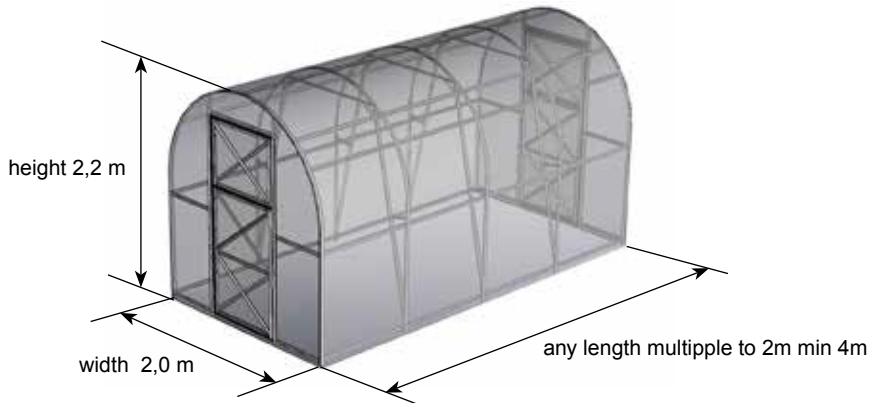


# poligard

MANUAL FOR GREENHOUSE

## TUNNEL



**EN**



**Perform assembling and operation of the greenhouse in strict accordance with the manual and operating rules stated in the technical certificate. Please keep this technical certificate for further reference.**

### Description

Dachnaya Dvushka greenhouse is designed for creation microclimate favorable for growing garden crops on cottage and household plots.

Greenhouse might have variable length depending on customers' desire. Required length of greenhouse is provided by purchasing of packages with extending inserts. Each insert add 2m to base length. Base length is 4m. Height of installed frame is 2.1 m

The frame of the greenhouse is made of galvanized iron and is to be assembled with screws and nuts. Greenhouse is fixed on the ground by digging special frame endings or on fundament using angles. Complete set includes all that is needed for fastening of coverage. Greenhouse may be completed with coverage on buyer's request. Greenhouse has two door openings and two small windows in opposite ends.

Quantity of polycarbonate sheets are specified on page 17

### Detailed complectation of Dachnaya Dvushka

№	Marking	Name	Quantity
<b>Box 1</b>			
<b>1</b>	<b>1</b>	stand	6
<b>2</b>	<b>2к</b>	end balk	12
<b>3</b>	<b>2кк</b>	ridge balk	2
<b>4</b>	<b>2с</b>	edge balk	4
<b>5</b>	<b>3</b>	supports	10
<b>6</b>	<b>24</b>	base stand	10
<b>7</b>	<b>4вк</b>	top end arc	2
<b>8</b>	<b>4в</b>	top arc	1
<b>9</b>	<b>4н</b>	bottom arc	6
<b>10</b>	<b>8</b>	bottom end strainer	8
<b>11</b>	<b>9-1л</b>	top door opening stand	2
<b>12</b>	<b>9-1п</b>	top door opening stand	2
<b>13</b>	<b>9-2л</b>	top door opening stand	2
<b>14</b>	<b>9-2п</b>	top door opening stand	2
<b>15</b>	<b>9-3</b>	bottom strap door opening	4
<b>16</b>	<b>9-4</b>	top strap door opening	4
<b>17</b>	<b>10</b>	door opening strainer	4

### Detailed complectation of Dachnaya Dvushka

№	Marking	Name	Quantity
<b>Box 1</b>			
<b>18</b>	<b>12φл</b>	small window vertical	2
<b>19</b>	<b>12φп</b>	small window vertical	2
<b>20</b>	<b>12Δл</b>	door vertical	2
<b>21</b>	<b>12Δп</b>	door vertical	2
<b>22</b>	<b>13м</b>	door and small window horizontal	10
<b>23</b>	<b>14м</b>	small door diagonal	12
<b>24</b>	-	long clamp	10
<b>25</b>	-	short clamp	6
<b>26</b>	<b>22</b>	screed horizontal	1
<b>27</b>	<b>23</b>	brace details	4
<b>28</b>	<b>25</b>	screed radial	2
<b>29</b>	<b>26</b>	angled bevel	2
<b>30</b>	-	hook for door and small windows	4
<b>31</b>	-	door and small window loop	8
<b>32</b>	-	hook bracket	8
<b>33</b>	-	two-side Adhesive tape 4.2m	1
<b>34</b>	-	screw M4x8	354
<b>35</b>	-	screw M4x14	32
<b>36</b>	-	screw M4x25	60
<b>37</b>	-	screw M4x35	32
<b>38</b>	-	screw M4x40	26
<b>39</b>	-	nut M4	508
<b>40</b>	-	nut M6	6
<b>41</b>	-	washer	52
<b>42</b>	-	washer M6	12
<b>43</b>	-	bolt M6x60	6
<b>44</b>	-	adhesive tape	1
<b>45</b>	-	rotator	4
<b>46</b>	-	bending tube	1
<b>47</b>	-	top bandage	3
<b>48</b>	-	bottom bandage	6
<b>49</b>	-	profile 1.05m	4

### Detailed completion of Insert

№	Marking	Name	Quantity
<b>Box 1 Insert</b>			
1	1	stand	4
2	2	main balk	12
3	2кк	ridge balk	2
4	2с	edge balk	4
5	3	supports	4
6	22	horizontal screed	2
7	23	brace detail	8
8	24	base stand	4
9	25	radial screed	4
10	26	angled bevel	4
11	32	screw M4x8	138
12	33	screw M4x14	16
13	34	screw M4x25	24
14	37	nut M4	178
15	38	nut M6	4
16	39	washer	16
17	40	washer M6	8
18	41	bolt M6x60	4
19	45	top bandage	2
20	46	bottom bandage	4
21	52	profile 1.0m	4
22	48	two-side Adhesive tape 4.2m	1
23	4в	top arc	2
24	4н	bottom arc	4

### Operating rules



**The greenhouse is designed for wind no more than 24 m/s and snow load 240 kg/m<sup>2</sup>, that corresponds to the thickness 0,6 m of the caked snow**

1. Before use of greenhouse, assemble and install it in accordance with the manual.
2. In winter, coverage of greenhouse should not be removed provided that snow load is limited. In winter greenhouse Dachnaya Dvushka doesn't need any control in the majority of the areas of Russia, including Moscow, Tver, St.Petersburg Ekaterinburg, Novosibirsk and other regions with snow load index under 5 (according to SNIP 2.01.07-85). Under purchase clarify snow region where greenhouse is installed.  
If snow load index is over 5, snow load control is required (removing snow coat periodically) in order to eliminate snow pressure on side walls of the greenhouse.



When installing the greenhouse by third parties, buyer should supervise compliance of assembling with the manual.



Do not install greenhouse close to buildings and trees from which snow or ice can fall down. 2 m or more distance is recommended.

### Cleaning and washing of polycarbonate sheets

1. Rinse sheet with warm water.
2. To remove dirt, wash it with mild soap solution or domestic detergent using a soft cloth or sponge.
3. To remove water, rinse the sheet with cold water and wipe with a soft cloth.



Never use abrasives or high-alkali detergents for cleaning polycarbonate sheets. Dry wiping damages protective layer of the coverage and shortens its service life. Never rub surface of polycarbonate sheets with a brush, metalized fabric or other abrasive materials.



Do not use sulphur cartridges for disinfecting greenhouse against fungal and bacterial agents in order to prevent corrosion (darkening) of frame

## Warranty

### Warranty

1. Manufacturer is responsible for full completing frame elements of greenhouse.
2. Manufacturer is responsible for assemblability of the greenhouse in accordance with the manual.
3. Manufacturer is responsible for durability of the greenhouse under specified values of weather impact.
4. Warranty period – 12 months from date of purchase.

### Warranty conditions

The warranty does not cover cases of:

1. Installation of greenhouse with violation of manual's requirements.
2. Violation of operating rules.
3. Unintended use of greenhouse.
4. Floods, hurricanes, other natural disasters.

Date of manufacture:

Manufacturer: Volya LLC

8 Severnyi Pereulok, Dubna, Moscow Oblast 141983

Manufacturer is responsible for quality of products in accordance with RF Civil Code.


Manufacturer reserves right to change design of greenhouse

## Assembling manual

### Introduction

1. General view of the frame is given in Picture 1. Parts should be installed in such a way that side selves of the profile are facing the surface cover. The frame is assembled of numbered parts, some of which made prefabricated from multiple parts with the same number, but different indexes.
2. Indexes:
  - к** - last (over the length of the greenhouse);
  - кк** - ridged
  - н** - bottom;
  - в** - top;
  - п** - right;
  - л** - left;
  - с** - edge balk;

→ - arrow shows the direction of installation as per schemes in the manual.
3. Terminology:
  - Left side** - on the left, while outside the greenhouse, in front of the door.
  - Right side** - on the right, while outside the greenhouse, in front of the door
4. Parts are fastened by putting profiles together and fastening them with screws and nuts through the holes. When joining parts in "profile-to-profile" way it does not matter which of the joined parts is above.
5. When assembling be careful not to damage the parts as they do not have sufficient endurance before the whole structure is assembled.

 Some parts may have spare holes which are there due to uniformity of parts.

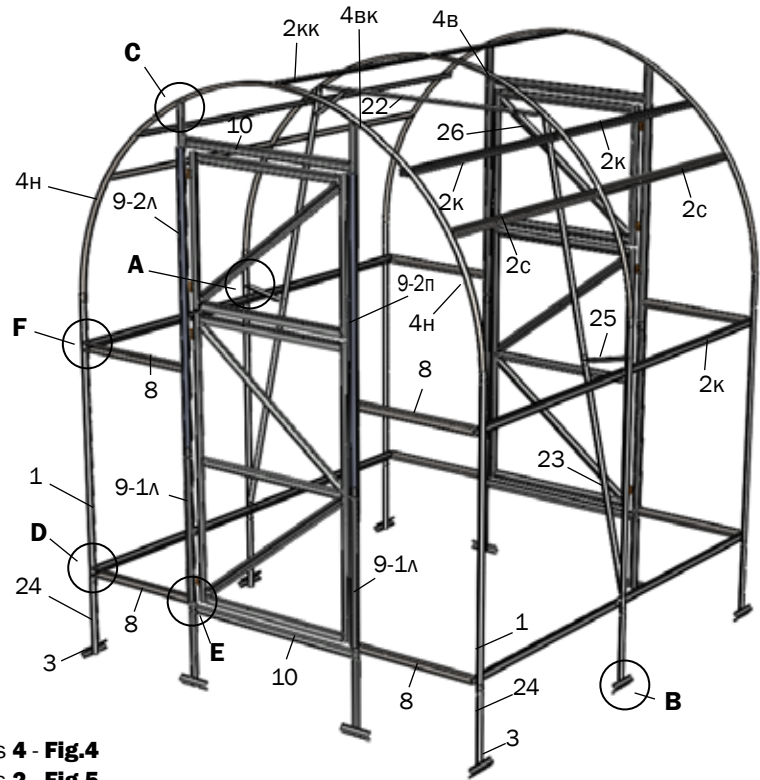


**When assembling the frame parts should be joined through all holes as prescribed. A simplified fastening of parts with only one or two screws is the violation of assembly rules and the ground to relieve the manufacturer of the warranty responsibility.**



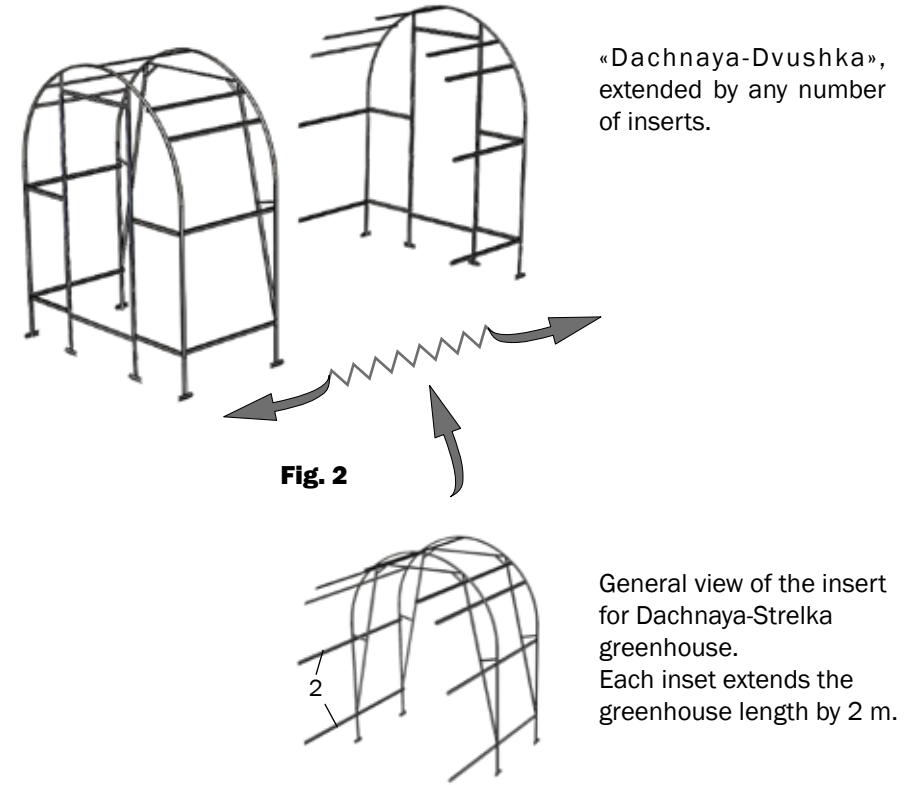
**Be careful when assembling the greenhouse! Parts have sharp edges. Beware of cuts! Perform all works in protective gloves.**

**General view of the frame of Dachnaya-Dvushka Greenhouse**

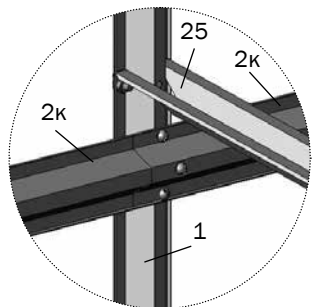


**Fig. 1**  
 Elements **4 - Fig.4**  
 Elements **2 - Fig.5**  
 Elements **12...14** (door and window) - **Fig.13,14**

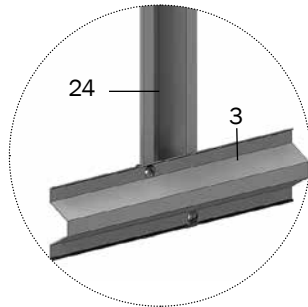
**General view of the frame of the greenhouse, extendable inserts**



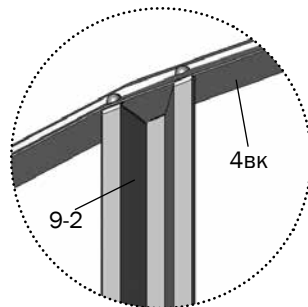
**Fig. 2**



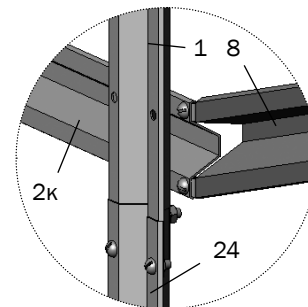
**A**  
 (view from inside)



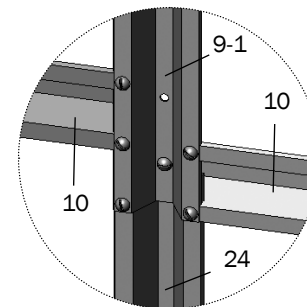
**B**  
 (view from outside)



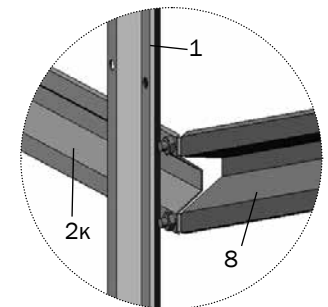
**C**  
 (view from outside)



**D**  
 (view from outside)



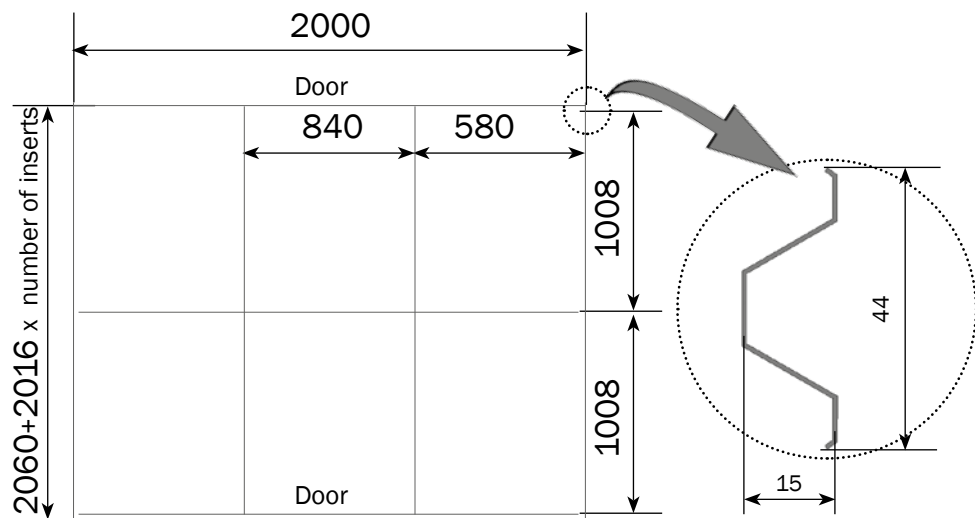
**E**  
 (view from outside)



**F**  
 (view from outside)

## Installation steps

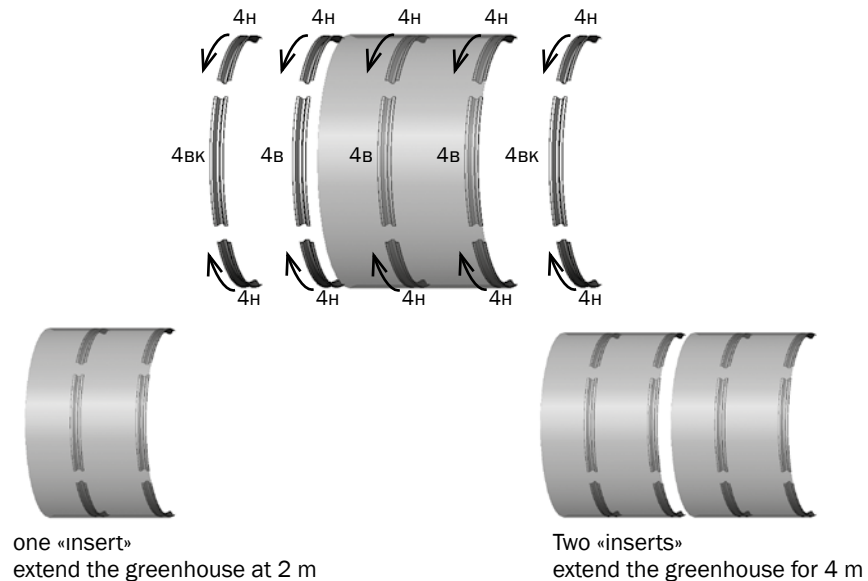
- 1.** Perform the assembly next to the installation site of the greenhouse.
- 2.** Perform the assembly in accordance with the pictures of assembly stages and the joints as shown in **Fig. 6...14.**
- 3.** On the site selected for installation of the greenhouse, dig holes as shown by the scheme in Fig. 3 to the spade length depth. Set the frame into the holes. Use the line to check that the diagonals of the frame are equal. General settlement of the greenhouse on the ground is made in such a way that the lower parts 10 of the door opening touch the ground, and parts 2 are some 5 cm above the ground. Use the line again to check the diagonals so that they are equal and adjust the corners of the frame if necessary.
- 4.** Level the frame by adding some soil into the holes or deepening the holes in order to make sure that the lateral parts are straight, horizontal and parallel to each other, and that the arches are straight when seen from aside. Tighten the screws again.



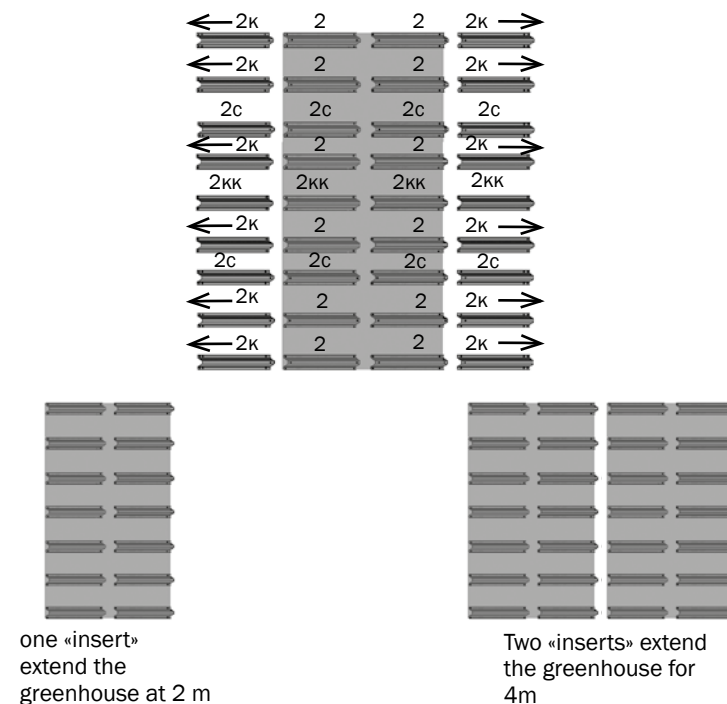
**Fig. 3** Greenhouse foundation support layout plan.

## The location of arcs and the longitudinal fittings greenhouses, extendable inserts

**Fig. 4**

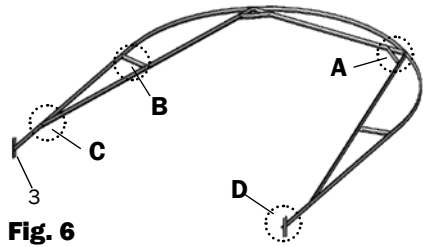


**Fig. 5**



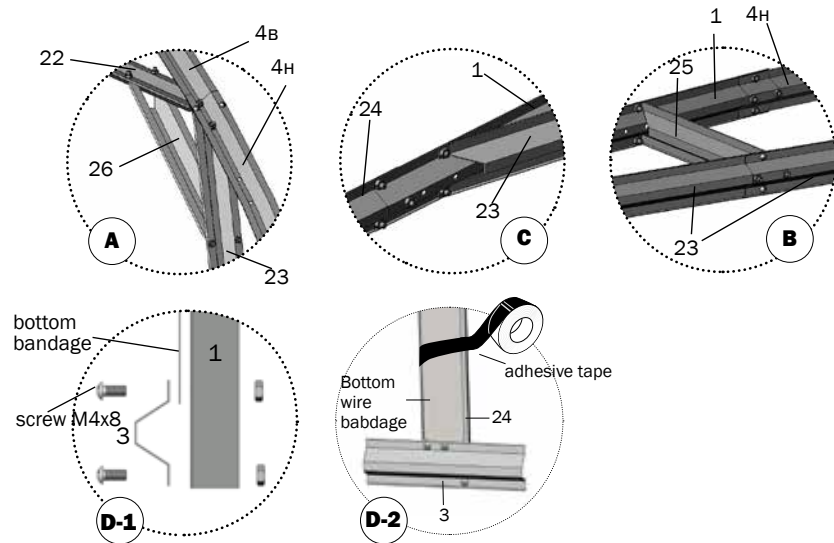
Installation steps

1 Step

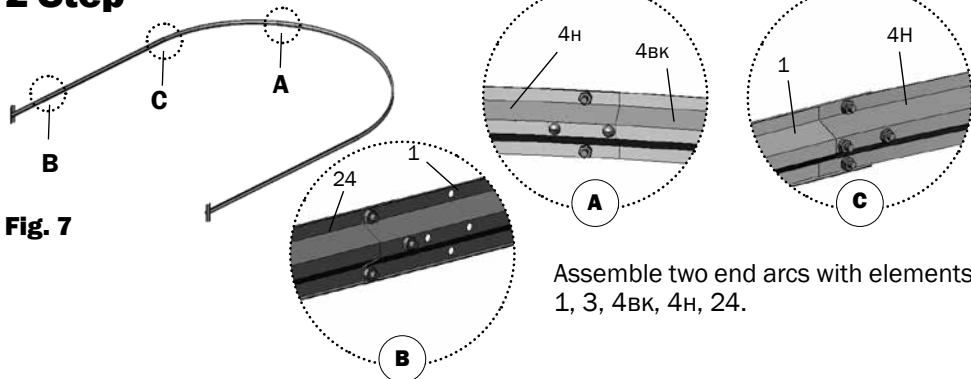


Collect a power arc (or the required number of power arcs depending on the number of inserts) of the elements 1, 3, 4B, 4H, 22, 23, 24, 25, 26 using screws M4x8, M4 nuts. If the greenhouse is installed on the base elements 24 and 3 are not used.

Fig. 6



2 Step

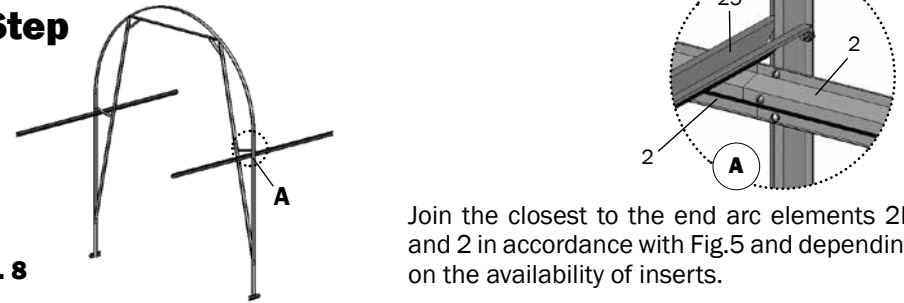


Assemble two end arcs with elements 1, 3, 4BK, 4H, 24.

Fig. 7

Installation steps

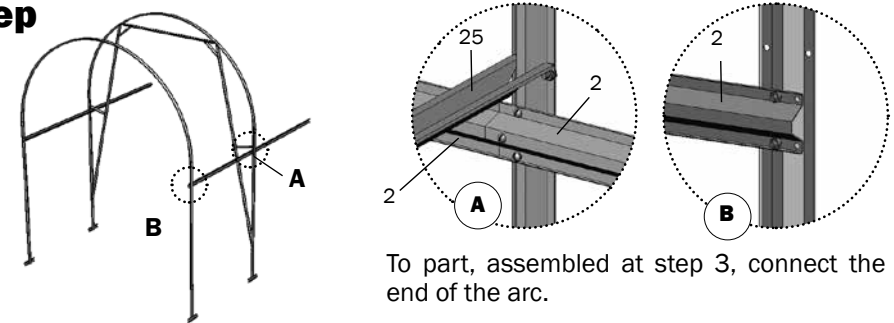
3 Step



Join the closest to the end arc elements 2K and 2 in accordance with Fig.5 and depending on the availability of inserts.

Fig. 8

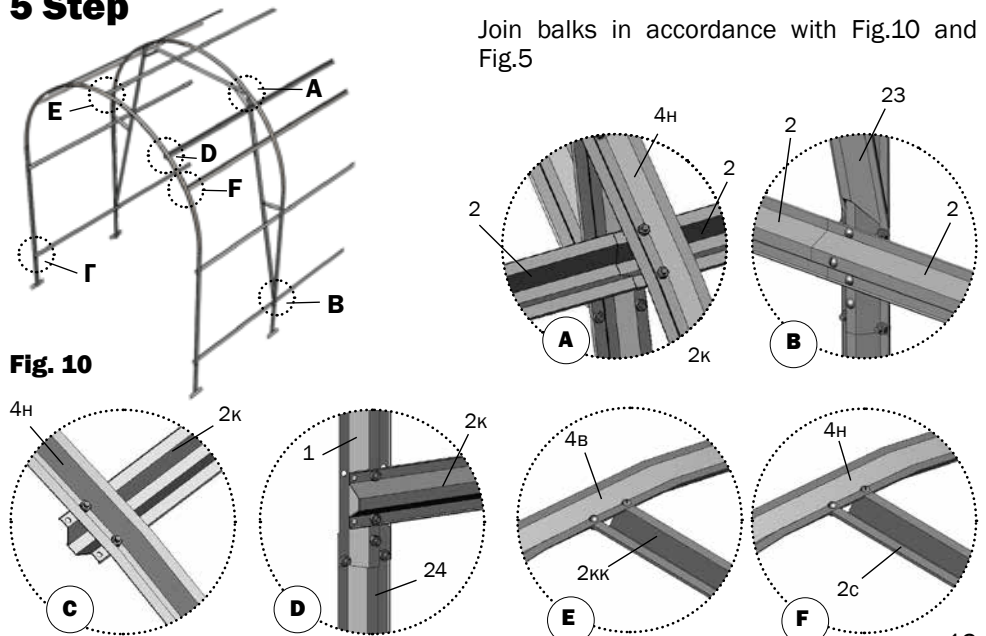
4 Step



To part, assembled at step 3, connect the end of the arc.

Fig. 9

5 Step

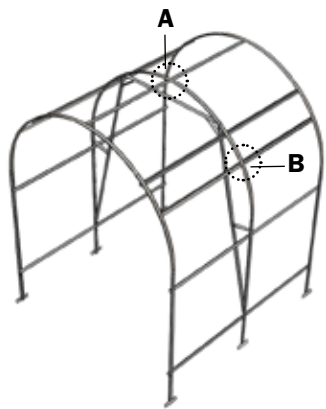


Join balks in accordance with Fig.10 and Fig.5

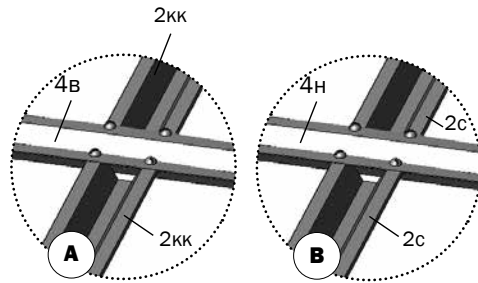
Fig. 10

## Installation steps

### 6 Step

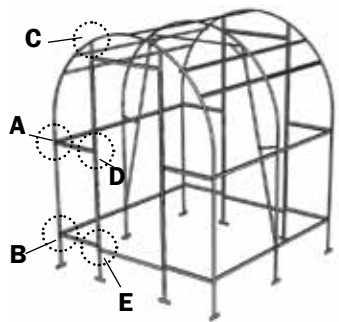


**Fig. 11**



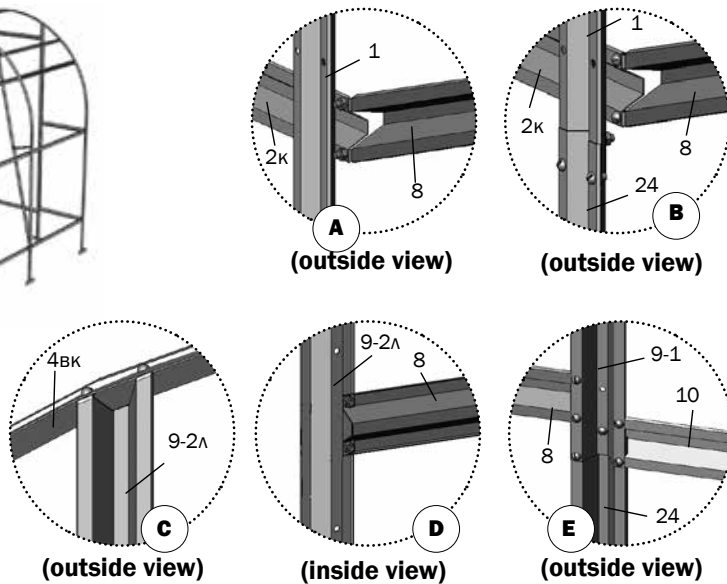
To attach the second end of the arc. If the length of the greenhouse more than two meters, it's necessary to attach the desired number of inserts consistently increasing runs and the power of the arc, then attach the end of the arc.

### 7 Step

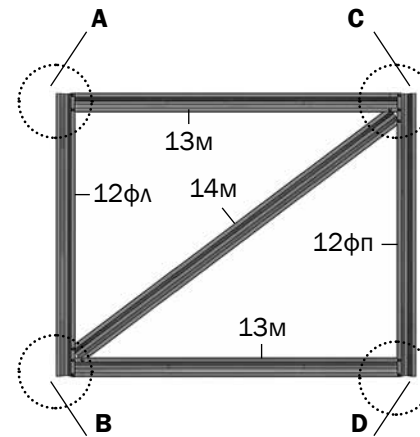


**Fig. 12**

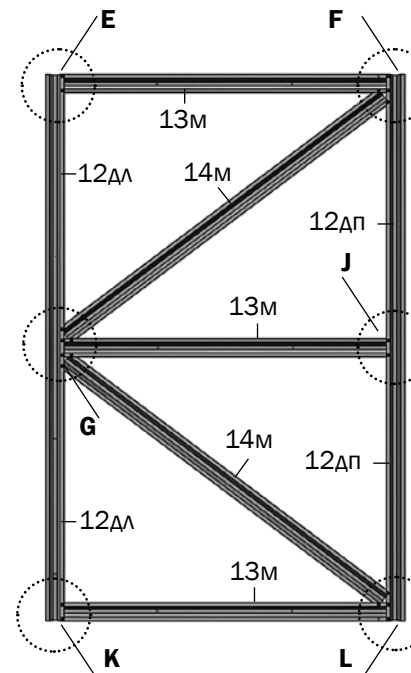
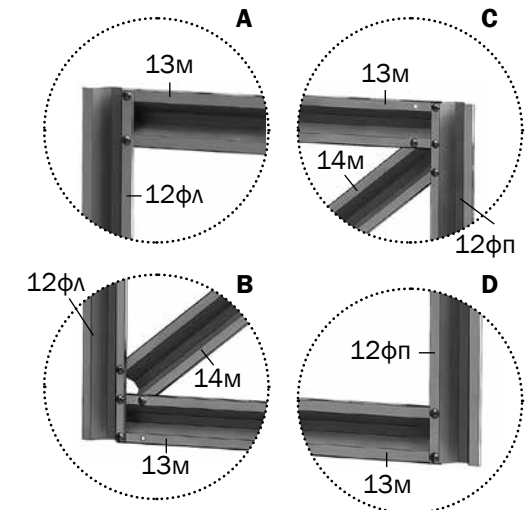
Collect details of the ends.



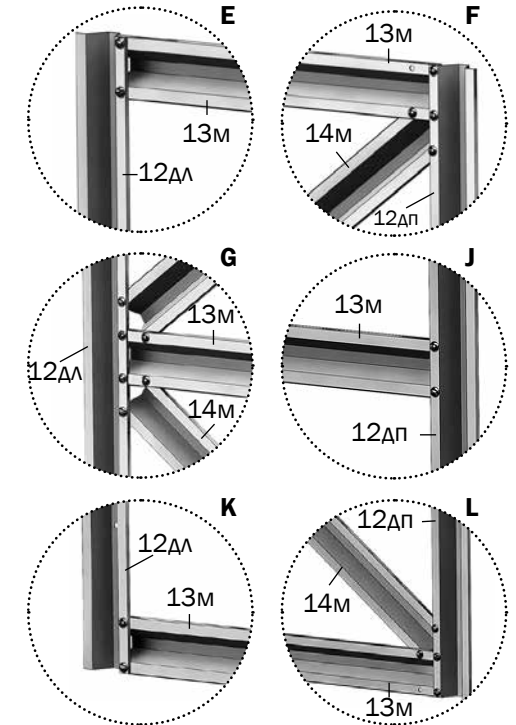
## Door and window assembly



**Fig. 13**  
Window, outside view

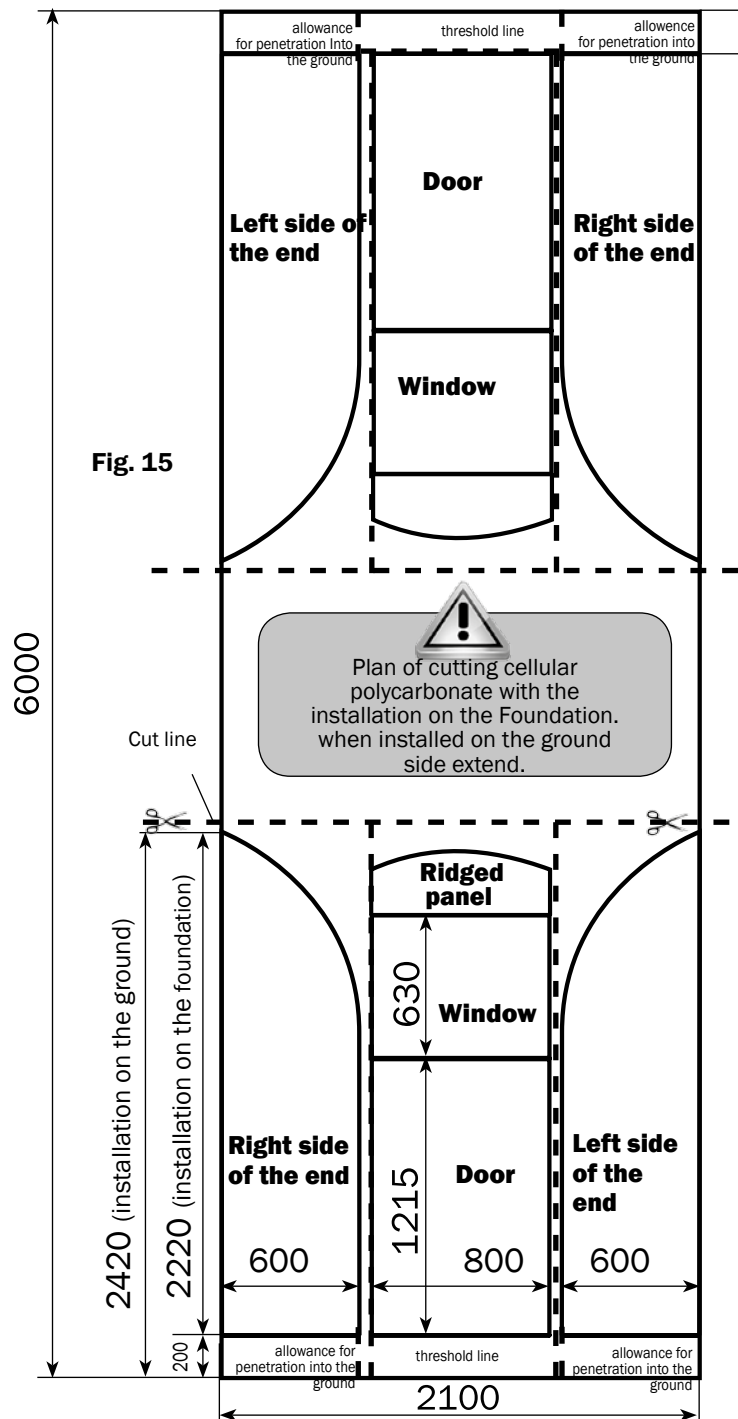


**Fig. 14**  
Door, outside view





**CUTTING POLYCARBONATE SHEET PERFORM STRICTLY IN ACCORDANCE WITH THE FIG.15 Polycarbonate sheet size 2100 x 6000 mm**



**Fastening of coverage**



In Fig.15 is a diagram of cutting for installation of greenhouses on the Foundation. If the greenhouse is installed on the ground, the lower part of the sidewalls of the end, it is recommended to extend 200 mm for the corresponding deepening of the polycarbonate in the ground. this depth of coating along the perimeter of the greenhouse creates a barrier to the penetration of the greenhouse the roots of weeds.

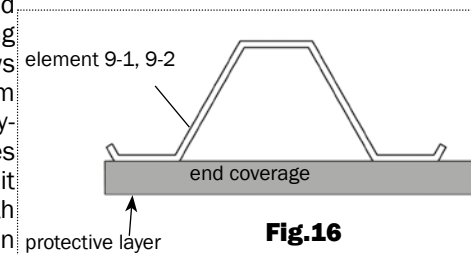


The polycarbonate should be installed with the strongly defined outer side (towards the sun), having a protective layer (always make sure when purchasing or before installation). The protective layer is usually on the side with inscriptions on the packaging film. On the other side of the sheet the film is clear. After drawing the planning lines on the sheet but before cutting it, mark the protective side of every piece of polycarbonate: after removing the packaging film, both sides of the sheet look very similar. The packaging film should be removed from both sides right before fastening the cover surface to the frame.



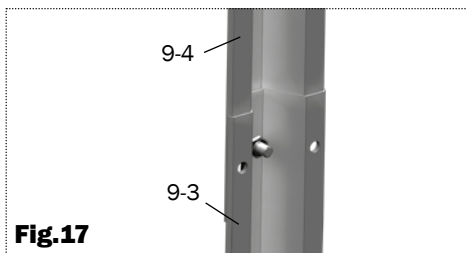
Cutting is better done with an electrical fret saw, or with a jigsaw with small sawteeth.

- To cover greenhouses need:  
for "Dachnaya-Dvushka" - 2 sheets; for "Dachnaya-Dvushka"+insert - 3 sheets; "Dachnaya-Dvushka"+2 inserts - 4 sheets of polycarbonate with a thickness of 4(6)mm size 2.1 x 6 m.
- Cut a piece of polycarbonate (the cutting line Fig.15). Put the piece of cover on the end, strictly combining the outer edge of the coating elements 9-1, 9-2 (Fig. 16) and draw the elements 1, 4n and 4bk. cut out pieces of the coating to the seam allowance. Then put the assembled door and window to the coating sheet with the addition of one lateral edge opposite the hinges of the hinge is 15 mm. pieces of the coating, located above the window, cut at the installation site.
- Install side parts of the butt end as shown in Fig.16. Holding a piece of cover surface in place, fasten it with screws and washers on parts 8 (Fig. 22). And on angles with the use of self-tapping screws with washers. Holes for screws should be drilled with 4 mm bore from inside the greenhouse through ready-made holes in frame parts. Install pieces of "half-rounded ridge" by fastening it to angles with self-tapping screws with washers. Cut off any overlapping parts on the sides.

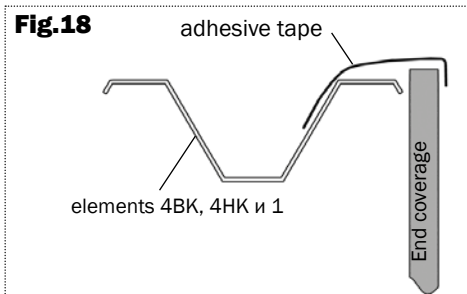


### Fastening of coverage

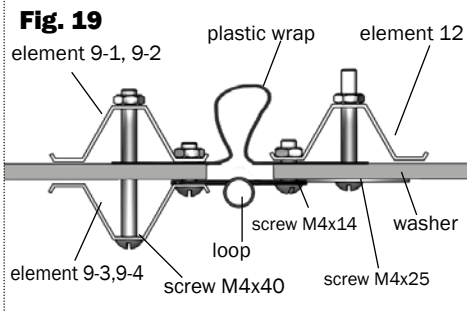
**4.** Match elements 9-3 and 9-4 (Fig.17) and install them according to Fig.19. press the pieces of polycarbonate at the edges from the doors and Windows lining 9-3, 9-4 (Fig.19), leaving holes for rotator. cut pieces of the coating to be installed above doorways, and under door openings, install it and fasten it with washers (Fig.22) for detail 10.



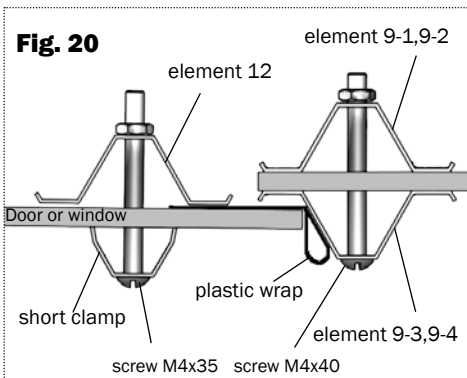
**5.** Trim with a knife the pieces of the coating in the arcs 4H and 4BK and parts 1, and then close the resulting cut adhesive tape in accordance with Fig.18



**6.** Secure the pieces of the coating on the Windows and doors on the side - the weight of the hinges with washers (Fig.19), and about other parties - clamps (Fig.20), having closed cell (paste over them with tape). on the sides opposite to the hinge cover should get over a frame of 15 mm (Fig.20). loops are superimposed on top of the polycarbonate and when tightening the screws under the hinge polycarbonate crushed.



**7.** The cracks in the door opening closed with plastic wrap (Fig.19, 20).



If the configuration of the greenhouse has sealing profile see page 22 Fig. 27-31.

### Fastening of coverage

**8.** Washers and clamps on the end are set in accordance with Fig.21.

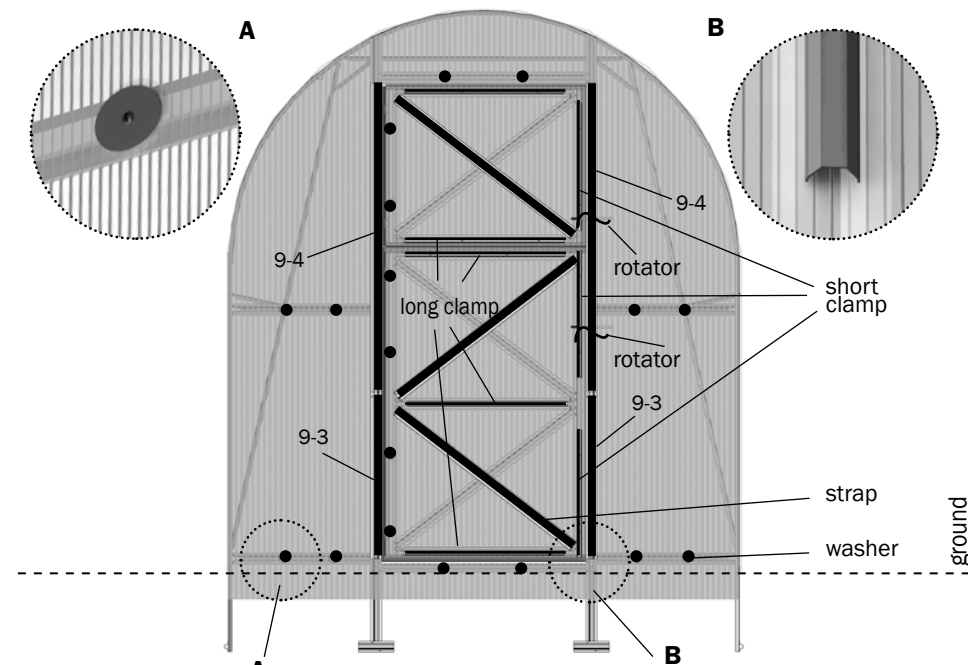


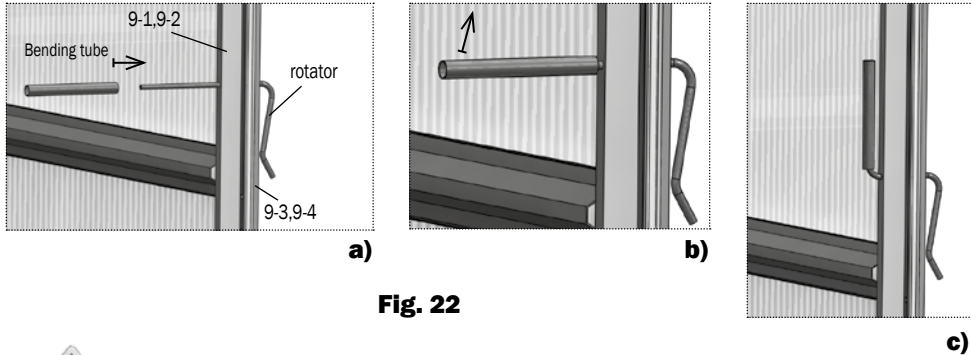
Fig. 21



Free of the hole remain in some elements. Do not put screws with the washers on them.

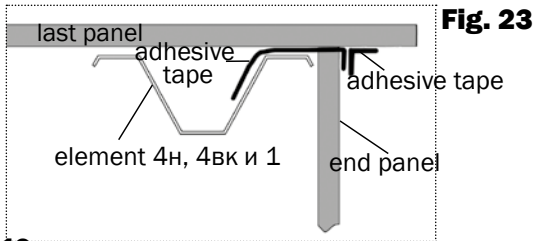
## Fastening of coverage

**9.** Rotator for locking doors and windows inserted into the holes of the uprights of the door opening direct end outside until it stops. Using the tube the bend of the inner rectilinear end of the arm up (Fig. 22). this design allows the rotator to elastically press the door and the window ends in closed position, being both outside and inside the greenhouse.

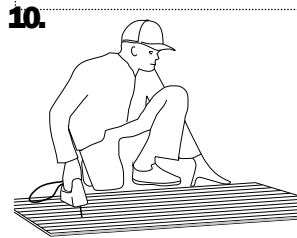


**Fig. 22**

**Before installing the cover sheet be sure to tape the ends and joints of the coating between the ends of the greenhouse from dust, moisture and insects (Fig.23).**



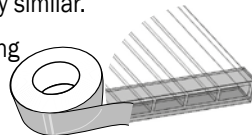
**Fig. 23**



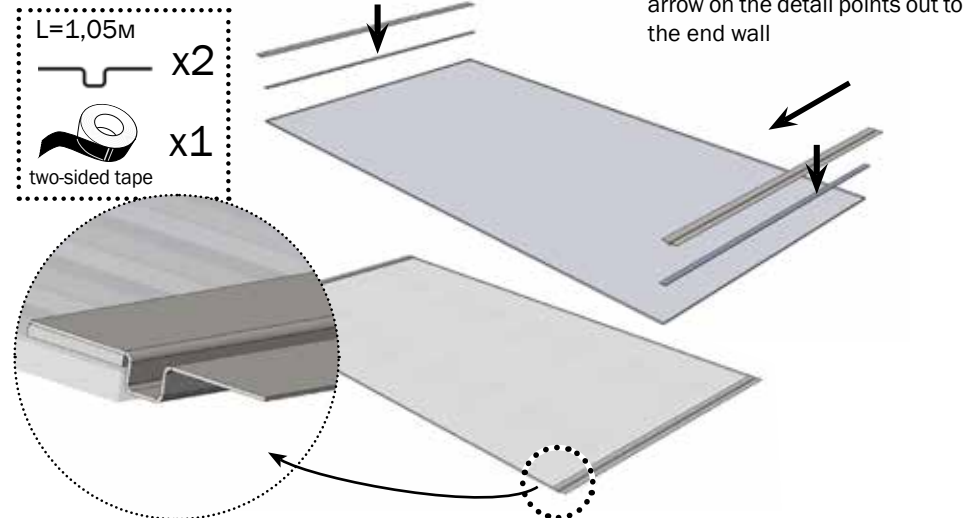
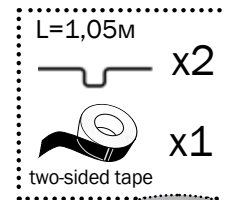
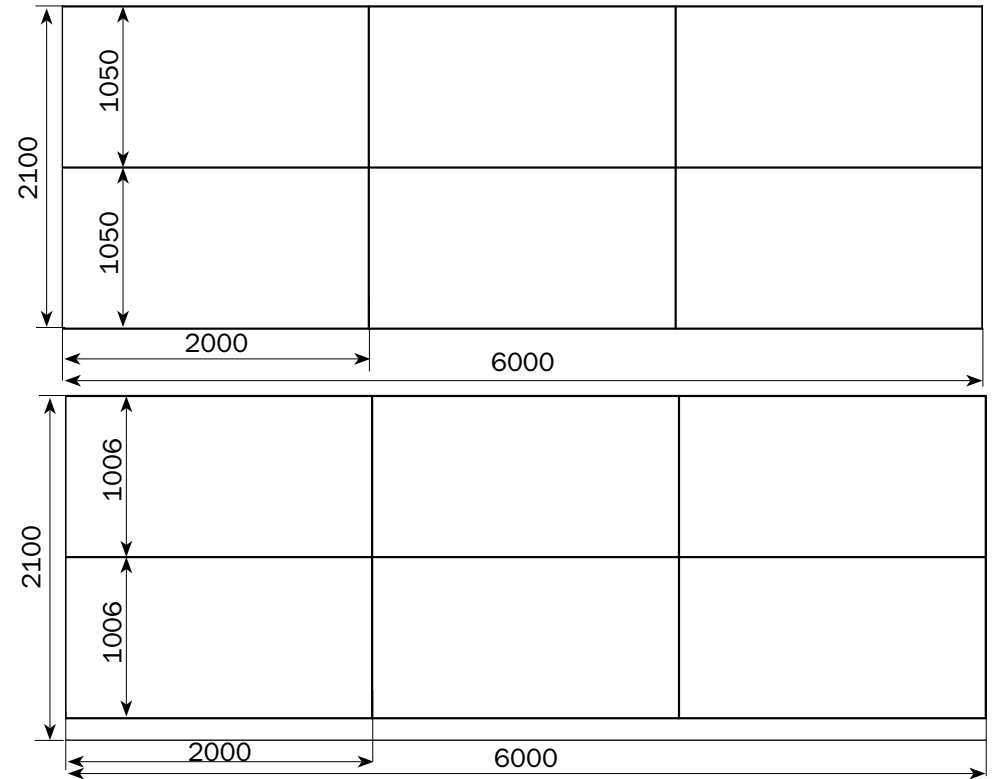
**10.** The polycarbonate should be installed with the strongly defined outer side (towards the sun), having a protective layer (always make sure when purchasing or before installation). The protective layer is usually on the side with inscriptions on the packaging film. On the other side of the sheet the film is clear tape. After drawing the planning lines on the sheet but before cutting it, mark the protective side of every piece of polycarbonate: after removing the packaging film, both sides of the sheet look very similar.

The packaging film should be removed from both sides right before fastening the cover surface to the frame.

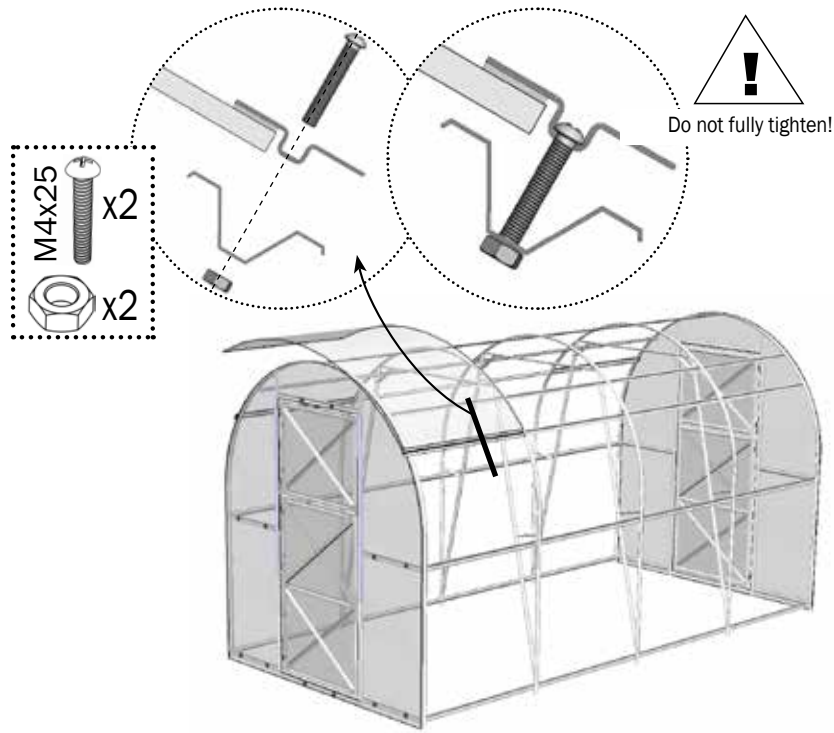
Section of polycarbonate with open cells must be covered with tape.



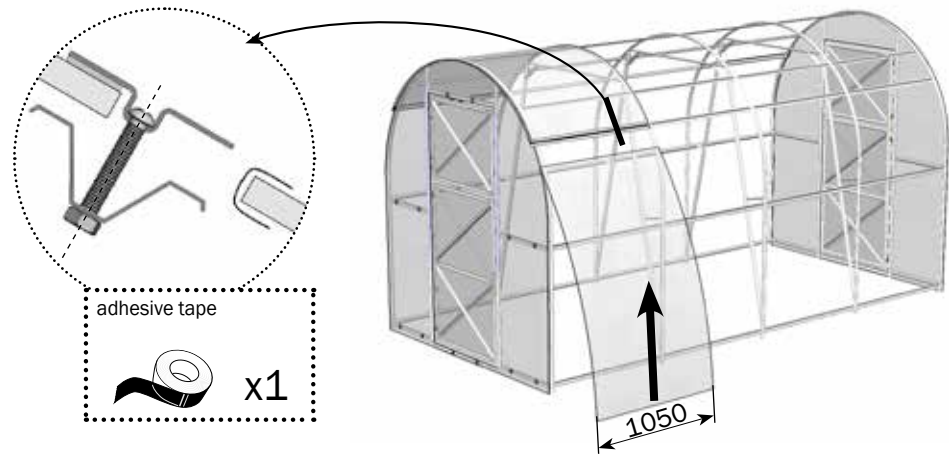
## Fastening of coverage



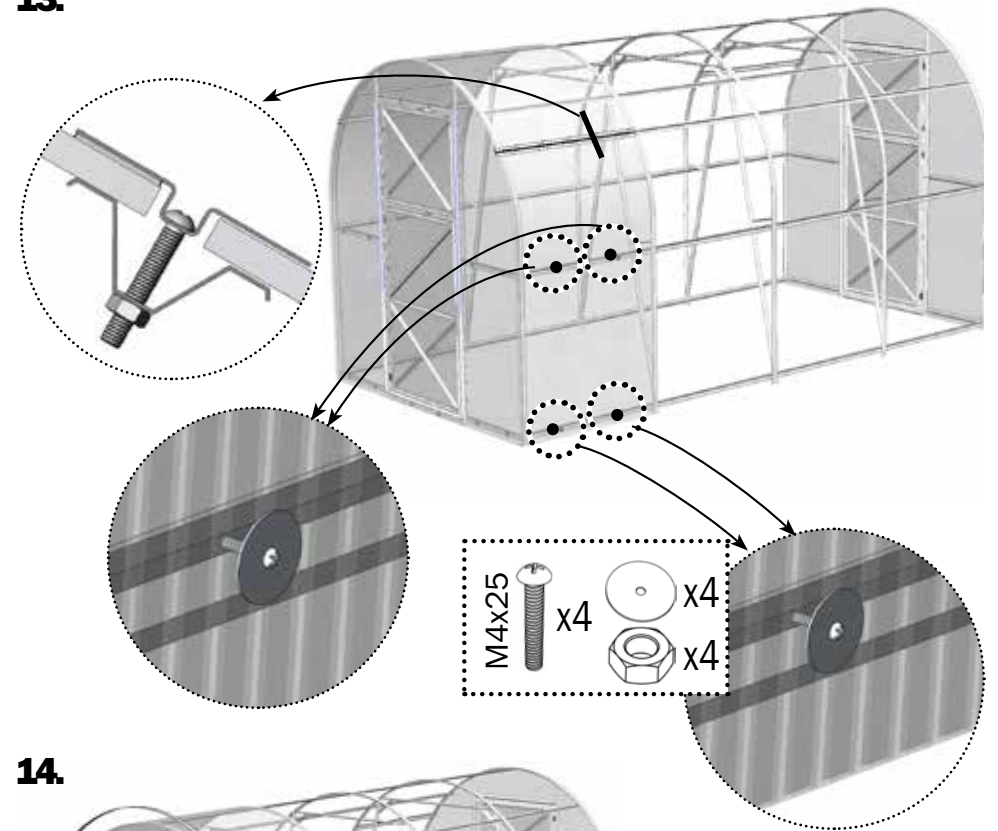
11



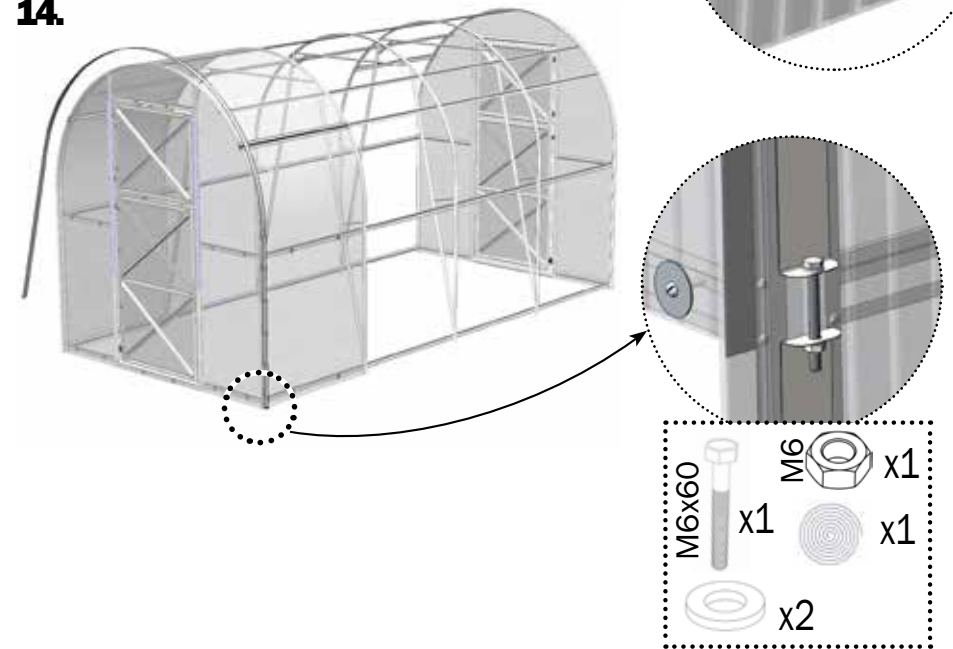
12



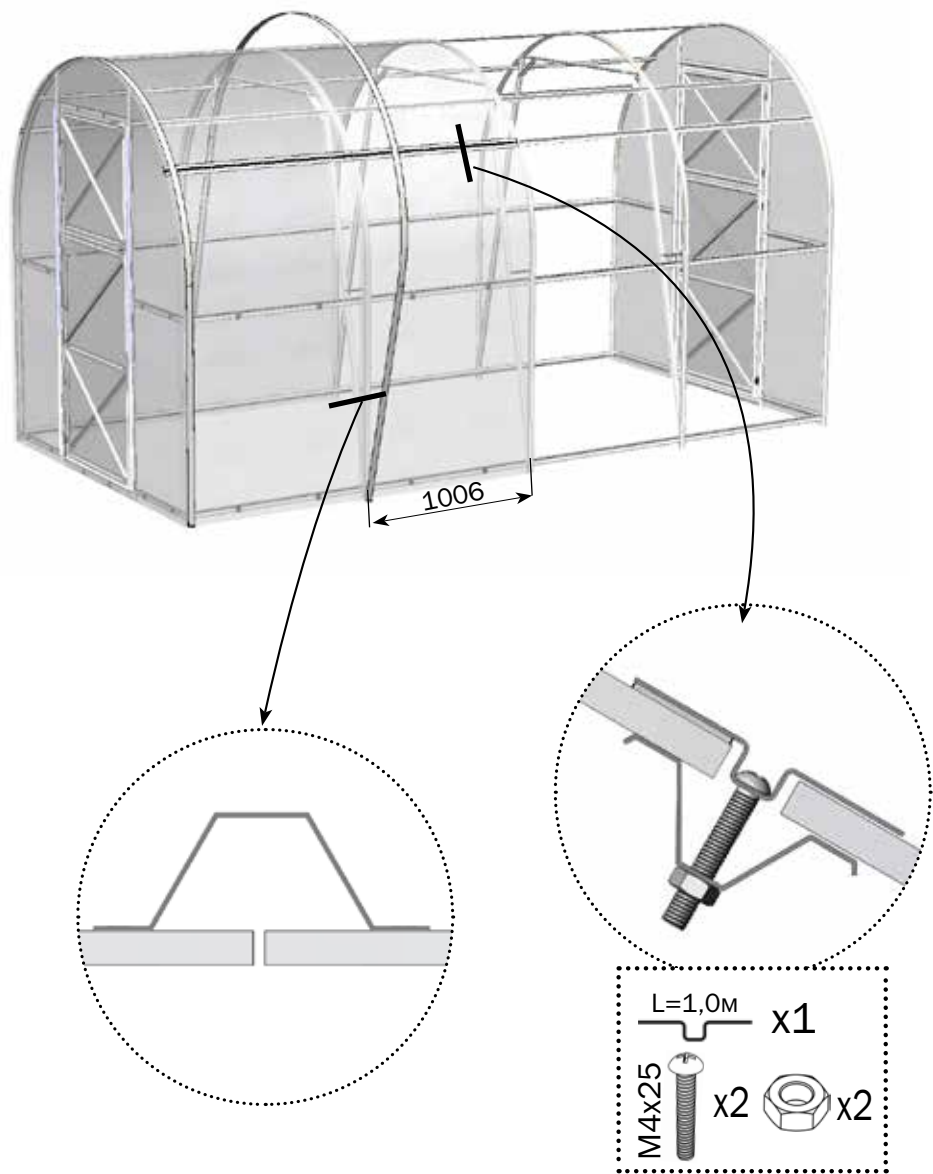
13



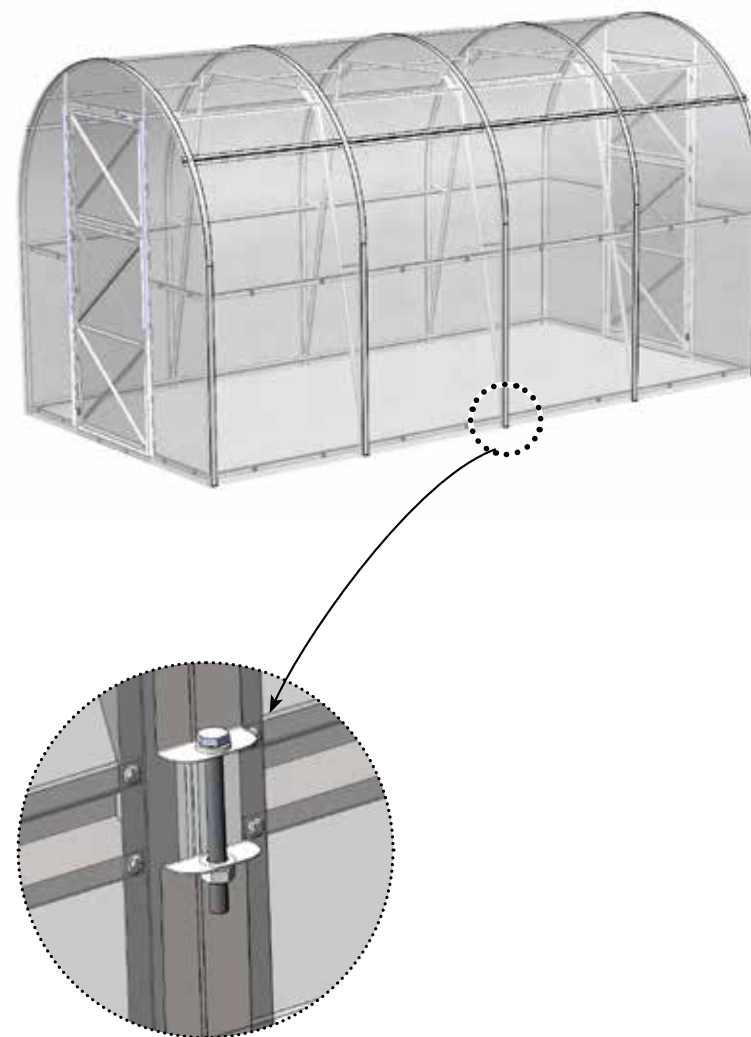
14



15.



16.



17. Install the bracket with the hooks to lock the doors and vents in accordance with Fig. 24.

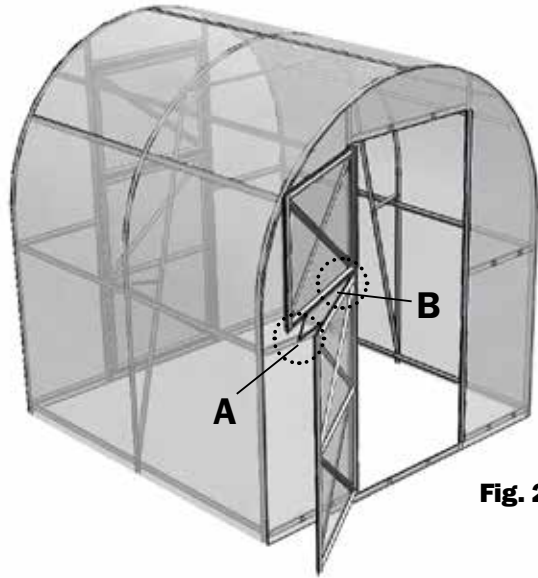
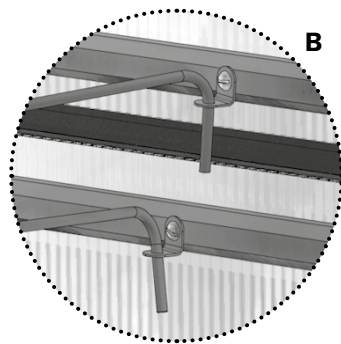
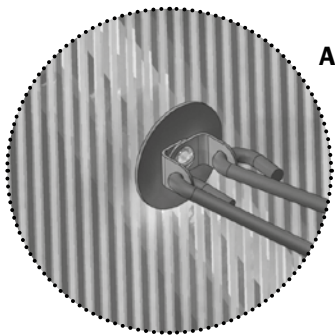


Fig. 24



### Installation of sealing profiles

Sealing profile consists of door profile -8,5m; loop profile is 3.6 m; end profile - 12m.



the sealing profiles are installed along the contour of the doors and vents in compliance with Fig. 25...29.

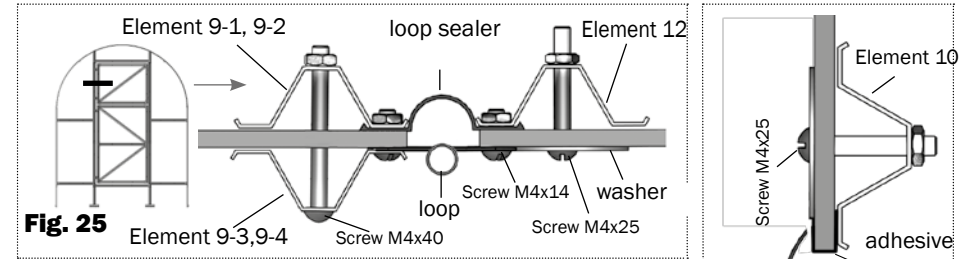


Fig. 25

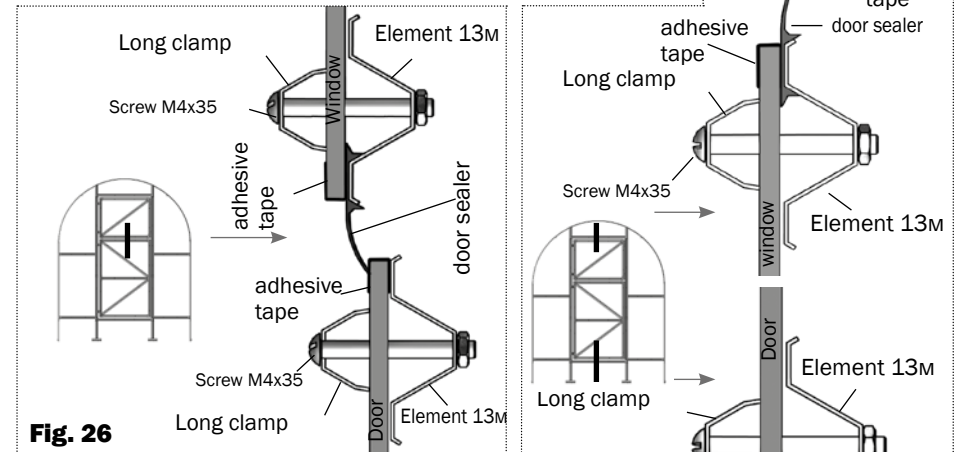


Fig. 26

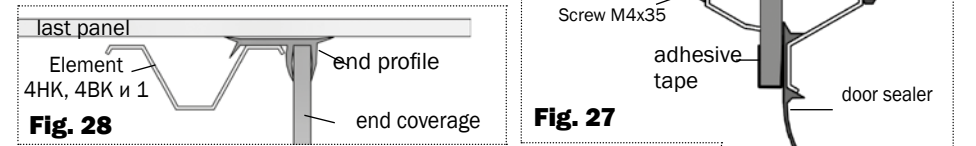


Fig. 28

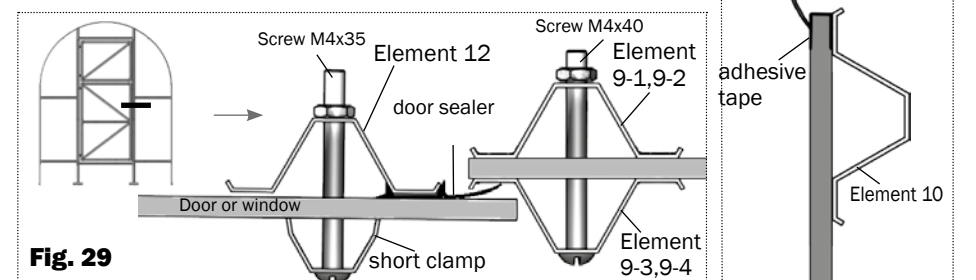


Fig. 29

poligard

[www.poligard.com](http://www.poligard.com)