INSTALLATION MANUAL

TRE EXTRA STRONG

arched polycarbonate greenhouse

Reinforced galvanised frame · snow load up to 180 kg/m²
Two doors and two vent windows · 2 m extension

Width 3.0 m **Height 2.1 m** **Length from 4 m**



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General information

The frame of the TRE EXTRA STRONG greenhouse is made of **galvanised steel** and is assembled with screws and nuts. The frame is 2.1 m high and 3.0 m wide. The greenhouse is anchored by digging special end parts of the frame into the ground, or it is fixed to a foundation with brackets.

The main kit is 4 m long. For a longer greenhouse, buy extension modules – each module adds 2 m to the length. Both end walls have a door and a vent window. The kit includes all parts needed to fix the covering. The frame is reinforced with side braces and ties at each arch.

Parameter	Value
Width	3.0 m
Height	2.1 m
Length	4 m (+ 2 m with each extension module)
Frame	galvanised steel, screw connections
Doors and windows	door and vent window in both end walls
Covering	multiwall polycarbonate, sheets 2100 x 6000 mm
Snow load	frame load limit 180 kg/m²

Greenhouse length, area and polycarbonate quantity

Length	Area	Polycarbonate sheets 2100 x 6000 mm
4 m	12 m²	3 pcs
6 m	18 m²	4 pcs
8 m	24 m²	5 pcs

Attention! Strictly follow the rules in this manual when assembling and using the greenhouse. Keep this manual.

Before installation

- Before use, the greenhouse must be assembled and installed according to this manual. If the greenhouse is installed by a third party, the buyer must check that the installation complies with the manual.
- Do not install the greenhouse near buildings or trees from which snow or ice may fall onto it. The recommended distance is at least 2 m.
- With a limited snow load, the covering does not need to be removed for the winter. If the greenhouse is left unattended over the winter, remove the covering or assess the possible snow load. The load limit of a fully assembled frame (with ties and side braces) is **180 kg per m² of horizontal ground area**.
- The parts are fitted so that the side flanges of the profiles face the covering sheets. As some parts are identical, some holes will remain unused.
- The parts are not rigid enough until assembly is complete – be careful and support the frame (e.g. with chairs) so that it can be raised evenly. To align holes, use a 4 mm nail or a tapered punch.
- **All holes provided** must be used when assembling the frame. “Simplified” joining of parts with only one or two screws is a breach of the assembly rules and voids the warranty.
- **The parts have sharp edges – wear protective gloves when working.**

Cleaning the polycarbonate

1. Rinse the sheet with warm water.
2. To remove dirt, wash the sheet with warm water and a mild soap solution or washing-up liquid, using a soft cloth or sponge.
3. Rinse with cold water and dry with a soft cloth.

Do not clean the polycarbonate with abrasive or strongly alkaline cleaners, brushes or cloths containing metal fibres. Wiping with a dry cloth damages the protective layer and shortens the life of the sheet. **Do not use sulphur compounds to disinfect the greenhouse** – they cause corrosion (darkening) of the frame.

Warranty

The manufacturer is responsible for the completeness of the frame kit, for the greenhouse being assemblable according to the manual, and for its resistance to the weather conditions stated above. **Claims may be submitted within 24 months of the date of purchase.**

The warranty does not apply if:

- the requirements of the manual were not followed during installation;
- the rules of use have been breached;
- the greenhouse has not been used for its intended purpose;
- the greenhouse has been deformed by ground movement;
- damage was caused by a flood, storm or other natural disaster.

Parts list

Indices used in the part codes: **К** – end, **Н** – lower, **В** – upper, **П** – right, **Л** – left, **Ф** – vent window, **Д** – door. Left and right are determined when looking at the greenhouse from outside, facing the door.

Code	Description	Qty
Package 1 – purlins and straight parts		
2	Purlin	16
3	Base support	14
5	Vent window cover strip	4
8	End-wall bottom tie	4
10	Doorway tie	4
11п	End-wall middle tie, right	2
11л	End-wall middle tie, left	2
12д	Door vertical profile	8
13д	Door horizontal profile	6
12ф	Vent window vertical profile	4
13ф	Vent window horizontal profile	4
14	Door small diagonal	4
15	Door large diagonal	4
16	Vent window diagonal	2
–	Hook	4
Package 2 – arches		
4н	Lower arch	6
4в	Upper arch	3
4вк	Upper end arch	2
4нкп	Lower end arch, right	2
4нкл	Lower end arch, left	2
Package 3 – straight end-wall parts and arch reinforcements		
1	Post	10
2в	Upper purlin	12
9-1	Lower doorway post	4
9-2л	Upper doorway post, left	2
9-2п	Upper doorway post, right	2
17	Horizontal tie	3
18	Upper side brace	6
19	Lower side brace	6
20	Side brace strut	6
21	Diagonal reinforcing brace	6
–	Reinforcing tube	4
Package 4 – fasteners		
–	Hook bracket	8
–	End-wall bracket	8
–	Screw M4 x 8	492
–	Screw M4 x 14	50
–	Screw M4 x 25	100
–	Screw M4 x 35	76
–	Self-tapping screw	6

Code	Description	Qty
–	Nut M4	718
–	Washer	188
–	Hinge	8
–	Latch (turn catch with two rubber tips)	4
–	Bending tube	1
–	Adhesive tape	1
–	Handle	8
–	Threaded rod	4
–	Spanner	1
Package 5 – seals		
–	Hinge seal	3.7 m
–	Door seal	10 m
–	End-wall seal	12 m
Extension module (2 m), package 1		
1	Post	4
3	Base support	4
2в	Upper purlin	6
2	Purlin	8
17	Horizontal tie	2
18	Upper side brace	4
19	Lower side brace	4
20	Side brace strut	4
21	Diagonal reinforcing brace	4
–	Screw M4 x 8	164
–	Screw M4 x 25	8
–	Screw M4 x 35	12
–	Nut M4	184
–	Washer	20
Extension module (2 m), package 2		
4н	Lower arch	2
4в	Upper arch	4

Frame overview

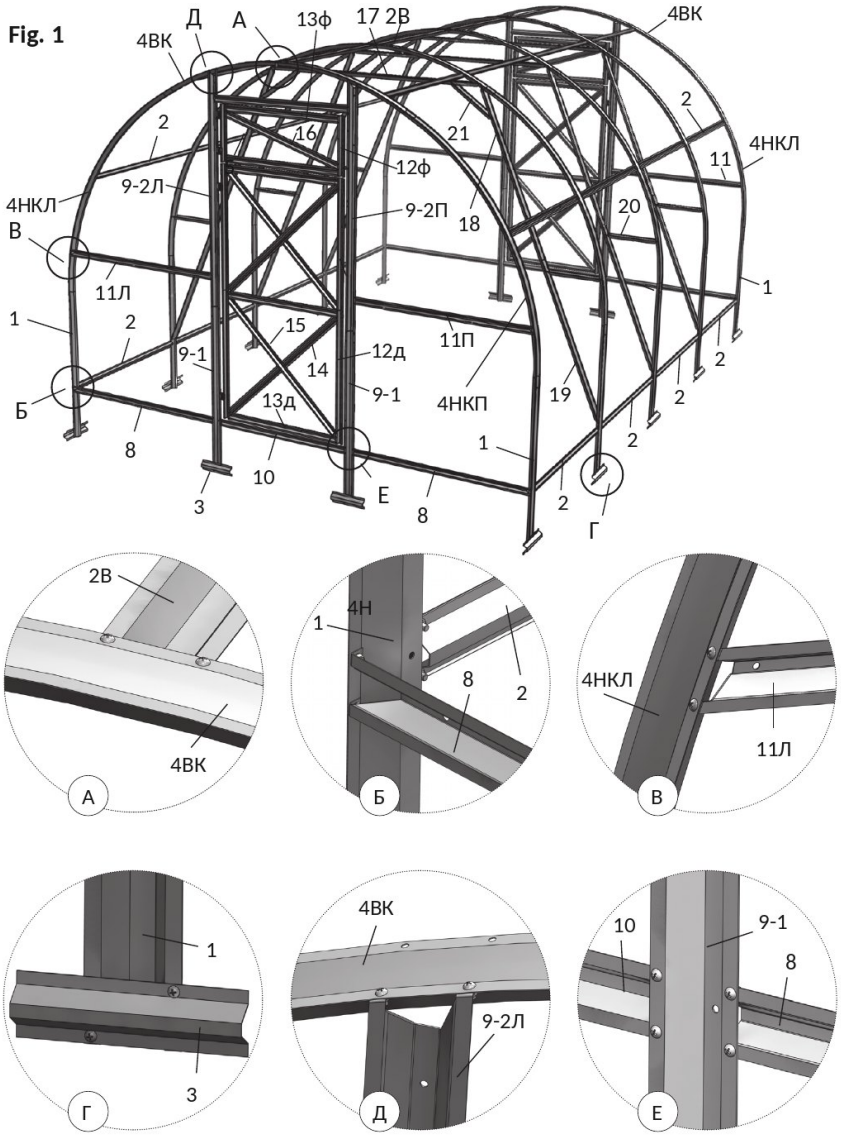
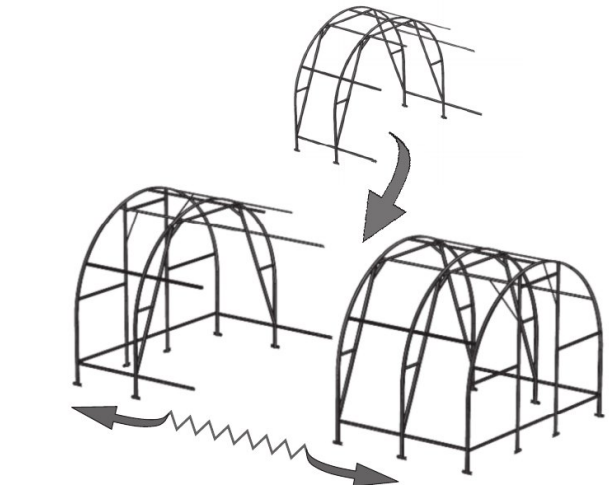


Figure 1 – frame overview

Figure 1 shows the frame overview and part codes. To join parts, the profiles are placed against each other and fixed through the holes with screws and nuts. When profiles fit into each other, it does not matter which part is on top.



Figures 2 and 3 – extension module

One extension module adds 2 m to the length of the greenhouse. Any number of extension modules can be added.

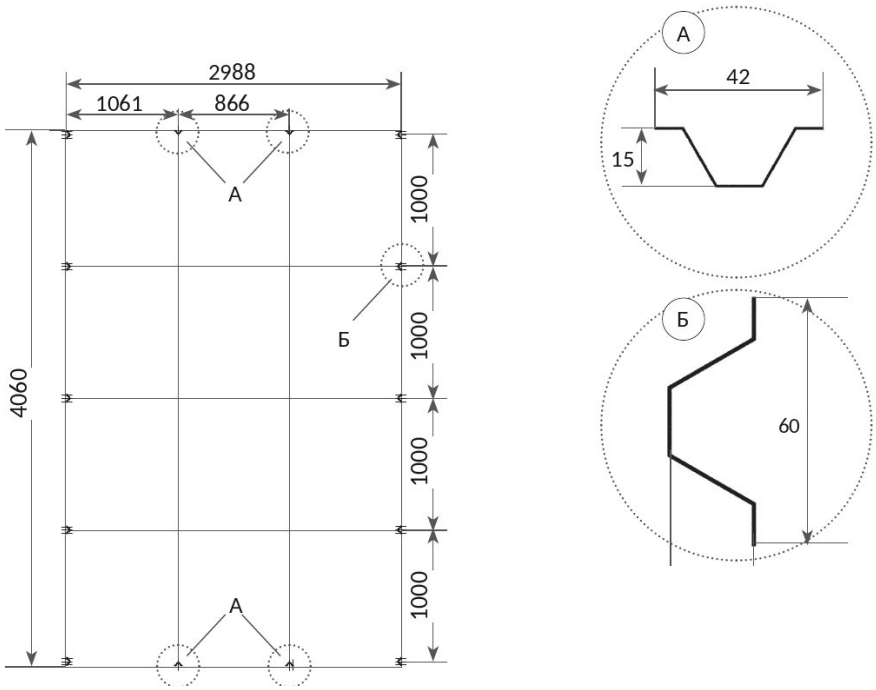


Figure 4 – post support diagram for a foundation

Post support points on the foundation (4 m greenhouse, dimensions in millimetres).

Installation

1. Assemble the greenhouse next to its installation site.
2. Figures 5–14 show the assembly of a 4 m greenhouse. For a longer greenhouse, add the parts of the extension module. M4 x 8 screws are used to join the parts.
3. At the chosen site, dig a trench one spade deep according to the diagram in figure 4 and place the frame in it. The greenhouse must be deep enough for the lower doorway parts (10) and the lower purlins (2) to touch the ground. Check with a string that the diagonals are equal and adjust the corners if necessary.
4. By adding soil or deepening the trench, set the frame so that the longitudinal parts are straight, level and parallel and the arches are straight when viewed from the side. If necessary, loosen the purlin and arch joints, align the arches and retighten the screws.

Assembly: roof and sides

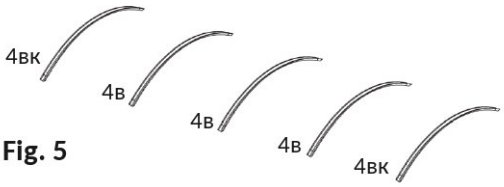


Fig. 5

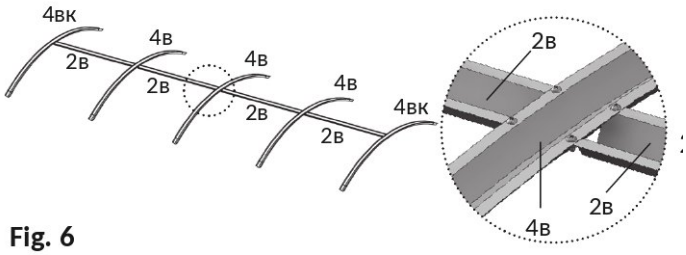


Fig. 6

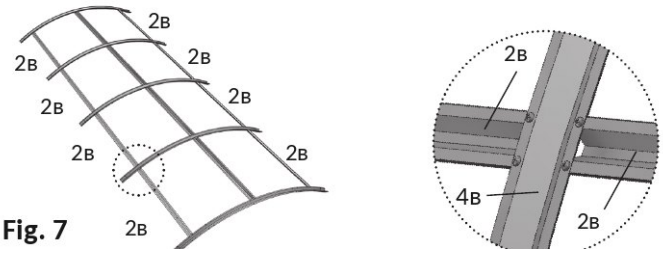


Fig. 7

1. Lay out the arches 4в and 4вк on the ground (figure 5).

2. Join the arches with purlins 2в (figure 6).

3. Join purlins 2в to arch 4в on both sides (figure 7).

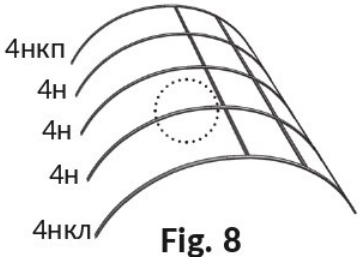
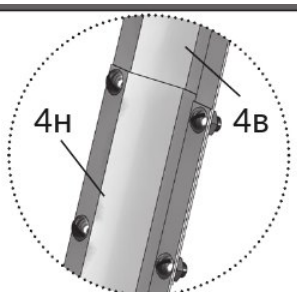


Fig. 8



4. Fix arches 4н, 4нкп and 4нкл to arches 4в (figure 8).

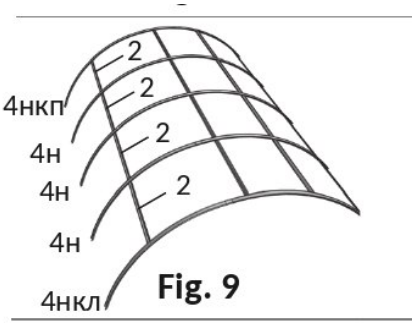


Fig. 9

Figure 9

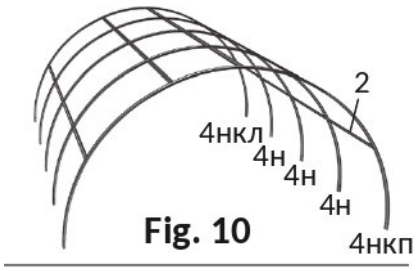


Fig. 10

Figure 10

5. Join purlins 2 to the lower arches (figure 9). Do the same on the other side (figure 10).

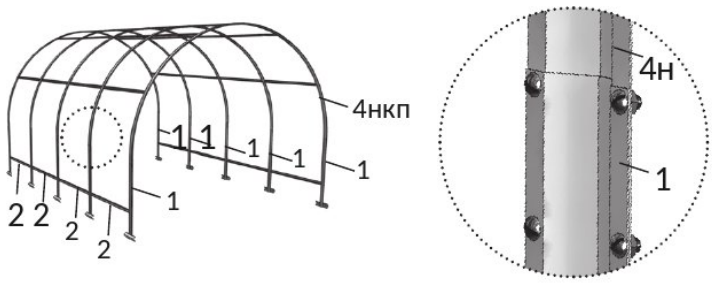


Fig. 11

6. On both sides, fix posts 1 to the lower arches and purlins 2 to the posts (figure 11).

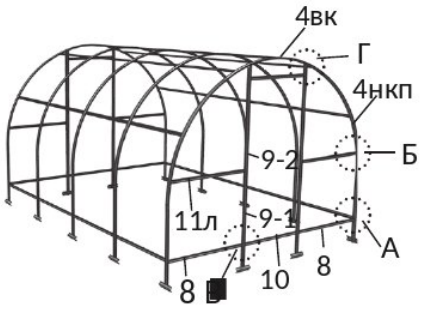
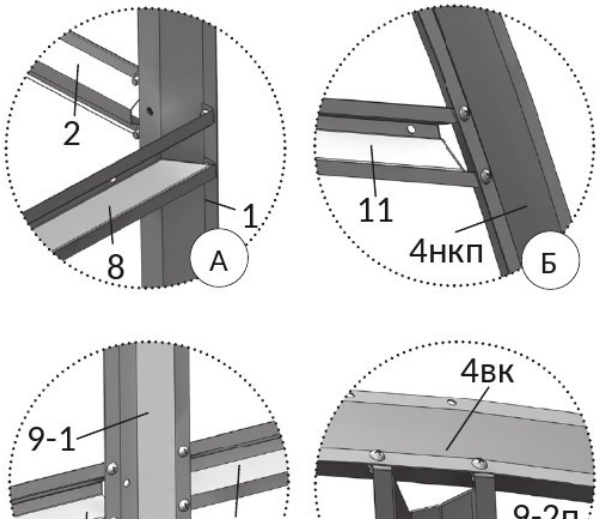


Fig. 12



7. Fit the end-wall parts 8, 10, 11л, 11п, 9-1, 9-2л and 9-2п (figure 12).

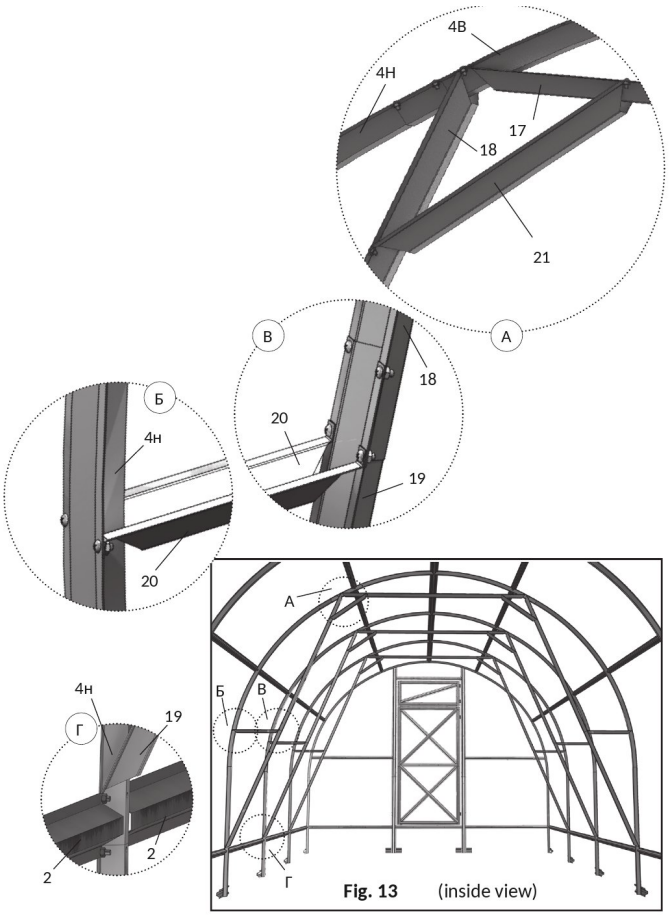
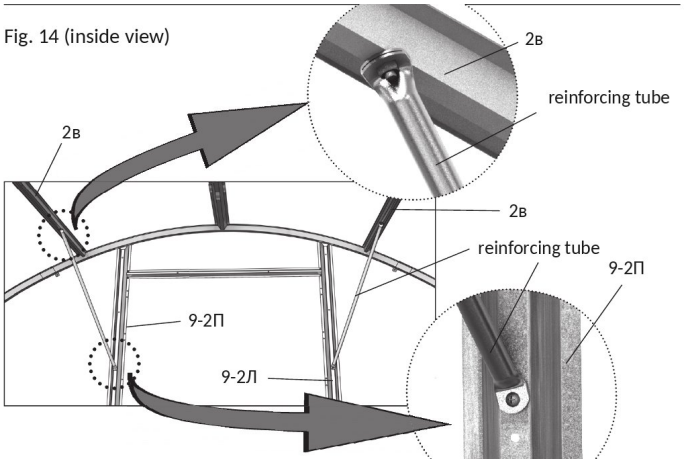
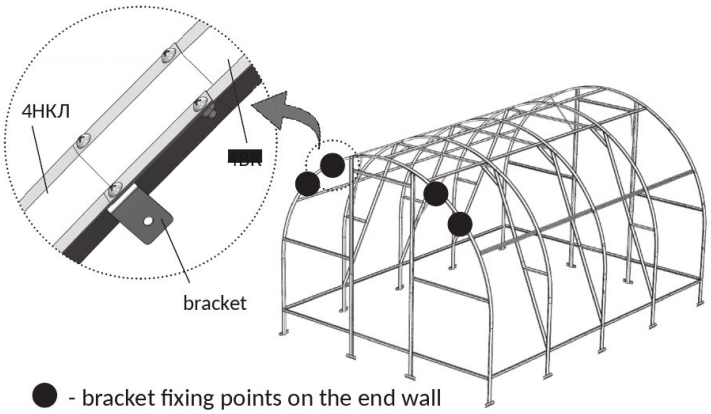


Fig. 13 (inside view)

8. Inside the frame, fit side braces (18 and 19) and a tie (17) at each arch. The side brace consists of two parts. The side brace strut (20) is fixed with one end to the joint between the upper and lower brace and with the other end to arch 4н. The diagonal reinforcing braces (21) connect the ties to the side braces (figure 13, inside view).



9. Fit the doorway reinforcing tubes (figure 14, inside view).



10. Fit the brackets for fixing the end-wall covering on both end walls. The black dots mark the bracket fixing points.

Covering the end walls with polycarbonate

Be careful! When cutting in windy weather, hold down the edges of the sheets with weights. A jigsaw or a fine-toothed hand saw is best for cutting.

NOTE! Do not mix up the sides of the polycarbonate! The side with the UV-protective layer (the printed side) must face outwards; the other side is covered with a clear film and faces inwards. **Wear gloves when cutting the sheets!** We recommend cutting the sheets with a jigsaw, a fine-toothed hand saw or a sharp knife. The UV-protected side is usually the one where the transport film is printed; the film on the other side is clear. After marking out and before cutting, mark the UV-protected side on each piece – once the film is removed, the sides cannot be told apart. Remove the film from both sides immediately before fixing the sheet to the frame.

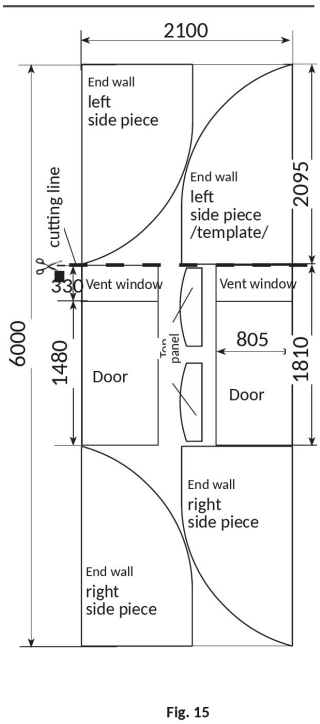


Figure 15 – end-wall cutting diagram

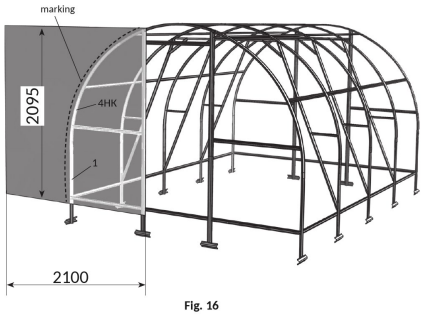


Figure 16 – marking the template

11. Cut the end-wall covering from a 2100 x 6000 mm sheet. Cut a 2095 mm long piece from the sheet (see the cutting line in figure 15). To make a template, place the cut piece against the assembled end wall and, without removing the protective film, mark the outline of parts 4ВК, 4НК and 1 on it with an allowance (figure 16). The edge of the sheet must be exactly in line with the edge of parts 9-1 and 9-2. Cut out the template and use it to mark the remaining pieces according to the diagram in figure 15.

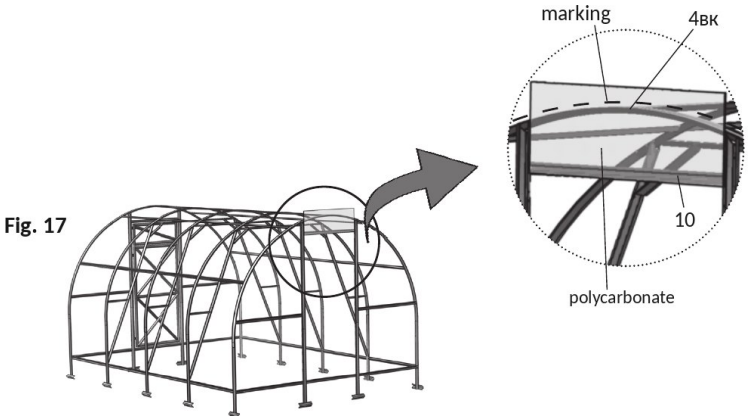


Fig. 17

12. The pieces of the panel above the door are cut from the remaining polycarbonate. Mark them with an allowance along part 4BK, aligning the lower edge of the sheet with the lower edge of part 10 (figure 17).

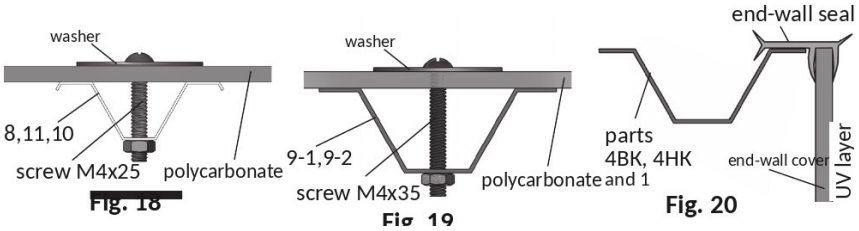


Fig. 18 Fig. 19 Fig. 20

Figures 18, 19 and 20

13. Fit the end-wall side pieces according to figure 21. Holding the sheet in place, fix it to parts 8, 11 and 10 with washers and M4 x 25 screws (figure 18), to parts 9-1 and 9-2 with washers and M4 x 35 screws (figure 19), and to the brackets with self-tapping screws and washers. Drill the screw holes from inside the greenhouse with a 4 mm drill through the holes in the frame. Fit the pieces of the panel above the door and fix them to parts 10.

14. Trim the polycarbonate with a knife flush with arches 4HK, 4BK and post 1 and fit the end-wall seal (figure 20).

> **NOTE!** Do not overtighten the polycarbonate fixing screws – the sheet may be damaged or break.

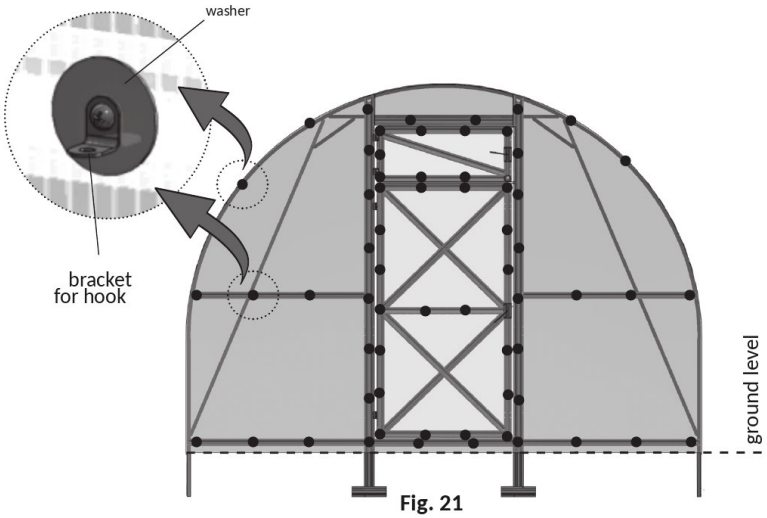


Fig. 21

● - washer positions

15. Fit the washers and hook brackets on the end wall according to figure 21. The black dots mark the washer positions.

Doors and vent windows

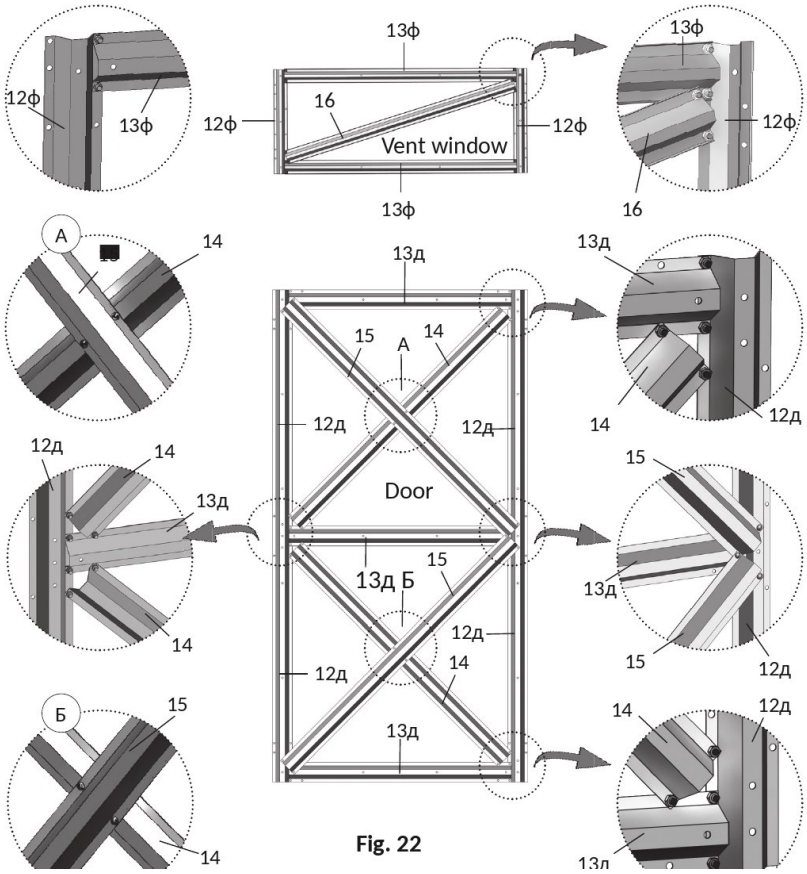
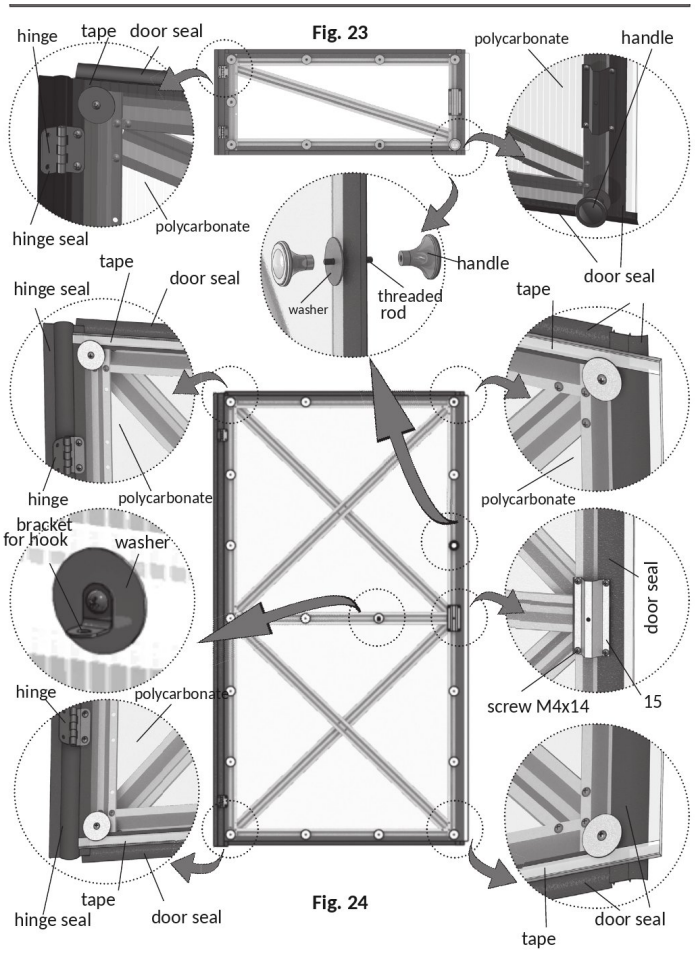


Fig. 22

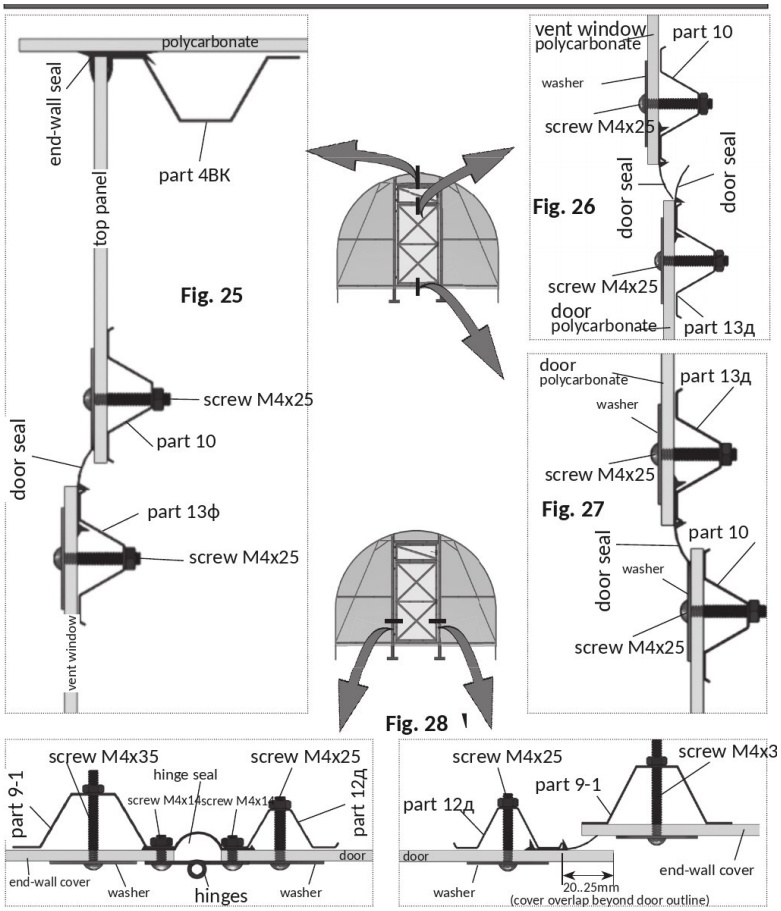
16. Assemble the door and vent window from parts 12, 13, 14, 15 and 16 (figure 22).



Figures 23 and 24

17. Fix the polycarbonate pieces of the vent window and door with washers on the hinge side (figures 23 and 24) so that the sheet overhangs the edge on one side (figure 28). Seal the open channels of the sheets with tape beforehand. Fit the seals along the door outlines as shown in figures 25, 26 and 27. The hinges are fitted on top of the polycarbonate.

When fitting the vent window hinges, shift the upper hinge in its holes towards the window and the lower hinge away from it. This compensates for hinge play so that the vent window does not sag.



Figures 25–28

18. Fit the assembled doors and vent windows with seals to the end walls (figures 25–28). The polycarbonate must overlap the door outline by 20–25 mm.

When fitting the vent window, lift its opposite side while tightening the screws to prevent it from sagging later.

Covering the roof

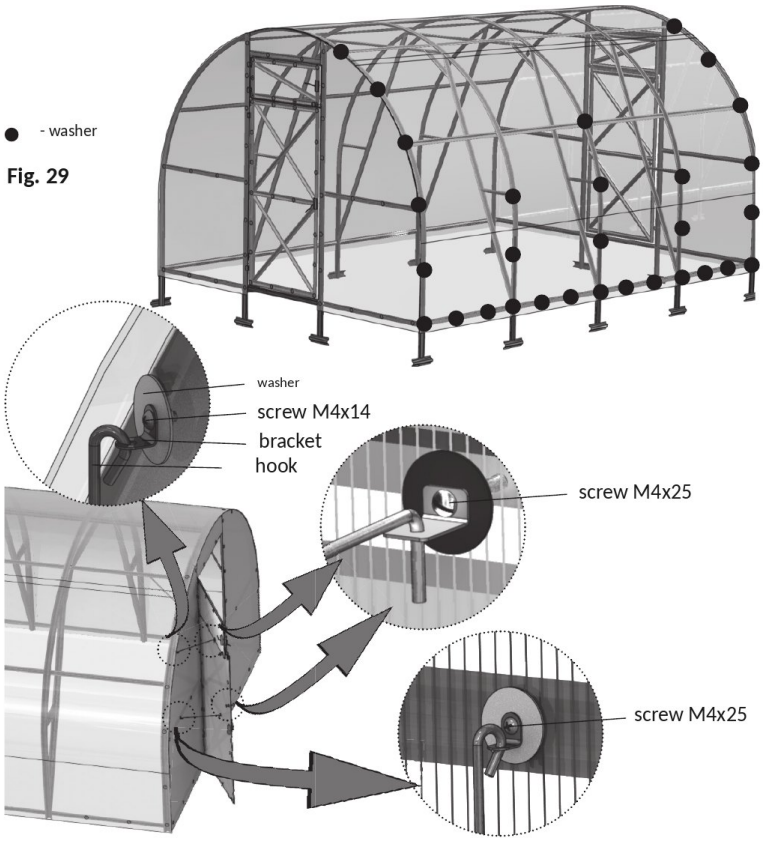
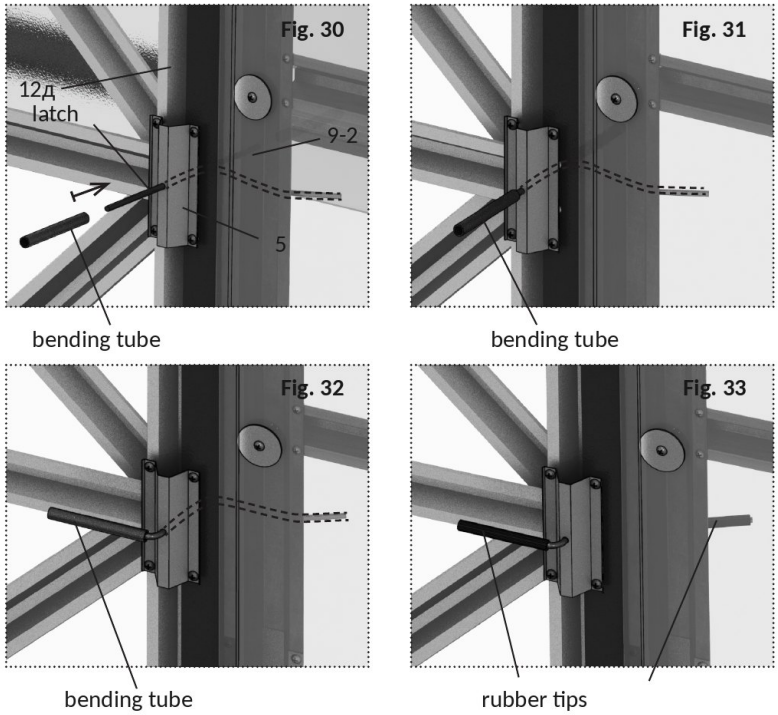


Fig. 29

19. Lay the polycarbonate sheets on the frame and tuck their straight edges behind the edges of the end arches. If the sheet edges are clearly not parallel to the arch edges, the frame was not fully aligned before tightening the screws and must be realigned. Each subsequent sheet overlaps the previous one.

20. Fix the polycarbonate to the end arches, posts 1 and purlins 2 according to figure 29 (washer, M4 x 14 or M4 x 25 screw, bracket and hook).



Figures 30–33

21. Fit the door latch: push the straight end of the wire latch from the inside all the way into the free holes of the doorway through parts 12 and 5 (figure 30). The bent part of the latch must rest against part 9-2. In this position, bend the inner straight end by hand in the opposite direction using the tube (figure 32) and fit the rubber tips on the latch (figure 33). This design allows the door to be closed tightly from both the outside and the inside.

22. Fit the vent window latch in the same way as the door latch.

For more information and questions, please contact: **www.interbauen.ee** · **info@interbauen.ee**