



FKP900-set

Oring template for dowel joints

Operationg instructions



Producer:

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FKP900 IGM Boring Template Manual EN v3.6 A4ob



Operating instructions EN

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USE OF TEMPLATE FKP900

The template FKP 900 is designed to produce furniture elements joints in surface with dowels for board thickness between 18 and 30 mm or with confirmate screws of 40-50-60 mm for board thickness of 18 - 30 mm, to prebore holes D3mm and D5mm for shelf supports and to produce of holes for woodscrews and hinge flange and cap. For these operations, the boring bush FKP101 and any cordless or percussion drill are required. The ingenious boring bush conception enables the use of one boring bush with a wide range of dowel bits with various boring diameters. The whole system is based on the template made of laminated pertinax, setting stops set and a boring bush in which a dowel bit with HM cutting edge is clamped. Thanks to the clever construction, maximal precision of boring template and boring bush you can obtain a unique quality of your products.

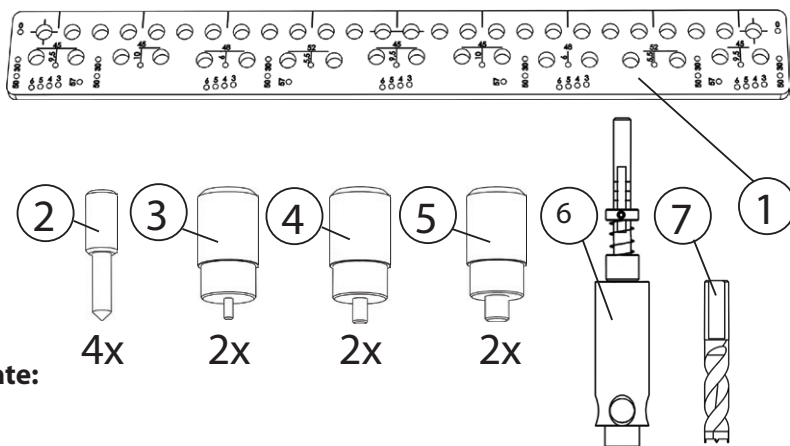
Basic accessories FKP 900-set:

- Boring template FKP 900

- 1 pc Template from laminated pertinax
- 4 pc Steel pointed setting stops D6/D9mm
- 2 pc Steel centering pins D3
- 2 pc Steel centering pins D5
- 2 pc Steel centering pins D8

- Boring bush FKP101

- Dowel bit D5x30 mm C306-05011



Accessories required for work with the template:

- ELECTRIC OR ACCU DRILLING MACHINE
- BORING BUSH **FKP 101**

Dowel bits with HM cutting edge and tightening shank S=8 mm

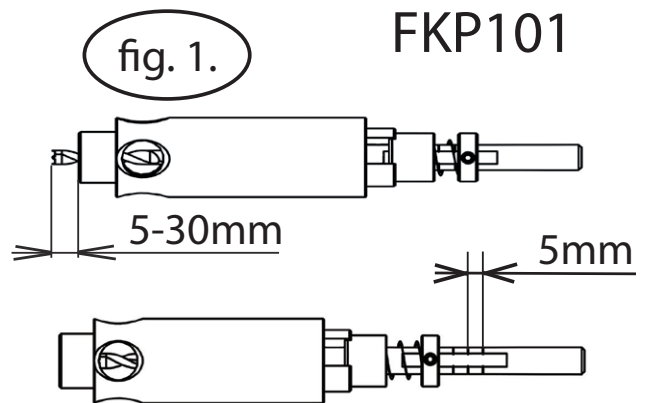
- D 8x30 mm dowel bit HM **C306-08011** for FKP101 (blind holes)
- D 3x30 mm dowel bit HM **C306-03021** for FKP101 (blind holes)
- D 5x30 mm dowel bit HM **C306-05011** for FKP101 (blind holes)
- D 7x30 mm dowel bit HM **C367-07001** for FKP101 (through holes for confirmate screws)
- D35x90 **S10** mm manual hinge boring bit HM **C512-35011** (boring cup hole for hinge)

Description of template FKP900

The whole system is composed of a boring template (**pos. 1**) with precise 18 mm diameter and 32 mm spacing holes, of holes for cup hinges, holes for stops, of pointed stops (**pos. 2**) for position marking and of centering pins (**pos. 3-5**) for holding position when shifting template. The holes for stops are indicated with numbers for important dimension relative to the particular stop. The boring template is tightened to the workpiece with manual clamps or chucks.

DESCRIPTION OF BORING BUSH FKP101

The boring bush is composed of a duralumin centering bush and a 9 mm diameter shaft with tightening part for dowel bits. The boring shank is seated in the centering bush bearing to provide maximal guiding precision. The tightening part is secured with a spring and a stop ring fixed by a screw. The boring depth is set by the stop ring, for boring depth range see figure (fig. 1). For simple boring depth setting, there is a scale with lines à 5 mm (fig. 1).



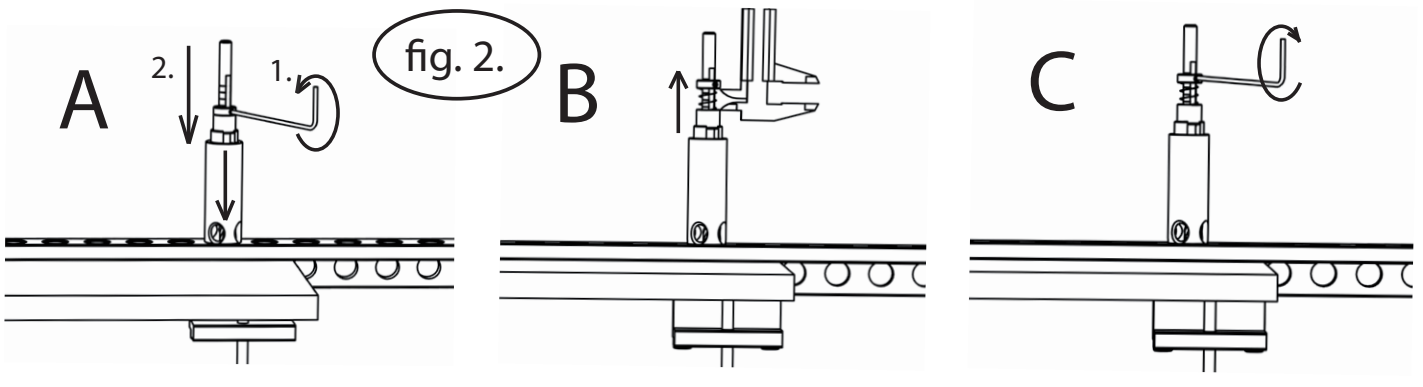
Basic accessories FKP 101

- 1 pc Duralumin boring bush complete
- 1 pc Imbus key 2

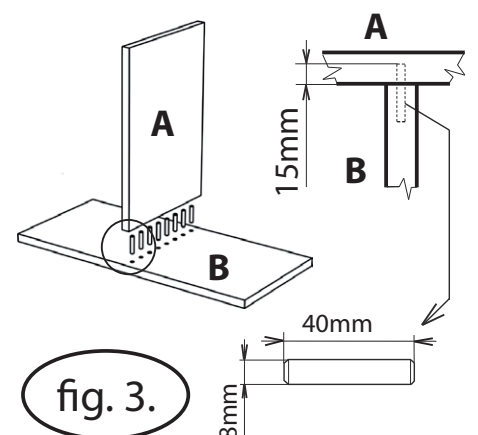
Setting of boring depth FKP101

The setting procedure is represented in the figure (fig. 2).

For simple boring dowels of 35 mm length, use the FKP101-8 ring (from 1.8.2010 included in the sets). Insert the FKP ring under the spring stop. Tighten the workpiece to the jig. The setting is made on the upper surface of the jig. Put the boring bush into the 18 mm diameter holes so that after pressing onto the shank, the point of the dowel bit touches the workpiece. Loosen the setting stop ring screw (imbus key 2 is included in FKP101-102 packing) and press the stop ring to the jig until the stop ring touches the spring stop (fig. 2A). The point of the dowel bit must still be touching the workpiece. The zero point for the boring depth setting is thus set. The boring depth for boring into surface, which is now 15 mm, is set between the stop ring and the spring stop (fig. 2B). The boring depth set, tighten carefully the screw of the stop ring considering the screw diameter (fig. 2C). At the boring bush **FKP101**, this value can be read with the help of lines at the shank, distance of lines is 5 mm (fig. 1). The stop ring is designed so that the **side boring depth is 2 mm longer than the total dowel length, which is 35 mm** (reserve for the glue). The dowel joint producing is represented in the picture (fig. 3,4).

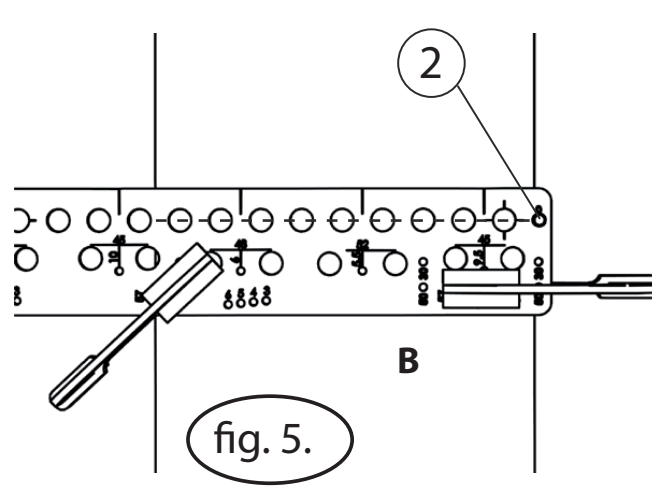
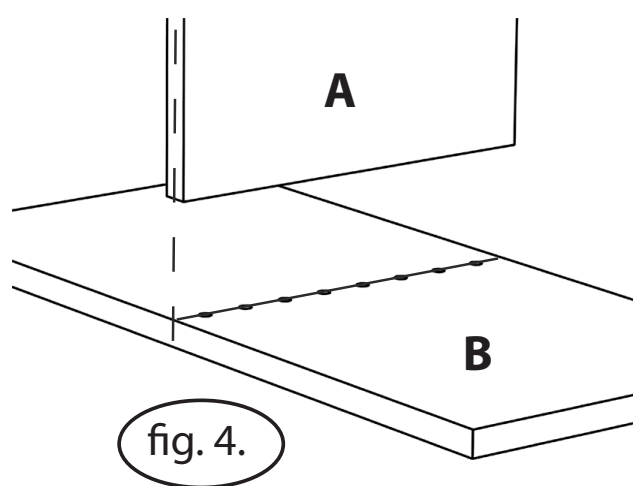


- Before boring always check whether the jig stops are perfectly touching the contact zones of the workpiece.
- Always adjust the workpiece from the front side on.
- Check the boring depth before boring.
- If the bored hole isn't clean the dowel bit must be grinded.

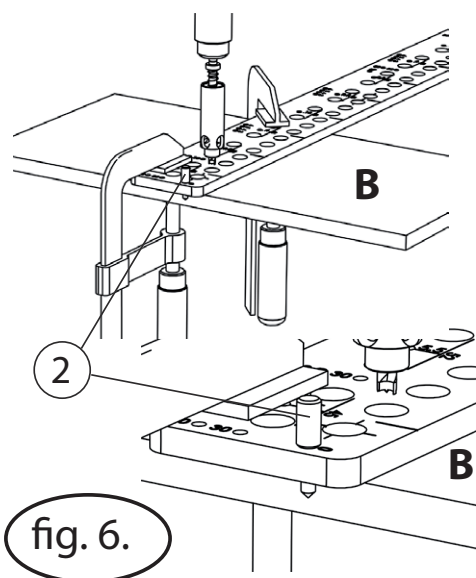


PRODUCING OF DOWEL HOLES INTO SURFACE

Trace a line going across the workpiece and cutting the centre of the vertical element (**fig. 4**) on the surface of the workpiece you want to have bored the holes on. Insert the setting pointed stop (**pos. 2**) into the 0 hole at the edge of the template. Place the FKP on the workpiece so that the edge stop is touching the front side of the workpiece and the axis of the template holes is on the line traced on the workpiece (**fig. 5**).



Ensure that the setting pointed stop is touching the front side of the board and the central axis of the template holes is covering with the workpiece line. Tighten the FKP by tightening clamps. Set the boring depth 15 mm on the boring bush, the workpiece thickness being 18 mm. Put the boring bush with respective dowel bit into the holes and bore dowel holes (**fig. 6**). Bore rather deep holes on multiple pass, so that the cuttings can be well evacuated. Keep the right revolutions direction - dowel bits are delivered in right-handed construction.



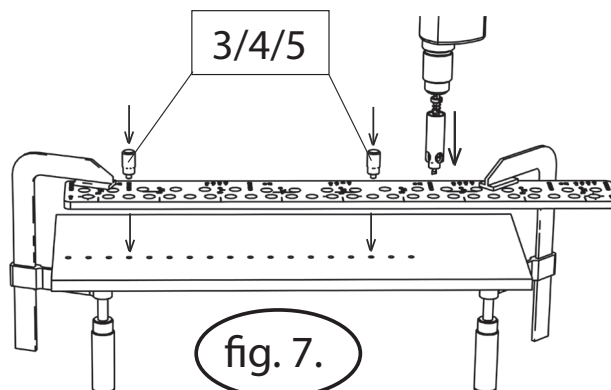
BORING CONFIRMATE HOLES INTO SURFACE

The procedure and the layout of the elements are the same as at the producing of dowel joint into surface. Use a 7 mm diameter dowel bit for **through holes** and the boring bush FKP102. Set the boring depth so that the dowel bit can surely bore through the workpiece thickness. Keep the right revolutions direction - dowel bits are delivered in right-handed construction.

To produce dowel or confirmate joints into side, the use of boring jig for side dowelling FKP400 or FKP656 is recommended.

Producing of longer joint than the jig

The working procedure is represented in the figure (**fig. 7**). The edge stop (**pos. 2**) removed, the boring jig can be shifted along the workpiece side. To hold the last hole and keep the 32 mm spacing, use centering pins (**pos. 3/4/5**). The boring template is delivered with centering pins for 8 mm, 5 mm and 3 mm dowel diameter. The procedure is the same as when boring with the edge stop, the **edge stop is replaced by the centering pin**. To set the template in a line with the holes already bored, use a couple of centering pins and place them as far from each other as possible.



WARNING!!!

While boring, press the boring bush to the template to keep the perpendicularity. You can support the boring bush with the other hand. Always keep the drilling machine perpendicular so that the boring bush is touching **FK** with its entire surface. **It is better to bore holes on multiple pass. Always follow the safety instructions for work with the drilling machine!**

PRODUCING HOLES FOR SHELF-SUPPORTS

The layout and the lateral piece of the cupboard corpus are represented in the figure (fig. 8).

The „n“ parameter in the figures is for number of holes from the **second** hole at the 0 stop on (fig. 10 & 12).

- Before boring always check whether the template stops are perfectly touching the workpiece.
- Always adjust the workpiece from one side on (upper or under side).
- Check the boring depth before boring.
- If the bored hole isn't clean the dowel bit must be grinded.

Boring holes for shelf supports at front side

Put two stops (**pos. 2**) into **50** holes and one stop (**pos. 2**) into **0** hole at the template edge. Place FKP on the workpiece so that the two stops in **50** holes are touching the workpiece front side and the stop in **0** hole is touching the workpiece upper side. Thanks to use of the **50** holes, the shelf supports will be placed **50** mm from the front side. Use the boring bush **FKP101** with a dowel bit for blind holes according to the shelf support diameter (fig. 9).

Ensure that the stops are touching the front and the upper side of the board. Tighten the boring template to the workpiece by manual tightening clamps or chucks. Set the 8 mm boring depth of the boring bush. Put the boring bush with respective dowel bit into the principal holes range and bore holes for shelf supports (fig. 10).

Bore rather deep holes on multiple pass, so that the cuttings can be well evacuated. Keep the right revolutions direction - dowel bits are delivered in right-handed construction. If the distance of the holes from the **0** stop doesn't suit you remove this stop from the FKP template and shift the template to reach the required distance. Leave the stops in **50** holes inserted in the template; setting of required distance is more simple thanks to setting lines in the holes axis.

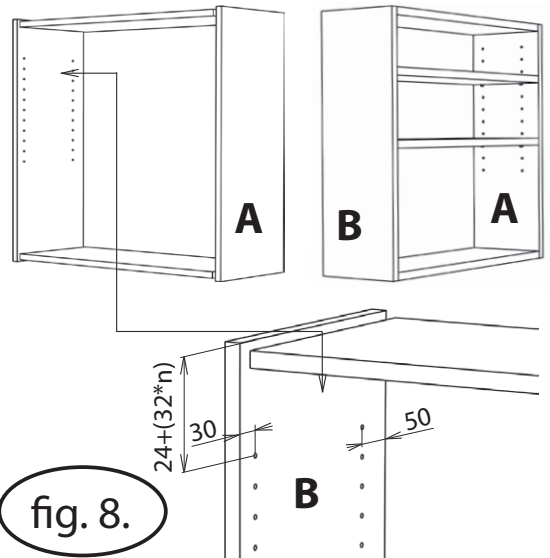


fig. 8.

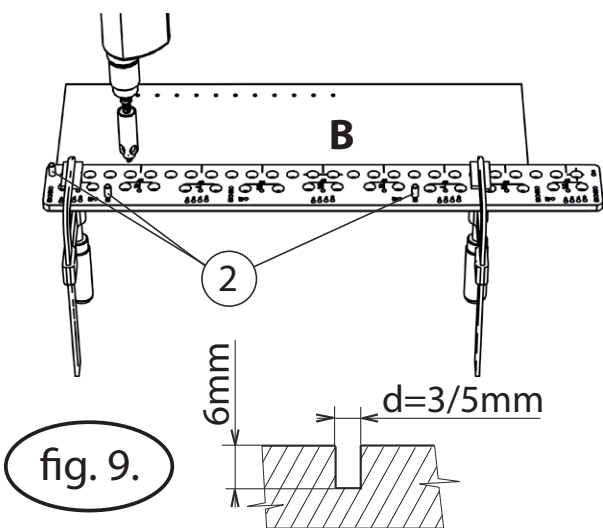


fig. 9.

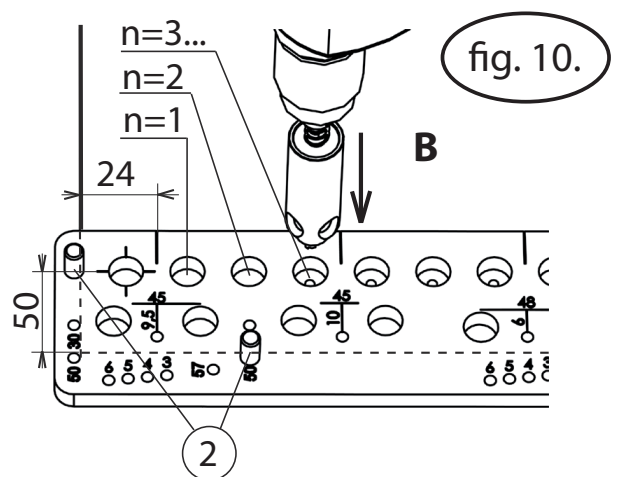
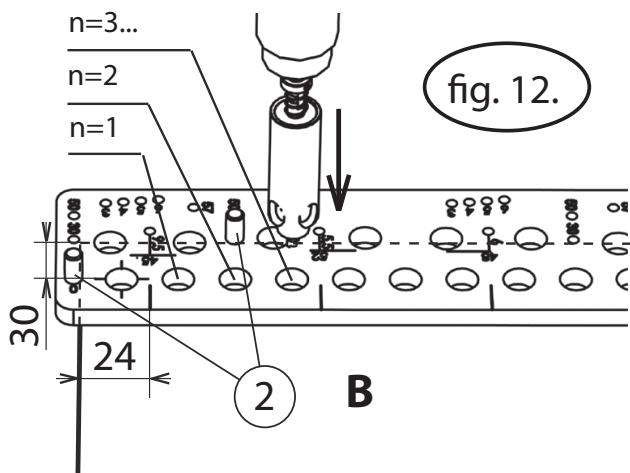
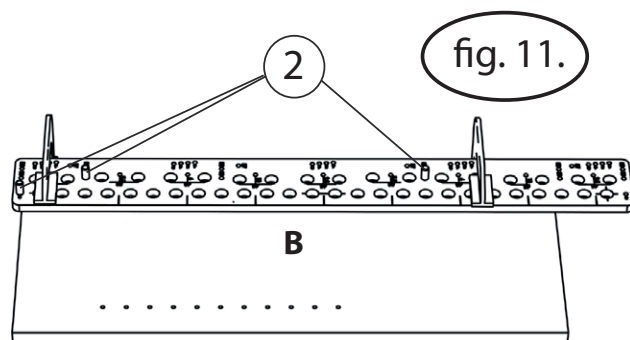


fig. 10.

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Boring holes for shelf supports at back side

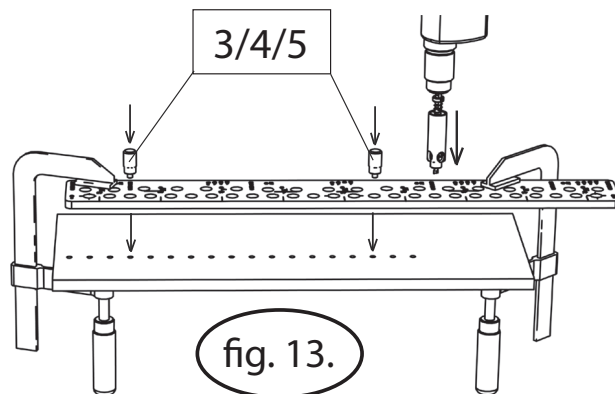
Put two stops (**pos. 2**) into **30** holes and one stop into **0** hole at the template edge. Place FKP on the workpiece so that the two stops in **30** holes are touching the workpiece back side and the stop in **0** hole is touching the workpiece upper side (**fig. 11**). Thanks to use of the **30** holes, the shelf supports will be placed **30** mm from the back side. Use the boring bush FKP101 with a dowel bit for blind holes with **3mm** or **5mm** diameter.



Ensure that the stops are touching the back and the upper side of the board. Tighten the boring template to the workpiece by manual tightening clamps or chucks. Set the 8 mm boring depth of the boring bush. Put the boring bush with respective dowel bit into the principal holes range and bore holes for shelf supports (**fig. 12**). Bore rather deep holes on multiple pass, so that the cuttings can be well evacuated. Keep the right revolutions direction - dowel bits are delivered in right-handed construction. If the distance of the holes from the **0** stop doesn't suit you remove this stop from the FKP template and shift the template to obtain the required distance. Leave the stops in **30** holes inserted in the template; setting of required distance is more simple thanks to setting lines in the holes axis.

Producing of longer joint than the jig

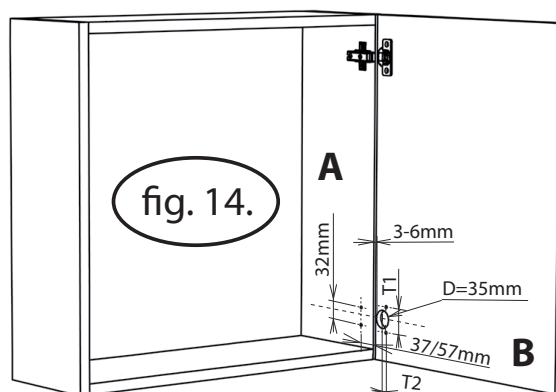
The working procedure is represented in the figure (**fig. 13**). The edge stop (**pos. 2**) removed, the boring jig can be shifted along the workpiece side. To hold the last hole and keep the 32 mm spacing, use centering pins (**pos. 3/4/5**) delivered with the basis package of boring template FKP900. The diameter of the delivered centering pins is 3 mm and 5 mm. The procedure is the same as when boring with the **0** stop, the template position on the workpiece is ensured by the centering pin and two stops. To set the template in a line with the holes already bored, use a couple of centering pins and place them as far from each other as possible.



PRODUCING HOLES FOR CUP HINGES

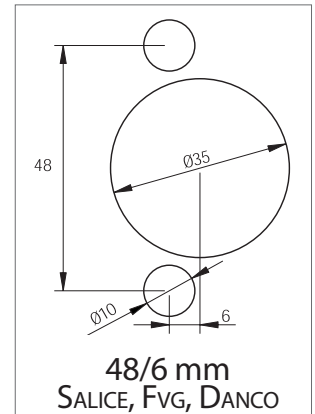
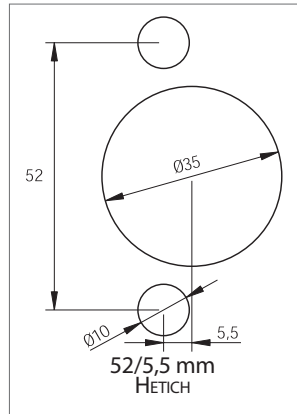
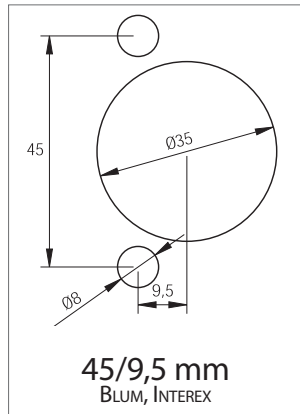
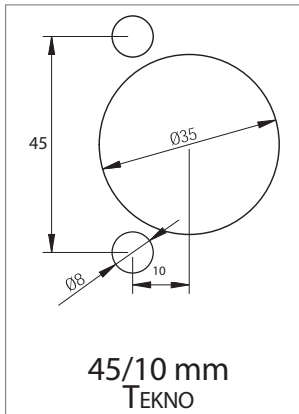
The info figure (**fig. 14**) is representing the producing holes for cup hinges.

- Before boring always check whether the template is perfectly touching the workpiece.
- Always adjust the workpiece from the front side on.
- Check the boring depth before boring.
- If the bored hole isn't clean the dowel bit must be grinded.



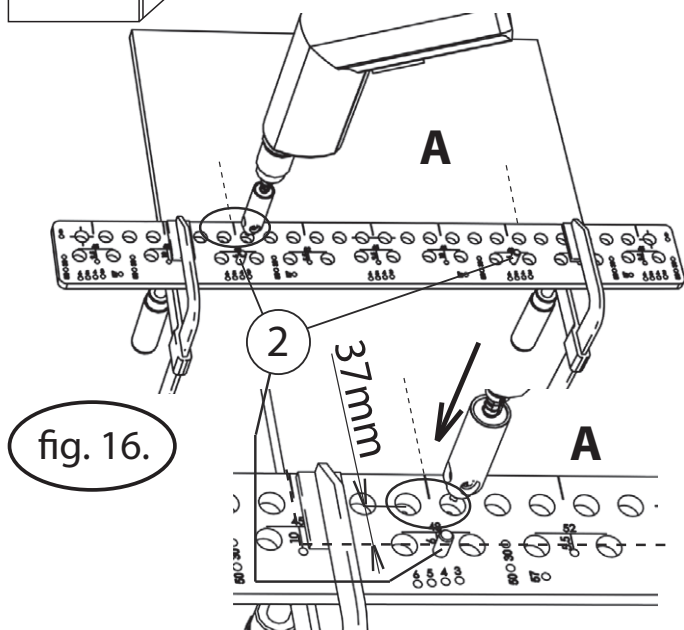
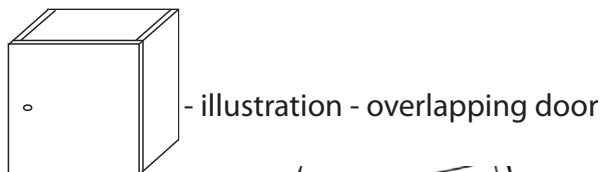
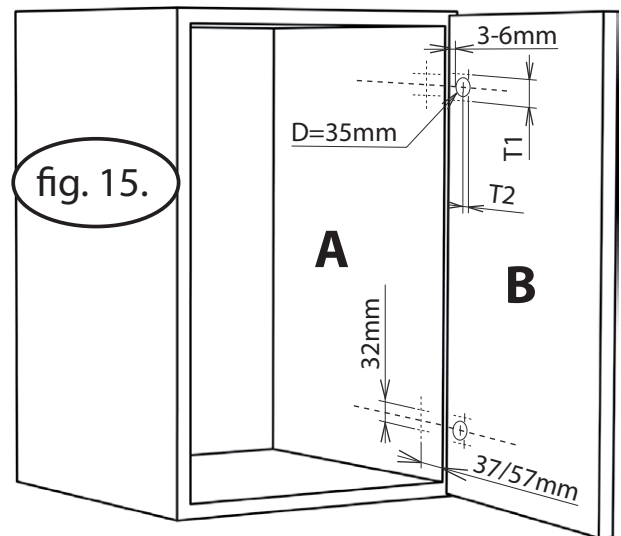
Cup hinges spacing

Screws at the cup hinge flange: spacing 32mm / from the edge 37mm



Elements preparation before boring – cup hinge axis indication

Indicate the hinge axis and the distance from upper and under side on the inner side of the corpus lateral piece. If possible, the 120 mm distance from the element edge is recommended. Put the door to the lateral piece so that there are the same laps from the edges on both sides. Copy the cup hinges axis on the inner side of the door. Indicate axis of cup hinges ca. 120 mm from the lateral piece and the door edge using a set square. The precision of the cup hinges indication will influence the altitude of the door (**fig. 15**).



Boring holes into corpus (overlapping cup hinge)

Put two stops (**pos. 2**) into any holes in the range for cup centers indication (**fig. 16**). Place FKP on the workpiece so that central axis of the used cup hinge spacing on the template is covering with the central axis on the workpiece and the stops are touching the workpiece front side. Use the boring bush FKP101 with a dowel bit for blind holes with **3mm** diameter for wood screws or **5mm** diameter for euro screws.

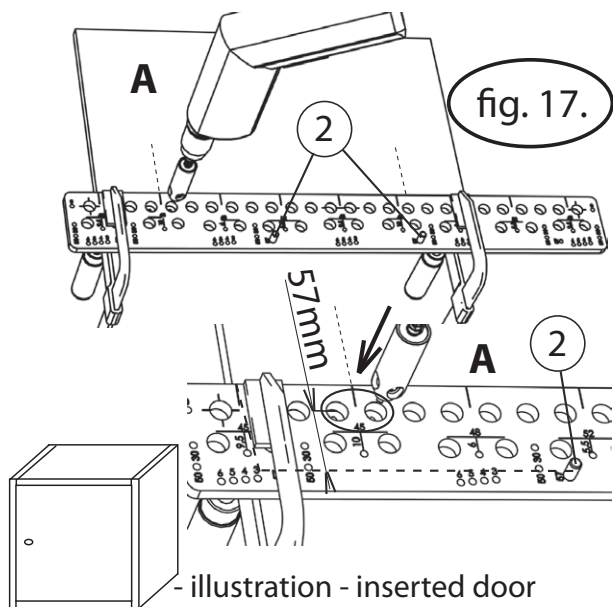
Ensure that the stops are touching the front side of the board and the hinge axis on the boring template is at the same place as the hinge axis on the workpiece. Tighten the boring template to the workpiece by manual tightening clamps or chucks. Set the boring depth of the boring bush according to the used wood screws. Put the boring bush with respective dowel bit into the principal holes range and bore one hole on the right from the axis and one hole on the left from the axis (**detail fig. 16**). Keep the right revolutions direction - dowel bits are delivered in right-handed construction.

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Boring holes into corpus (inserted cup hinge)

Put two stops (**pos. 2**) into **57** holes (**fig. 17**). Place FKP on the workpiece so that central axis of the used cup hinge spacing on the template is covering with the central axis on the workpiece and the stops are touching the workpiece front side. Use the boring bush FKP101 with a dowel bit for blind holes with **3mm** diameter for wood screws or **5mm** diameter for euro screws.

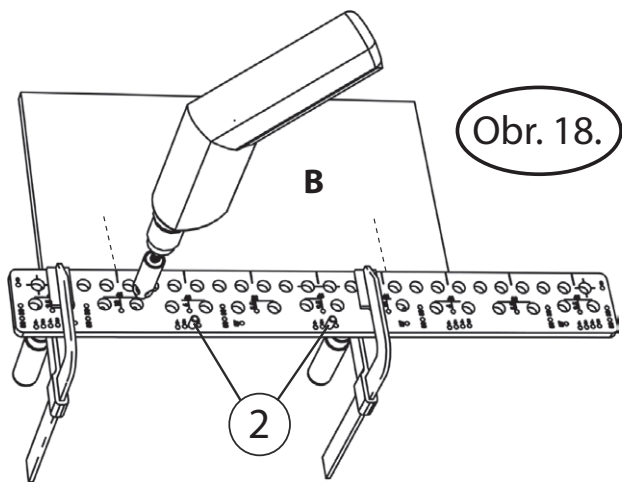
Ensure that the stops are touching the front side of the board and the hinge axis on the boring template is at the same place as the hinge axis on the workpiece. Tighten the boring template to the workpiece by manual tightening clamps or chucks. Set the boring depth of the boring bush according to the used wood screws. Put the boring bush with respective dowel bit into the principal holes range and bore one hole on the right from the axis and one hole on the left from the axis (**detail fig. 17**). Keep the right revolutions direction - dowel bits are delivered in right-handed construction. Using the 57 holes, the cup hinge flange will be shifted by 20 mm, so the distance from the edge will be 57 mm.



Boring holes into the door and cup center indication

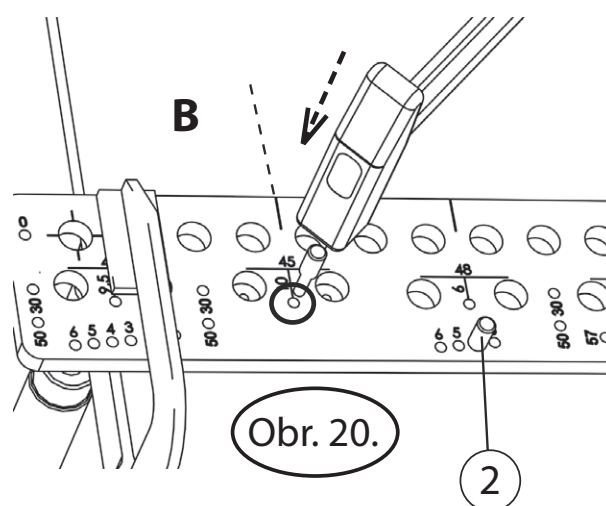
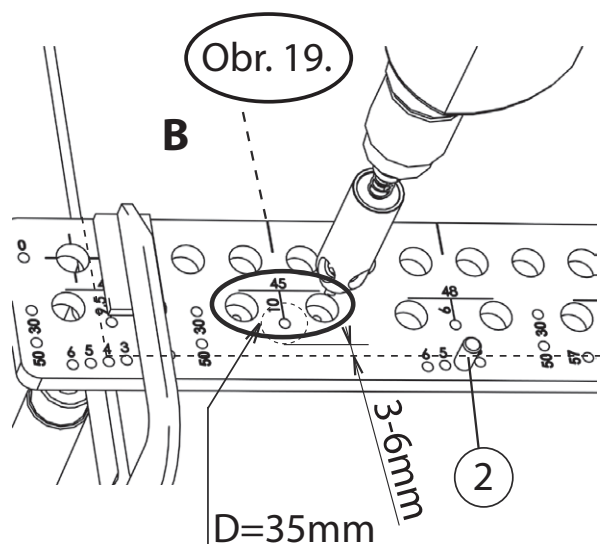
Before boring, the parameters of wood screw spacing, cup spacing shifting and recommended distance of the cup from the edge must be determined. For the most used cup hinges parameters, see PRODUCING HOLES FOR CUP HINGES.

Put two stops (**pos. 2**) into one of the holes **3 – 6** (according to the chosen distance of the cup from the edge) next to the spacing set corresponding to the used cup hinge (**fig. 18 & 19**). Place FKP on the workpiece so that central axis of the used cup hinge spacing on the template is covering with the central axis on the workpiece and the stops are touching the workpiece front side. Use the boring bush FKP101 with a dowel bit for blind holes with **3mm** diameter for wood screws, **5mm** diameter for euro screws or **8mm** diameter for instant dowels.



Ensure that the stops are touching the front side of the board and the hinge axis on the boring template is at the same place as the hinge axis on the workpiece. Tighten the boring template to the workpiece by manual tightening clamps or chucks. Set the boring depth of the boring bush according to the used wood screws. Put the boring bush with respective dowel bit progressively into the two holes for the used hinge and bore one hole on the right from the axis and one hole on the left from the axis (**fig. 19**). Keep the right revolutions direction - dowel bits are delivered in right-handed construction.

The holes 3, 4, 5 and 6 are for setting distance between the cap and the door edge; the numbers give the distance of the 35 mm diameter cap edge from the board edge.



Holes for the wood screws bored, indicate the cup center with a pointed stop (**pos. 2**). Insert the stop into the hole and by gentle tap upon the stop, you'll make the guiding pit for the hinge boring bit (**fig. 20**).

Boring hole for the hinge cap

Loosen the clamps and separate the boring template from the door. Clamp a 35 mm manual hinge boring bit into a drilling machine or cordless screwdriver. Put the hinge boring bit guiding point into the guiding pit on the door and bore a 35 mm diameter and 11 mm deep cap hole. To bore the hole, we recommend a hinge boring bit CMT.

WARNING!!!

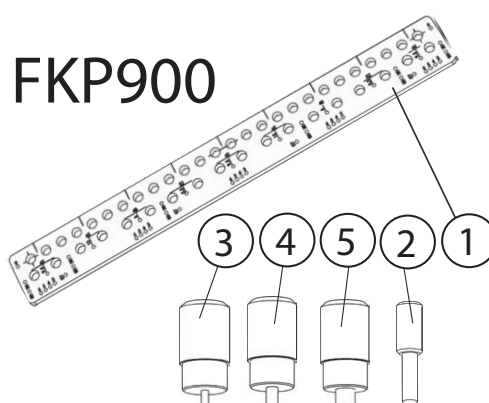
While boring, press the boring bush to the template to keep the perpendicularity. You can support the boring bush with the other hand. Always keep the drilling machine perpendicular so that the boring bush is touching FK with its entire surface. **It is better to bore holes on multiple pass. Always follow the safety instructions for work with the drilling machine!**

SAFETY AT WORK

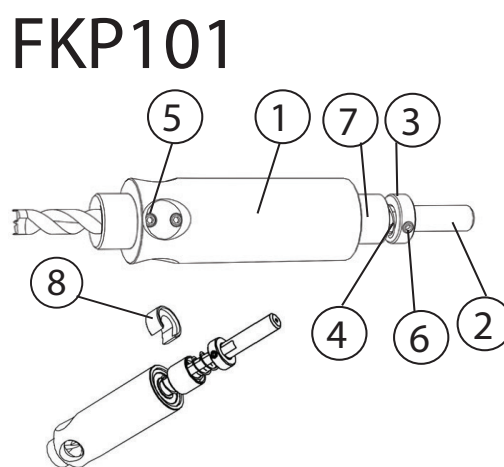
- Always unplug the drilling machine when exchanging the dowel bit or setting the drilling machine.
- Don't touch the rotating parts when boring.
- Use hearing protectors.
- Always use a dust mask or a respirator.
- Don't wear loose clothing. Ensure that you have tucked your sleeves and that you don't wear any tie.
- Before switching the power tool on, ensure that the dowel bit is well tightened and the stop ring is secured.
- Prevent unwanted switching of the drilling machine: ensure that the switch of the drilling machine isn't locked up in position "on" before plugging-in.
- Wait until the dowel bit is completely stopped before starting any setting of the drilling machine.

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Spare parts list v.2			
Pos.#	Description	Pieces in basis pack	Code
1	Boring template	1	
2	Setting pointed stop	4	FKP9-4
3	Centering pin d3	2	FKP9-13
4	Centering pin d5	2	FKP9-15
5	Centering pin d8	2	FKP9-18



Spare parts list v.2			
Pos.#	Popis	množství	Obj. číslo
1	Corps of FKP101 with bearings	1	
2	Shaft of FKP101	1	
3	Stop ring	1	FKP101-3
4	Spring	1	FKP101-5
5	Setting screw M4x4 (grub screw)	2	FS200 153
6	Setting screw M4x5 (grub screw)	1	FS200 115
7	Spring stop FKP101	1	FKP101-7
8	Ring for FKP	1	FKP101-8
9	Imbus key 2 mm	1	FS800 002



Spare parts list v.2			
Pos.#	Popis	množství	Obj. číslo
1	Corps of FKP102 with bearings	1	
2	Shaft of FKP102	1	
3	Stop ring	1	FKP101-3
4	Spring	1	FKP101-5
5	Setting screw M4x4 (grub screw)	2	FS200 153
6	Setting screw M4x5 (grub screw)	1	FS200 115
7	Spring stop FKP101	1	FKP101-7
8	Centering pin d5	1	AKP9-15
9	Centering pin d7	1	AKP9-17
10	Imbus key 2 mm	1	FS800 002

