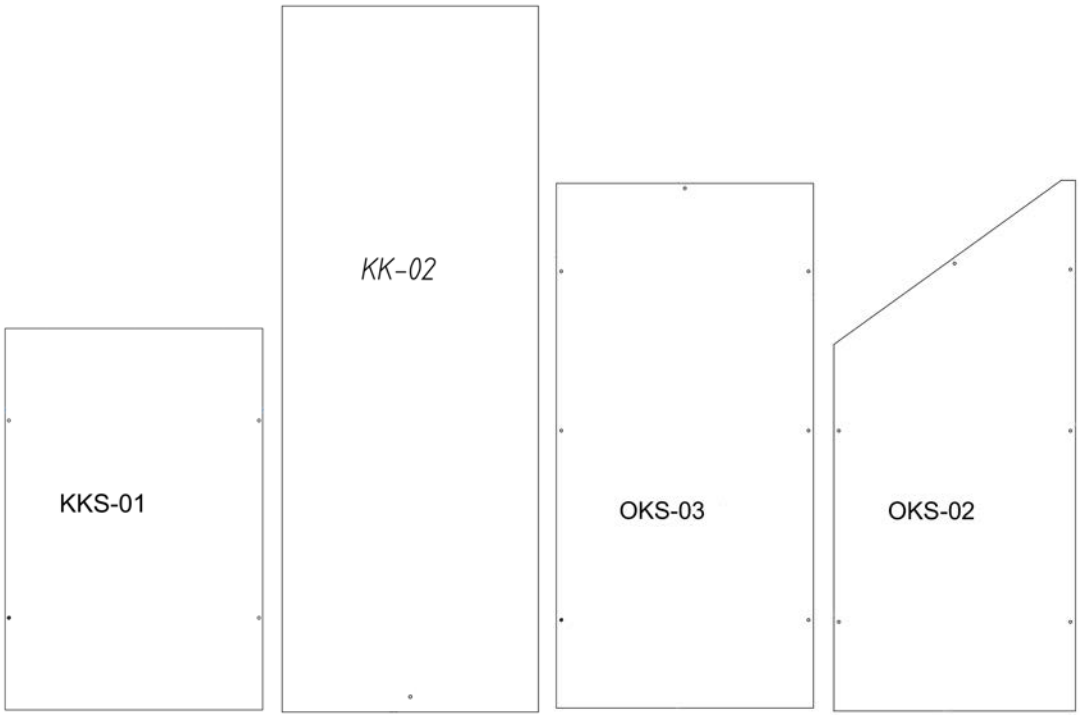
Detail views



4. GLASS

1. Endwall glass (OK-01) – 4 pcs
2. Endwall glass (OKS-02) – 4 pcs
3. Endwall glass (OKS-03) – 2 pcs
4. Side glass (KKS-01) – 14 pcs
5. Roof glass (KK-02) – 11 pcs
6. Roof glass (KK-03) – 3 pcs
7. Roof window glass (KL-01) – 3 pcs





5. FASTENERS

1. Wood screw round head 4x20 (drill bit TX20)

Quantity: 52 pcs

2. Wood screw round head 5x40 (drill bit TX25)

Quantity: 28 pcs

3. Wood screw round head 5x50 (drill bit TX25)

Quantity: 28 pcs

4. Wood screw hidden head 5x80 (drill bit TX25)

Quantity: 70 pcs

5. Wood screw hidden head 5x40 (drill bit TX25)

Quantity: 4 pcs

6. Glass screw 6,3x30 (drill bit HEX4) + pvc washer

Quantity: 141 pcs + 141 pcs

7. M6 x 55mm bolt + nut + washer

Quantity: 12 pcs + 12 pcs + 24 pcs

8. Wooden dowel

Quantity: 28 pcs

9. Long drill bit SHW TX25 for 5x50 and 5x40

Quantity: 1 pc

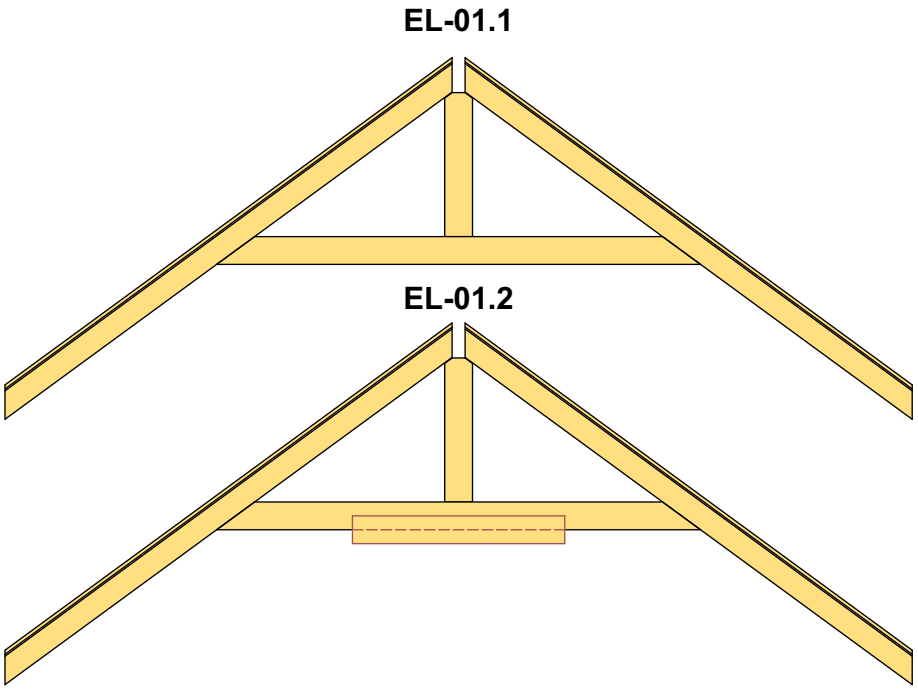
10. Glass assembly block 4mm

Quantity: 1 pc

NB! There may be extra amount of fasteners included!

6. BACK AND FRONT WALLS UPPER TRIANGLE ASSEMBLY

Due transportation reasons back and front wall upper triangles (EL-01.1 and EL-01.2) are partially disassembled. Details are packed together for easy recognition. **NB! Do not mix front and back wall details!**

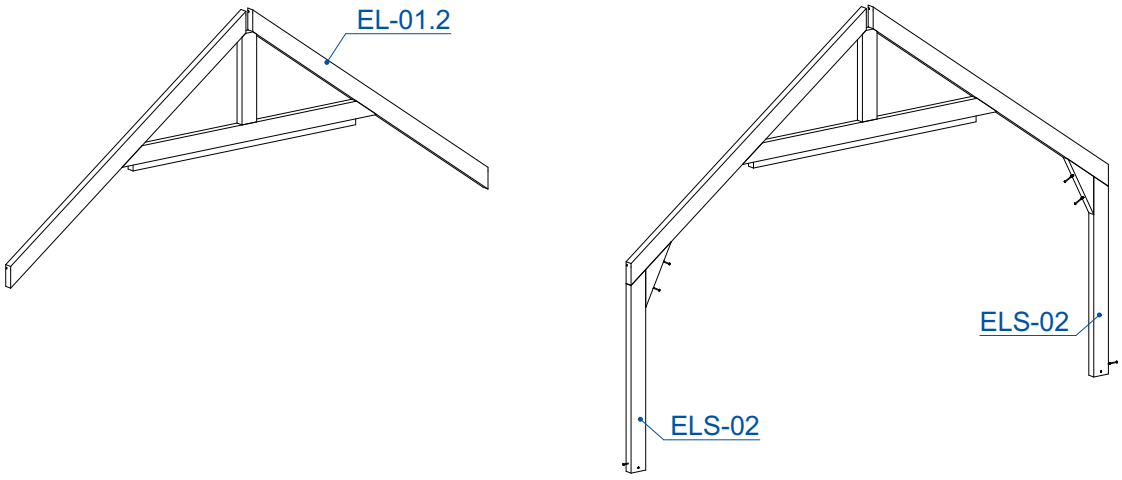


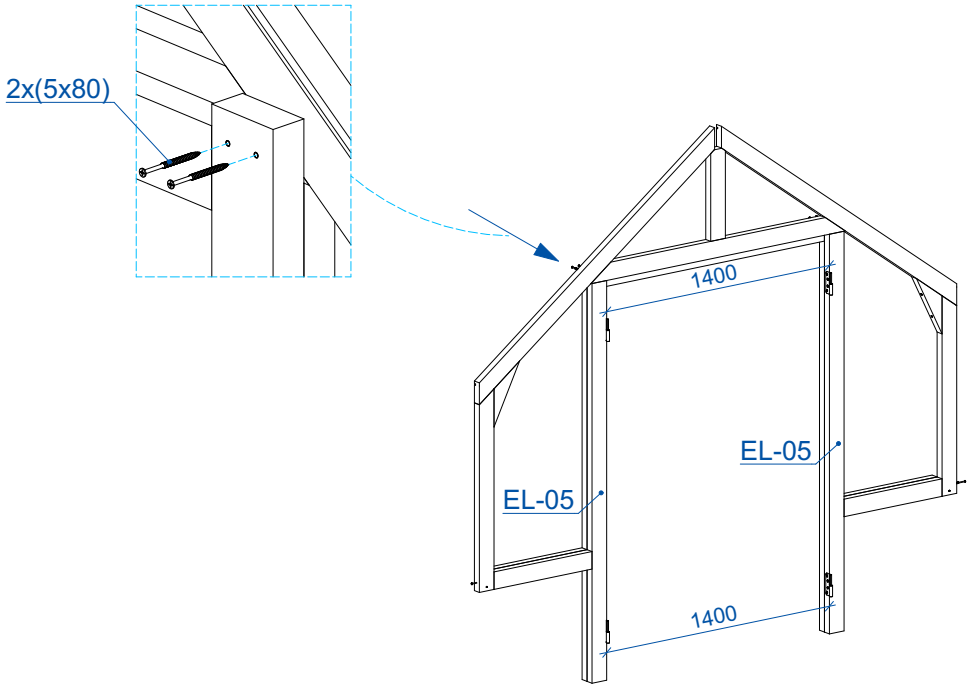
Choose a flat and clean work surface that offers neccessary suport for correct assembling.
All screws are already attached. Follow markings and place details to correct postitions. Tighten screws into pre-drilled holes.
NB! Details must be strongly attached into solid unit. Make sure that cap at the top of the triangle is 43 mm (there must be enough space for Ridge beam)!

7. INSTALLATION OF FRONT WALL

Holes drilled in advance. Screws partially placed in holes. Tighten to the end.

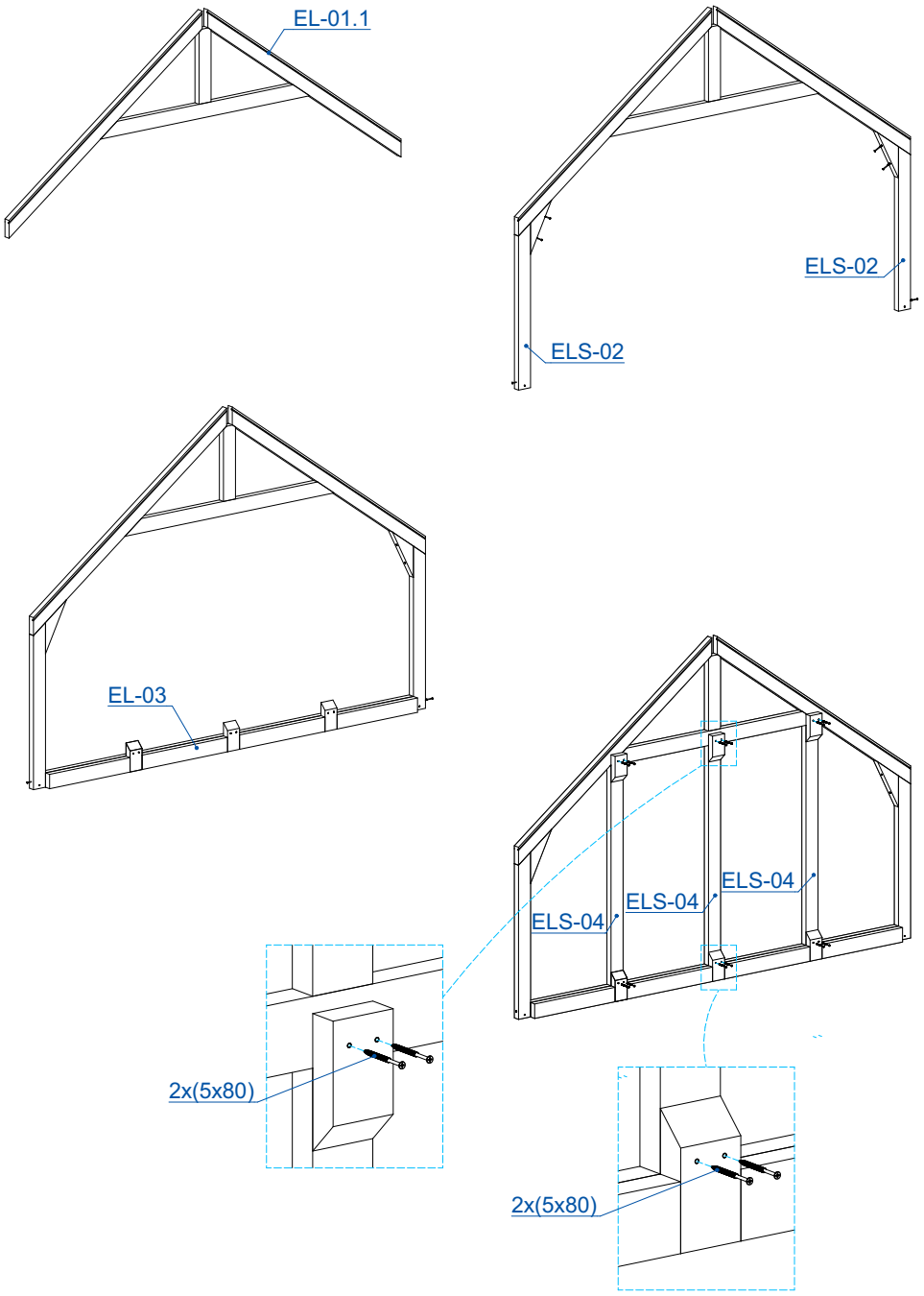
NB! Make sure that the width of the door opening is 1400 mm from both the top and bottom (otherwise the doors will not open properly). Look also section 17.





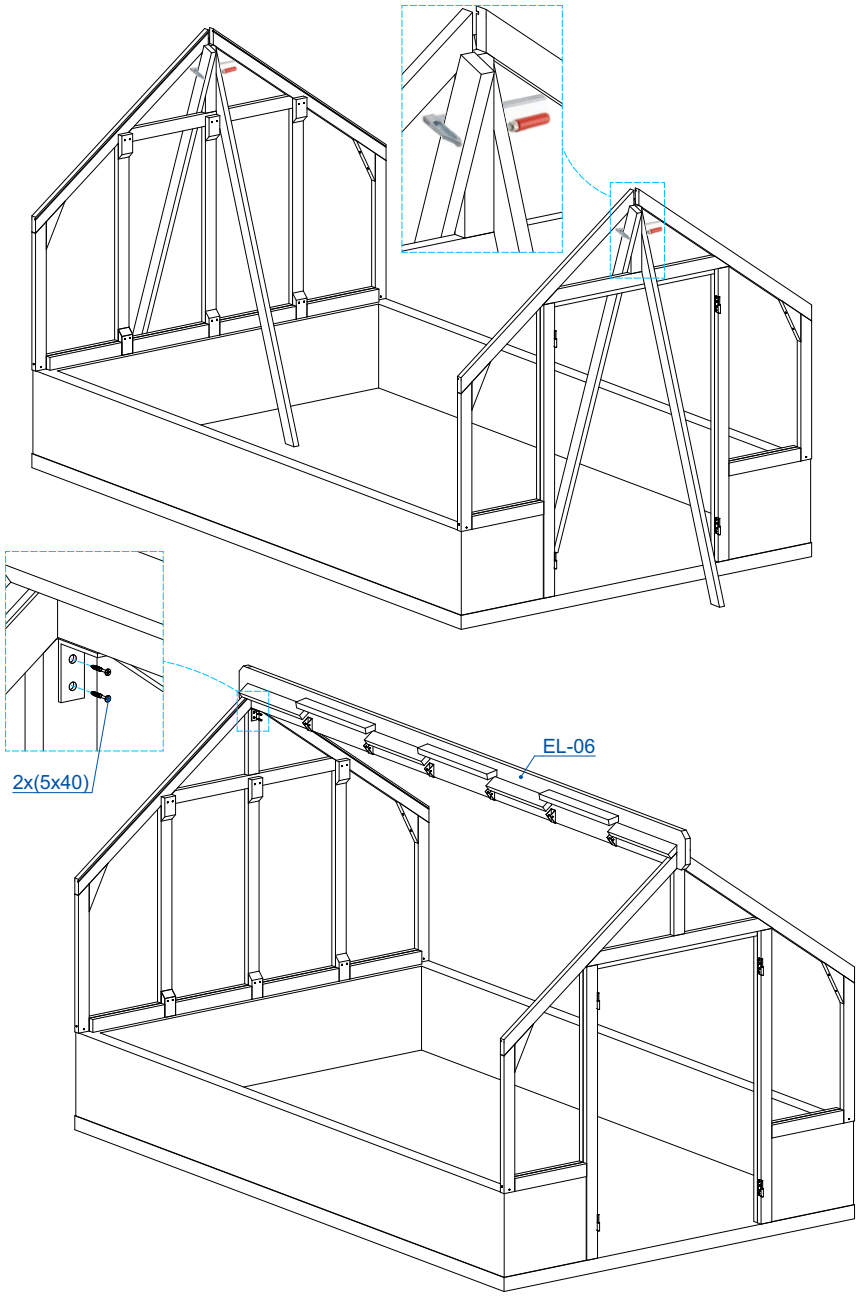
8. INSTALLATION OF BACK WALL

Holes drilled in advance. Screws partially placed in holes. Tighten to the end.
NB! Make sure distances between posts are equal from top and bottom.



9. INSTALLATION OF RIDGE BEAM

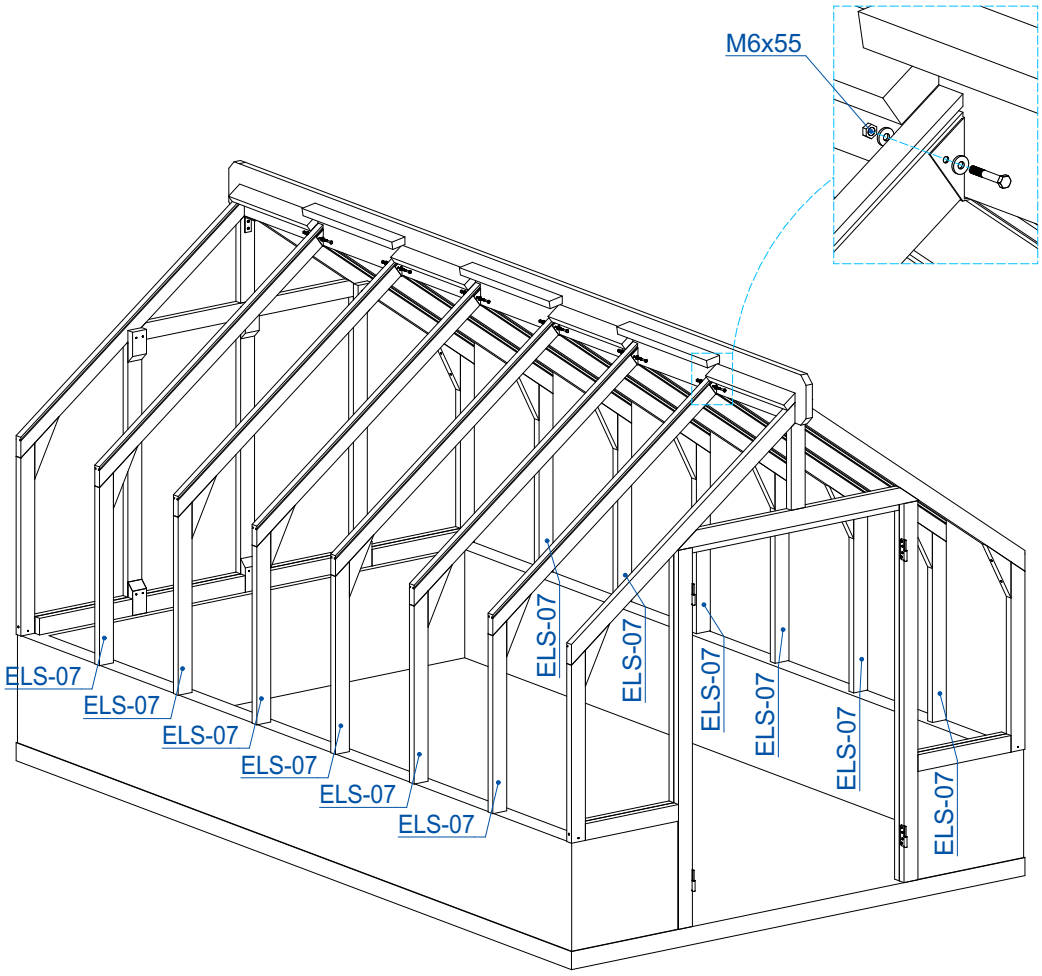
Set front and back wall to the stone wall ends and raise ridge beam on top of them. Uuse two longer wooden bars as a support and fasten them with a clamping screw.
NB! Use transportation box top bars as supports!
Attach ridge beam to the front and back wall (metal brackets are already attached).
NB! Ridge beam position determines the side of the roof windows. Make sure the roof windows get to the desired side. Look also section 15.



10. INSTALLATION OF RAFTERS

Place the upper end of the rafter to the ridge beam metal carrier and fasten with an M6 bolt, wascher and nut. Start installation of rafters from front wall and move toward back wall.

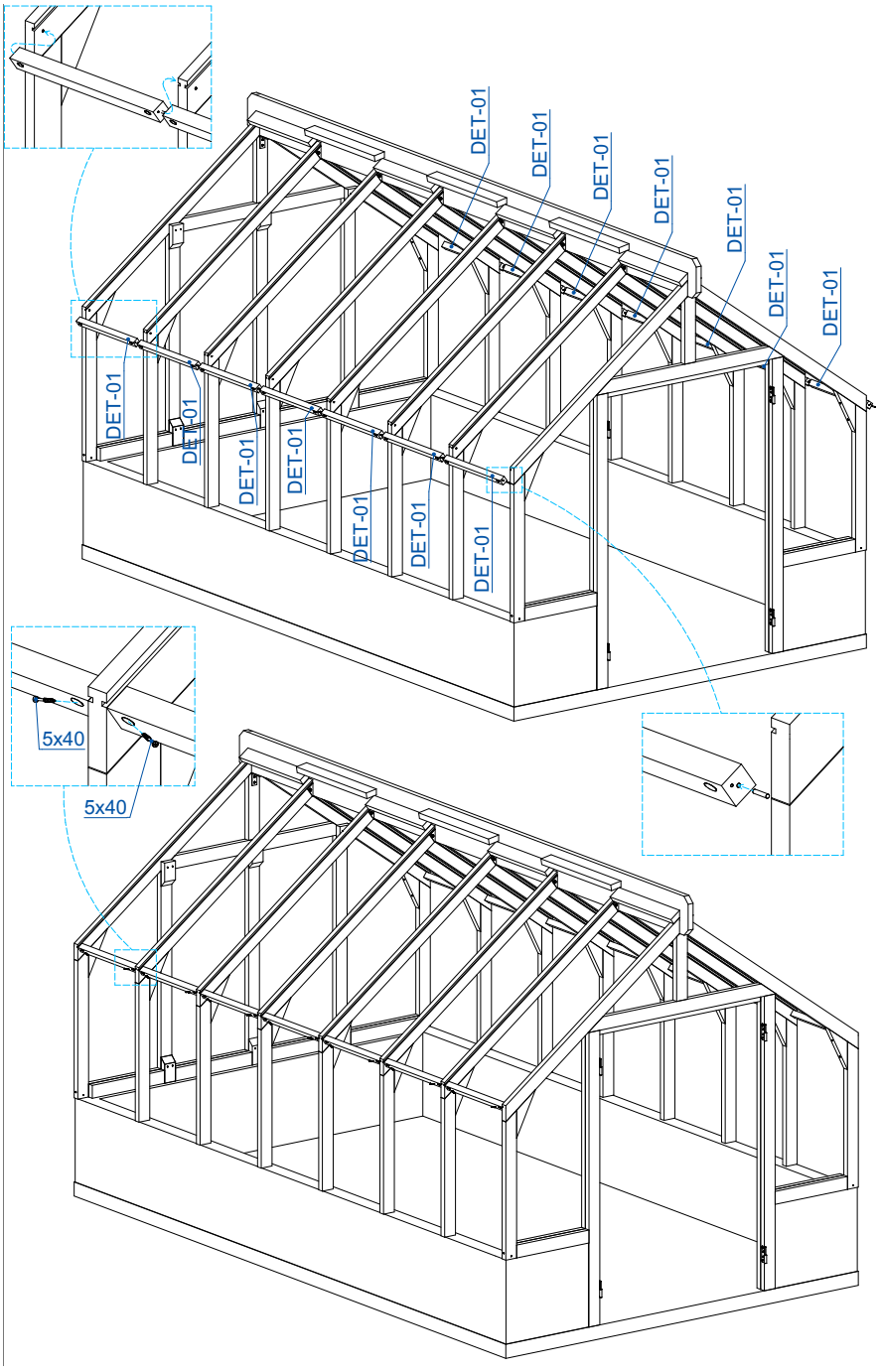
NB! Make sure that the edge of the carrier does not cover rafter glass groove (distance ca 2 mm) and rafter should be as against the rear wall of the carrier as possible.



NB! Tighten the nuts only later after installing the rafter middle details! (Look section 11)

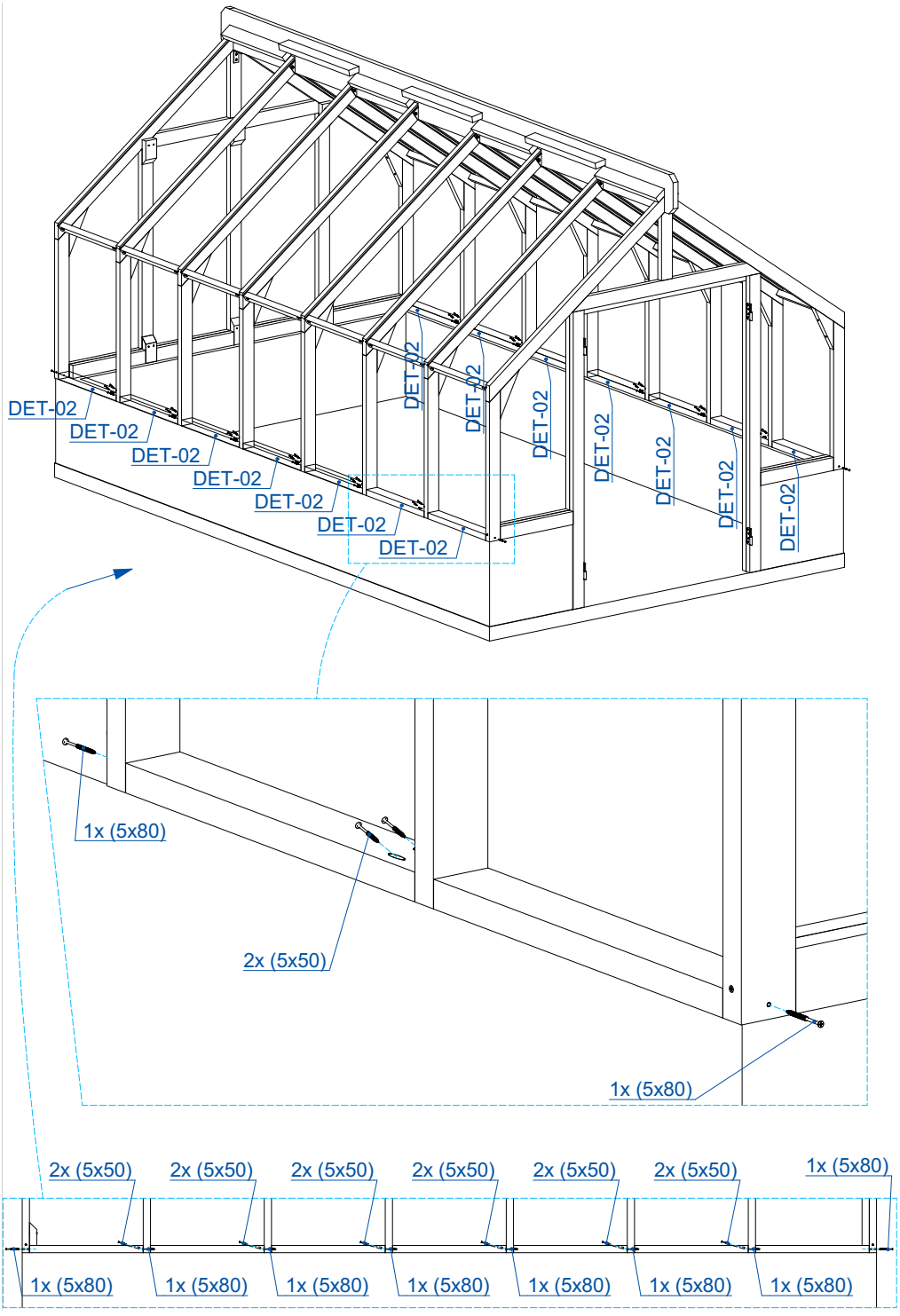
11. INSTALLATION OF RAFTER MIDDLE DETAILS

Place wooden dowels to holes at the end of rafter middle detail and place it between two rafters so that it is fixed. Make sure that edge of the rafter middle detail is parallel with rafter glass groove and do not block groove. Rafter middle detail screw hole must be toward outside. Attach rafter middle detail strongly to rafters with 5x40 round head screw. Holes drilled in advance.



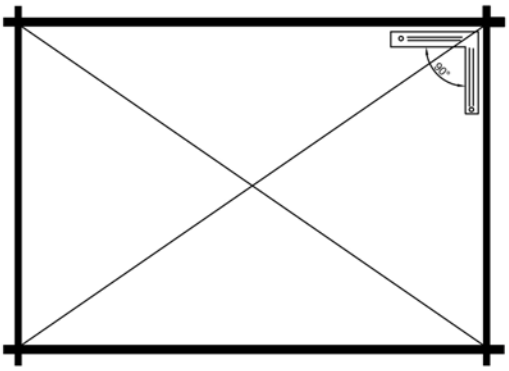
12. INSTALLATION OF LOWER BASE DETAILS

Place one lower base detail between each rafter on both sides. Fix with screws. Holes drilled in advance.



13. ATTACHING GREENHOUSE TO THE STONE WALL

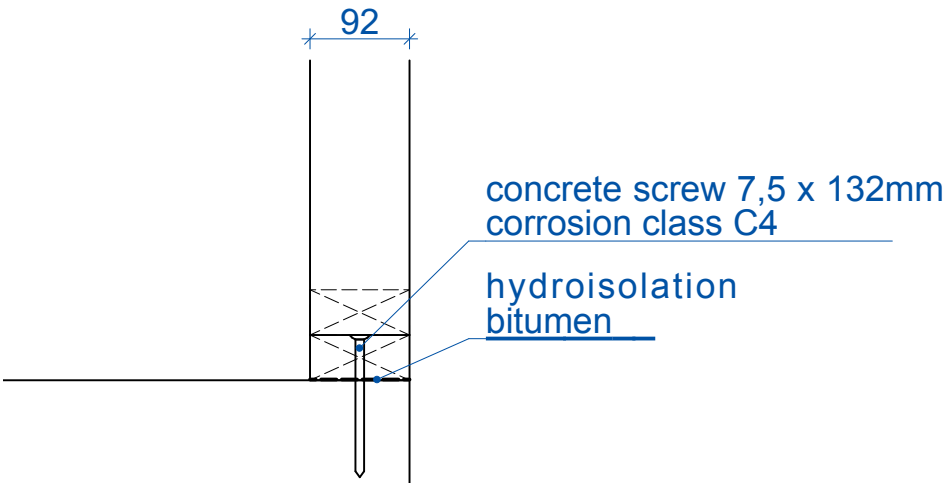
Before attaching greenhouse to the stone wall, make sure that the corners of the greenhouse are 90 degrees and the diagonals are of equal length.



Attach the sides of the greenhouse to the stone wall through the lower base detail. Drill hole in advance to the center of the base detail.

Fasten the ends of the greenhouse through the internal details of elements EL-03 and EL-05. Drill hole in advance to the center of the detail.

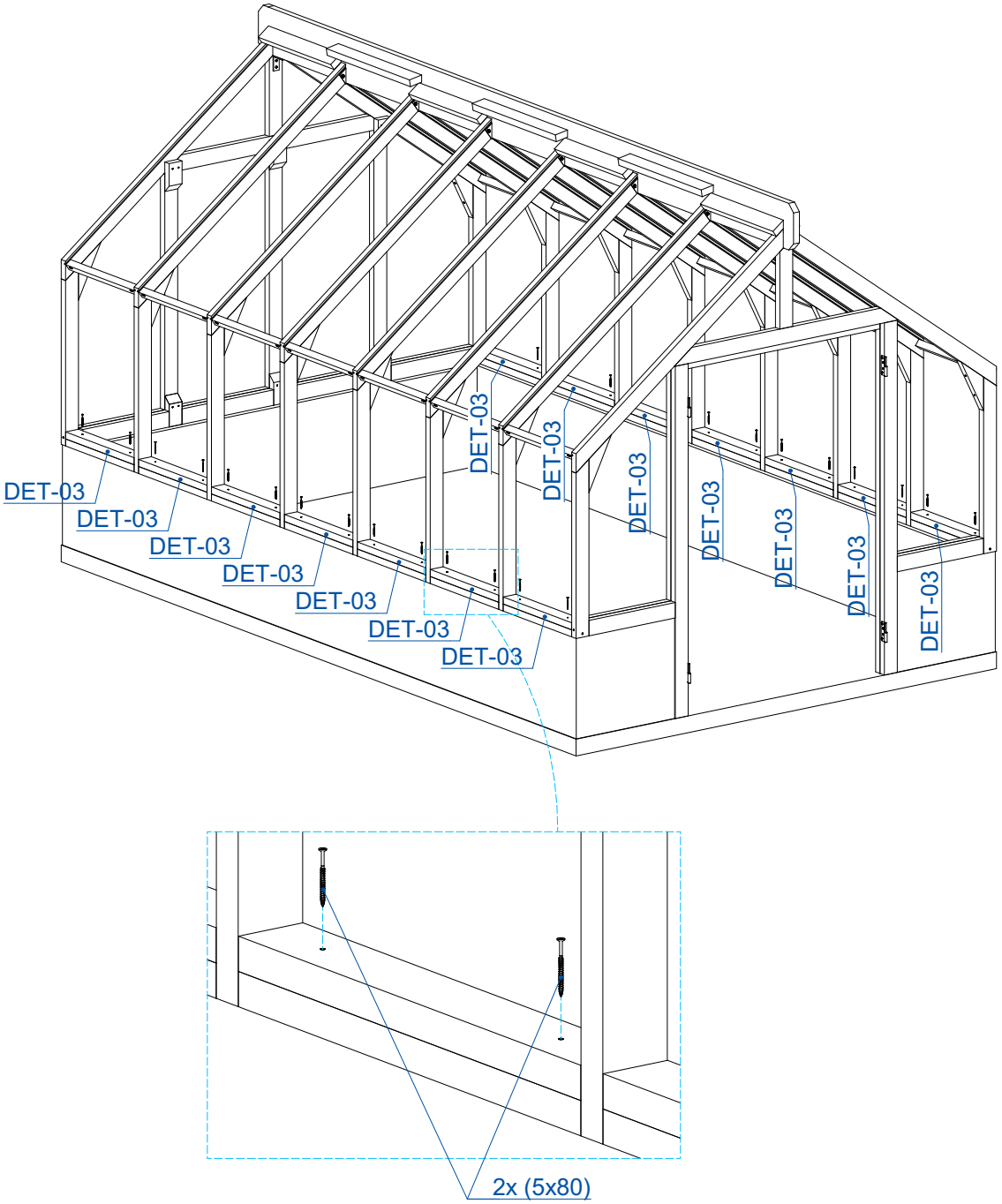
NB! Depending on the wall type, choose the fastening method (screw, dowel etc.).



NB! It is recommended to attach both ends and sides to the stone wall.

14. INSTALLATION OF UPPER BASE DETAILS

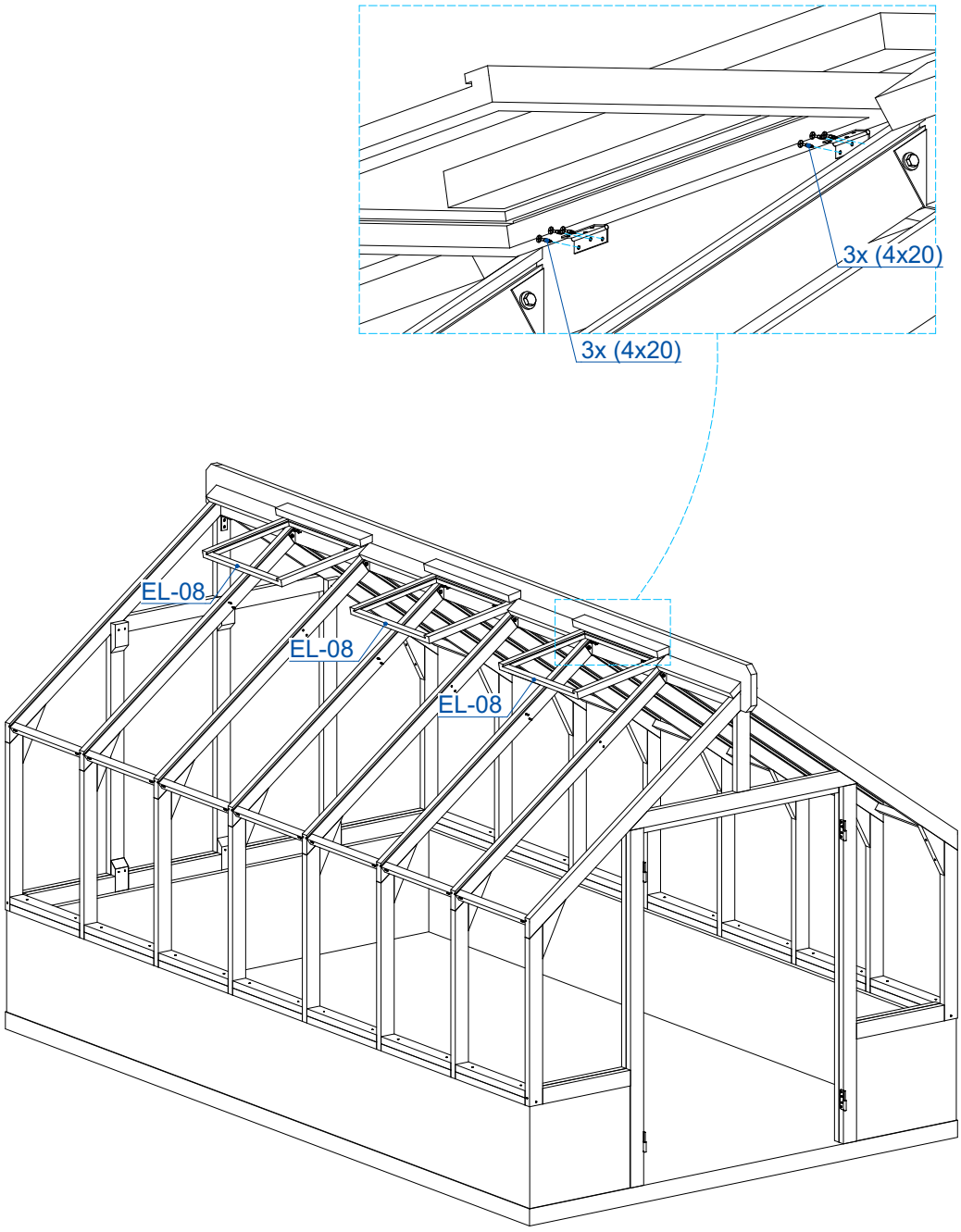
Place upper base details on top of lower base details. Fasten with 5x80 screws. Holes drilled in advance.



15. INSTALLATION OF ROOF WINDOWS

The location for roof windows are recognized by the higher rain covers on ridge beam. Place the roof window on the rafters and fasten it to the ridge beam. Hinges are pre-attached to the roof window frame.

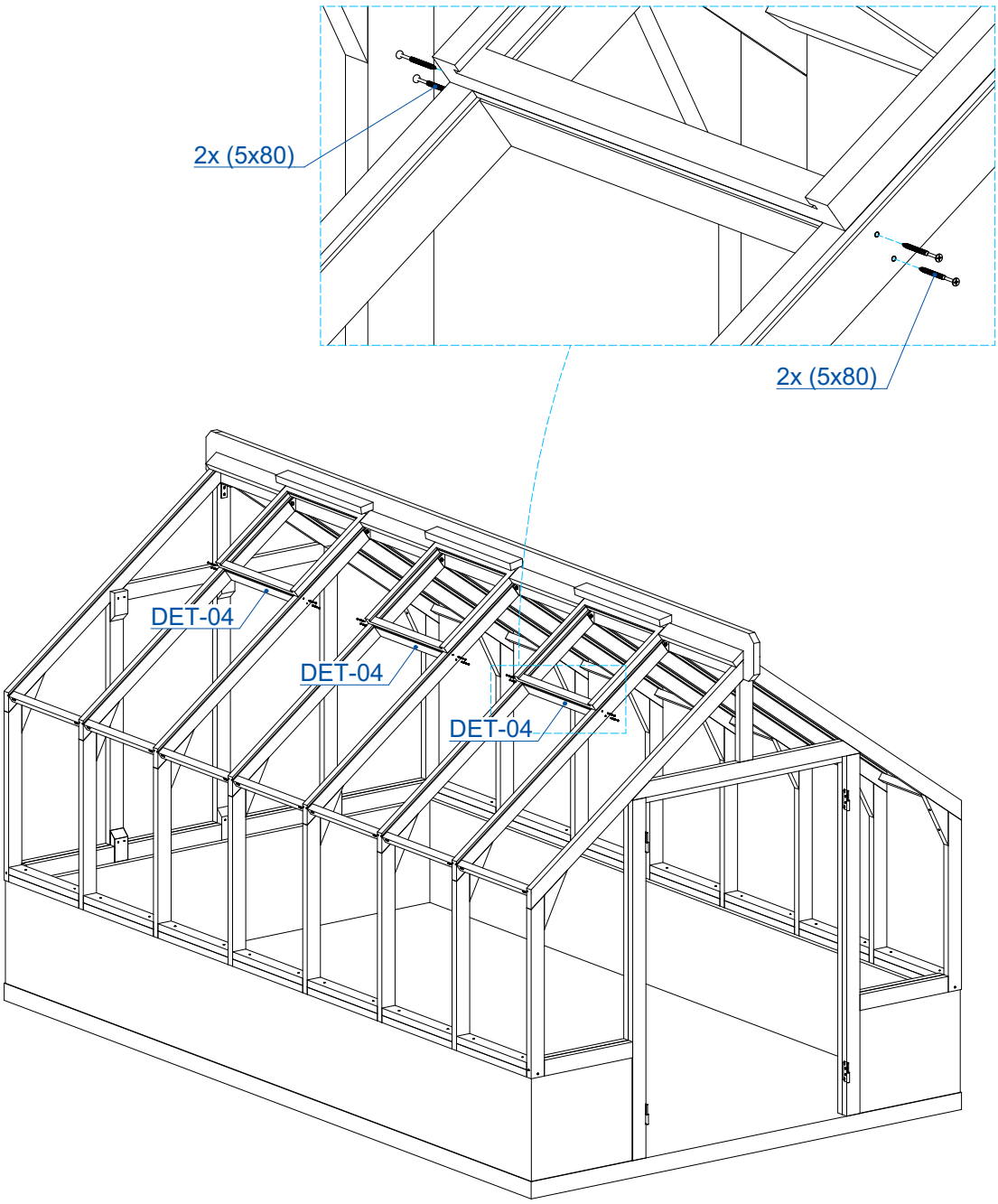
NB! To make it easier to install the roof window, we recommend attaching it to the rafters with a clamping screws.



16. INSTALLATION OF ROOF WINDOW MIDDLE DETAILS

Attach grooved middle detail (DET-04) under each roof window. Fasten with two screws at each end. Mark and drill holes in advance with a 4 mm drill.

NB! To make it easier to install the middle detail, we recommend attaching it to the rafters with a clamping screws.

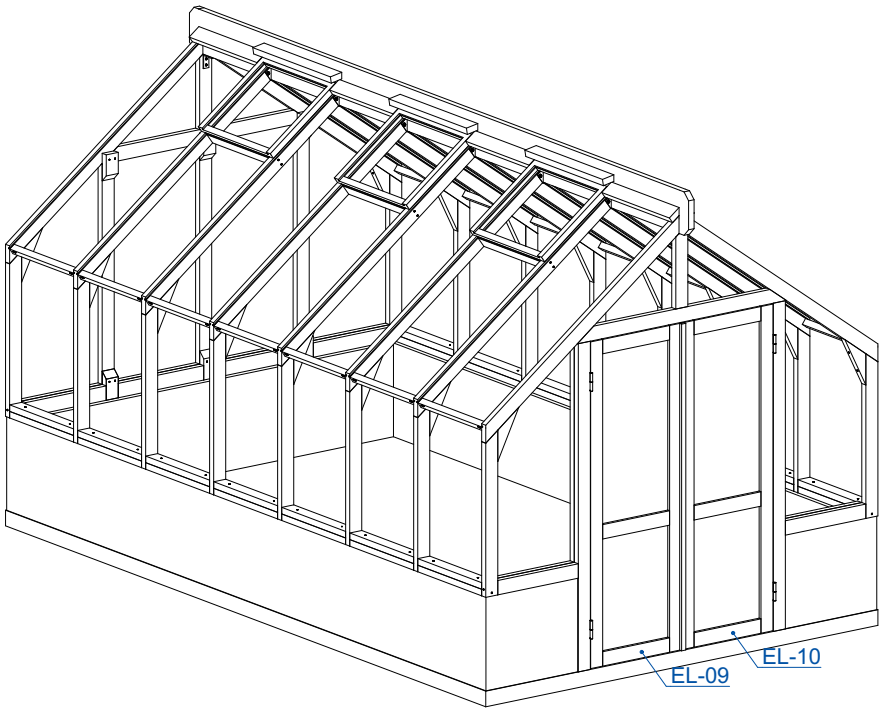


17. INSTALLATION OF DOORS

Door posts (EL-05) must be vertically level and door opening must be exactly 1400mm from the top and bottom! (otherwise doors will not work properly).

Make sure that the hinges on the doors and the wooden posts fit correctly. Lift the doors to the hinges, the door with the lock (EL-10) goes to the right side. Door latches are on left side door (EL-09). Drill latch holes to suitable location at foundation and greenhouse frame. Install the door stops to the outside so that glass will be not dameged when the door is opened.

NB! WITHOUT THE DOOR STOPS THERE IS DANGER TO FRONT WALL GLASS!



After the installation of the greenhouse and it is settled, then it may become necessary to adjust the height of the doors. This can be done by adjusting the door hinges. Remove the hinge covers and turn the hinge adjustment screws until the doors are horizontally aligned.

18. INSTALLATION OF GLASS

Make sure in advance that all the rafters and endwall posts are vertically level.
NB! All rafters and posts must be level before installation of glass!!!

If necessary, add a temporary support for the front or back wall of the greenhouse frame. So that rafters and posts are stably level.

When installing glass, we recommend the following order:
1) roof glass
2) side glass
3) back and front wall glass

Glass is fixed with a screws. Pvc washer must be between the glass and the screw head.

NB! It is recommended to have at least two persons for glass installation and always use suction cups to lift glass safely.

Be extra careful when attaching the glass!!!

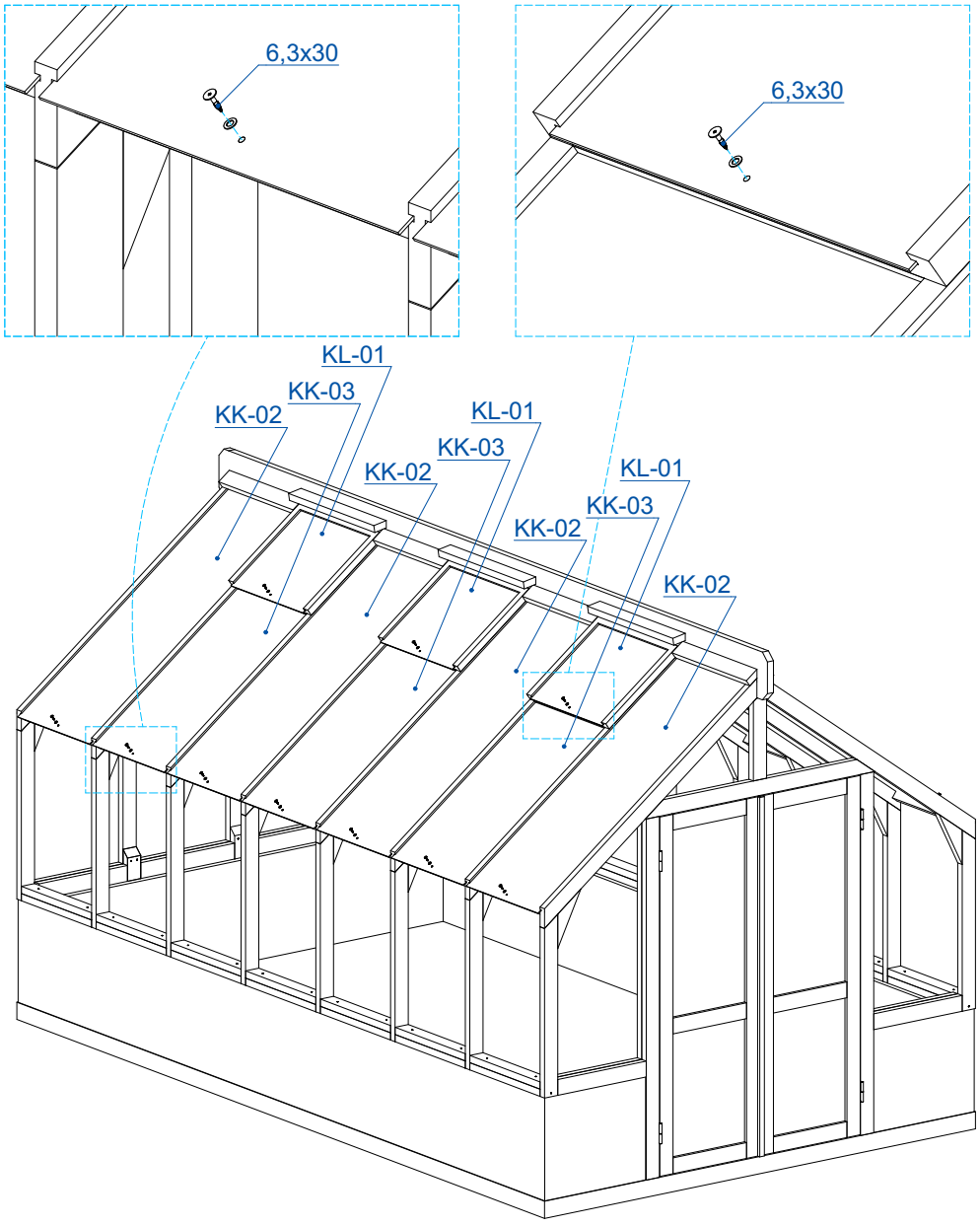
Tightening the screw too hard will break the glass. It is recommended to set the drill to the lowest speed and strenght to 15 for example. Turn the last part by hand so that pvc washer retains its shape and original thickness.

The last part must be tightened ALWAYS by hand!!!

NB! Broken glass is not subject to warranty replacement !!!

18.1. INSTALLATION OF ROOF GLASS

Carefully place the end of the glass to rafter/roof window grooves and push it all the way to the end. Do not use force (glass must move smoothly). **NB! Line glasses by lower edge!**
Make sure that the glass is evenly grooved and drill a hole to the middle detail (DET-01)/roof window lower frame with a depth of 30 mm. Wood drill size 5 mm. Fasten the glass with a glass screw. **NB! Do not over tighten!**

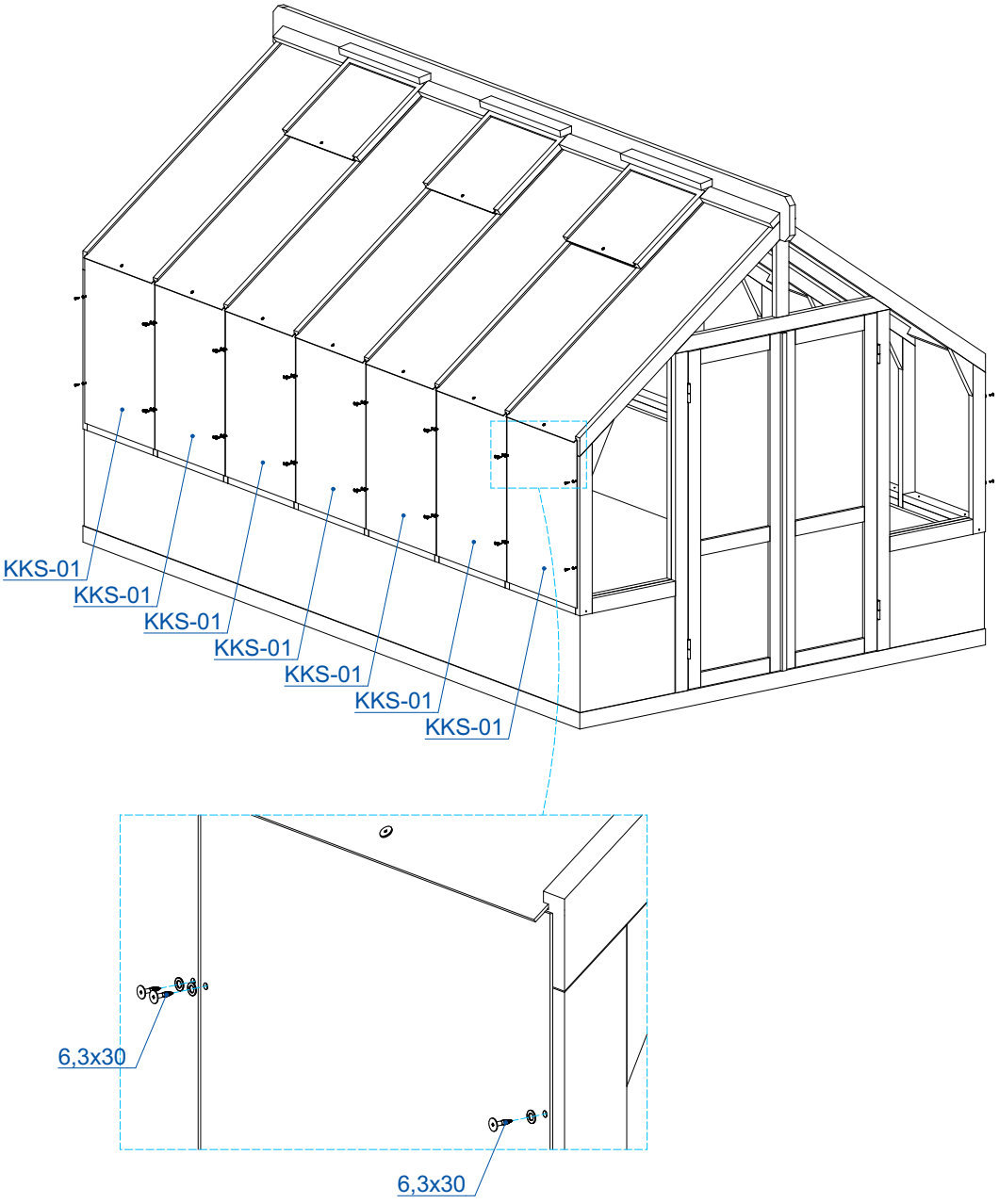


NB! Look also information about roof glass seals at point 20 on page 28!

18.2. INSTALLATION OF SIDE GLASS

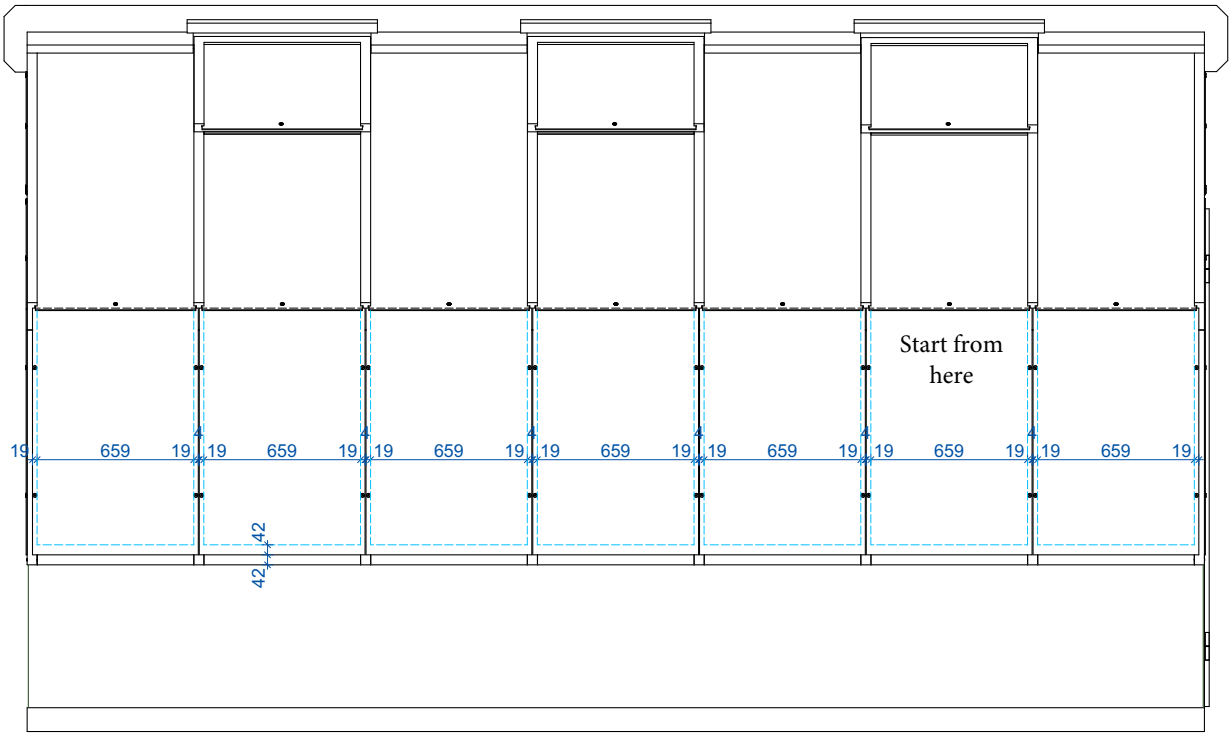
Make sure that rafter posts are completely level! If necessary, adjust the greenhouse frame.
NB! All rafter posts must be level before installation of side glass!!!

NB! It is recommended to have at least two persons for glass installation and always use suction cups to lift glass safely.



Place the upper end of the glass under the edge of the roof glass and the lower edge of the side glass must be aligned with the space between the bottom details top and bottom layer. Hold the glass in place and drill holes with a depth of 30 mm. Fasten the glass with a glass screws. **Do not over tighten screws!**

NB! Start installation of side glass from second glass. This gives a better understanding that two glasses must be attached to one post and that their edges must extend evenly to the post so that there must be an equal gap between the glasses. Use glass assembly block for equal gaps

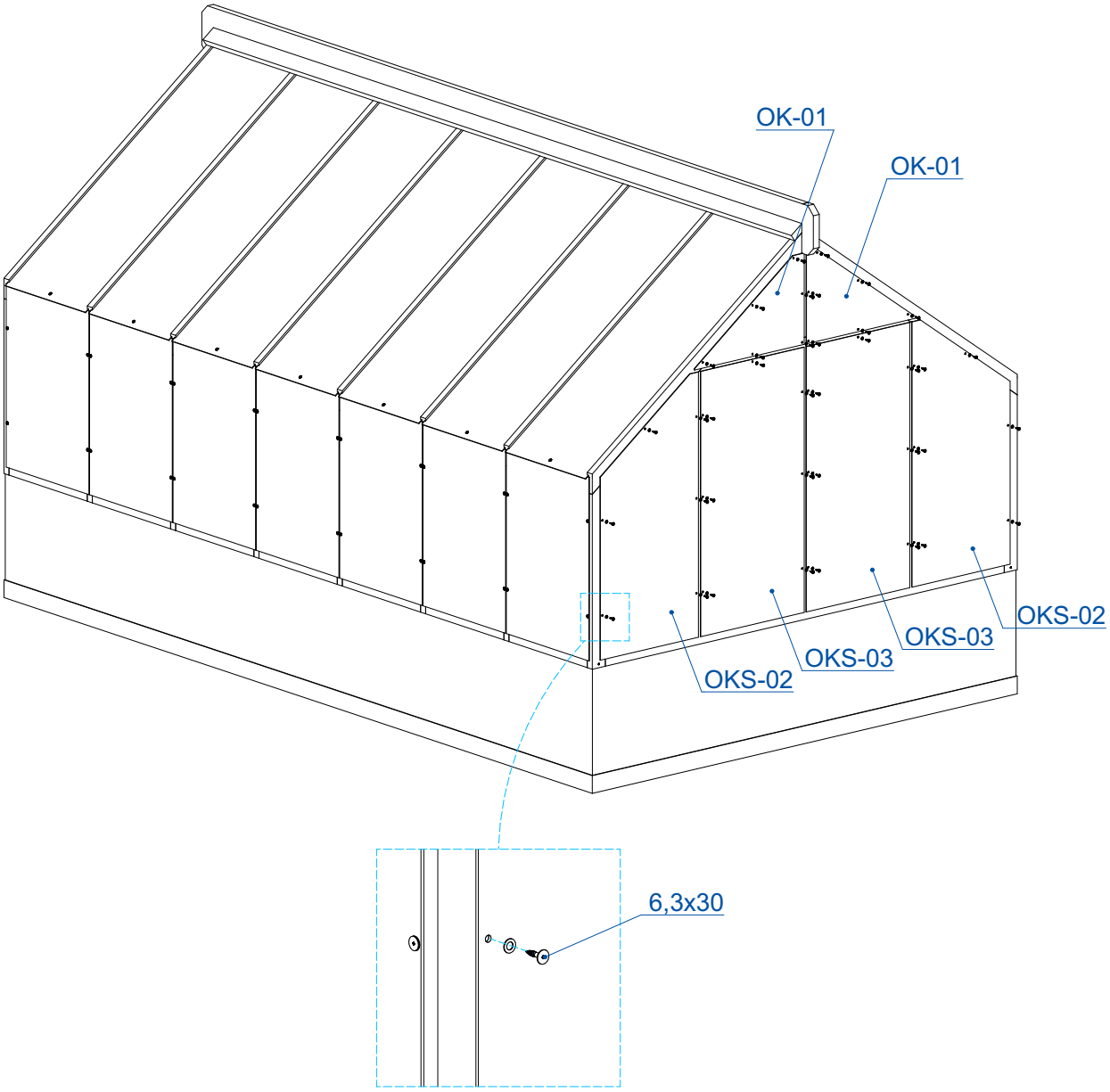


NB! Make sure that the glasses are evenly spaced and that the attachment points line up. Observe the alignment of the glasses at their lower edge.

18.3. INSTALLATION OF BACK WALL GLASS

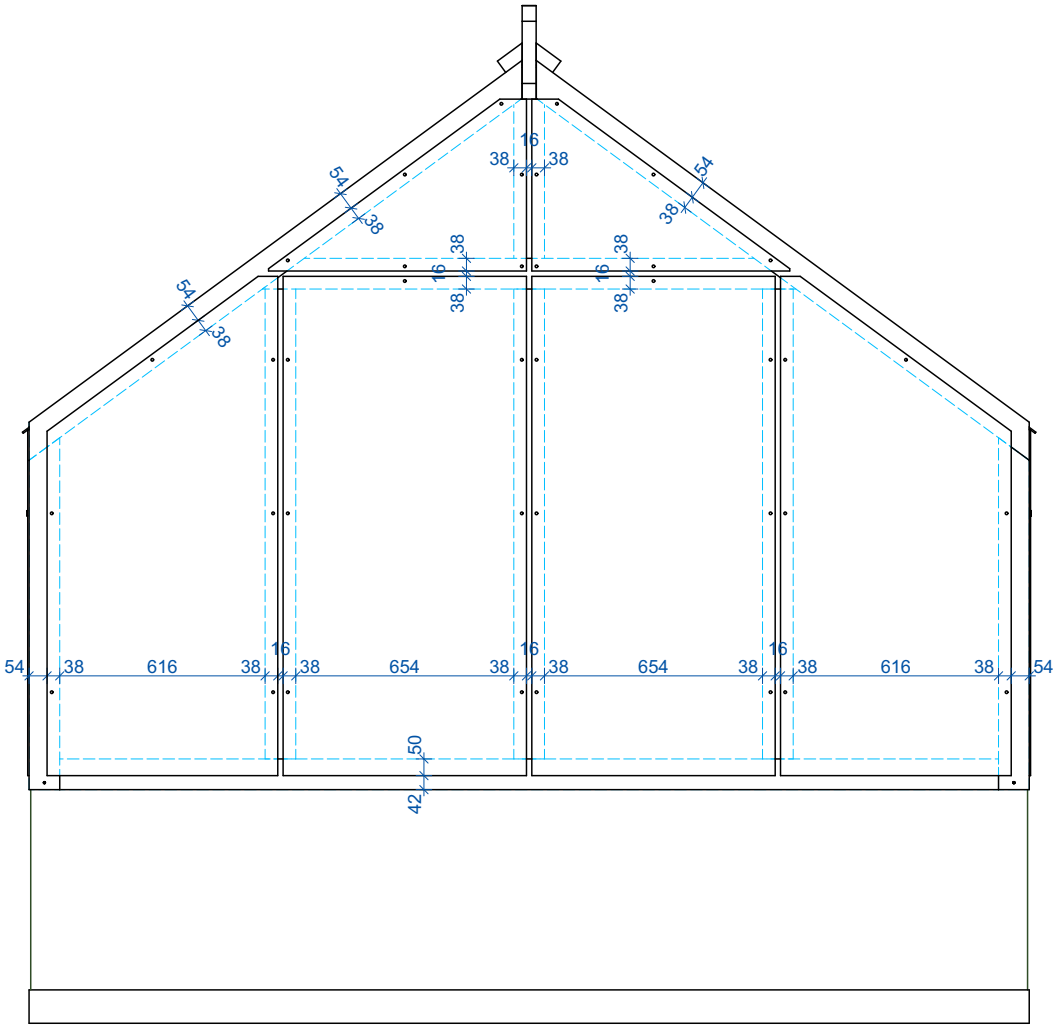
Make sure that back wall posts are completely level! If necessary, adjust the greenhouse frame.
NB! All posts must be level before installation of back wall glass!!!

NB! It is recommended to have at least two persons for glass installation and always use suction cups to lift glass safely.



Place the glass to correct position. Hold the glass in place and drill holes with a depth of 30 mm. Fasten the glass with a glass screw. **Do not over tighten screws!**

NB! Start installation of back wall glass from top (OK-01). It is easier to align these smaller glasses according to drawing and these will be starting point for installing other glasses.



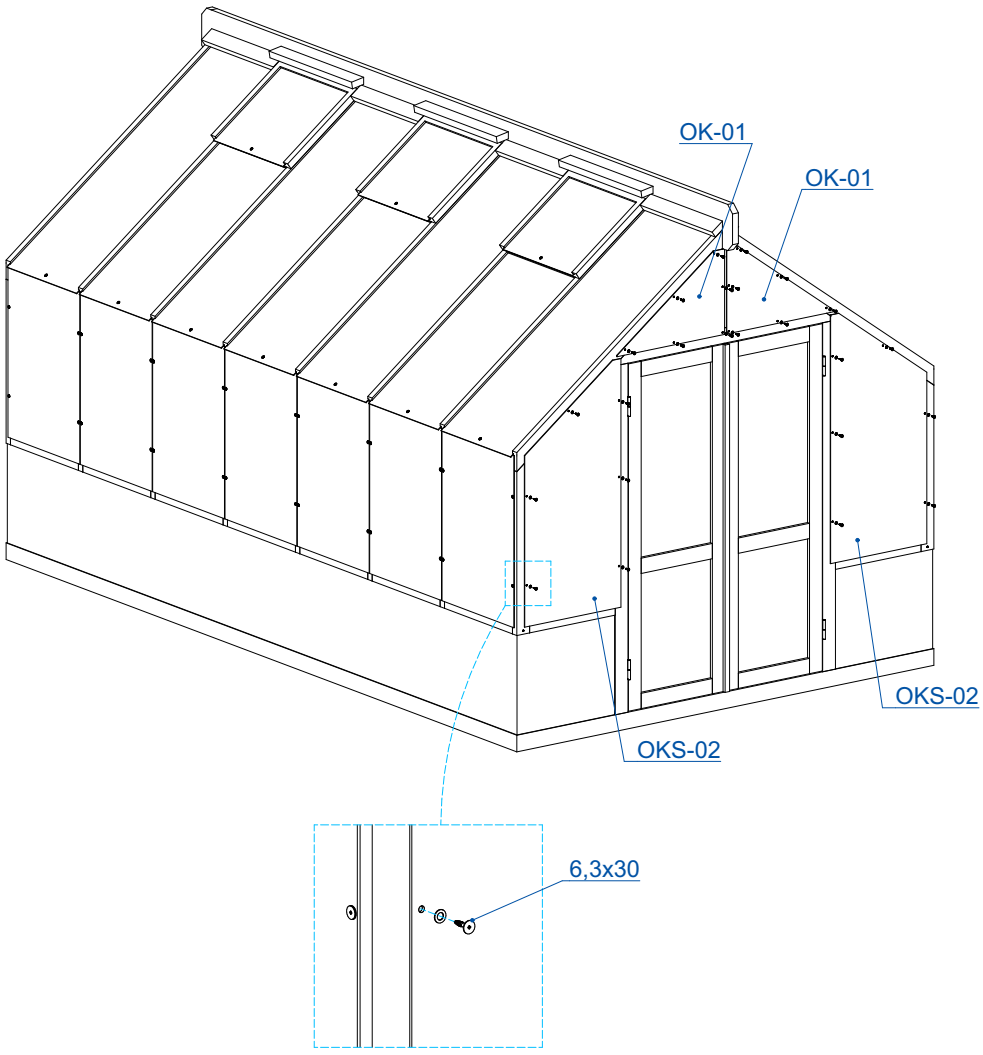
NB! Make sure that the glasses are evenly spaced and that the attachment points line up. Observe the alignment of the glasses at their lower edge. The lower edge of the back wall glass must be 42 mm from stone wall and line up with side glass lower edge.

18.4. INSTALLATION OF FRONT WALL GLASS

Make sure that back wall posts are completely level and gap between door posts is 1400mm from top and bottom! If necessary, adjust the greenhouse frame.
NB! All posts must be level before installation of back wall glass!!!

NB! It is recommended to have at least two persons for glass installation and always use suction cups to lift glass safely.

Installation of front wall glass will follow same logic as with back wall glass.



NB! Make sure that the glasses are evenly spaced and that the attachment points line up. Observe the alignment of the glasses at their lower edge. The lower edge of the back wall glass must be 42 mm from stone wall and line up with side glass lower edge.

19. INSTALLATION OF ROOF WINDOW OPENER

Greenhouse kit includes automatic roof window openers Bayliss Autovents mk7 triple spring (3 pcs). Roof window openers are in manufacturer original package.

Install the roof window automatic opener according to the instructions. Installation instructions for the automatic opener are included in its packaging.

Tip 1: Use a 4x20 stainless steel wood screws (TX20) as these fit better than the ones provided from manufacturer and will not rust.
Tip 2: We recommend pre-drilling a hole with a thin (2 mm) wood drill (to prevent cracks).

20. INSTALLATION OF ROOF GLASS SEAL (OPTIONAL)

The greenhouse comes with roof glass seals (11 pcs), which you can install if you need it.

When installing a greenhouse, there is a small gap between the Ridge beam and the roof glass, which is part of the greenhouse ventilation system. However, with heavy rain and wind, a small amount of water can reach the interior of the greenhouse through this gap.

If you use the greenhouse mainly for growing plants, we recommend that you do not add seals to ensure better ventilation. The small amount of rainwater that can seep through from time to time does not damage the structure of the greenhouse!

However, if you use the greenhouse mainly as a pavilion, we recommend adding seals to prevent possible ingress of rainwater.