

# Special devices



# 16



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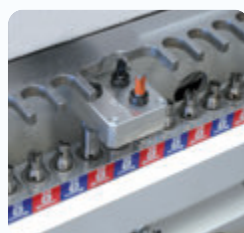
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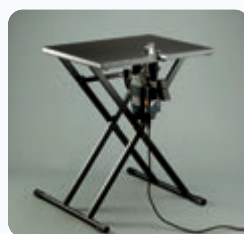
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# Klein®





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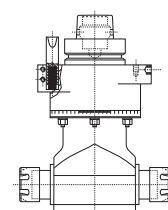
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## "ARKADE+ZINKEL+ELLIX" - The complete routing system for arches

The building techniques of the ancient Greeks and Egyptians had not contemplated the joining of wall openings by the use of arches. Roman times brought great technological progress. Thanks to archlinking they were able to create wider openings and so this technique became increasingly popular. The greatest development and the most gracious examples of arch construction came during the middle ages and continued through the years until more modern times when other building methods largely replaced the use of arches. Modern day building construction has rediscovered the charm, aesthetic taste and practical aspects of archlinking and because of this our technical department has developed and patented **"ARKADE + ZINKEL"**. This is the only equipment on the market today capable of drawing and producing wooden, double-radius arch frames with practically no size restriction, quickly and with unmatched quality results.



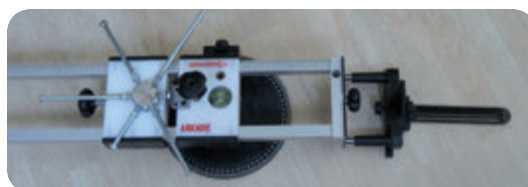
PATENT nr. AN93A000054



### Item

ARKADE

"ARKADE" complete with tracer unit and goniometer



### Item

ZINKEL

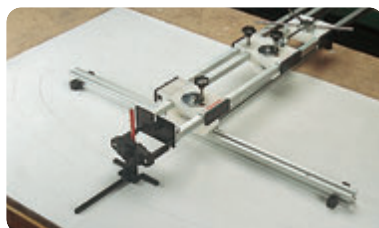
"ZINKEL" articulate accessory for double-radii arches



### Item

ELLIX

"ELLIX" the equipment for perfect geometrical ellipse for customers already using "ARKADE"



### Item

ELLISISTEM

"ELLISISTEM" is the "last born" of our special equipments for producing arch frames.

With "ELLISISTEM" the customer can execute a perfect geometrical ellipse.

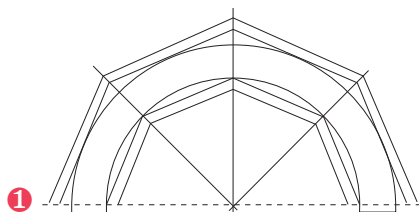
Suitable for house restoration where the double radius arch is difficult to fit.

Simple and easy to use, it keeps the same work procedure and features as "ARKADE" + "ELLIX"

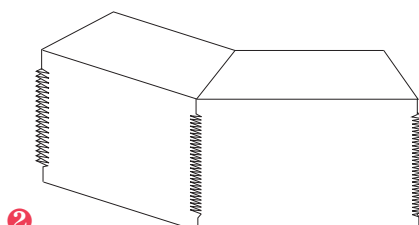
## Examples of windows made with "Arkade+Zinkel+Ellix"



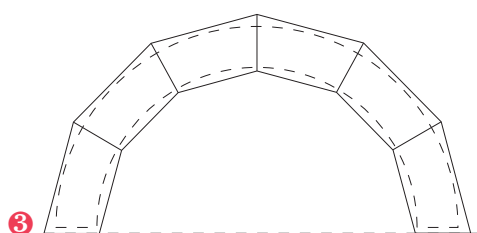
## WORK PROCEDURE



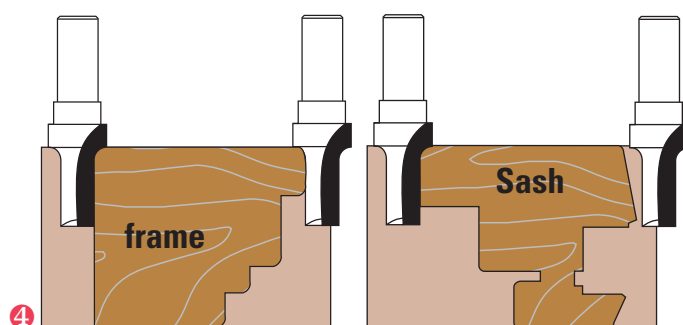
- Drawing of arch.
- Drawing and cutting of arch component parts.



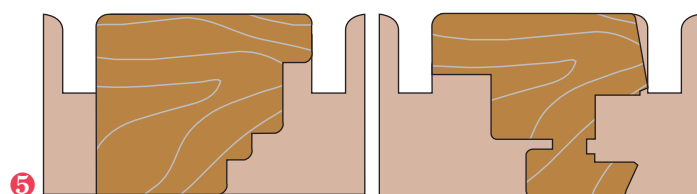
**Joining the arch component parts**  
(use eccentric clamp Art. SPP060029).



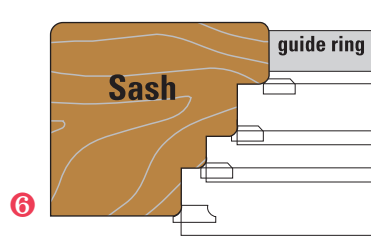
**Positioning and securing the arch component parts,**  
which are glued together



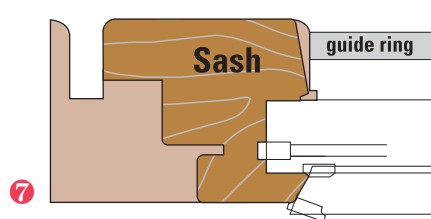
**Inner-outer frame and sash outlining using a portable electric router fitted on the equipment**  
(use tool Art. E.199.200.R).



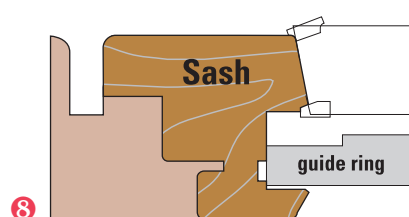
**Using the band saw, remove excess wood**



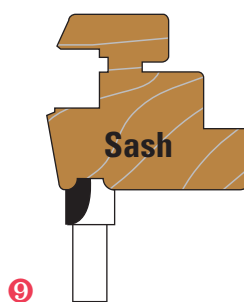
**Profiling the frame by means of the cutter units with copy bearing on moulding machine**



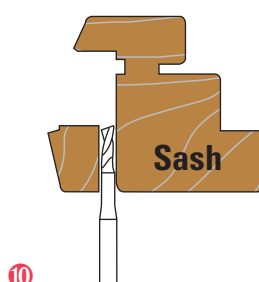
**Profiling the sash by means of the cutter units with copy bearing on moulding machine**



**Profiling the glazing bead by means of the cutter units with copy bearing on moulding machine**



**Shaping of the glazing bead (with cutter Art. E.199.165.R use router table Art. SPP060028 ballbearing guide Art. SPP060039).**

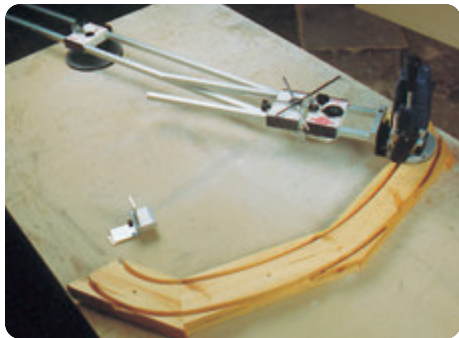


**Separation of glazing bead with cutter Art. T141.061.R.**

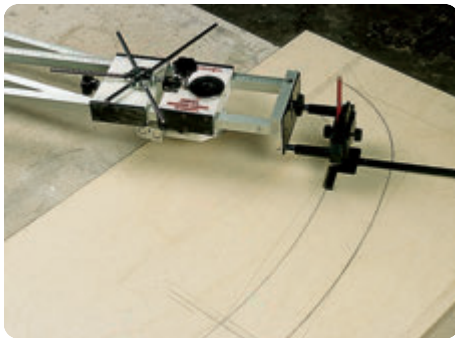


## "ARKADE+ZINKEL+ELLIX"

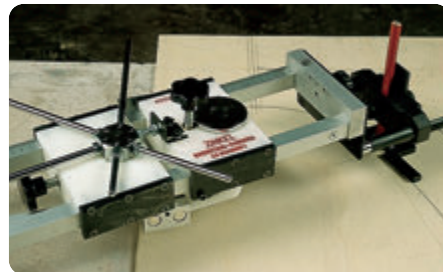
The only equipment on the market capable of producing single and double radius arches or elliptical frames



The window arch is worked continuously  
It does not require a specific work bench  
The goniometer shows exactly how to cut the wood sections making up the arch



Drawing is done before making the window  
A carpenter's pencil is used  
Bars are engraved



Thanks to the revolver, the frame measurements can be repeated without risk of error



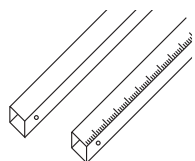
With the router table accessory and the ballbearing guide the execution of glazing bead is quick and easy.



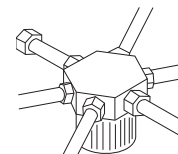
With the equipment "ELLIX" a perfect geometrical ellipse can be executed



Uses standard electric router



Item	Description
SPP060037	Additional 1.500 mm bars



Item	Description
SPP060036	Additional revolver

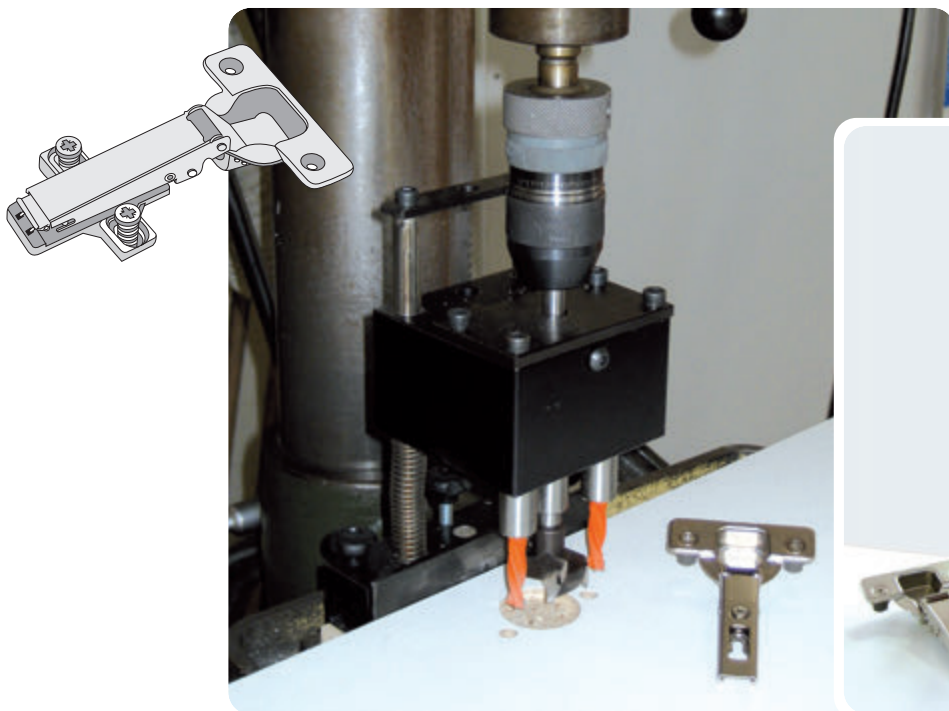
## TOOLS TO BE USED WITH THESE EQUIPMENTS

Shank Ø8	Shank Ø12	Description	
C199.140.R	E199.140.R	T.C.T. beading bit	
C199.165.R	E199.165.R	T.C.T. beading bit	
C199.200.R	E199.200.R	T.C.T. beading bit	
T141.061.R	T141.061.R	Solid carbide bit for glass fixing lath	
U211.061.R	U211.061.R	HS upcut spiral bits for aluminium	
	Z001.006.N	Bushing Ø 6/12	
Z001.001.N		Bushing Ø 6/8	
TS140.96030		Profil cutter hole Ø 30/35/40	
TS140.96035		Profil cutter hole Ø 30/35/40	
TS140.96040		Profil cutter hole Ø 30/35/40	

## TRIMATIC FOR HINGES

**TRIMATIC** are drilling jigs which allow making holes required in a single pass using a normal pillar drill or a portable electric drill. These articles are dedicated to craftsmen and hobbyists who have drilling problems when fitting hinges or positioning shelves with holes at a distance between centres of 32 mm.

The **TRIMATIC** unit with three tool-holders is suitable to make the three holes to fix the hinge in a single pass with distance between centres depending on the hinge to be fixed. Tools diameter depends on the hinge used. The central bit must have right hand rotation, the lateral bits have left hand rotation.

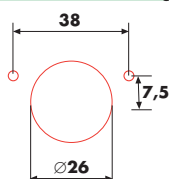


TRIMATIC 48/6 used with a pillar drilling machine

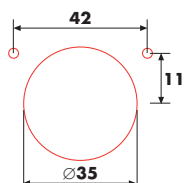


TRIMATIC 48/6 used with a portable drilling machine

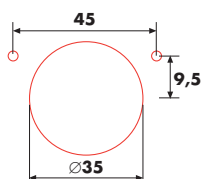
Item
TRIMATIC 38/7,5      Mini-hinges



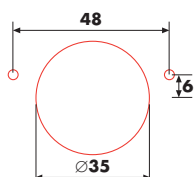
TRIMATIC 42/11      for hinges type "Grass"
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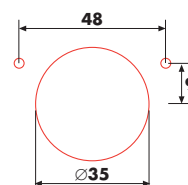
TRIMATIC 45/9,5      for hinges type "Blum"
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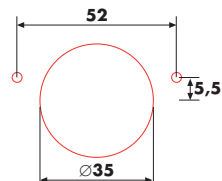
TRIMATIC 48/6      for hinges type "Salice"
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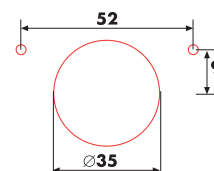
Item
TRIMATIC 48/9      for hinges type "Mepla"



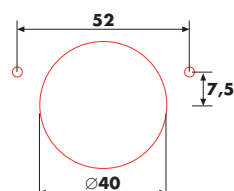
TRIMATIC 52/5,5      for hinges type "Hettich"
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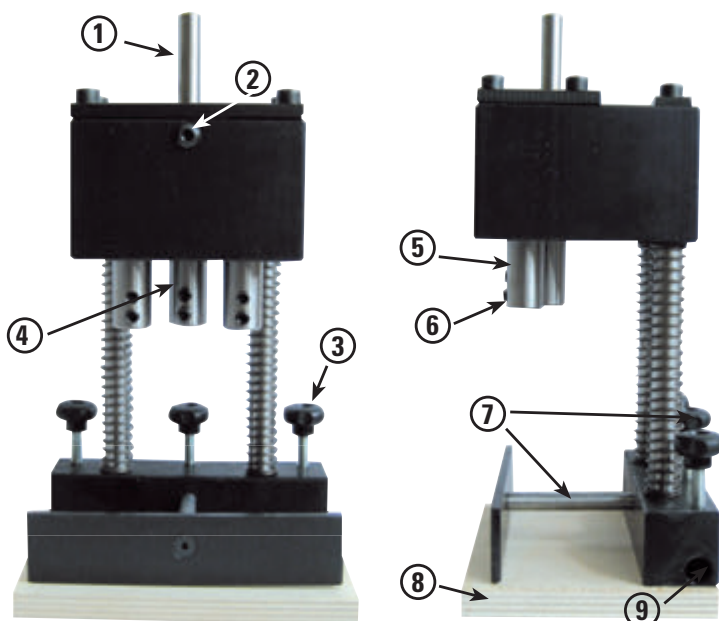
TRIMATIC 52/9      for hinges type "Hafele"
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TRIMATIC 52/7,5      hinges for large thickness
---

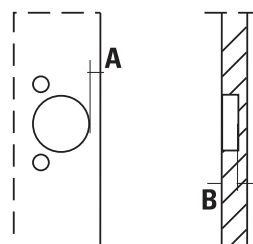


Designed in **1998** is one of the most innovative products in the woodworking field. Tested and appreciated by the most important hinges manufacturers, only our TRIMATIC boring jigs allow making more than **50.000** bores.



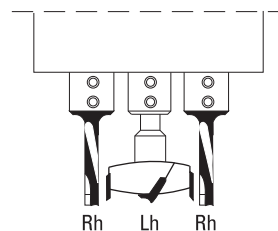
## DESCRIPTION

- 1) Arbor for pillar drill spindle
- 2) Threaded hole for greasing
- 3) Locking knob for stop reference rod
- 4) Distance adjusting screw "B"
- 5) Tool holder bush
- 6) Tool locking screw
- 7) Distance adjusting screw "A"
- 8) Equipment support table
- 9) Stop rod sliding hole



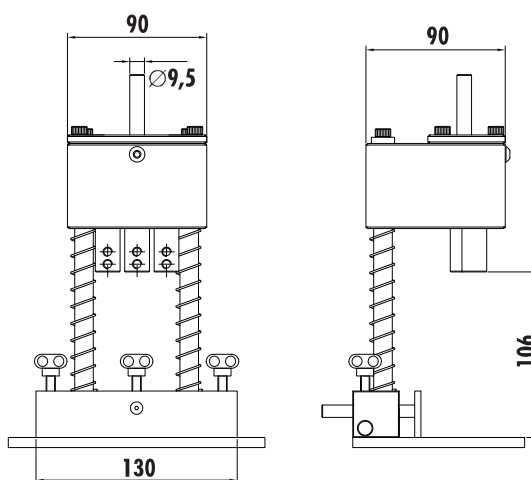
## HW tools suitable for TRIMATIC

Ø	Rotation	Description
3	Lh	L120.030.L
		+ Z011.030.N
5	Lh	L103.050.L
8	Lh	L103.080.L
10	Lh	L103.100.L
26	Rh	L140.260.R
35	Rh	L140.350.R
40	Rh	L140.400.R



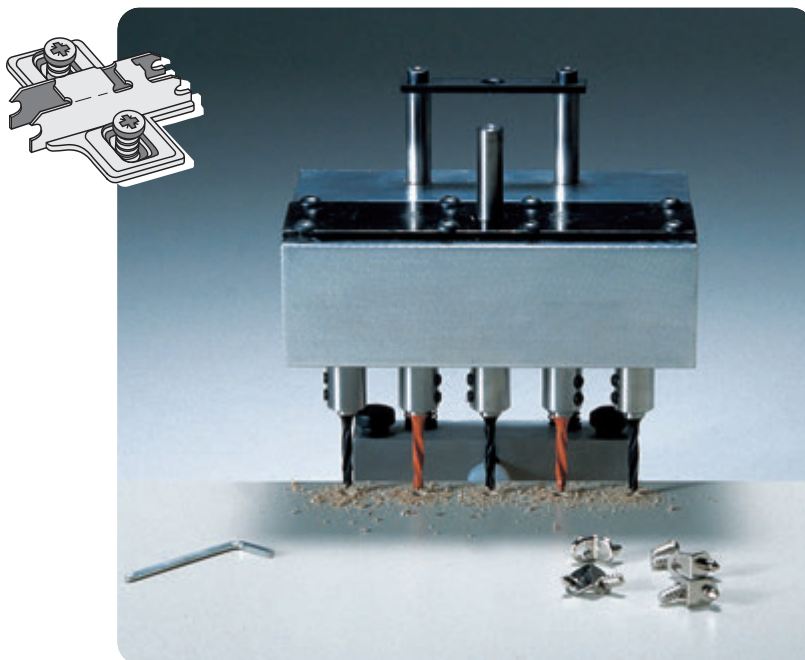
The central bit must have right hand rotation, the lateral bits have left hand rotation

## DIMENSIONS

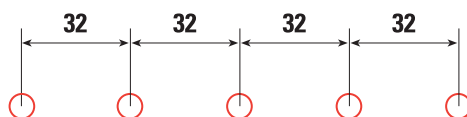


## TRIMATIC 32

The **TRIMATIC** unit with five tool holders is suitable to make a five holes set with distance between centres of 32 mm. in a single pass. This device is designed for drilling holes in lateral panels (sides) of furniture for both fixing the hinge and positioning the shelves at the height desired. In the **TRIMATIC 32** the tool diameters depend on the fittings used. The central bit and those mounted in the external positions have right hand rotation, the other tools have left hand rotation.

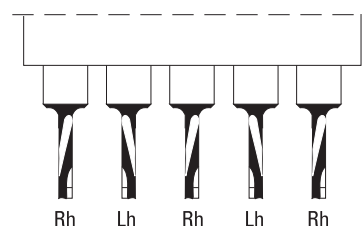


Item  
TRIMATIC 32



HW tools suitable for TRIMATIC 32

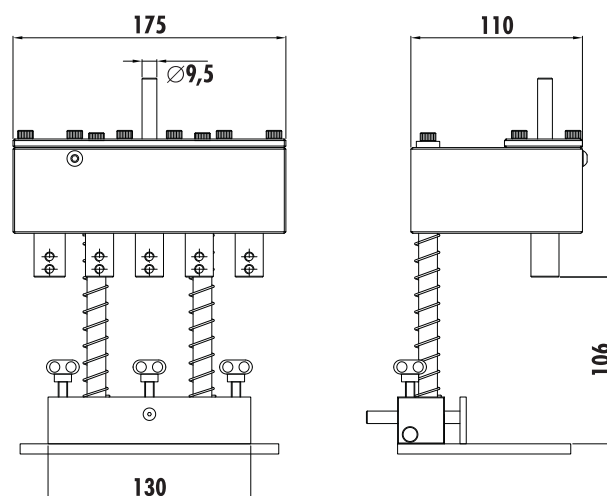
Ø	Rotation	Description
4	Rh	L103.040.R
4	Lh	L103.040.L
5	Rh	L103.050.R
5	Lh	L103.050.L



## DIMENSIONS



The central bit and those mounted in the external positions have right hand rotation, the other tools have left hand rotation.

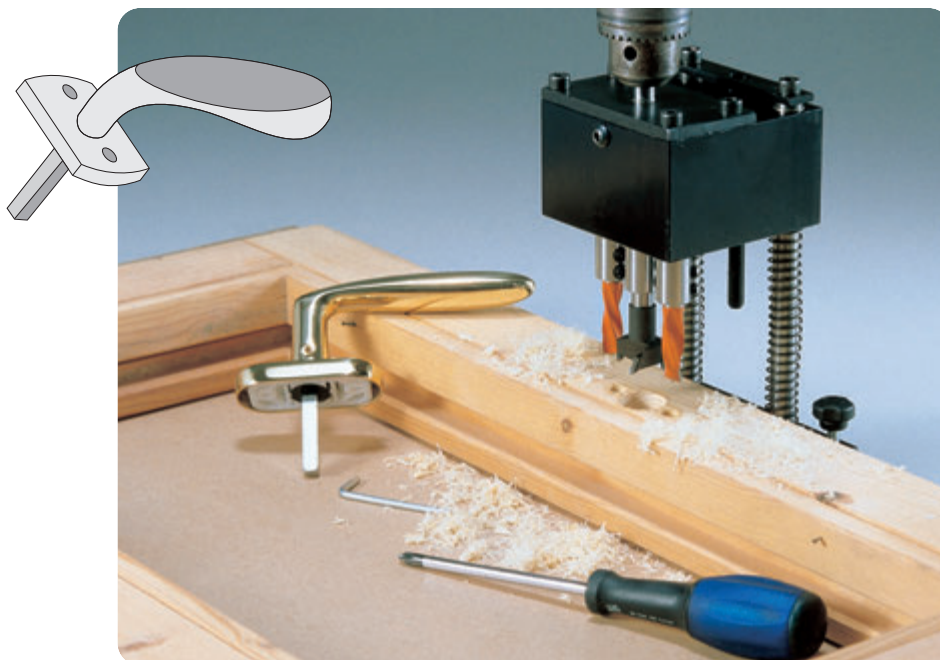




## DRILLING FOR CREMONE BOLTS

**TRIMATIC 43/0** was designed for window frame makers who have problems with drilling holes to fit the handle on wood, wood/aluminium and PVC windows. **TRIMATIC 43/0** allows drilling the three holes necessary to fit the cremone bolt in one single pass with a normal pillar drill or a portable electric drill.

**TRIMATIC 43/0**, a drilling jig for handles with a distance between centres of the retaining screws of 43 mm.

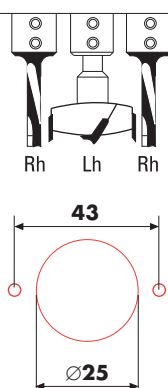


Drilling of wood and PVC window frames to fit cremone bolts

**Item**  
**TRIMATIC 43/0**

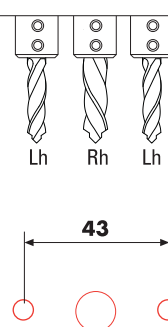
### HW tools suitable for TRIMATIC 43/0

Ø	Rotation	Description
4	Rh-Lh	L103.040.R/L
5	Rh-Lh	L103.050.R/L
8	Lh	L103.080.L
10	Rh-Lh	L103.100.R/L
12	Rh-Lh	L103.120.R/L
25	Rh	L140.250.R
26	Rh	L140.260.R



### HSS tools suitable for TRIMATIC 43/0 for working PVC and Aluminium

Ø	Rotation	Description
8	Lh	U260.080.L
10	Lh	U260.100.L
12	Rh-Lh	U260.120.R/L
14	Rh	U260.140.R



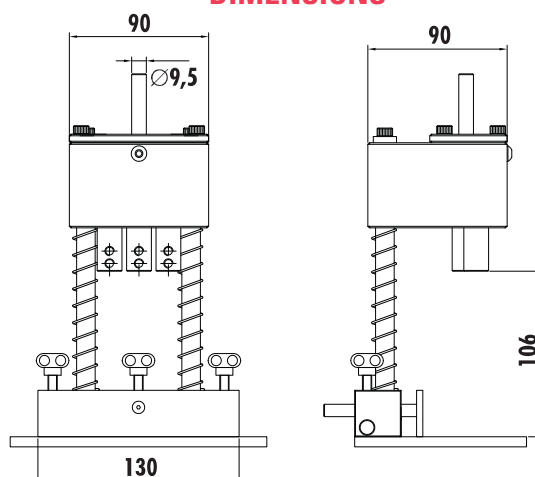
### Some examples of drilling patterns

SIEGENIA-TRIAL		WEIDTMANN-KURLER	
U260.120.L	2	U260.100.L	2
U260.120.R	1	U260.140.R	1
G-U JET77		OLIVEN	
U260.100.L	2	U260.080.L	2
U260.120.R	1	U260.1420.R	1



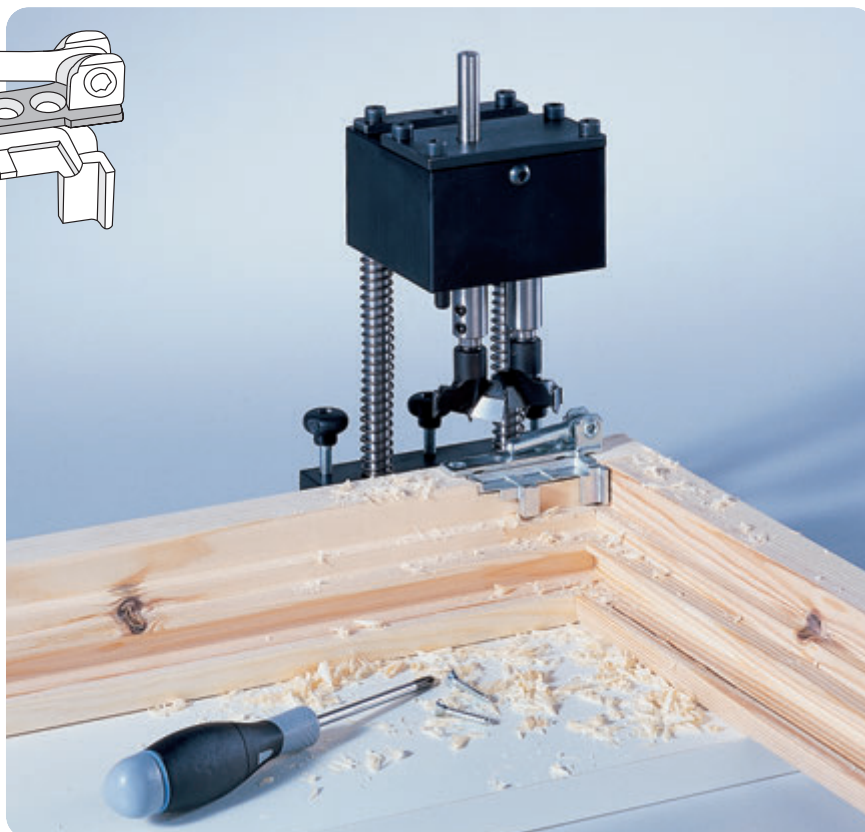
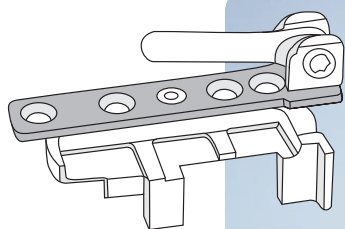
The central bit must have right hand rotation, the lateral bits have left hand rotation.

### DIMENSIONS



## SPECIAL DEVICES FOR ANGULAR HINGES INSERTING

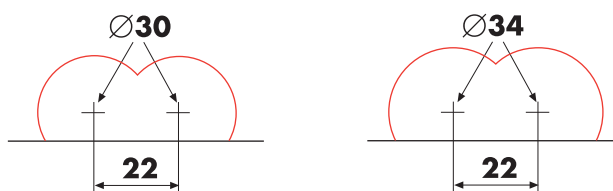
With constant attention paid to our customers' requirements and ongoing research for developing new technical solutions for helping craftsmen and small firms, our special equipments **TRIMATIC 22, 25 e 28** help the window makers to make holes for angular hinges to be mounted on windows and door-windows, in wood and wood-aluminium material. The **TRIMATIC 22, 25 e 28** can be used either with pillar drills or portable electric drills, and have distance between holes suitable for angular hinges of the following types: Siegenia (Trimatic 22), GU (Trimatic 25), Maico and AGB (Trimatic 28).



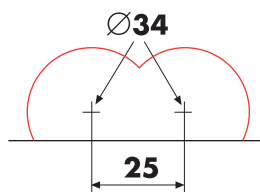
Fixing of edge hinge

### Item

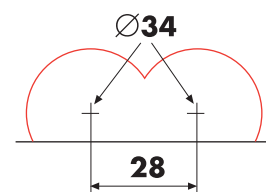
**TRIMATIC 22** for angular hinges "**SIEGENIA**" (Ø30 e Ø34) with a distance between holes of 22 mm



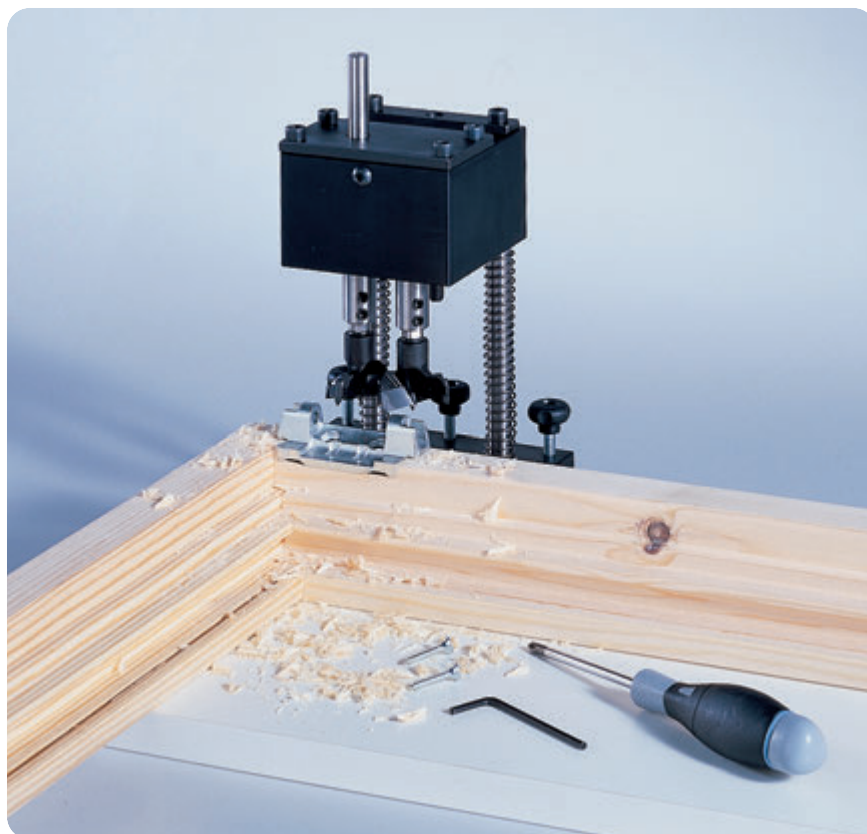
**TRIMATIC 25** for angular hinges "**GU**" with a distance between holes of 25 mm



**TRIMATIC 28** for angular hinges **MAICO** (typ "Trend") e **AGB** with a distance between holes of 28 mm



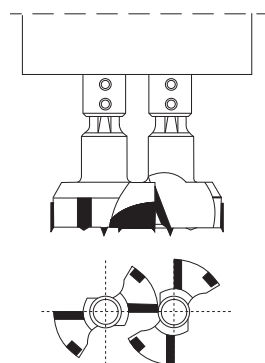
## SPECIAL DEVICES FOR ANGULAR HINGES INSERTING



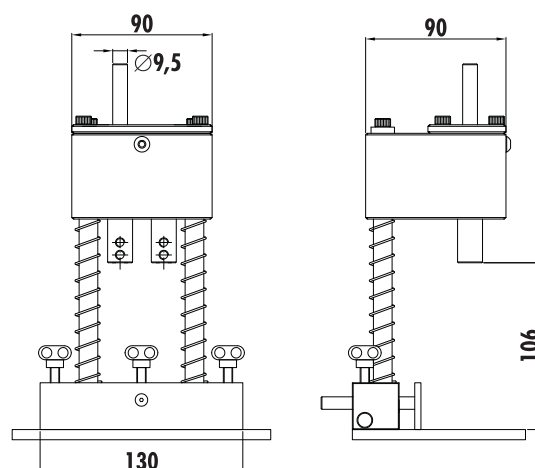
Fixing of top hinge

HW tools suitable for TRIMATIC 22 - 25 - 28

Ø	Rotation	Description
30	Rh	L160.300.R
30	Lh	L160.300.L
34	Rh	L160.340.R
34	Lh	L160.340.L



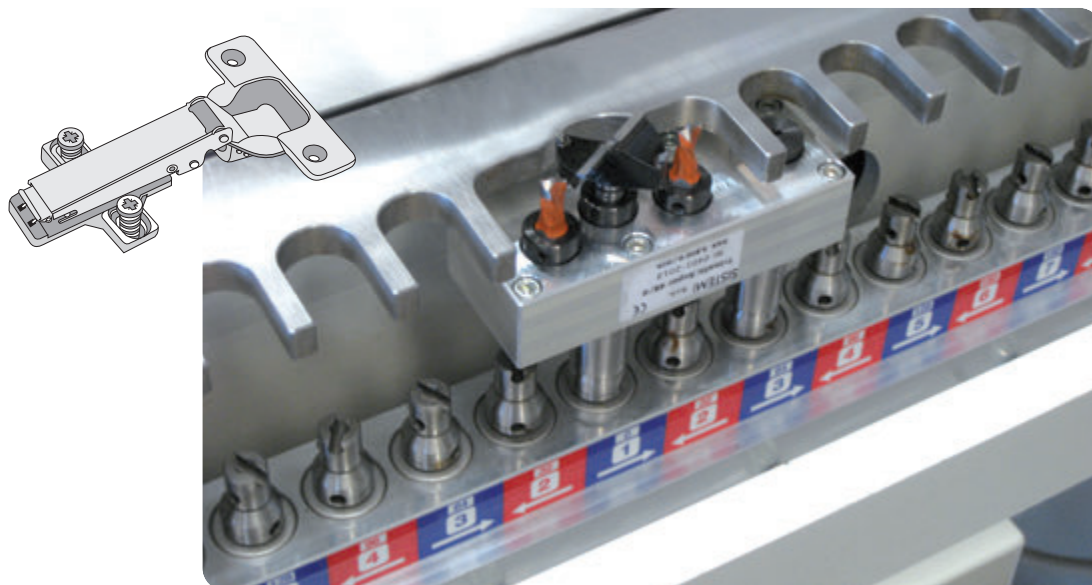
### DIMENSIONS



## DRILLING JIG FOR MAKING HOLES FOR HINGE INSERTING

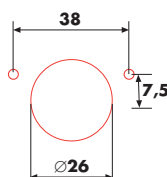
The **TRIMATIC SUPER** is a very innovative drilling jig, suitable to solve many problems to craftsmen and small industries when fitting the hinges and handles on doors, windows and cabinet doors. The **TRIMATIC SUPER** can be easily and quickly mounted on the multi-spindles head of any automatic boring machine with 32 mm distance between centres chucks. The **TRIMATIC SUPER** is very precise and fast, making in one single pass the three holes required for fitting the hinges on the cabinet doors.

At the moment, 8 types **TRIMATIC SUPER** in different patterns are available, suitable for the most common hinges: Salice, Blum, Hettich, Grass, Mepla, Ferrari, ecc. The new model 43/0, is now available for the execution of the holes necessary to fit the cremone bolt on the handles of doors and windows. The **TRIMATIC SUPER** are small-sized, 12,5x5x3 cm, but they are very solid and long-lasting devices. The diameter of the drills has to be chosen with reference to the model of hinges being used. Now, just choose the type of **TRIMATIC SUPER** you need.

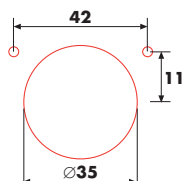


### Item

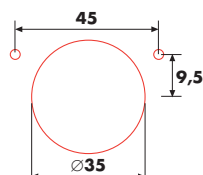
TRIMATIC SUPER 38/7,5 Mini-hinges



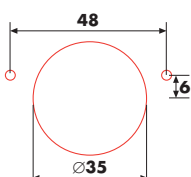
TRIMATIC SUPER 42/11 for hinges type "Grass"



TRIMATIC SUPER 45/9,5 for hinges type "Blum"

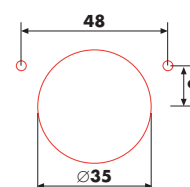


TRIMATIC SUPER 48/6 for hinges type "Salice"

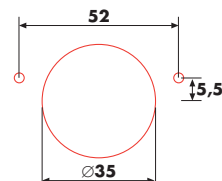


### item

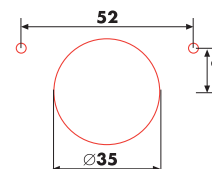
TRIMATIC SUPER 48/9 for hinges type "Mepla"



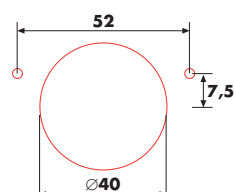
TRIMATIC SUPER 52/5,5 for hinges type "Hettich"



TRIMATIC SUPER 52/9 for hinges type "Hafele"



TRIMATIC SUPER 52/7,5 hinges for large thickness



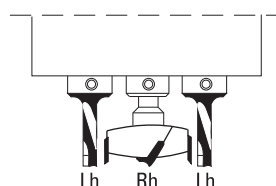


## DRILLING JIG FOR MAKING HOLES FOR HINGE INSERTING

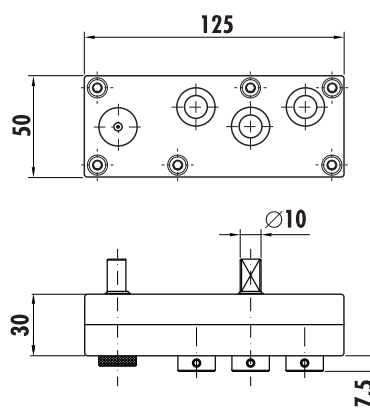


HW tools suitable for TRIMATIC SUPER

Ø	Rotation	Description
3	Lh	L120.030.L + Z011.030.N
5	Lh	L171.050.L
8	Lh	L171.080.L
10	Lh	L171.100.L
26	Rh	L170.260.R
35	Rh	L170.350.R
40	Rh	L170.400.R

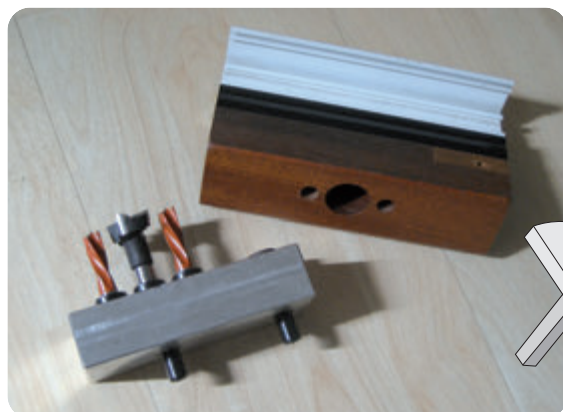


### DIMENSIONS



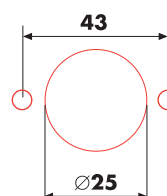
The central bit must have right hand rotation, the lateral bits have left hand rotation.

## DRILLING OF WOOD AND PVC WINDOW FRAME TO FIT CREMONE BOLT



### Item

TRIMATIC SUPER 43/0

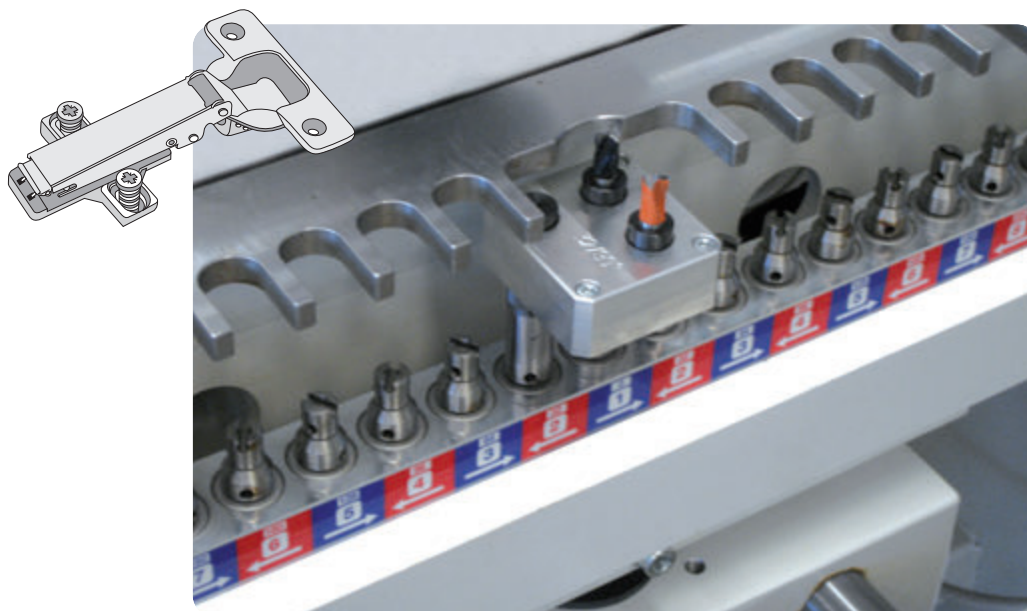


HW tools suitable for TRIMATIC SUPER 43/0

Ø	Rotation	Description
10	Lh	L103.100.L
12	Lh	L103.120.L
25	Rh	L140.250.R

## DRILLING JIG FOR MAKING HOLES FOR HINGE INSERTING

**TRIMATIC SUPER 32/90°** allows to drill at a same time 2 holes perpendicular to the machine boring axis.



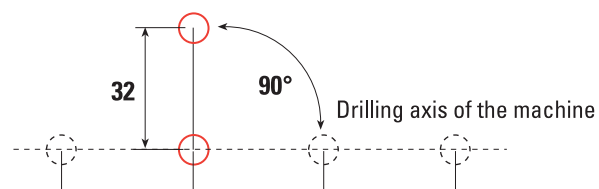
**TRIMATIC SUPER 32/90° drilling jig for multi spindles machines 32 mm**

### Item

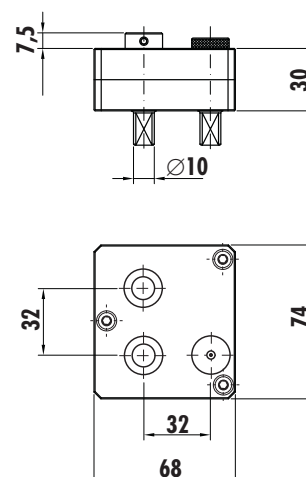
TRIMATIC SUPER 32/90°

### HW tools suitable for TRIMATIC SUPER 32/90°

Ø	Rotation	Description
20	Lh	L170.200.L
10	Rh	L171.100.R



### DIMENSIONS



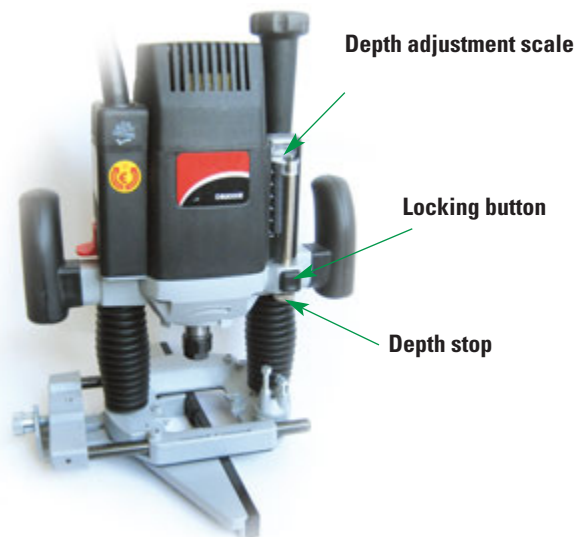
## ELECTRIC ROUTER

Wood milling machines are possibly the most versatile machines that exist for woodworking. They can be used to carry out a whole series of finishing operations that would require hour upon hour of hard work and toil with other systems and achieve an unimaginable degree of precision. Although professional operators and woodworkers are fully familiar with its vast array of possibilities, hobbyists often see milling machines as a slightly mysterious tool and approach them with some diffidence. In fact, a milling machine is not a drill. To use it to its full extent, operators must first get to know its great potential, and then start working with it - which requires a certain degree of training. On the other hand, the satisfaction it can give is considerable. Items made as a hobby - often a little awkward and bulky - can be embellished with smooth corners, curves and rounded edges, and traditional, cabinet-making joints can replace joints made using pins or glue. In sum, a whole new world has opened up for do it yourself that was previously off-limits to them. Naturally, all this requires an extra effort, to ensure that customers are adequately informed. This is why we have decided to provide a summary of basic information to be supplied for this type of customer, when they express a desire to approach the world of milling.

**High quality and long-lasting machine.**

**Its technical features, accuracy and performance make it a router for all your requirements.**

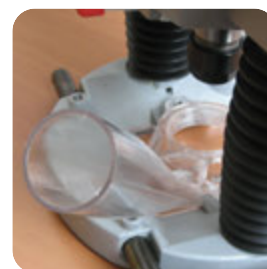
Item	Description
DB2000E	Electric router power 1900 W



Graduated stop



Transparent protection



Dust extraction hood

### TECHNICAL DATA

- Power consumption 1900 W
- Drive shaft speed 10000-22500 r.p.m.
- Tool shaft diameter 12 mm
- Lengthwise sliding 0-67 mm
- Maximum bit diameter 60 mm
- Weight (without accessories) 5,6 kg
- Total machine height 305 mm

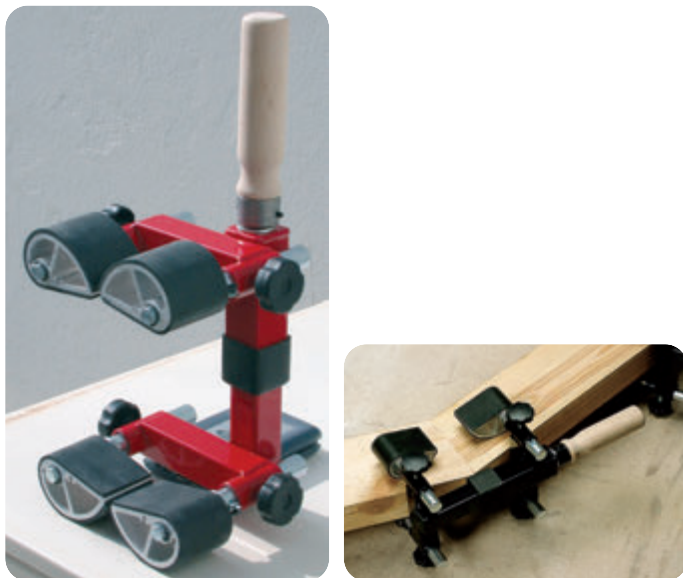


### STANDARD PACKAGE

- Slide stop
- Clamping collets diam. 12 mm and 8 mm
- Wrenches 22 mm and 8 mm
- Transparent protection
- Dust extraction hood
- Template
- Plastic box
- Instruction manual
- Safety instructions
- Warranty

## ECCENTRIC CLAMP

The eccentric clamp is suitable for keeping the glued wood sections with comb joints under pressure. It is tightened and slackened by turning the grip; the eccentric pressors are covered in rubber to prevent damage to the wood.



Item	Thickness range
SPP060029	Min. 25 mm - Max 75 mm
SPP060053	Min. 40 mm - Max 90 mm

## ROUTER TABLE



Item	Description
SPP060028	Router table to separate the glass fixing lath
SPP060039	Ball bearing guide for router table

## DRIVER FOR CURVES

The driver for curves was conceived for greater safety during router machining on curves. It is equipped with a motor sufficient to guarantee a regular feed of about 2 m/min. so that a good quality of finish is obtained. The rubber wheel, apart from not damaging the wood, guarantees the perfect position of the piece with respect to the tools. The driver can already be applied with an arc of 25 cm radius.

2 feed rates=1,39 mt/min. + 2,78 mt/min.



Item	Description
SPP060065	Drivers for curves 2 feed rate

## LIFTING CLAMP

The lifting clamp facilitates the handling and transport of large panels. It features an anatomic wooden grip and rubber covered eccentric jaws.

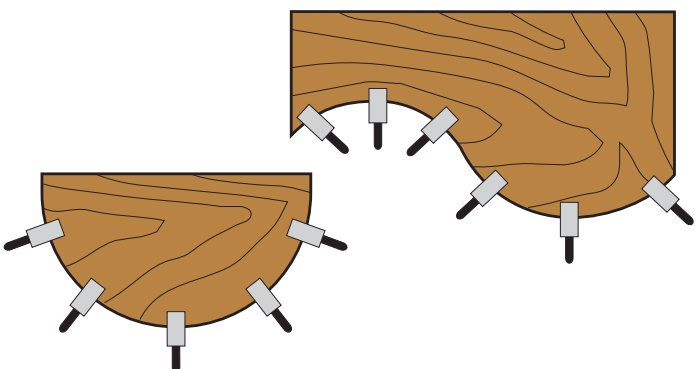
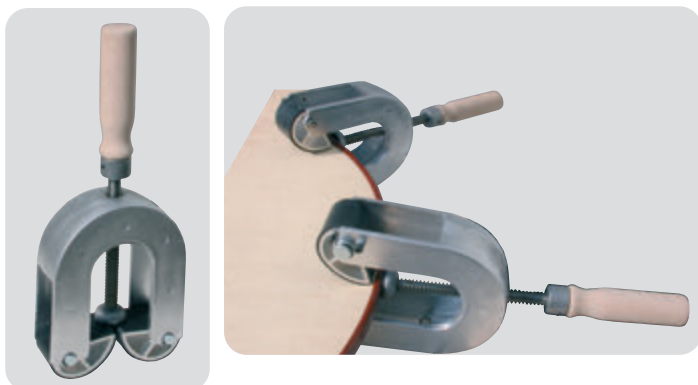


Item	Thickness range
SPP060047	Min. 10 mm - Max 65 mm



## EDGE CLAMP

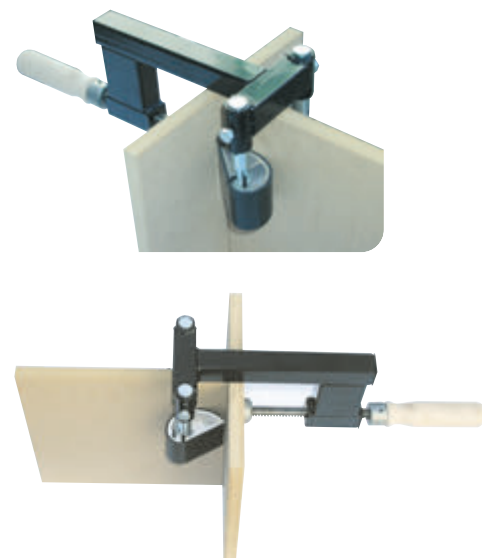
The edge clamp is used to press the wooden lippings against the edge of the panel. The eccentric pressors are covered in rubber. This article is practically indispensable when gluing edge on curved or shaped panels.



Item	Thickness range
SPP060052	Min. 10 mm - Max 65 mm

## T-JOINTS CLAMP

Suitable for T-joints in little pieces of furniture



Item	Thickness range
SPP060075	Min. 10 mm - Max 65 mm

## CARPENTER'S CLAMP

The carpenter's clamp is suitable for craftsmen who manufacture modern furniture. The clamp is tightened and loosened by turning the wooden handgrip. The ends which hold the panel are covered with ribbed rubber to protect and improve the grip. With a suitable number of extensions furniture of any dimension can be assembled.



Item	Thickness range
SPP020021	Min. 250 mm - Max 800 mm

## EXTENSIONS

Item	Thickness range
SPP020022	800 mm

## DOOR LIFTER

Lifts, swivels and lowers. Easy foot operation for weights up to 100 kg for the installation of doors including fire doors, windows, furniture, dry walls, partitions.



Item
LIFTER100

## QUICK CLAMPING DEVICES

Devices for quick clamping workpieces and for numerous applications. By simply applying pressure on the grip, once dead centre has been passed, they close securely. Horizontal models with horizontal or vertical clamping, push rod and pneumatic. Maximum quality and a virtually unlimited lifespan.



### HORIZONTAL TYPE WITH HORIZONTAL CLAMPING

ART. B.ORI



Item	Clamping strength
B.ORI.0240	Kg. 120
B.ORI.0400	Kg. 200
B.ORI.0600	Kg. 300
B.ORI.0700	Kg. 350

### HORIZONTAL TYPE WITH VERTICAL CLAMPING

ART. B.VER



Item	Clamping strength
B.VER.0241	Kg. 120
B.VER.0401	Kg. 200
B.VER.0601	Kg. 300
B.VER.0701	Kg. 350

## PNEUMATIC TYPE

ART. B.PNE



Operated by a cylinder 6,5 Atm.

Item	Clamping strength
B.PNE.0400	Kg. 200

## PUSHER TYPE

ART. B.SPI



Item	Clamping strength
B.SPI.0400	Kg. 220

### SPARE ENDPINS made in rubber

Item	Description
B.ORI.0240	M6 for clamps kg. 120
B.ORI.0400	M8 for clamps kg. 200
B.ORI.0600	M10 for clamps kg. 300
B.ORI.0700	M12 for clamps kg. 350

## KleinWASHER

Automatic Tool Washer



- Suitable for washing any metal parts
- For tools of various dimensions, also for tool groups for windows
- Heated biological operating mode

**Includes:**

- Stainless steel housing
- Rotating tank D=550 mm.
- Stainless steel upper, under and lateral washing arms
- Timer
- Thermal resistance
- Single-phase 1 hp pump
- Dimensions: 700x600 h 866mm.
- Dimensions packing: 785x780 h1000mm.
- Weight: 50 kg.

Item	Description
KLEINWASHER <b>NEW</b>	Automatic tool washer

Sealants, lubricants, cleaning products  
see section 14 page 14.03

## KleinCLEANER

Manual Tool Washer



- Can wash any type of tools or metal parts
- Easy to be used with water and spray gun
- Heated biological operating mode

**Includes:**

- Spray gun
- Tool holding grid
- Stainless steel tank with thermal resistance
- Air-operated double diaphragm pump 5 L/min.
- Tank dimensions: 600x500 h 250mm.
- Tank capacity: 70L
- Dimensions: 700x560 h1000mm.
- Dimensions packing: 970x670 h1020.
- Weight: 40 Kg.

Item	Description
KLEINCLEANER <b>NEW</b>	Manual tool washer

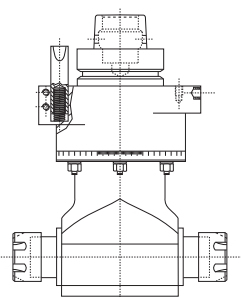
Sealants, lubricants, cleaning products  
see section 14 page 14.03

## ANGLE HEADS FOR CNC ROUTERS MACHINES

Please specify:

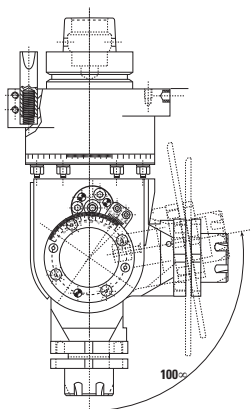
- Type of tool holder
- Type of Machine and model
- Tool used
- Application

### ART. GR1.WZ.SL



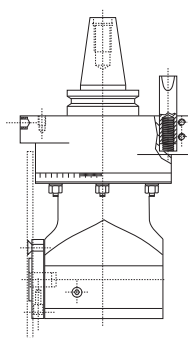
"LIGHT" TYPE  
90° double sided angle head

### ART. GR1.WD.SL



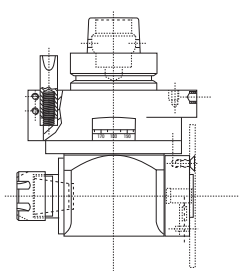
"LIGHT" TYPE  
Adjustable angle head 0-100°

### ART. GR2.WS.FL



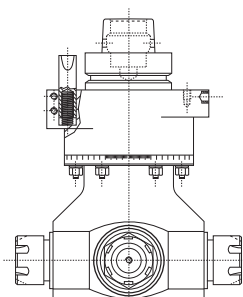
STANDARD TYPE  
1-side angle head 90°  
(spring collet or sawblade)

### ART. GR2.WZ.FL



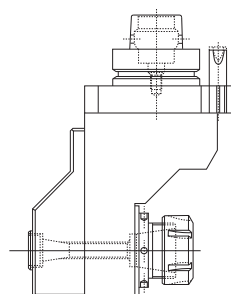
STANDARD TYPE  
2-sided angle head 90°  
(spring collet or sawblade)

### ART. GR2.WV.FL



STANDARD TYPE  
4-sided angle head 90°  
(spring collet) application

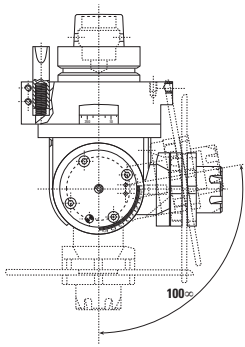
### ART. GR2.WW.FL



STANDARD TYPE  
1-side trimming angle head for locks

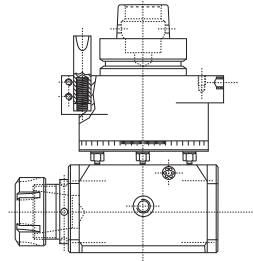


**ART. GR2.WD.FL**



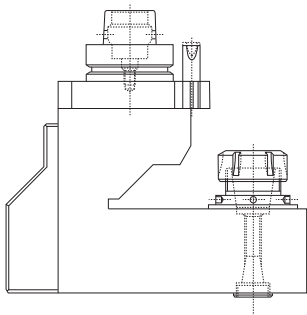
**STANDARD TYPE**  
Adjustable angle head 0-100°  
(spring collet or sawblade)

**ART. GR3.WS.UL**



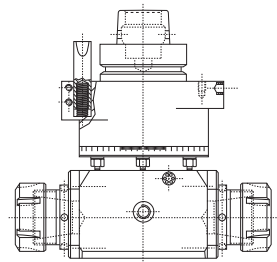
**OIL COOLING, HARD-WEARING**  
1-side angle head 90°

**ART. GR2.W1.FL**



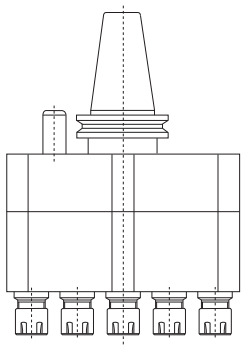
**STANDARD TYPE**  
1-side undersurface  
trimming angle head

**ART. GR3.WZ.UL**



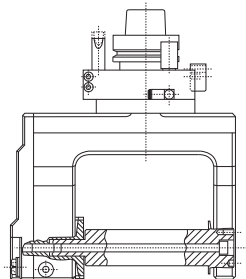
**OIL COOLING, HARD-WEARING**  
90° double sided angle heads

**ART. GR2.W2.FL**



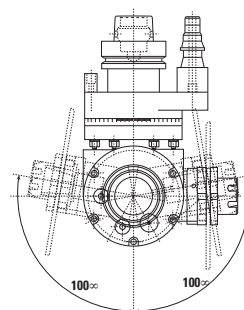
**STANDARD TYPE**  
Multi spindle angle  
head 5-sided  
**Similar devices suitable  
for boring machines  
available on request**

**ART. GR3.WX.UL**



**OIL COOLING, HARD-WEARING**  
1-side 90° angle head with arbor  
for cutters

**ART. GR3.WD.UL**



**OIL COOLING, HARD-WEARING**  
Adjustable angle head -100°+100°  
(spring collet and sawblade)