Virutex FR129 VB Router For Fitting Hinges Instruction Manual

FR129 VB Router For Fitting Hinges
Instruction Manual

FR129 VB

OPERATING INSTRUCTIONS

Contents

FR129 VB Router For Fitting Hinges

ROUTER FOR FITTING HINGES FR129 VB
Important note

⚠ Carefully read the GENERAL SAFETY INSTRUCTION LEAFLET enclosed with the machine documents. Keep both sets of instructions for any future queries.

Important note

⚠ Carefully read the GENERAL SAFETY INSTRUCTION LEAFLET enclosed with the machine documents.

1. Before plugging in the machine, make sure that the power supply voltage is the same as that shown on the specifications plate.
2. Always keep hands clear of the cutting area. Always hold the machine safely.
3. Always use original VIRUTEX tools. Never use defective or damaged tools.
4. Always use cutter bits with the appropriate stem diameter for the chuck collet and tool speed to be used.

Unplug the machine from the mains before carrying out any maintenance operations.

CHARACTERISTICS

Power……..1,000 W
No load speed…….14,000-27,000/min
Weighted equivalent continuous
acoustic pressure level A…….86 dBA
Acoustic power level A……97 dBA
Uncertainty……K = 3 dBA

 Wear ear protection!

Vibration total values……..ah: < 2.5 m/s²
Uncertainty…….K: 1.5 m/s²
Chuck diameter…….1/4″ mm
Weight……..5 kg=11 lbs

SPECIFICATIONS

Lengthways displacement of milling cutter shaft 5-3/4″ = 145 mm
Sideways displacement of milling cutter shaft 2-1/8″ = 54 mm
Lengthways milling with cutter bit Ø 1″: 6-1/4″ = 161 mm
Sideways milling with cutter bit Ø 1″: 2-3/4″ = 70 mm
Minimum opening between clamp vises 1-3/4″ = 33 mm
Maximum opening between clamp vises 10″ = 250 mm
Cutter bit maximum diameter 1″ = 26 mm
Maximum milling depth 1/2″ = 11 mm
Maximum milling depth (with kit for concealed hinges) 1-1/2″ = 40 mm
The following concepts are dealt with in the different sections of this manual. Please see (Fig. 1).
A = Width of rebate
B = Width of hinge wing
R = Depth of rebate (Interior side of rebate)
Right opening door
Left opening door
The FR129 VB router enables you to make recesses for rectangular hinges without using a template.
The corners of the recesses will have radius R (Fig. 15a) of the TCT bit used. This means that if the original ½" TCT bit is used, the radius will be ¼".
If you wish to fit hinges without a radius in the corners, we have an optional accessory, "90° corner chisel 2945471" (Fig. 15b). This will enable you to cut the radiuses with maximum ease.
The FR129 VB router will also enable you to make recesses for hinges of any shape, provided a suitable template is used.
Minimum recess required A (Fig. 1) for fitting hinges with the FR129 VB using a template should be at least the same width as hinge wing B +15/64″= 6 mm.
Templates for special hinges are manufactured in accordance with the width of the rebate and not the thickness of the door, although both measurements are normally the same, unless otherwise requested in the order form.
If the thickness of the door is less than the width of the rebate, the hinge will fit correctly into the frame.
However, the hinge cylinder will project from the door face by the difference in the two thicknesses.

UNPACKING

Inside the transporting case the following items will be found: (Fig. 2)

1. Copy router model FR129 VB with hard metal bit Ø ½"
2. Base (without template)
3. Hinge distributor tube for three-hinge door
4. Hinge distributor connector for three-hinge door
5. Hinge distributor tube for four-hinge door
6. Hinge distributor connector for four-hinge door
7. Philips screwdriver.
8. 3/4″=19-mm wrench for chuck securing nut
9. 7/16″=11-mm wrench for blocking motor axle and securing pointers
10. 5/32″=4-mm Allen wrench for adjusting frame/door gap

ASSEMBLY OF THE ROUTER

Remove bolt C (Fig. 2).
Fit motor body 1 (Fig. 2) in the columns on router base 2 (Fig. 3).
Check the vertical movement of the motor body in the columns.
Secure bolt C (Fig. 3).
Check that the template guide moves freely lengthways and sideways in the template shape.

GENERAL DESCRIPTION OF THE MACHINE

The router for fitting hinges is made up of the following components and performs the following tasks:
5.1 Motor body 1 (Fig. 3), which, via the motor axis, supplies the necessary power and revolutions to the TCT bit to perform recessing.
5.2 Base 2 (Fig. 3), which includes the components for securing and regulating the machine on the frame and door, and which enables motor body 1 (Fig. 3) to move on guides, sideways lengthways and inwardly, to perform the milling of the recess, and upon which template D can be mounted (Fig. 7) if so desired, for milling hinge recesses. This base 2 (Fig. 3) enables you to place the recesses for the hinges on the frame, placing it on the width of the rebate (Fig. 1 and 4), and stopping it on inner face R (Fig. 1), or on the edge of the door (Fig. 13).
It is also possible to fit hinges to doors without rebates, taking the reference from the outer frame face with screws C1 (Fig. 17), as explained in Section 10.
Base 2 (Fig. 4) is secured to the frame or door by tightening clamp vises E (Fig. 4), by turning crank handles F (Fig. 4). Base 2 (Fig. 5) of the machine has supports on either side, G and H (Fig. 5), with the dual function of being used for the outer face as a reference for the limit of the lengthways recess of the frame (Fig. 9), to place the first hinge, and as support for connector I (Fig. 3) and hinge distributor tube K (Fig. 3), which are used for placing the second and subsequent hinges.
Connector 1 (Fig. 3) has fitted stop J (Fig. 13), and this is used to place the first hinge at the door. This stop comes already regulated from the factory so that when the door is hung to the frame there is a gap between the door and the frame cross beam of approximately 1/16″=1.5 mm. This gap can be widened if so desired by loosening screw J1 (Fig. 13) and moving stop J (Fig. 13).
Hinge distributor tubes K (Fig. 3) enable the three or four recesses to be placed along the length of the door and frame (Fig. 11 and 14), and have regulators at each end. These allow work to be done at different heights of the door (6′ 6″, 6′ 8″, 7′, 8′ and 9′), and hinges (3″, 3 “, 4”, 4 ½ ½ “) (Fig. 3). The base has springs L (Fig. 6 and 7) for quick assembly of template D (Fig. 6 and 7) for the hinge to be used. “, 5” and 5 ½

PREPARATION OF THE ROUTER

⚠ Ensure that the machine is disconnected from the mains before carrying out any preparation or maintenance work.

6.1 FITTING THE CUTTER BIT

Firstly remove the motor body 1 from the template base 2 (Fig. 2) following the instructions in section 4 in reverse order. Using service keys 8 and 9 (Fig. 8) we can change the bit if necessary and also adjust the outlet to 1 =29 mm between the end of the bit and the side of the bolt, taking care to secure it tightly.
Lastly the motor body is refitted to the base 2 (Fig. 3) as indicated in section 4. 9/64″

6.2 FITTING THE DISTRIBUTION TUBE

Hinge distributor tube 3 or 5 (Fig. 2) must be mounted on connector 4 or 6 (Fig. 2) as shown in (Fig. 3), on the corresponding drill hole at the height of the frame in which hinges 6′ 6″, 6′ 8″, 7′, 8′ or 9′ (Fig. 3), are going to be fitted.
At the opposite end of tube K (Fig. 3), place reference stop M (Fig. 3) in the corresponding drill hole for the length of hinge to be fitted, or in the nearest if it does not correspond with that of those marked.

PLACING HINGES WITHOUT TEMPLATE ON RIGHT HAND DOOR

7.1 PLACING HINGES ON THE FRAME

Ensure that the operations of fitting or adjusting the bit, the template and the distribution tube indicated in section 6 have been fully carried out before proceeding.

ADJUSTING THE RECESS HEIGHT

The machine has stop ruler M (Fig. 15 and 7), with two scales marked from the centre towards the two ends, (Fig. 15 and 7). Place the two stops A1 (Fig. 15 y 7) here in the position corresponding to the height (3″, 3 “, 5” or 5 ½ ½ “, 4”, 4 ½ “) of the hinge we are about to fit.

POSITIONING THE MACHINE FOR THE FIRST RECESS

Loosen levers S (Fig. 9). Place the machine (Fig. 9) over the rebate of the frame, turning the indicator “RIGHT FRAME” MD (Fig. 9 and 5) towards the upper part of it. Move the machine sideways to the end of the frame rebate and upwards until support H (Fig. 9) touches the bottom of the rebate in the crossbeam of the frame.

Tighten the clamp vises over the thick part of the doorframe by means of crank handles F (Fig. 9).

Move machine base 2 (Fig. 9) along the width of the rebate until it reaches interior face T (Fig. 9) of the rebate on the frame. Secure the machine in this position using levers S (Fig. 9).

ADJUSTING THE WIDTH OF THE RECESS

The width of the recess is obtained by regulating stop bolt B1 (Fig. 16). Follow these steps: Ensure that the machine has been disconnected from the mains.

Hold the bit so that it touches the edge of the frame with cutting edge Q (Fig. 15). Lock it into this position with knob U (Fig. 16). Place stop bolt B1 at distance X (Fig. 16) of fixed stop B2 (Fig. 16), equal to the width of the recess you wish to make. The width stop will now be adjusted.

AJUSTING THE DEPTH OF THE RECESS

Push the motor body towards the frame until the bit tip is touching the wood. Lock it into this position with knob U (Fig. 9).

Place the hinge between head V and nut W (Fig. 10). Adjust the width of the hinge with this bolt.

Remove the hinge and release knob U (Fig. 9).

STARTING UP THE MACHINE

To start the machine, press button X forward (Fig. 8) to the on position. To stop the machine, simply press the back of the switch and it will return to the off position.

ROUTING THE FIRST RECESS

By gradually pushing motor body 1 (Fig. 9), the bit will make an incision on the frame to the depth of the previously adjusted hinge. Secure the machine at this depth with knob U (Fig. 9).

Next, move the motor body lengthways and sideways, between the adjusted stops until obtaining a recess for the whole shape of the hinge. Once the recess for the first hinge has been obtained, stop the machine. Loosen crank handles F (Fig. 9), slide the machine to the approximate position for the second hinge and once again secure crank handles F.

FITTING THE DISTRIBUTOR TUBE

Slightly loosen upper crank handle FS (Fig. 11) and separate the machine from the frame on this side by approximately 13/64″=0.5 cm to facilitate the fitting of previously prepared distributor tube K (Fig. 11).

Fit distributor tube K (Fig. 11) to support H (Fig. 11 and 5). To do this, pull pin G1 (Fig. 5) until connector I (Fig. 5) of distributor tube K (Fig. 11) can enter between supports H (Fig. 11 and 5). Release it when drill coincides with pin G1 (Fig. 5) to bring about the locking.

ROUTING THE SECOND AND THIRD RECESSES

To position the machine for the second recess, loosen both crank handles F (Fig. 11), place centering device M (Fig. 11) of hinge distributor tube K (Fig. 11) on the bottom part of the recess of the first hinge and, leaning the machine against the recess, secure crank handles F (Fig. 11) once again in this position.

Rout the second hinge recess in the same way as explained for the first. This process is repeated to rout the third recess, positioning distributor tube K (Fig. 11) over the second hinge. This operation is repeated for the fourth if working

with distributor tube 5 (Fig. 2) for four hinges.

7.2 PLACING THE HINGES ON THE DOOR FITTING THE DISTRIBUTOR TUBE

Fit hinge distribution tube K (Fig. 13) with stop J (Fig. 13) facing downwards, into support G (Fig. 13) on the side of the support marked “RIGHT HAND DOOR” MI (Fig. 13). Secure it with pin G1 (Fig. 13).

MACHINE POSITION FOR THE FIRST RECESS

Loosen levers S (Fig. 13) and position the machine on the edge of the door, with tube K (Fig. 13) towards the upper side of it.

Move the machine along the edge of the door until stop J (Fig. 13) touches the upper end of it. Tighten the clamp vises to the door using crank handles F (Fig. 13). Move base 2 of the machine (Fig. 12 and 13) until stops Y (Fig. 12) on either side of the base touch the heads of screws Z (Fig. 12). Secure levers S (Fig. 13) once again in this position. The position of screws Z (Fig. 12) with respect to stops Y (Fig. 12) provide a 1/16″=1.5 mm space in the

hung door between the entrance face of the door and the interior side of the rebate. If less space is required, screws Z can be supplemented with washers of the required thickness.

ROUTING THE FIRST RECESS

Connect the machine to the mains. Push safety button X (Fig. 8), and press the switch to start the machine.

By gradually pushing motor body 1 (Fig. 13), the machine will make an incision on the frame to the depth of the previously adjusted hinge. Secure the machine at this depth with knob U (Fig. 13). Next, move the motor body lengthways and sideways, between the adjusted stops, until obtaining the recess for the whole shape of the hinge. Once the recess for the first hinge has been obtained, stop the machine and loosen knob U (Fig. 13).

CHANGING THE DISTRIBUTOR TUBE

Remove distributor tube K (Fig. 13) from support G (Fig. 13) and fit it again to the same support. However this time place stop J (Fig. 13 and 14) facing upwards.

ROUTING THE SECOND AND THIRD RECESSES

Loosen both crank handles F (Fig. 13), releasing the pressure on the door thickness, and slide the milling machine to the position of the second hinge.

The distance between hinges (Fig. 14) is obtained by positioning centering device M (Fig. 14) of hinge distributor tube K (Fig. 14) over the lower part of the recess of the first hinge. This leaves the machine at the exact distance required for carrying out the recess for the second hinge. Secure the ensemble to the door with crank handles F (Fig. 14) in the same way as the first hinge, and rout the recess accordingly. This process is repeated to rout the third recess, positioning distributor tube K (Fig. 14) over the second hinge. The operation is repeated for the fourth if working with tube 5 (Fig. 2) for 4 hinges.

PLACING HINGES ON LEFT-HAND DOORS, WITHOUT A TEMPLATE

8.1 PLACING THE HINGES ON THE FRAME

The process to follow for routing the recesses is the same as that for the frames for right-hand doors, the only difference being that support G (Fig. 5) must be used, from the side of the base marked “LEFT-HAND FRAME” MI, as a reference for locating the first hinge in the frame and for mounting distributor tube K in it. This is also used for successive ones (Fig. 5).

8.2. PLACING THE HINGES IN THE DOOR

The process to follow for milling the recesses is the same as that for the frames for right-opening doors, the only difference being that support H (Fig. 5) must be used – marked “LEFT-HAND DOOR” MD (Fig. 5) – for mounting distributor tube K, used for placing the recesses (Fig. 5).

MAKING RECESSES WITH A TEMPLATE

Before continuing, ensure that MOUNTING OR REGULATING THE MACHINE and PREPARING THE DISTRIBUTOR TUBE have been completed, as explained in Section 6.

PREPARING THE TEMPLATE AND TEMPLATE GUIDE

If planning to use the ½” bit supplied with the machine, fit template guide outside diameter 16, N (Fig. 7) in the machine with 2 screws in drill hole N1 (Fig. 7).

Place stops A1 (Fig. 7) and B1 (Fig. 16) at the maximum distance so that they will not work when copying with the template.

Template D (Fig. 6 and 7) will be needed for fitting every type of hinge. This same template works for placing the hinge in the frame and door, regardless of whether these are right or left opening.

Template D (Fig. 7) is pressure-locked onto springs L. The arrow of the template must be aligned with the instruction “RIGHT-DERECHA” (Fig. 6) of the side of the base, if preparing the machine for right opening doors, or with the instruction “LEFT-IZQUIERDA”, on the opposite side, for left opening doors.

Check to ensure the free lengthways and crossways movement of the template guide within the template shape.

For hinges whose frame-fastening wings end in a rounded tip, we recommend using a bit with the same diameter as the width of this wing, and the template guide corresponding to the bit. In this way, the recess is made in one go and with greater speed. See the section on bits and template guides (Fig. 21).

POSITIONING THE MACHINE FOR MAKING RECESSES, ADJUSTING THE DEPTH OF RECESS AND FITTING THE DISTRIBUTOR TUBE, in the door or frame and for right or left opening doors, is done just as if one was working without a template, as explained in sections 7 and 8 of this manual. When MAKING RECESSES, instead of moving the machine between the stops, move it along the inside of the template until copying the template shape in the recess.

PLACING HINGES LEVEL WITH THE EXIT FACE, OR IN FRAMES WITHOUT REBATE, WITH OR WITHOUT TEMPLATE

To place hinges in frames without rebates, or in frames with recesses larger than the template that is available and/or in those where one wants the door to fit flush with the frame on the exit face, the machine has two adjustable stops C1 (Fig. 17 and 18), which enable the machine to be positioned in the frame on the external face of it (Fig. 17) and on the door on the exit side of it (Fig. 18), instead of positioning it by the frame rebate and the entry face of the door, as in the standard process which has been explained.
The process for making the recesses is identical to that explained in sections 7 and 8 of this manual except with regard to the MACHINE POSITION FOR THE FIRST RECESS: where in the frame, instead of moving the base of milling machine 2 (Fig. 17) along the width of the rebate until it stops with the interior face of it, the position of the hinge has to be adjusted with respect to the frame with screws C1 (Fig. 17). Secure them with bolts D1 (Fig. 17), and secure the base in this position with levers S (Fig. 17). Once adjusted for the frame, adjustable stops C1 (Fig. 17 and 18) can also be used to position the machine in the door, but, unlike the standard process (Fig. 18), using the exit side.

RECOMMENDATIONS

Use the templates which correspond to the shapes and sizes of the hinges to be placed.
Use suitable bits and the corresponding template guides for the diameter of the bit.

MAINTENANCE

12.1 BRUSHES AND COLLECTOR

⚠ Unplug the machine from the mains before carrying out any maintenance operations.
Remove the screws E1 (Fig. 19) that hold the side covers G1 and detach them.
Remove the brush-holder J1 (Fig. 20) with small screwdriver K1, using one of the brush-holder side tabs to lever it out.
Push back the end of spring F1. Keep it in this position to extract the brush and replace it with a new genuine VIRUTEX brush. Reinsert the brush-holder, ensuring that it is firmly positioned in the casing and that each of the brushes exerts a small amount of pressure on the collector. Re-attach the covers G1 with the corresponding screws, making sure that no wires get caught in the process. It is advisable to leave the machine running for 15 minutes once the brushes have been changed. If the collector burns or juts out, it should be serviced by a VIRUTEX service technician.
To ensure that mobile parts continue to move correctly, remember to get rid of any dirt, dust and shavings produced when making recesses. Keep the cable and plug in good service condition.

ACCESSORIES

Standard templates for different hinges Template guides for different bit diameters. 2945471 – 90° CORNER CHISEL RC29M 1222024 – CHUCK COLLET Ø 8 mm

TEMPLATE GUIDES AND CORRESPONDING BITS

See (Fig. 21)

NOISE LEVEL

These levels have been measured according to the European Standard EN50144.
The noise level in the workplace could go over 85dB(A). In this case it is necessary for the user to wear noise protection.

GUARANTEE

All of VIRUTEX portable tools are guaranteed for 12 months from the date of supply, excluding any damage which is a result of incorrect use or of natural wear and tear on the machine.
All repairs should be carried out by the official VIRUTEX technical assistance service.
VIRUTEX reserves the right to modify its products without prior notice.

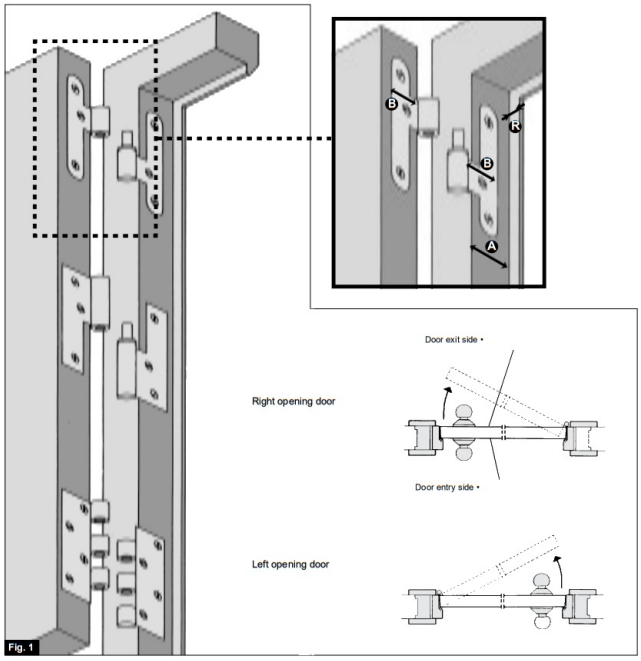


Fig. 1

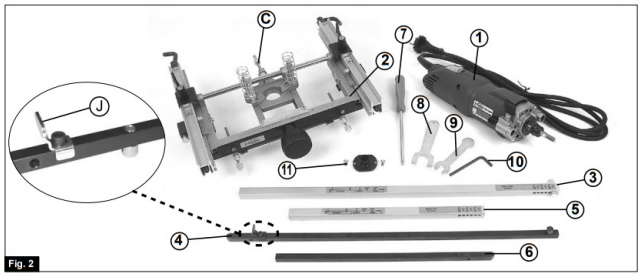


Fig. 2

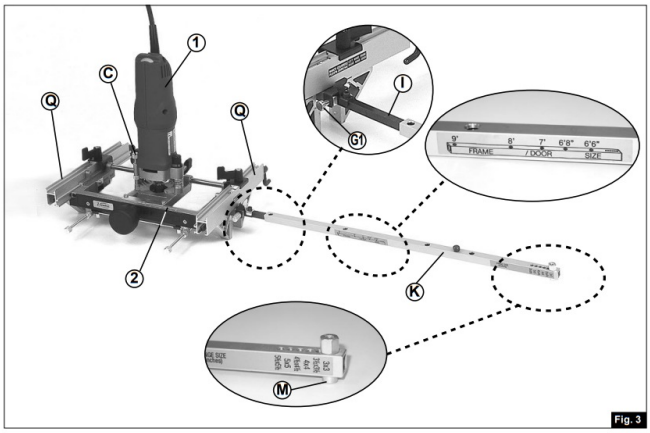


Fig. 3

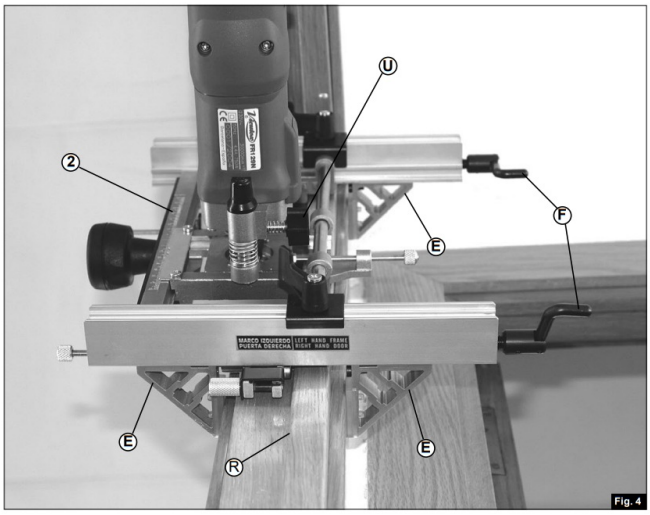


Fig. 4

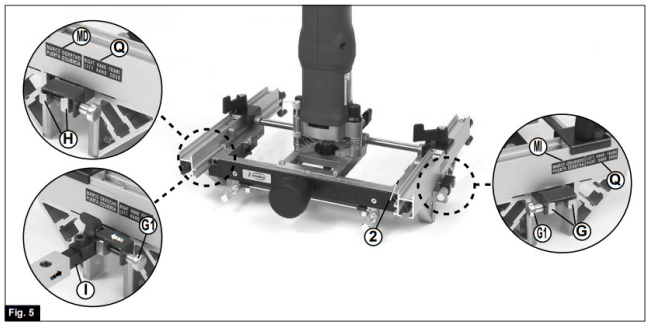


Fig. 5

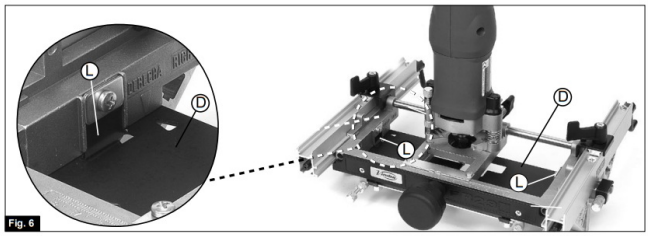


Fig. 6

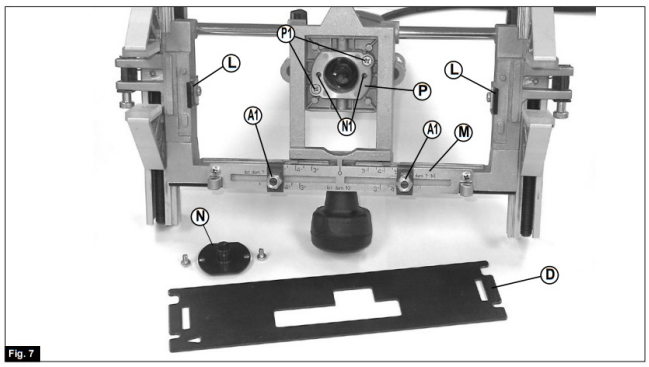


Fig. 7

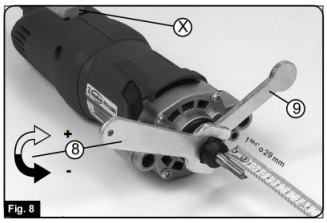


Fig. 8

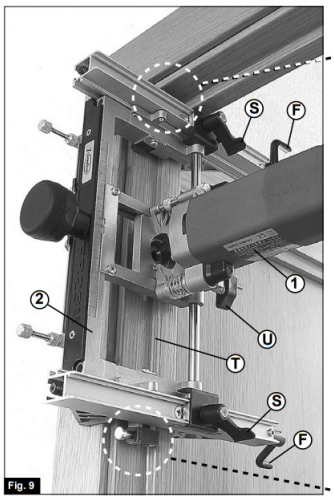
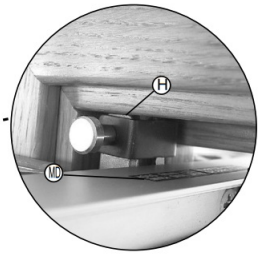
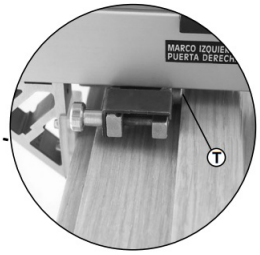


Fig. 9





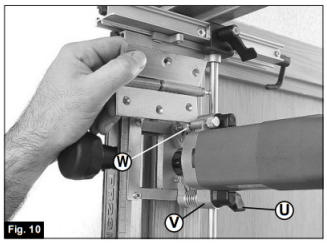


Fig. 10

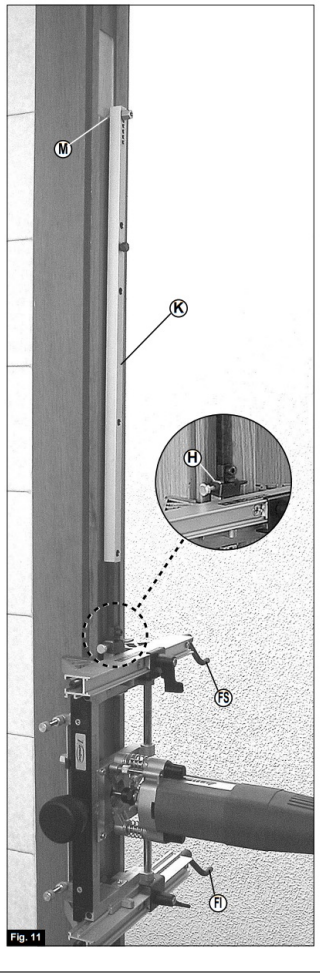


Fig. 11

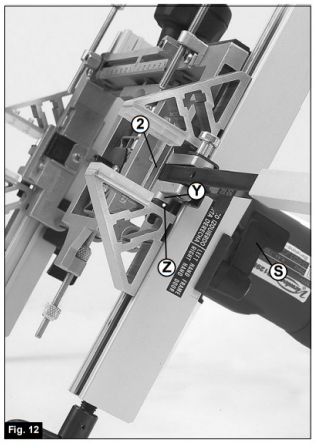


Fig. 12

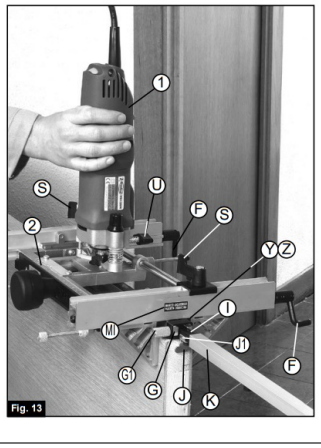


Fig. 13

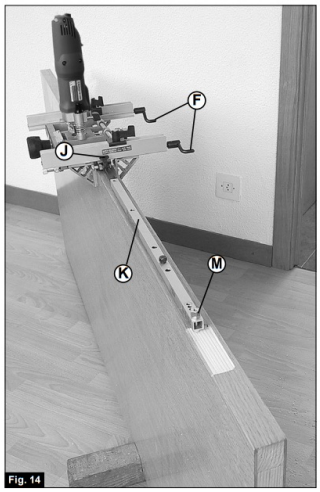


Fig. 14

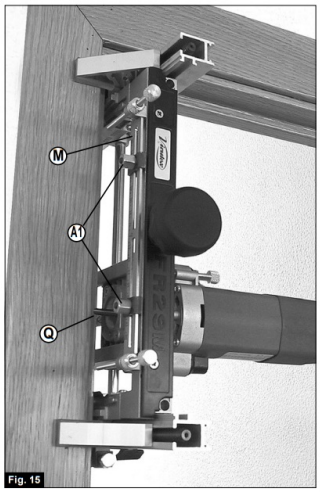


Fig. 15

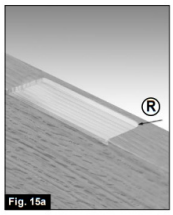


Fig. 15a


Fig. 15b

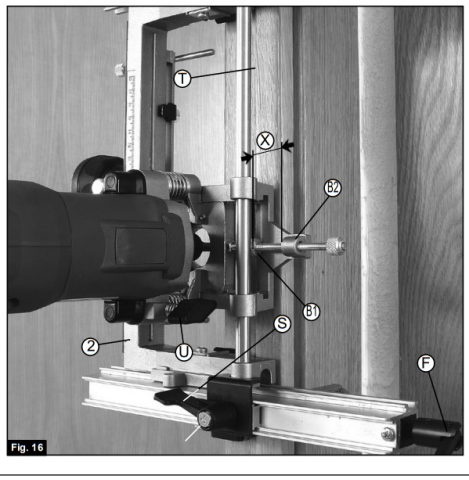


Fig. 16

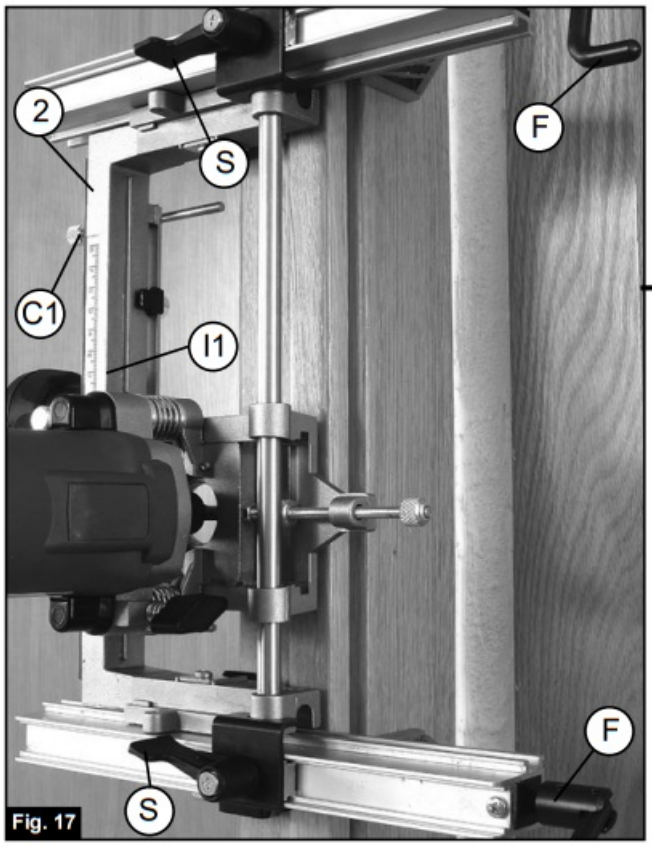
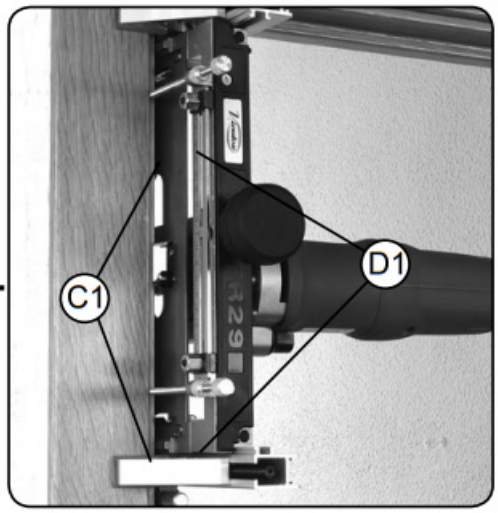


Fig. 17



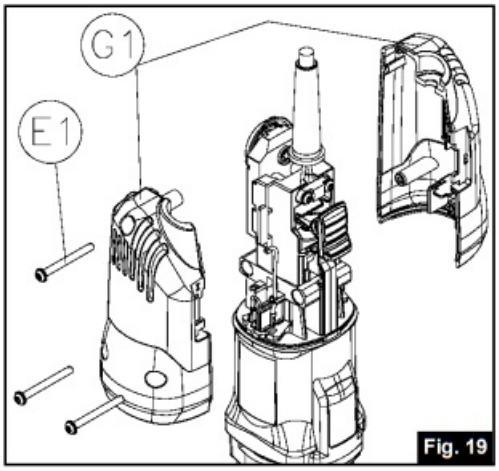


Fig. 19

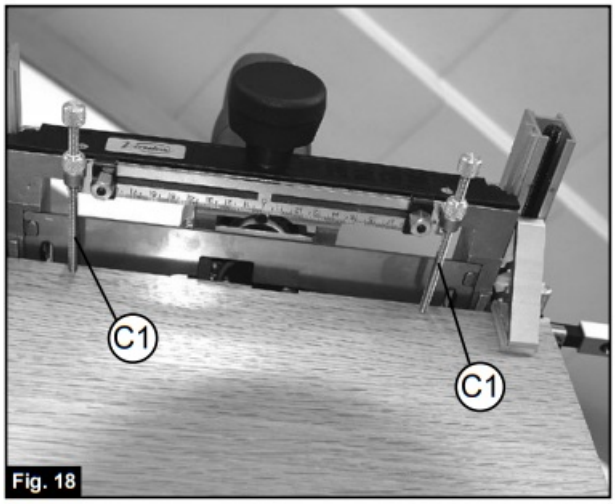


Fig. 18

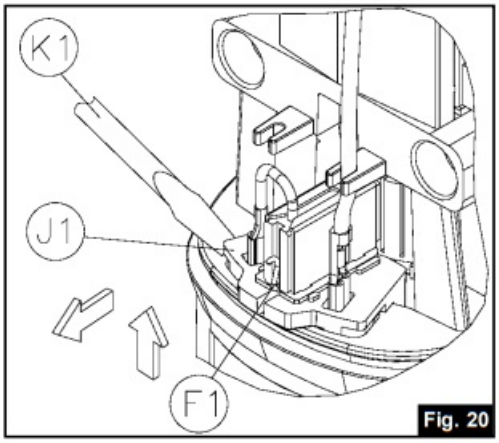


Fig. 20

Fig. 21

Ø BIT	Ø SHANK	Ø EXT.TEMPL.GUIDE	TEMPL.GUIDE	HSS BIT	TCT BIT
6	8	10	2950104	1130055	1140055
7.6	8	12	2950105	1130059	1140059
8	8	12	2950105	1130056	1140056
10	8	14	2950106	1130057	1140057
12	8	16	2950107	1130058	1140058
1/2″	1/4″	16	2950107		2940170
14	8	18	2950081		1240026
16	8	20	2950108		1240028

https://www.virutex.es/soporte/

Access to all technical information.

Virtuix, S.A.
Av. de la Llama, 57
08191 Rubi (Barcelona) Spain
www.virutex.com

Documents / Resources

	Virutex FR129 VB Router For Fitting Hinges [pdf] Instruction Manual FR129 VB Router For Fitting Hinges, FR129 VB, Router For Fitting Hinges, Fitting Hinges