

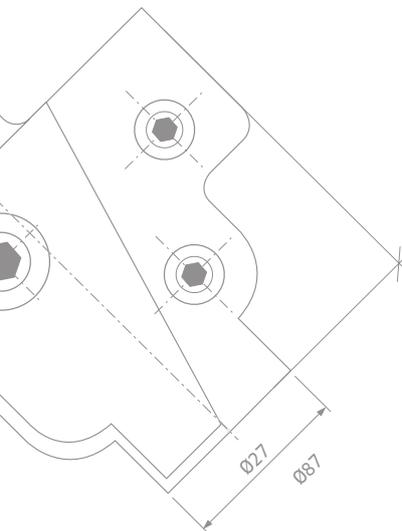
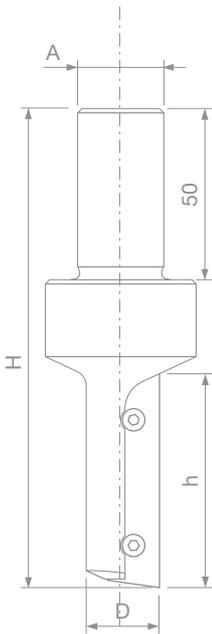
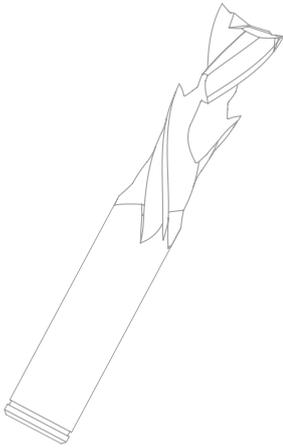
Routing Tools for CNC Machines

Freud's wide range of superior quality routing, drilling and CNC tools for high-speed and fully automated routing machines leverages outstanding technical know-how, advanced manufacturing processes and finest quality materials.

Designed to perform precise and burn free cuts, these tools deliver superior performance, perfect finishing and maximum lifetime.

All routing tools feature Freud's unique and industry-first attributes.





Leading technology for router cutters Page 147

SIZING

Solid Carbide router cutters for sizing

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Solid Carbide router cutters for grooving and sizing

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Drill bits for blind holes

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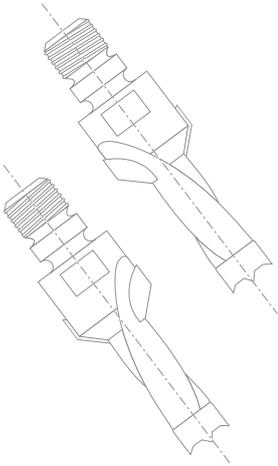
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LEADING TECHNOLOGY

TiCo CARBIDE TECHNOLOGY

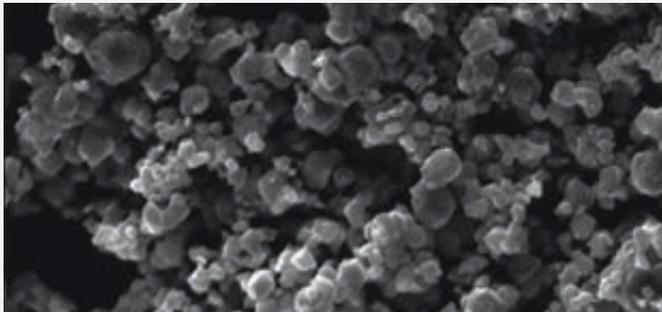
Freud's ownership and control of the entire Carbide production cycle ensures that the correct formula is used for the specific application needs, to constantly maximise the routing tool performance.



TiCo Carbide

A specially formulated, highly compact Titanium Cobalt Carbide, engineered and manufactured by Freud.

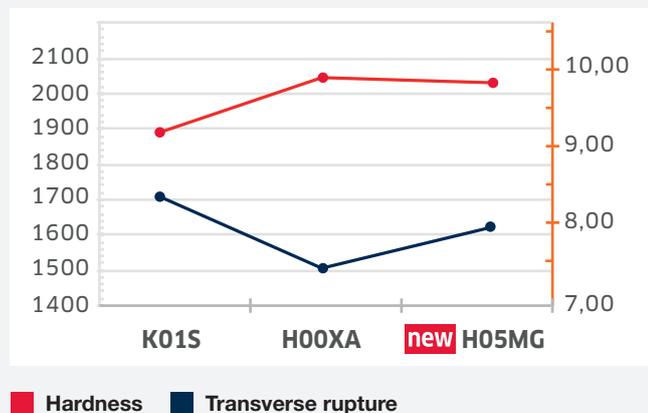
It provides a sharper edge and flawless finish with a dramatically longer cutting life.



CARBIDE INNOVATION

The continuous investment in new Carbide recipe development maintains the router performance at unmatched quality levels.

For example, the SCH range features the new micro-grain Carbide **H05MG**, specifically formulated for a high level of hardness and tenacity, to achieve the greatest resistance to wear and impact.

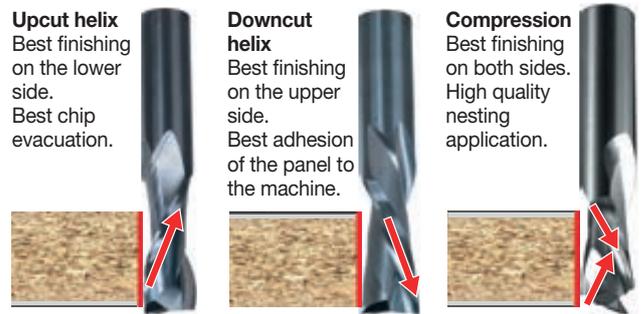




DESIGN INNOVATION

Freud leverages its market knowledge and technical know-how to constantly develop new geometries for its routing tools and guarantee superior cutting performance in demanding applications.

The new helix designs and geometries, designed for the SCH range, deliver flawless results and impeccable finishing across a number of applications:



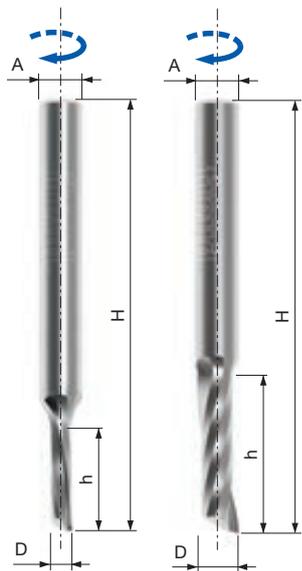
EXTENSIVE RANGE

Freud offers different solutions for specific application needs. The wide range includes a selection of router cutters that combines the efficiency of the cutterheads with the versatility given by the shank.



Sizing





SCH1UF

Finishing router cutter upcut with right-hand Z1



CNC Routers



Up spiral



For table mounted only



Softwood



Hardwood



Chipboard



Laminated Chipboard



MDF



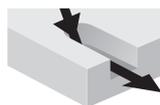
Laminated MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing on Bottom

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with positive helix designed for CNC routing with large gullet space for high chips removal.

- Suitable for sizing, plunging and grooving with a perfect finishing.
- Upcut helix, good chip flow, upward chip removal for best finishing on the lower side of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

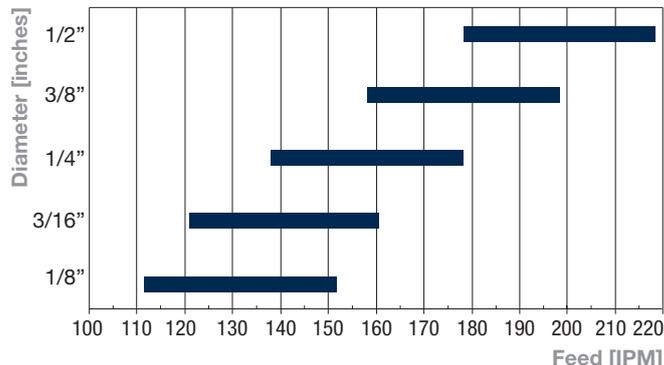
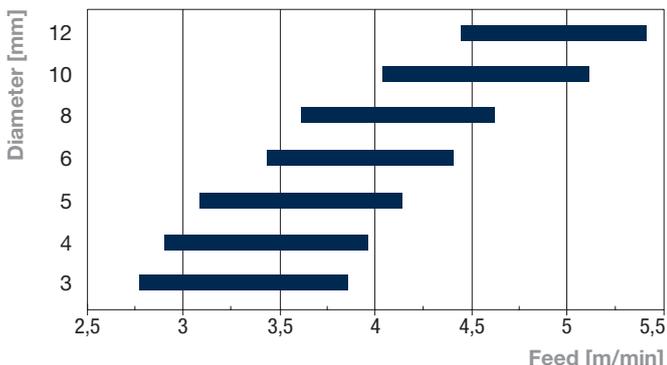
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

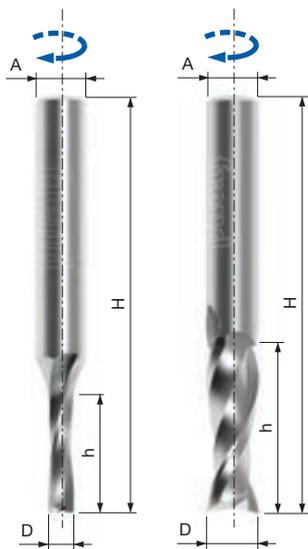
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D	h	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm	mm					
3	13	60	6	MG10	1	30.000	SCH1UFN110R	F03FR03639
4	15	50	4	MG10	1	30.000	SCH1UFN210R	F03FR03645
4	16	60	6	MG10	1	30.000	SCH1UFN120R	F03FR03640
5	17	50	5	MG10	1	30.000	SCH1UFN215R	F03FR03646
5	17	60	6	MG10	1	30.000	SCH1UFN130R	F03FR03641
5	17	60	8	MG10	1	30.000	SCH1UFN160R	F03FR03644
6	17	50	6	MG10	1	30.000	SCH1UFN220R	F03FR03647
6	22	60	6	MG10	1	30.000	SCH1UFN225R	F03FR03648
8	22	70	8	MG10	1	30.000	SCH1UFN235R	F03FR03650
8	32	80	8	MG10	1	30.000	SCH1UFN240R	F03FR03651
8	42	90	8	MG10	1	30.000	SCH1UFN245R	F03FR03652
10	32	80	10	H05MG	1	30.000	SCH1UFN255R	F03FR03654
10	42	100	10	H05MG	1	30.000	SCH1UFN260R	F03FR03655
10	52	100	10	H05MG	1	30.000	SCH1UFN265R	F03FR03656
12	32	80	12	H05MG	1	30.000	SCH1UFN270R	F03FR03657
12	52	100	12	H05MG	1	30.000	SCH1UFN275R	F03FR03658

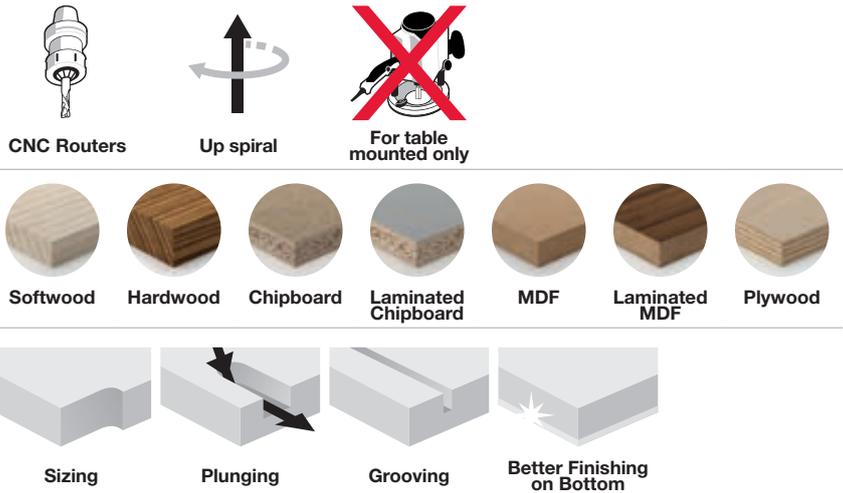
D	h	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
inch	inch	inch	inch					
1/8	1/2	2-1/2	1/4	MG10	1	30.000	SCH1UFN140R	F03FR03642
3/16	3/4	2-1/2	1/4	MG10	1	30.000	SCH1UFN150R	F03FR03643
1/4	1	2-1/2	1/4	MG10	1	30.000	SCH1UFN230R	F03FR03649
3/8	1-1/8	3	3/8	H05MG	1	30.000	SCH1UFN250R	F03FR03653
1/2	1-5/16	3	1/2	H05MG	1	30.000	SCH1UFN280R	F03FR03659





SCH2UF

Finishing router cutter upcut with right-hand Z2



Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide with positive helix bit designed for CNC routing for general purpose with perfect finishing.

- Suitable for sizing, plunging and grooving with a perfect finishing.
- Upcut helix, good chip flow, upward chip removal for best finishing on the lower side of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

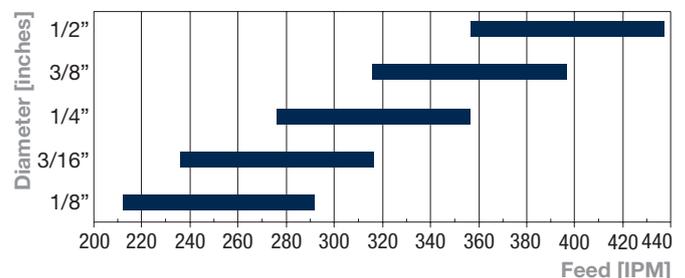
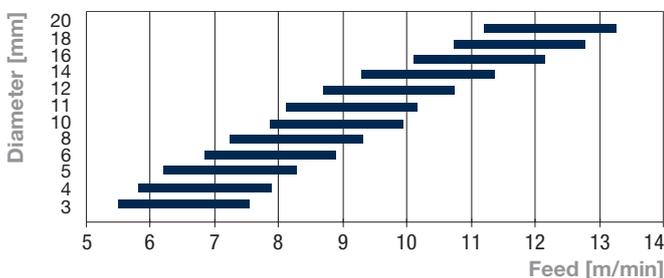
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

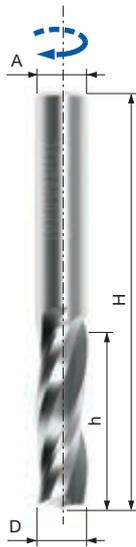
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D mm	h mm	H mm	A mm	Quality of HW	Z	Max RPM	Freud Code	Art. No.
3	13	50	6	MG10	2	30.000	SCH2UFN110R	F03FR03696
3	13	50	8	MG10	2	30.000	SCH2UFN135R	F03FR03701
4	15	50	4	MG10	2	30.000	SCH2UFN204R	F03FR03709
4	16	50	6	MG10	2	30.000	SCH2UFN115R	F03FR03697
4	16	50	8	MG10	2	30.000	SCH2UFN140R	F03FR03702
5	17	50	5	MG10	2	30.000	SCH2UFN208R	F03FR03710
5	17	60	6	MG10	2	30.000	SCH2UFN120R	F03FR03698
5	17	50	8	MG10	2	30.000	SCH2UFN145R	F03FR03703
6	17	60	6	MG10	2	30.000	SCH2UFN212R	F03FR03711
6	22	60	6	MG10	2	30.000	SCH2UFN216R	F03FR03712
6	25	60	8	MG10	2	30.000	SCH2UFN150R	F03FR03704
7	32	80	8	MG10	2	30.000	SCH2UFN155R	F03FR03705
8	22	70	8	MG10	2	30.000	SCH2UFN224R	F03FR03714
8	32	80	8	MG10	2	30.000	SCH2UFN228R	F03FR03715
8	42	90	8	MG10	2	30.000	SCH2UFN232R	F03FR03716
8	25	70	12	H05MG	2	30.000	SCH2UFN160R	F03FR03706
10	32	80	10	H05MG	2	30.000	SCH2UFN240R	F03FR03718
10	42	100	10	H05MG	2	30.000	SCH2UFN244R	F03FR03719
10	52	100	10	H05MG	2	30.000	SCH2UFN248R	F03FR03720
10	32	80	12	H05MG	2	30.000	SCH2UFN170R	F03FR03708
11	37	80	11	H05MG	2	30.000	SCH2UFN252R	F03FR03721
12	32	80	12	H05MG	2	30.000	SCH2UFN256R	F03FR03722
12	42	90	12	H05MG	2	30.000	SCH2UFN260R	F03FR03723
12	52	100	12	H05MG	2	30.000	SCH2UFN264R	F03FR03724
14	52	100	14	H05MG	2	25.000	SCH2UFN276R	F03FR03727
16	52	100	16	H05MG	2	25.000	SCH2UFN280R	F03FR03728
18	52	110	18	H05MG	2	25.000	SCH2UFN284R	F03FR03729
20	52	120	20	H05MG	2	25.000	SCH2UFN288R	F03FR03730
20	72	140	20	H05MG	2	25.000	SCH2UFN292R	F03FR03731

D inch	h inch	H inch	A inch	Quality of HW	Z	Max RPM	Freud Code	Art. No.
1/8	1/2	2	1/4	MG10	2	30.000	SCH2UFN125R	F03FR03699
3/16	3/4	2	1/4	MG10	2	30.000	SCH2UFN130R	F03FR03700
1/4	1	2-1/2	1/4	MG10	2	30.000	SCH2UFN220R	F03FR03713
3/8	1-1/8	3	3/8	H05MG	2	30.000	SCH2UFN236R	F03FR03717
3/8	1-1/4	3	1/2	H05MG	2	30.000	SCH2UFN165R	F03FR03707
1/2	1-1/4	3	1/2	H05MG	2	30.000	SCH2UFN268R	F03FR03725
1/2	2	4	1/2	H05MG	2	30.000	SCH2UFN272R	F03FR03726





SCH3UF

Finishing router cutter upcut with right-hand Z3



CNC Routers



Up spiral



For table mounted only



Softwood



Hardwood



Chipboard



Laminated Chipboard



MDF



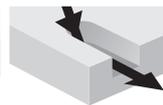
Laminated MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing on Bottom

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with positive helix designed for CNC routing for high feed rate applications.

- Suitable for: sizing, plunging and grooving with a perfect finishing.
- Upcut helix, good chip flow, upward chip removal for best finishing on the lower side of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

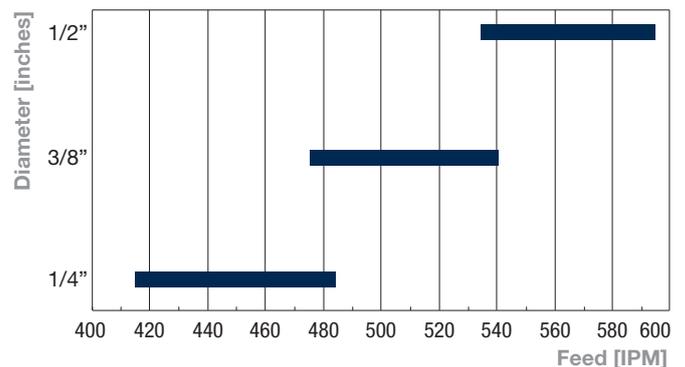
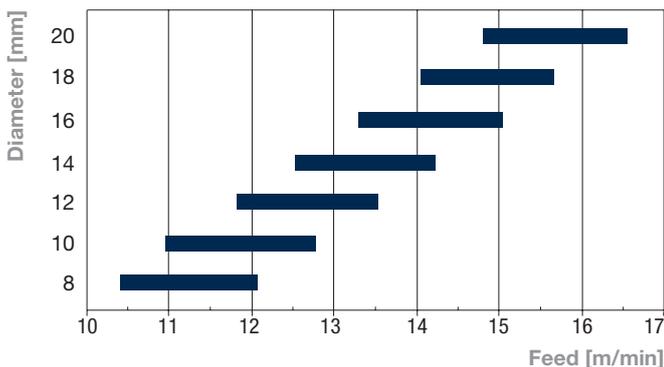
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

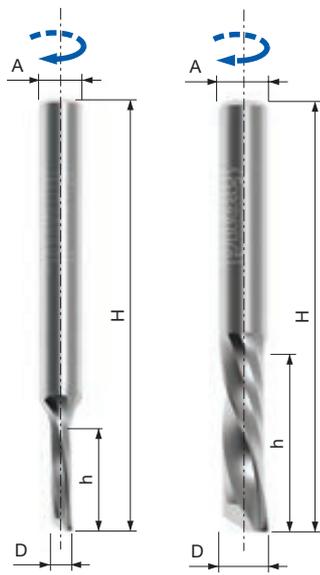
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D	h	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm	mm					
8	22	70	8	MG10	3	30.000	SCH3UFN208R	F03FR03807
8	32	80	8	MG10	3	30.000	SCH3UFN212R	F03FR03808
10	32	80	10	H05MG	3	30.000	SCH3UFN220R	F03FR03810
10	42	90	10	H05MG	3	30.000	SCH3UFN224R	F03FR03811
10	52	100	10	H05MG	3	30.000	SCH3UFN228R	F03FR03812
12	32	80	12	H05MG	3	30.000	SCH3UFN232R	F03FR03813
12	42	90	12	H05MG	3	30.000	SCH3UFN236R	F03FR03814
12	52	100	12	H05MG	3	30.000	SCH3UFN240R	F03FR03815
14	42	90	14	H05MG	3	25.000	SCH3UFN248R	F03FR03817
14	52	100	14	H05MG	3	25.000	SCH3UFN252R	F03FR03818
16	42	100	16	H05MG	3	25.000	SCH3UFN256R	F03FR03819
16	52	100	16	H05MG	3	25.000	SCH3UFN260R	F03FR03820
16	62	120	16	H05MG	3	25.000	SCH3UFN264R	F03FR03821
18	52	110	18	H05MG	3	25.000	SCH3UFN268R	F03FR03822
18	72	130	18	H05MG	3	25.000	SCH3UFN272R	F03FR03823
20	52	110	20	H05MG	3	25.000	SCH3UFN276R	F03FR03824
20	72	140	20	H05MG	3	25.000	SCH3UFN280R	F03FR03825
20	92	170	20	H05MG	3	25.000	SCH3UFN284R	F03FR03826

D	h	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
inch	inch	inch	inch					
1/4	3/4	2-1/2	1/4	MG10	3	30.000	SCH3UFN204R	F03FR03806
3/8	1-1/8	3	3/8	H05MG	3	30.000	SCH3UFN216R	F03FR03809
1/2	2	4	1/2	H05MG	3	30.000	SCH3UFN244R	F03FR03816



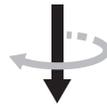


SCH1DF

Finishing router cutter downcut with right-hand Z1



CNC Routers



Down spiral



For table
mounted only



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



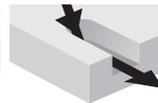
Laminated
MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing
on Top

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with negative helix designed for CNC routing with large gullet space for high chips removal.

- Suitable for: sizing, ramp plunging and grooving with a perfect finishing.
- Downcut helix, helps the clamping of the workpiece, downward chip removal for best finishing on the upper side of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

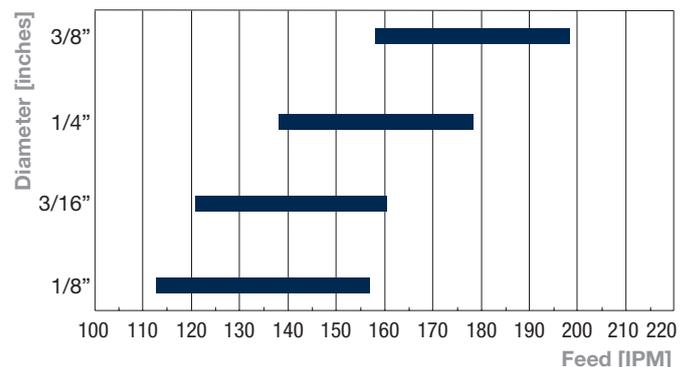
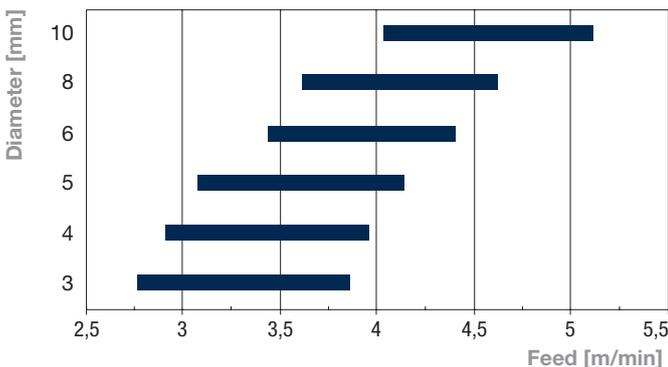
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

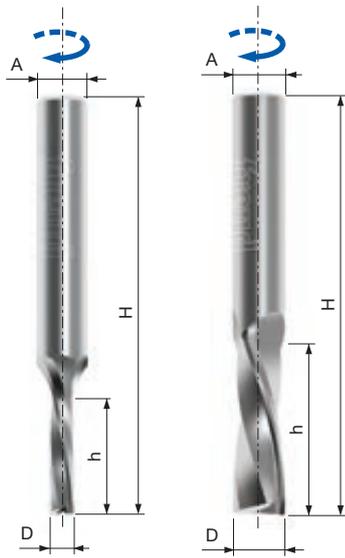
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D mm	h mm	H mm	A mm	Quality of HW	Z	Max RPM	Freud Code	Art. No.
3	13	60	6	MG10	1	30.000	SCH1DFN110R	F03FR03623
4	15	50	4	MG10	1	30.000	SCH1DFN210R	F03FR03629
4	16	60	6	MG10	1	30.000	SCH1DFN120R	F03FR03624
5	17	50	5	MG10	1	30.000	SCH1DFN215R	F03FR03630
5	17	60	6	MG10	1	30.000	SCH1DFN130R	F03FR03625
5	17	60	8	MG10	1	30.000	SCH1DFN160R	F03FR03628
6	17	50	6	MG10	1	30.000	SCH1DFN220R	F03FR03631
6	22	60	6	MG10	1	30.000	SCH1DFN225R	F03FR03632
8	22	70	8	MG10	1	30.000	SCH1DFN235R	F03FR03634
8	32	80	8	MG10	1	30.000	SCH1DFN240R	F03FR03635
10	32	80	10	H05MG	1	30.000	SCH1DFN255R	F03FR03637
10	42	100	10	H05MG	1	30.000	SCH1DFN260R	F03FR03638

D inch	h inch	H inch	A inch	Quality of HW	Z	Max RPM	Freud Code	Art. No.
1/8	1/2	2-1/2	1/4	MG10	1	30.000	SCH1DFN140R	F03FR03626
3/16	3/4	2-1/2	1/4	MG10	1	30.000	SCH1DFN150R	F03FR03627
1/4	1	2-1/2	1/4	MG10	1	30.000	SCH1DFN230R	F03FR03633
3/8	1-1/8	3	3/8	H05MG	1	30.000	SCH1DFN250R	F03FR03636



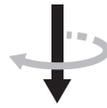


SCH2DF

Finishing router cutter downcut with right-hand Z2



CNC Routers



Down spiral



For table mounted only



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



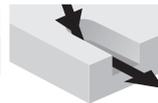
Laminated
MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing
on Top

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with negative helix, designed for CNC routing for general purpose with perfect finishing.

- Suitable for: sizing, ramp plunging and grooving with a perfect finishing.
- Downcut helix, helps the clamping of the workpiece, downward chip removal for best finishing on the upper side of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

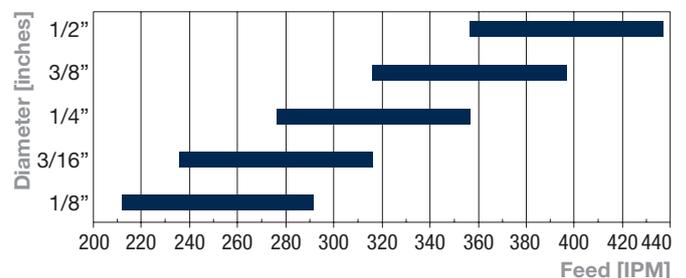
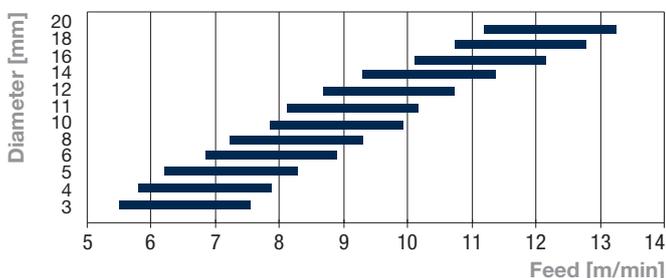
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

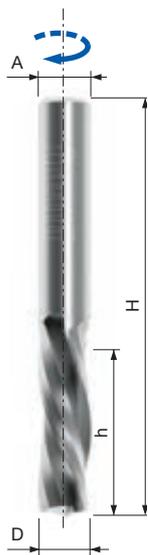
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D mm	h mm	H mm	A mm	Quality of HW	Z	Max RPM	Freud Code	Art. No.
3	13	50	6	MG10	2	30.000	SCH2DFN110R	F03FR03660
3	13	50	8	MG10	2	30.000	SCH2DFN135R	F03FR03665
4	15	50	4	MG10	2	30.000	SCH2DFN204R	F03FR03673
4	16	50	6	MG10	2	30.000	SCH2DFN115R	F03FR03661
4	16	50	8	MG10	2	30.000	SCH2DFN140R	F03FR03666
5	17	50	5	MG10	2	30.000	SCH2DFN208R	F03FR03674
5	17	60	6	MG10	2	30.000	SCH2DFN120R	F03FR03662
5	17	50	8	MG10	2	30.000	SCH2DFN145R	F03FR03667
6	17	60	6	MG10	2	30.000	SCH2DFN212R	F03FR03675
6	22	60	6	MG10	2	30.000	SCH2DFN216R	F03FR03676
6	25	60	8	MG10	2	30.000	SCH2DFN150R	F03FR03668
7	32	80	8	MG10	2	30.000	SCH2DFN155R	F03FR03669
8	22	70	8	MG10	2	30.000	SCH2DFN224R	F03FR03678
8	32	80	8	MG10	2	30.000	SCH2DFN228R	F03FR03679
8	42	90	8	MG10	2	30.000	SCH2DFN232R	F03FR03680
8	25	70	12	H05MG	2	30.000	SCH2DFN160R	F03FR03670
10	32	80	10	H05MG	2	30.000	SCH2DFN240R	F03FR03682
10	42	100	10	H05MG	2	30.000	SCH2DFN244R	F03FR03683
10	52	100	10	H05MG	2	30.000	SCH2DFN248R	F03FR03684
10	32	80	12	H05MG	2	30.000	SCH2DFN170R	F03FR03672
11	37	80	11	H05MG	2	30.000	SCH2DFN252R	F03FR03685
12	32	80	12	H05MG	2	30.000	SCH2DFN256R	F03FR03686
12	42	90	12	H05MG	2	30.000	SCH2DFN260R	F03FR03687
12	52	100	12	H05MG	2	30.000	SCH2DFN264R	F03FR03688
14	52	100	14	H05MG	2	25.000	SCH2DFN276R	F03FR03691
16	52	100	16	H05MG	2	25.000	SCH2DFN280R	F03FR03692
18	52	110	18	H05MG	2	25.000	SCH2DFN284R	F03FR03693
20	52	120	20	H05MG	2	25.000	SCH2DFN288R	F03FR03694
20	72	140	20	H05MG	2	25.000	SCH2DFN292R	F03FR03695

D inch	h inch	H inch	A inch	Quality of HW	Z	Max RPM	Freud Code	Art. No.
1/8	1/2	2	1/4	MG10	2	30.000	SCH2DFN125R	F03FR03663
3/16	3/4	2	1/4	MG10	2	30.000	SCH2DFN130R	F03FR03664
1/4	1	2-1/2	1/4	MG10	2	30.000	SCH2DFN220R	F03FR03677
3/8	1-1/8	3	3/8	H05MG	2	30.000	SCH2DFN236R	F03FR03681
3/8	1-1/4	3	1/2	H05MG	2	30.000	SCH2DFN165R	F03FR03671
1/2	1-1/4	3	1/2	H05MG	2	30.000	SCH2DFN268R	F03FR03689
1/2	2	4	1/2	H05MG	2	30.000	SCH2DFN272R	F03FR03690



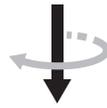


SCH3DF

Finishing router cutter downcut with right-hand Z3



CNC Routers



Down spiral



For table mounted only



Softwood



Hardwood



Chipboard



Laminated Chipboard



MDF



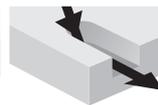
Laminated MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing on Top

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with negative helix designed for CNC routing for high feed rate applications.

- Suitable for: sizing, ramp plunging and grooving with a perfect finishing.
- Downcut helix, helps the clamping of the workpiece, downward chip removal for best finishing on the upper side of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

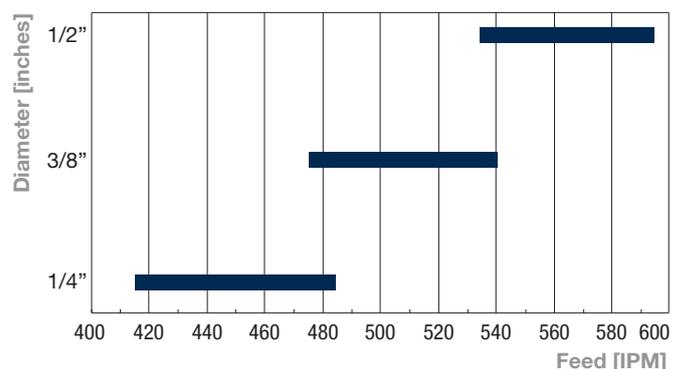
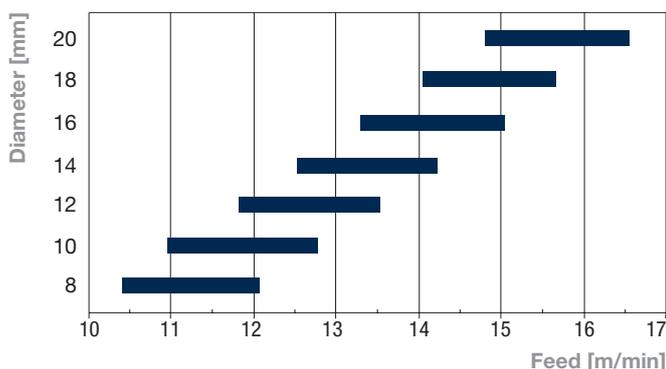
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

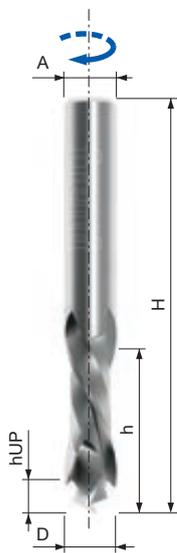
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D mm	h mm	H mm	A mm	Quality of HW	Z	Max RPM	Freud Code	Art. No.
8	22	70	8	MG10	3	30.000	SCH3DFN208R	F03FR03755
8	32	80	8	MG10	3	30.000	SCH3DFN212R	F03FR03756
10	32	80	10	H05MG	3	30.000	SCH3DFN220R	F03FR03758
10	42	90	10	H05MG	3	30.000	SCH3DFN224R	F03FR03759
10	52	100	10	H05MG	3	30.000	SCH3DFN228R	F03FR03760
12	32	80	12	H05MG	3	30.000	SCH3DFN232R	F03FR03761
12	42	90	12	H05MG	3	30.000	SCH3DFN236R	F03FR03762
12	52	100	12	H05MG	3	30.000	SCH3DFN240R	F03FR03763
14	42	90	14	H05MG	3	25.000	SCH3DFN248R	F03FR03765
14	52	100	14	H05MG	3	25.000	SCH3DFN252R	F03FR03766
16	42	100	16	H05MG	3	25.000	SCH3DFN256R	F03FR03767
16	52	100	16	H05MG	3	25.000	SCH3DFN260R	F03FR03768
16	62	120	16	H05MG	3	25.000	SCH3DFN264R	F03FR03769
18	52	110	18	H05MG	3	25.000	SCH3DFN268R	F03FR03770
18	72	130	18	H05MG	3	25.000	SCH3DFN272R	F03FR03771
20	52	110	20	H05MG	3	25.000	SCH3DFN276R	F03FR03772
20	72	140	20	H05MG	3	25.000	SCH3DFN280R	F03FR03773
20	92	170	20	H05MG	3	25.000	SCH3DFN284R	F03FR03774

D inch	h inch	H inch	A inch	Quality of HW	Z	Max RPM	Freud Code	Art. No.
1/4	3/4	2-1/2	1/4	MG10	3	30.000	SCH3DFN204R	F03FR03754
3/8	1-1/8	3	3/8	H05MG	3	30.000	SCH3DFN216R	F03FR03757
1/2	2	4	1/2	H05MG	3	30.000	SCH3DFN244R	F03FR03764





SCH2XF

Finishing router cutter compression with right-hand Z2+2



CNC Routers



Up and down spiral



For table mounted only



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



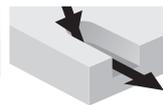
Laminated
MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing on
Top and Bottom

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with negative and positive helix designed for CNC routing for general purpose with perfect finishing on both sides of the panel.

- Suitable for: nesting, sizing, ramp plunging and grooving with a perfect finishing.
- Up helix and down helix for a best finishing on both sides of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Softwood: 0,9

Hardwood: 0,8

Depth of cut:

2x19 mm or 2x3/4" : 0,75

2x19 mm or 3x3/4" : 0,75

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

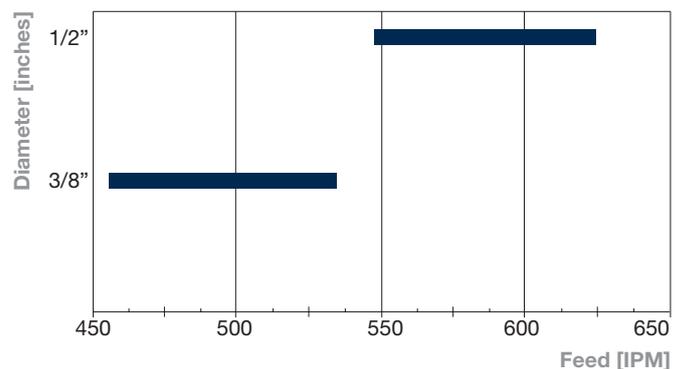
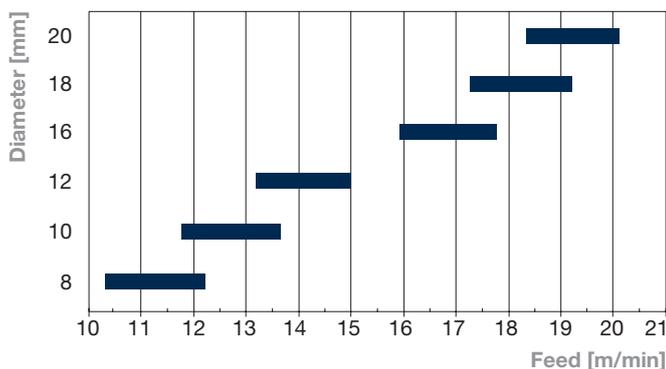
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

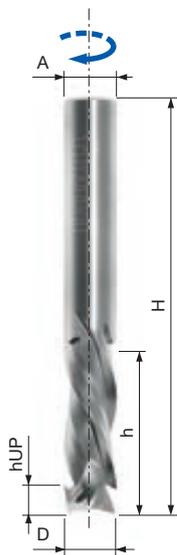
Suggested speeds for softwood: 18.000 RPM.

Depth of cut: 3/4".

D	h	hUP	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm	mm	mm			1/min.		
8	22	5	70	8	MG10	2+2	30.000	SCH2XFN310R	F03FR03732
8	32	10	70	8	MG10	2+2	30.000	SCH2XFN410R	F03FR03741
10	26	5	70	10	H05MG	2+2	30.000	SCH2XFN340R	F03FR03735
10	32	5	80	10	H05MG	2+2	30.000	SCH2XFN350R	F03FR03736
10	29	10	80	10	H05MG	2+2	30.000	SCH2XFN420R	F03FR03743
12	32	5	90	12	H05MG	2+2	30.000	SCH2XFN360R	F03FR03737
12	42	5	100	12	H05MG	2+2	30.000	SCH2XFN370R	F03FR03738
12	32	12	80	12	H05MG	2+2	30.000	SCH2XFN425R	F03FR03744
12	42	12	100	12	H05MG	2+2	30.000	SCH2XFN430R	F03FR03745
16	35	14	90	16	H05MG	2+2	25.000	SCH2XFN444R	F03FR04012
18	55	24	110	18	H05MG	2+2	25.000	SCH2XFN450R	F03FR03749
20	55	30	120	20	H05MG	2+2	25.000	SCH2XFN455R	F03FR03750

D	h	hUP	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
inch	inch	inch	inch	inch			1/min.		
3/8	1	3/16	3	3/8	H05MG	2+2	30.000	SCH2XFN320R	F03FR03733
3/8	1-1/8	3/8	3	3/8	H05MG	2+2	30.000	SCH2XFN415R	F03FR03742
3/8	1-1/4	3/16	3	3/8	H05MG	2+2	30.000	SCH2XFN330R	F03FR03734
1/2	1	3/16	3	1/2	H05MG	2+2	30.000	SCH2XFN380R	F03FR03739
1/2	1-1/2	3/16	3-1/2	1/2	H05MG	2+2	30.000	SCH2XFN390R	F03FR03740
1/2	1	9/16	3	1/2	H05MG	2+2	30.000	SCH2XFN435R	F03FR03746
1/2	1-1/2	9/16	3-1/2	1/2	H05MG	2+2	30.000	SCH2XFN440R	F03FR03747





SCH3XF

Finishing router cutter compression with right-hand Z3+3



CNC Routers



Up and down
spiral



For table
mounted only



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



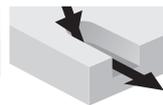
Laminated
MDF



Plywood



Sizing



Plunging



Grooving



Better Finishing on
Top and Bottom

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with negative and positive helix designed for CNC routing for high speed demanding applications with perfect finishing on both sides of the panel.

- Suitable for: nesting, sizing, ramp plunging and grooving with a perfect finishing.
- Up helix and down helix for a best finishing on both sides of the panel.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Softwood: 0,9

Hardwood: 0,8

Depth of cut:

2x19 mm or 2x3/4" : 0,75

2x19 mm or 3x3/4" : 0,75

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

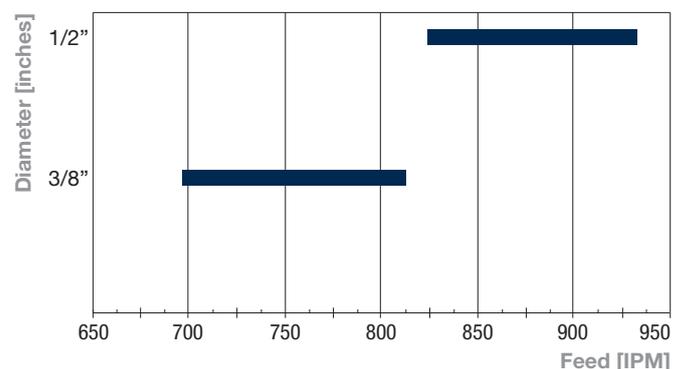
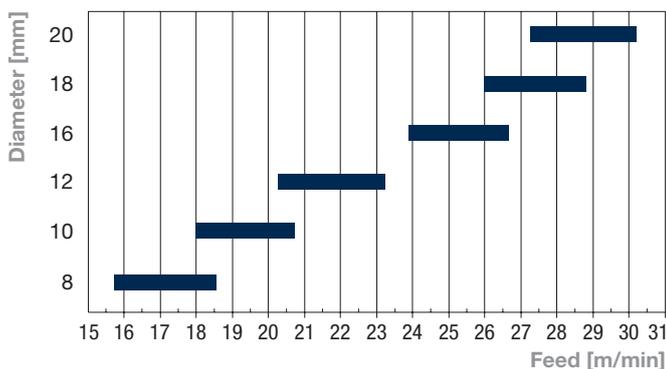
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

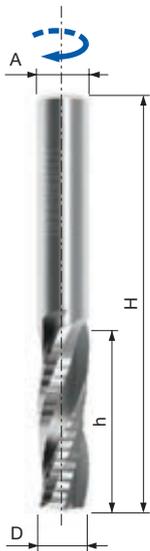
Suggested speeds for softwood: 18.000 RPM.

Depth of cut: 3/4".

D	h	hUP	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm	mm	mm			1/min.		
8	22	5	70	8	MG10	3+3	30.000	SCH3XFN310R	F03FR03856
8	32	10	70	8	MG10	3+3	30.000	SCH3XFN410R	F03FR03866
10	26	5	70	10	H05MG	3+3	30.000	SCH3XFN340R	F03FR04013
10	29	10	80	10	H05MG	3+3	30.000	SCH3XFN420R	F03FR04014
10	32	5	80	10	H05MG	3+3	30.000	SCH3XFN350R	F03FR03860
10	42	13	90	10	H05MG	3+3	30.000	SCH3XFN422R	F03FR03869
12	22	5	80	12	H05MG	3+3	30.000	SCH3XFN355R	F03FR03861
12	32	5	90	12	H05MG	3+3	30.000	SCH3XFN360R	F03FR03862
12	42	5	100	12	H05MG	3+3	30.000	SCH3XFN370R	F03FR03863
12	32	12	80	12	H05MG	3+3	30.000	SCH3XFN425R	F03FR03870
12	42	14	100	12	H05MG	3+3	30.000	SCH3XFN430R	F03FR03871
12	52	16	100	12	H05MG	3+3	30.000	SCH3XFN432R	F03FR03872

D	h	hUP	H	A	Quality of HW	Z	Max RPM	Freud Code	Art. No.
inch	inch	inch	inch	inch			1/min.		
3/8	1	3/16	3	3/8	H05MG	3+3	30.000	SCH3XFN320R	F03FR03857
3/8	1-1/8	3/8	3	3/8	H05MG	3+3	30.000	SCH3XFN415R	F03FR03867
3/8	1-1/4	3/16	3	3/8	H05MG	3+3	30.000	SCH3XFN330R	F03FR03858
1/2	1	3/16	3	1/2	H05MG	3+3	30.000	SCH3XFN380R	F03FR03864
1/2	1-1/8	1/2	3	1/2	H05MG	3+3	30.000	SCH3XFN436R	F03FR03873
1/2	1-1/2	3/16	3-1/2	1/2	H05MG	3+3	30.000	SCH3XFN390R	F03FR03865
1/2	1-5/8	3/4	3-1/2	1/2	H05MG	3+3	30.000	SCH3XFN438R	F03FR03874
1/2	2-1/4	3/4	4	1/2	H05MG	3+3	30.000	SCH3XFN442R	F03FR03875





SCH3UR

Roughing router cutter upcut with right-hand Z3



CNC Routers



Up spiral



For table mounted only



Softwood



Hardwood



Chipboard



MDF



Plywood



Sizing



Plunging



Grooving

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with positive helix designed for CNC routing with chip breaker for very high feed rate applications.

- Suitable for: sizing, plunging and grooving with a rough finishing.
- Upcut helix, good chip flow, upward chip removal.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

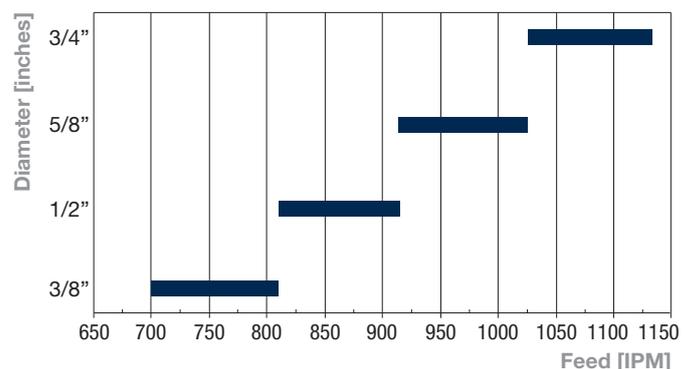
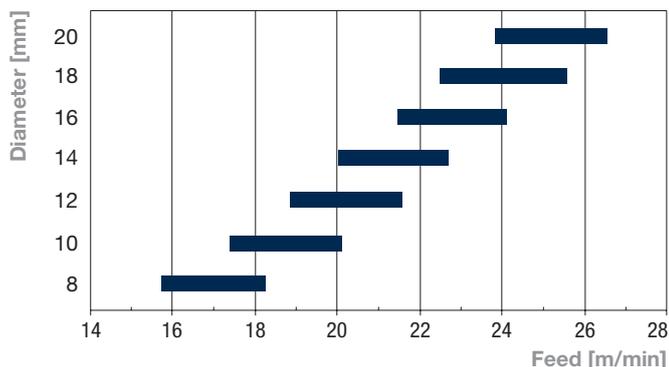
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

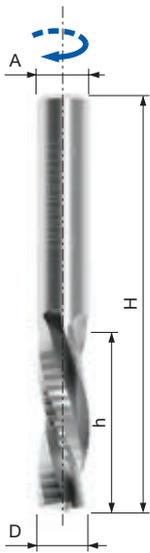
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D mm	h mm	H mm	A mm	Quality of HW	Z	Max RPM	Freud Code	Art. No.
8	22	70	8	MG10	3	30.000	SCH3URN504R	F03FR03830
8	32	80	8	MG10	3	30.000	SCH3URN506R	F03FR03831
8	42	90	8	MG10	3	30.000	SCH3URN508R	F03FR03832
10	32	80	10	H05MG	3	30.000	SCH3URN512R	F03FR03834
10	42	90	10	H05MG	3	30.000	SCH3URN514R	F03FR03835
10	52	100	10	H05MG	3	30.000	SCH3URN516R	F03FR03836
12	32	80	12	H05MG	3	30.000	SCH3URN518R	F03FR03837
12	42	90	12	H05MG	3	30.000	SCH3URN520R	F03FR03838
12	52	100	12	H05MG	3	30.000	SCH3URN522R	F03FR03839
14	42	90	14	H05MG	3	25.000	SCH3URN528R	F03FR03842
14	52	100	14	H05MG	3	25.000	SCH3URN530R	F03FR03843
14	60	130	14	H05MG	3	25.000	SCH3URN531R	F03FR03844
16	42	100	16	H05MG	3	25.000	SCH3URN534R	F03FR03846
16	52	110	16	H05MG	3	25.000	SCH3URN536R	F03FR03847
16	62	120	16	H05MG	3	25.000	SCH3URN538R	F03FR03848
18	52	110	18	H05MG	3	25.000	SCH3URN540R	F03FR03849
18	72	130	18	H05MG	3	25.000	SCH3URN542R	F03FR03850
20	52	120	20	H05MG	3	25.000	SCH3URN546R	F03FR03852
20	72	140	20	H05MG	3	25.000	SCH3URN548R	F03FR03853
20	85	150	20	H05MG	3	25.000	SCH3URN550R	F03FR03854
20	102	170	20	H05MG	3	25.000	SCH3URN552R	F03FR03855

D inch	h inch	H inch	A inch	Quality of HW	Z	Max RPM	Freud Code	Art. No.
3/8	1-1/8	3-1/2	3/8	H05MG	3	30.000	SCH3URN510R	F03FR03833
1/2	1-1/8	3-1/2	1/2	H05MG	3	30.000	SCH3URN524R	F03FR03840
1/2	1-5/8	4	1/2	H05MG	3	30.000	SCH3URN526R	F03FR03841
5/8	2-1/8	5	5/8	H05MG	3	25.000	SCH3URN532R	F03FR03845
3/4	2-1/8	5	3/4	H05MG	3	25.000	SCH3URN544R	F03FR03851



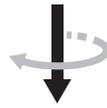


SCH3DR

Roughing router cutter downcut with right-hand Z3



CNC Routers



Down spiral



For table mounted only



Softwood



Hardwood



Chipboard



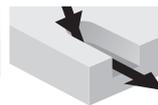
MDF



Plywood



Sizing



Plunging



Grooving

Machines:

Nesting and CNC overhead routing machines.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Sizing, plunging and grooving.

Technical information:

Solid Carbide bit with negative helix designed for CNC routing with chip breaker for very high feed rate applications.

- Suitable for: sizing, ramp plunging and grooving with a rough finishing.
- Downcut helix, helps the clamping of the workpiece, downward chip removal.

Working parameters

To find suggested feeding speeds see the tables below and apply the following correction factors.

Materials:

Hardwood: 0,9

MDF, Chipboard: 1,1

Depth of cut:

From 1 x D to 2 x D : 0,75

From 2 x D to 3 x D : 0,5

Over 3 x D : 0,4

Rotation speed:

Suggested speeds are proportional to RPM.

Examples:

Factor for 12.000 RPM: $12.000/18.000 = 0,66$

Factor for 24.000 RPM: $24.000/18.000 = 1,33$

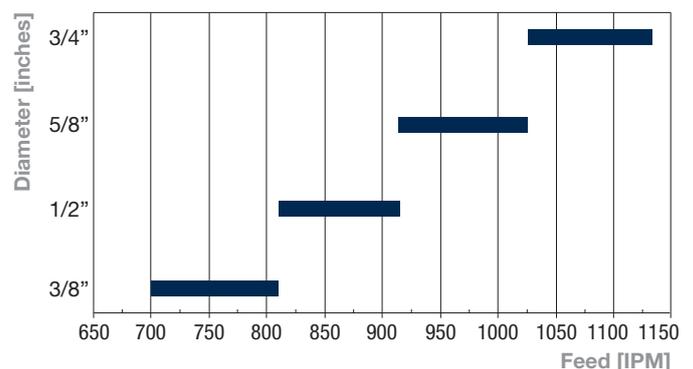
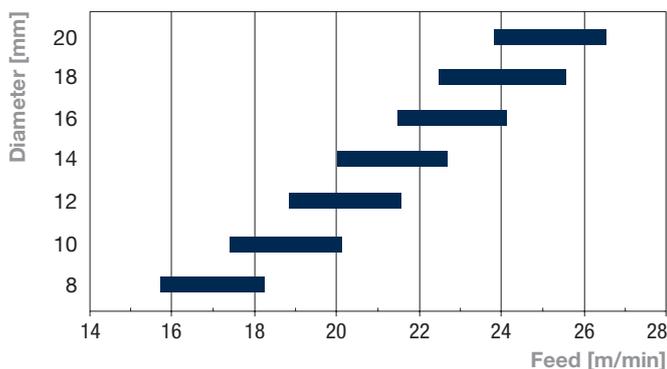
To maximise the tool lifetime, always set the maximum speed that delivers the needed quality of cut.

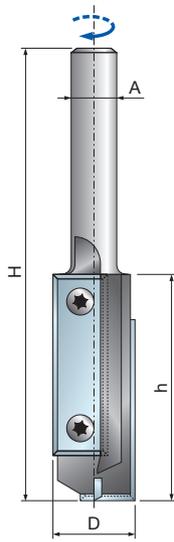
Suggested speeds for softwood: 18.000 RPM.

Depth of cut equal to cutting diameter.

D mm	h mm	H mm	A mm	Quality of HW	Z	Max RPM	Freud Code	Art. No.
8	22	70	8	MG10	3	30.000	SCH3DRN504R	F03FR03778
8	32	80	8	MG10	3	30.000	SCH3DRN506R	F03FR03779
8	42	90	8	MG10	3	30.000	SCH3DRN508R	F03FR03780
10	32	80	10	H05MG	3	30.000	SCH3DRN512R	F03FR03782
10	42	90	10	H05MG	3	30.000	SCH3DRN514R	F03FR03783
10	52	100	10	H05MG	3	30.000	SCH3DRN516R	F03FR03784
12	32	80	12	H05MG	3	30.000	SCH3DRN518R	F03FR03785
12	42	90	12	H05MG	3	30.000	SCH3DRN520R	F03FR03786
12	52	100	12	H05MG	3	30.000	SCH3DRN522R	F03FR03787
14	42	90	14	H05MG	3	25.000	SCH3DRN528R	F03FR03790
14	52	100	14	H05MG	3	25.000	SCH3DRN530R	F03FR03791
16	42	100	16	H05MG	3	25.000	SCH3DRN534R	F03FR03793
16	52	110	16	H05MG	3	25.000	SCH3DRN536R	F03FR03794
16	62	120	16	H05MG	3	25.000	SCH3DRN538R	F03FR03795
18	52	110	18	H05MG	3	25.000	SCH3DRN540R	F03FR03796
18	72	130	18	H05MG	3	25.000	SCH3DRN542R	F03FR03797
20	52	120	20	H05MG	3	25.000	SCH3DRN546R	F03FR03799
20	72	140	20	H05MG	3	25.000	SCH3DRN548R	F03FR03800
20	85	150	20	H05MG	3	25.000	SCH3DRN550R	F03FR03801
20	102	170	20	H05MG	3	25.000	SCH3DRN552R	F03FR03802

D inch	h inch	H inch	A inch	Quality of HW	Z	Max RPM	Freud Code	Art. No.
3/8	1-1/8	3-1/2	3/8	H05MG	3	30.000	SCH3DRN510R	F03FR03781
1/2	1-1/8	3-1/2	1/2	H05MG	3	30.000	SCH3DRN524R	F03FR03788
1/2	1-5/8	4	1/2	H05MG	3	30.000	SCH3DRN526R	F03FR03789
5/8	2-1/8	5	5/8	H05MG	3	25.000	SCH3DRN532R	F03FR03792
3/4	2-1/8	5	3/4	H05MG	3	25.000	SCH3DRN544R	F03FR03798





Machines:
CNC overhead routing machines.

Materials:
Softwood and hardwood.

Applications:
Sizing and plunging.

Technical information:
For CNC machining centres or overhead routing machines.

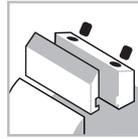
- Suitable for plunging and sizing.
- The disposable knife guarantees a constant finish and cutting diameter.
- It is suggested a gradual feed rate when entering into the workpiece.
- Steel body.

TG62MD

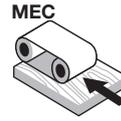
Disposable knives straight router cutters



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



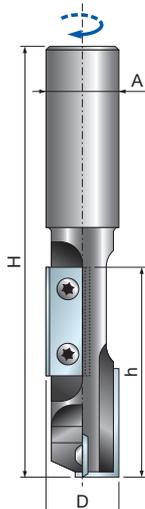
Sizing



Plunging

D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
16	50	105	12	2+1	-	TG62MD AD3	F03FA13927
18	50	105	20	2+1	-	TG62MD BD3	F03FA13928

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife	40 x 12 x 1,5	CG44MLA310	F03FA21938
	Screw	M4 x 10 x 9	VT71M AA9	F03FA04505
	Torx key	T15	CB03M DA9	F03FA00168



Machines:
CNC overhead routing machines.

Materials:
Softwood and hardwood.

Applications:
Sizing and plunging.

Technical information:
For CNC machining centres or overhead routing machines.

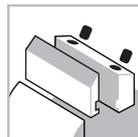
- Suitable for plunging and sizing.
- The disposable knife guarantees a constant finish and cutting diameter.
- It is suggested a gradual feed rate when entering into the workpiece.
- Steel body.

TG63MD

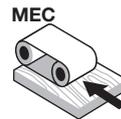
Disposable knives straight router cutters



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



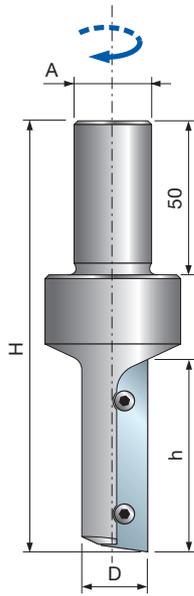
Sizing



Plunging

D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
20	58	120	20	2+1	-	TG63MD CD3	F03FA13937

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife	30 x 12 x 1,5	CG08MEA310	F03FH02906
	Knife	9,6 x 12 x 1,5	CG08MMA310	F03FH02910
	Screw	M4 x 10 x 9	VT71M AA9	F03FA04505
	Torx key	T15	CB03M DA9	F03FA00168

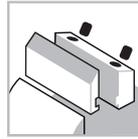


TG71MD

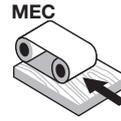
Disposable knives straight router cutters



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Sizing



Plunging

Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Sizing and plunging.

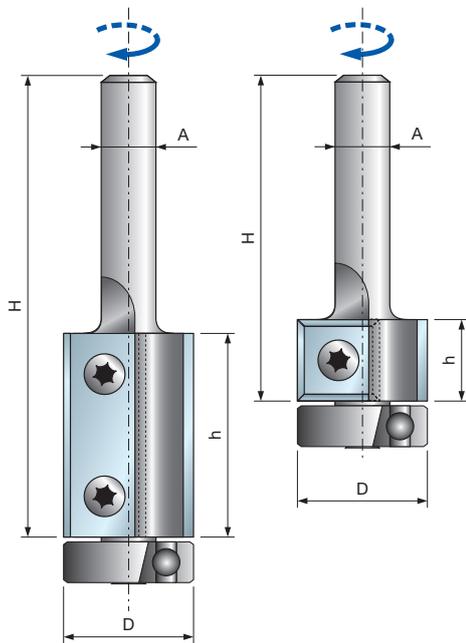
Technical information:

For CNC machining centres or overhead routing machines.

- The disposable knife guarantees a constant finishing and cutting diameter.
- It is suggested a gradual feed rate when entering into the workpiece.
- Steel body.

D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
16	50	120	20	1	-	TG71MD AD3	F03FA04272
18	50	120	20	1	-	TG71MD BD3	F03FA04273
20	50	120	20	1	-	TG71MD CD3	F03FA04274

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife	50 x 12 x 1,5	CG71MAA310	F03FC23923
	Screw	M4 x 10 x 9	VT71M AA9	F03FA04505
	Torx key	T15	CB03M DA9	F03FA00168

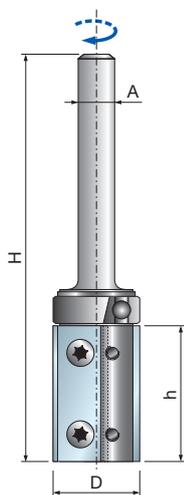


Machines:
CNC routers.

Materials:
Softwood and hardwood.

Applications:
Sizing.

Technical information:
For routers. Ideal for roughing and sizing.
• Steel body.



Machines:
CNC routers.

Materials:
Softwood and hardwood.

Applications:
Sizing.

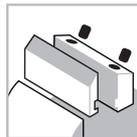
Technical information:
For routers. Ideal for roughing and sizing.
• Steel body.

TG74MD

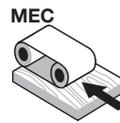
Bearing disposable knives straight router cutters



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Sizing

D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
19	12	55	6	2	-	TG74MD CA3	F03FA14728
19	12	70	8	2	-	TG74MD CB3	F03FA14729
19	12	70	12	2	-	TG74MD CC3	F03FA14730
19	30	75	6	2	-	TG74MD CD3	F03FA14731
19	30	90	8	2	-	TG74MD CE3	F03FA13925
19	30	90	12	2	-	TG74MD CF3	F03FA13926

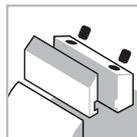
	Spare parts	Dimensions mm	Freud Code	Art. No.
	Knife	12 x 12 x 1,5	CG08MBA310	F03FH02903
	Knife	30 x 12 x 1,5	CG08MEA310	F03FH02906
	Screw	M4 x 10 x 9	VT71M AA9	F03FA04505
	Ball bearing	19 x 6 x 6	3102M CA9	F03FA14097
	Torx key	T15	CB03M DA9	F03FA00168

TG76MD

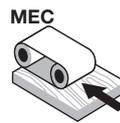
Bearing disposable knives straight router cutters



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Sizing

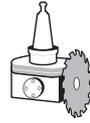
D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
19	30	90	8	2	-	TG76MD CD3	F03FA13919
19	30	90	12	2	-	TG76MD CE3	F03FA13920

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Knife	30 x 12 x 1,5	CG08MEA310	F03FH02906
	Screw	M4 x 10 x 9	VT71M AA9	F03FA04505
	Torx key	T15	CB03M DA9	F03FA00168
	Retaining ring	11 x 13,9	2621M AC9	F03FA14741
	Ball bearing	19,05 x 4	3102M CB9	F03FA14098



LU34M

Saw blades for grooving and sizing on CNC units



CNC Cutting Units



Softwood



Hardwood



Laminated Chipboard



Laminated MDF



Plywood



Ripping



Crosscutting



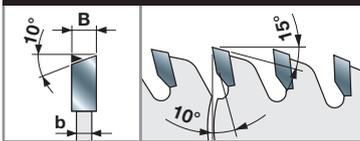
Grooving



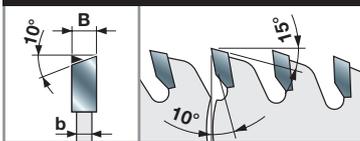
●●●● Ultimate ●● High ● Good



HW H00K - ATB 10° tooth



HW H00XA - ATB 10° tooth **



Machines:

CNC cutting units.

Materials:

Softwood, hardwood, laminated chipboard, laminated MDF and plywood.

Applications:

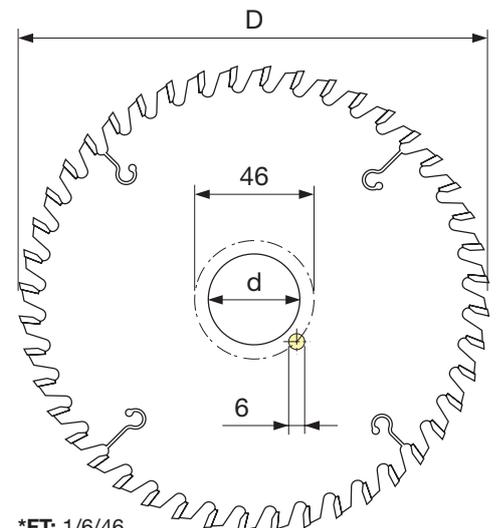
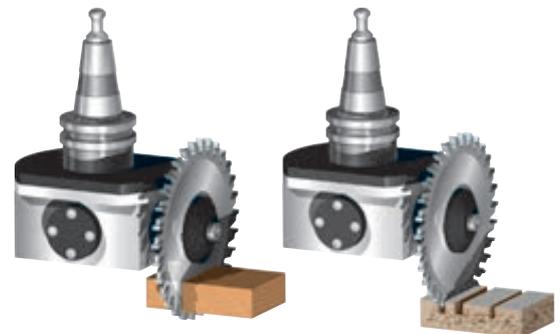
Sizing on CNC, ripping, crosscutting, grooving on CNC.

Technical information:

Saw blades dedicated to CNC machines. For grooving along and across grain on softwood, hardwood and laminates.

D mm	B mm	b mm	d mm	Z	Max RPM 1/min.	Freud Code	Art. No.
120	4,0	3,0	30	18	12.000	LU34M40AC3	F03FS06095
120	4,0	3,0	20	30	12.000	LU34M40EA3	F03FS06367
120	4,0	3,0	35	30	12.000	LU34M40EC3*	F03FS05141
120	5,0	3,0	30	18	12.000	LU34M50AC3	F03FS06096
120	5,0	3,0	35	30	12.000	LU34M50EC3*	F03FS05143
120	6,0	3,0	30	18**	12.000	LU34M60AC3	F03FS06097
120	6,0	3,0	35	30**	12.000	LU34M60EC3*	F03FS05145
180	4,0	3,0	35	44	10.000	LU34M40NC3*	F03FS05142
180	5,0	3,0	35	44	10.000	LU34M50NC3*	F03FS05144
180	6,0	3,0	35	44**	10.000	LU34M60NC3*	F03FS05146

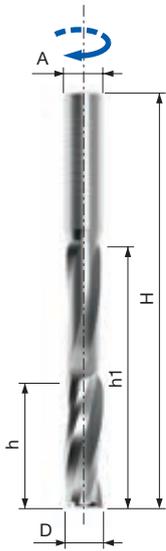
Working examples



*FT: 1/6/46

Grooving





SCH3

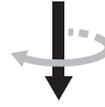
Finishing hardware slot router cutter - right-hand Z3



CNC Routers



Up spiral



Down spiral



For table mounted only



Softwood



Hardwood



Chipboard



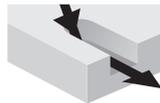
MDF



Plywood



Grooving



Plunging

Machines:

CNC routers.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Grooving and plunging.

Technical information:

Solid Carbide bit with positive helix designed for CNC machines centres.

- Suitable for: windows, shutters and all hardware on laminates and solid wood.
- Upcut helix, good chip flow, upward chip removal for best finishing on the lower side.

Upcut

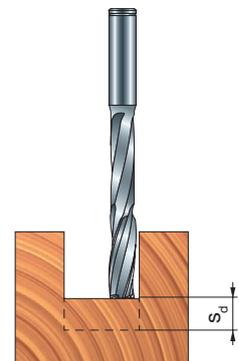
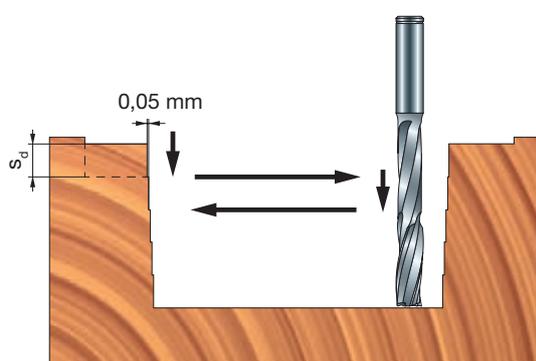


D mm	h mm	h1 mm	H mm	A mm	Quality of HW	Z	Max RPM 1/min.	Freud Code	Art. No.
14	45	95	150	14	H05MG	3	25.000	SCH3UFN102R	F03FR03803
16	45	95	150	16	H05MG	3	25.000	SCH3UFN104R	F03FR03804
18	45	95	150	18	H05MG	3	25.000	SCH3UFN106R	F03FR03805

Downcut



D mm	h mm	h1 mm	H mm	A mm	Quality of HW	Z	Max RPM 1/min.	Freud Code	Art. No.
14	45	95	150	14	H05MG	3	25.000	SCH3DFN102R	F03FR03751
16	45	95	150	16	H05MG	3	25.000	SCH3DFN104R	F03FR03752
18	45	95	150	18	H05MG	3	25.000	SCH3DFN106R	F03FR03753



Working parameters

Solid wood feed and speeds:

Maximum depth per stroke s_v : 8 mm

Suggested infeed at 18.000 RPM: 15 m/min

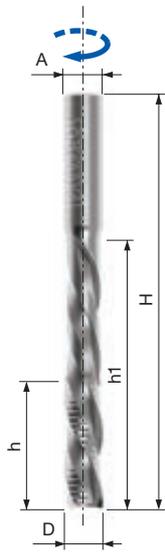
Chipboard feed and speeds:

Maximum depth per stroke s_v : 15 mm

Suggested infeed at 18.000 RPM: 12 m/min



Solid wood - Best Downcut

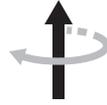


SCH3

Roughing hardware slot router cutter - right-hand Z3



CNC Routers



Up spiral



Down spiral



For table mounted only



Softwood



Hardwood



Chipboard



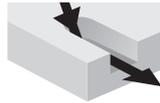
MDF



Plywood



Grooving



Plunging

Machines:

CNC routers.

Materials:

Softwood, hardwood and wood based panels.

Applications:

Grooving and plunging.

Technical information:

Available until stock sells out.

- Solid Carbide bit with positive helix designed for CNC machining centres.
- Suitable for: windows, shutters and all hardware on solid wood.
- Downcut helix, good chip flow, upward chip removal.

Working parameters

Solid wood feed and speeds:

Maximum depth per stroke s_p : 8 mm

Suggested infeed at 18.000 RPM: 15 m/min

Chipboard feed and speed:

Maximum depth per stroke s_p : 15 mm

Suggested infeed at 18.000 RPM: 12 m/min

Upcut

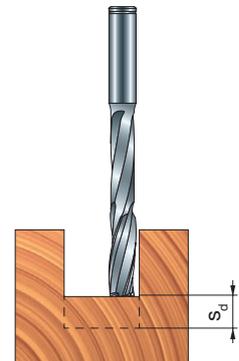
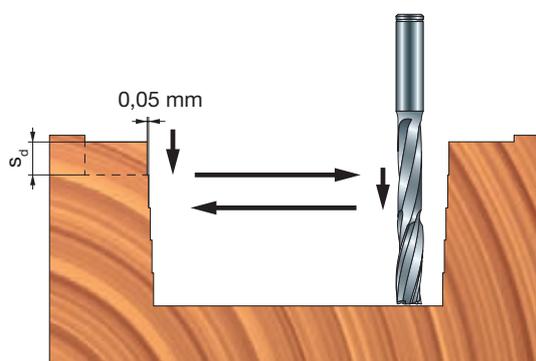


D mm	h mm	h1 mm	H mm	A mm	Quality of HW	Z	Max RPM 1/min.	Freud Code	Art. No.
14	45	95	150	14	H05MG	3	25.000	SCH3UMN102R	F03FR03827
16	45	95	150	16	H05MG	3	25.000	SCH3UMN104R	F03FR03828
18	45	95	150	18	H05MG	3	25.000	SCH3UMN106R	F03FR03829

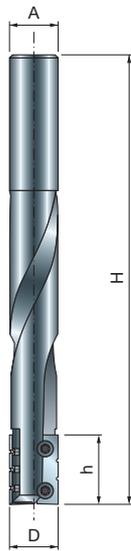
Downcut



D mm	h mm	h1 mm	H mm	A mm	Quality of HW	Z	Max RPM 1/min.	Freud Code	Art. No.
14	45	95	150	14	H05MG	3	25.000	SCH3DMN102R	F03FR03775
16	45	95	150	16	H05MG	3	25.000	SCH3DMN104R	F03FR03776
18	45	95	150	18	H05MG	3	25.000	SCH3DMN106R	F03FR03777



Solid wood - Best Downcut

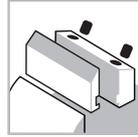


TG72MD

Disposable knife straight router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Grooving



Plunging

Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Grooving and plunging.

Technical information:

For CNC machining centres or overhead routing machines.

- Suitable for plunging and sizing softwood and hardwood.
- The disposable knife guarantees a constant finishing and cutting diameter.
- It is suggested a gradual feed rate when entering into the workpiece.
- Steel body.

D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
16	23	150	16	2	-	TG72MD AA3	F03FA04278

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife with 2 carvings	23 x 7 x 1,5	CG72MAB310	F03FA18190
	Knife with 3 carvings	23 x 7 x 1,5	CG72MAA310	F03FA18189
	Screw	M3 x 6 x 5	VT72M AA9	F03FA04506

Planing



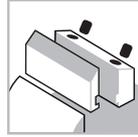


TM10MD

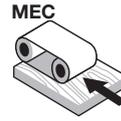
Disposable knives straight router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Planing



Rebating



Sizing

Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Planing, rebating and sizing.

Technical information:

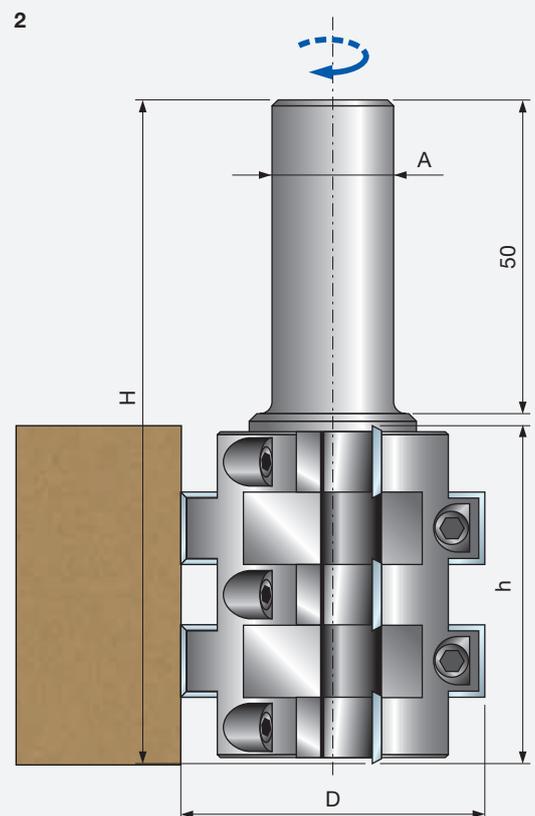
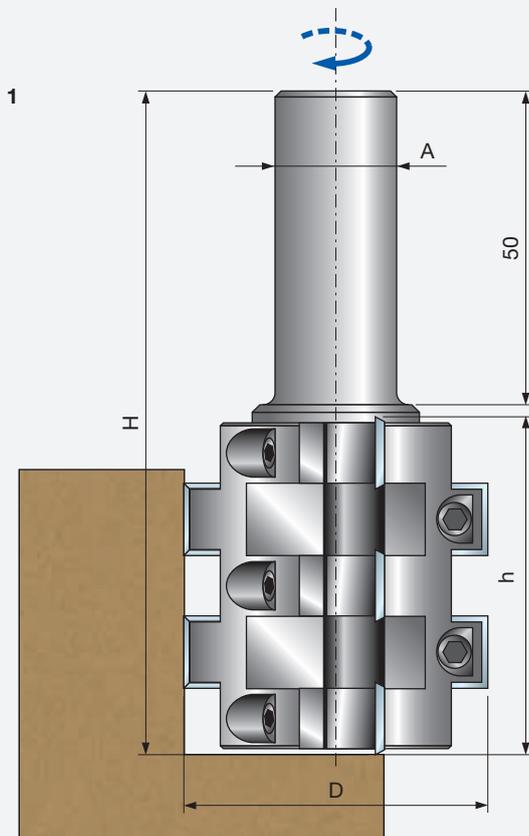
Disposable knives tool for roughing and sizing and suitable for cutting rebates.

- The multiple edge guarantees low noise running and optimum chip discharge.
- Steel body.

D mm	h mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
50	56	108	20	10	12.000	TM10MD AA3	F03FC20422
50	78	130	20	14	12.000	TM10MD AC3	F03FC20423

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife	12 x 12 x 1,5	CG08MBA310	F03FH02903
	Wedge	15 x 10 x 8	CN01M BA9	F03FC01249
	Screw	M6 x 12	VT03M DL9	F03FA04441
	Allen key	3	CB03M AA9	F03FA00162

Working examples



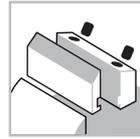


NC12M

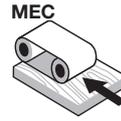
Spoilboard surfacing cutters



CNC Routers



Clamping system



Automatic feed



Steel Body



MDF



Planing



Rebating

Machines:

Nesting and CNC overhead routing machines.

Materials:

MDF.

Applications:

Planing and rebating.

Technical information:

Spurs cutterhead for recover a spoil board.

- The cutters have 4 sides, so they can be used 4 times.
- **NC12M...** Positive shear angle - for solid wood and other board materials.
- **NC12M...N** Negative shear angle - for LDF, MDF or composite particle spoilboard for nesting.
- Steel body.

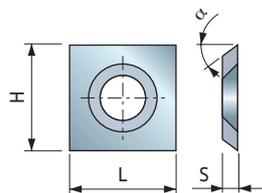
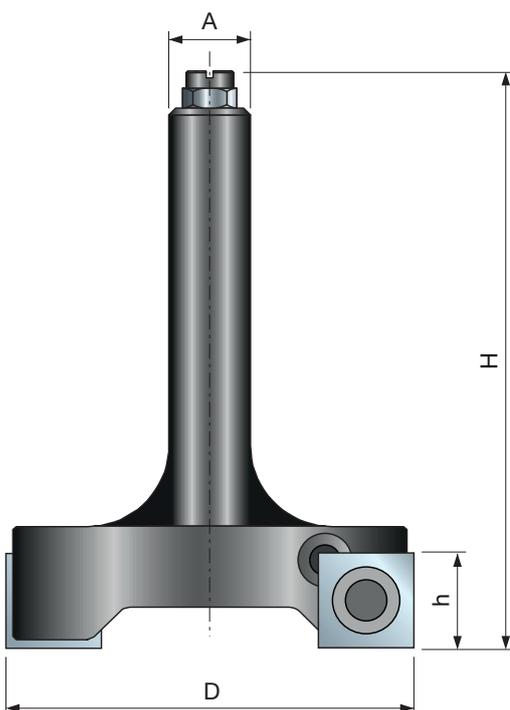
D	h	H	A	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm	mm		1/min.		
60	13	80	12	2	-	NC12M60	F03FR03949
80	13	80	20	3	-	NC12M80	F03FR03884
100	13	80	20	3	-	NC12M100	F03FR03886
60	13	80	12	2	-	NC12M60N	F03FR03950
80	13	80	20	3	-	NC12M80N	F03FR03885
100	13	80	20	3	-	NC12M100N	F03FR03887

D	h	H	A	Z	Max RPM	Freud Code	Art. No.
inch	inch	inch	inch		1/min.		
2-1/2	1/2	3	1/2	2	-	NC12M61	F03FR03951
4	1/2	3	3/4	3	-	NC12M101	F03FR03888
2-1/2	1/2	3	1/2	2	-	NC12M61N	F03FR03952
4	1/2	3	3/4	3	-	NC12M101N	F03FR03889

Spare parts	Dimensions	Freud Code	Art. No.
	mm		
 Spur	14 x 14 x 2	RG01MAI310	F03FH03791
 Screw	M5 x 8	VT05M AA9	F03FA04444
 Hex nut	M4	2606M CE9	F03FA07360
 Slotted cheese head screw	M4 x 10	2611M DB9	F03FA07386
 Torx key	T20	CB03M CC9	F03FA00167

Optional square disposable spur

L	H	S	Type	Quality of HW	α	Freud Code	Art. No.
mm	mm	mm					
14	14	2	1	H00XA	31°	RG01MAH310	F03FH03037



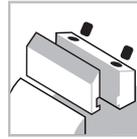


NC96MGC13

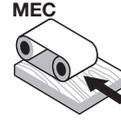
CNC multicut planer cutterhead



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Planing



Rebating

Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Planing.

Technical information:

Multicut CNC tool suitable for planing, rebating and roughing.

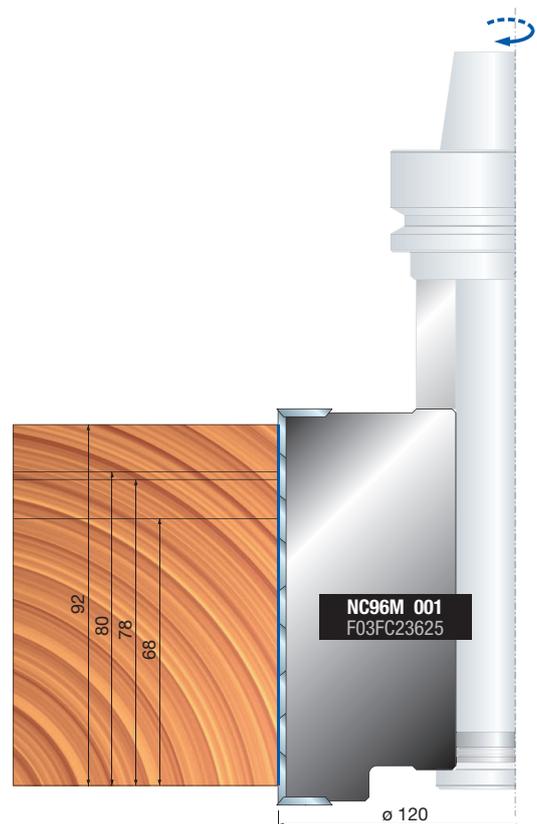
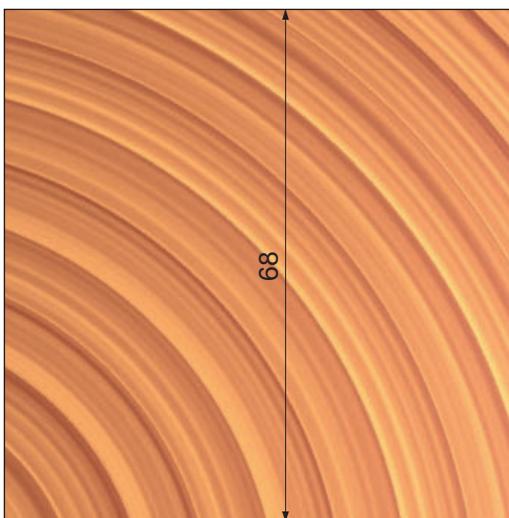
- Timber up to 92 mm thickness, tool available in left and right hand rotation.
- Chuck and knives to be ordered separately.
- Aluminium light alloy body.

D mm	B mm	d mm	Max RPM 1/min.	Freud Code	Art. No.
120	104	30	11.000	NC96MGC13	F03FC23630

Spare parts		Dimensions mm	Freud Code	Art. No.
	Spacer	50 x 33 x 30	AN01MA3309	F03FC00067
	Steel pin	4 x 10	2601M AB9	F03FA07326
	Spur	14 x 14 x 2	RG01MAG310	F03FC24180
	Screw	M5 x 8	VT05M AA9	F03FA04444

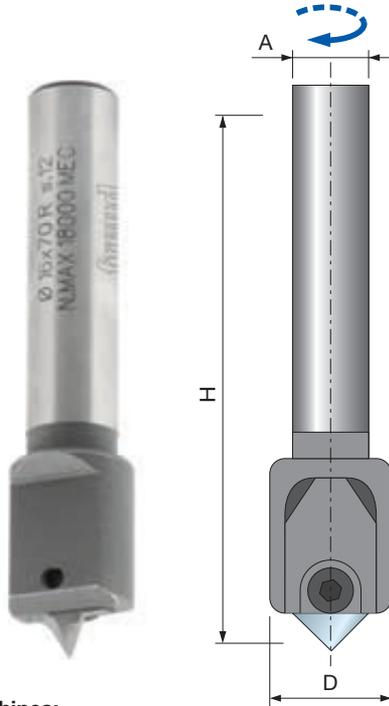
Tools for set NC93M 100

D mm	B mm	d mm	Freud Code	Art. No.
120	101	30	NC96MGC13	F03FC23625



Profiling



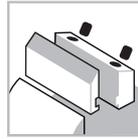


NC01M

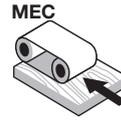
Multiprofile router cutter - Z1



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving

Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

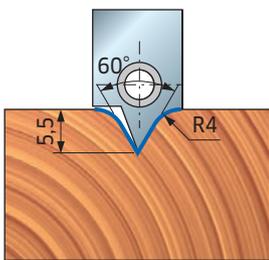
Technical information:

Multiprofile router cutter available with 11 different shape solutions.

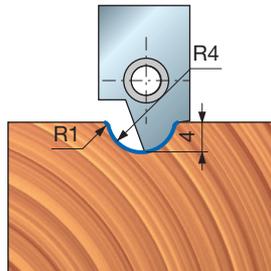
- Item **NC01MCA** includes the router cutter body and 10 knives (1 for each profile).
- For making one profile only, please order the router cutter body **NC01M-A** and 1 knife with the desired profile.
- Steel body.

D mm	H mm	A mm	Z	Max RPM 1/min.	Freud Code	Art. No.
16	70	12 x 50	1	18.000	NC01MCA	F03FA01710
16	70	12 x 50	1	18.000	NC01M-A	F03FA01709

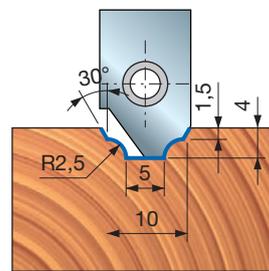
Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	12x19 R=4	CC01MT0101	F03FA18124
2	Knife	12x19 R=4	CC01MT0201	F03FA18125
3	Knife	12x19 R=2,5	CC01MT0301	F03FA18126
4	Knife	12x19 $\alpha=90^\circ$	CC01MT0401	F03FA18127
5	Knife	12x19 R=5	CC01MT0501	F03FA18128
6	Knife	12x19 R=4	CC01MT0601	F03FA18129
7	Knife	12x19 R=2,5	CC01MT0701	F03FA18130
8	Knife	12x19 R=2,25	CC01MT0801	F03FA18131
9	Knife	12x19 R=5	CC01MT0901	F03FA18132
10	Knife	12x19 R=3	CC01MT1001	F03FA18133
11	Knife	12x19 R=3	CC01MT1101	F03FC25455



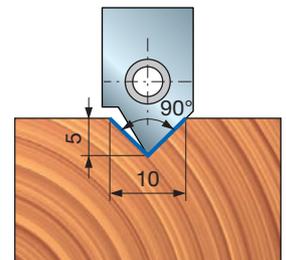
PROFILE 1



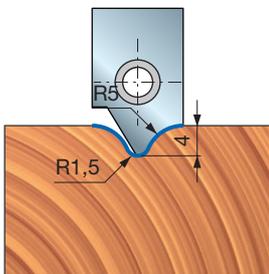
PROFILE 2



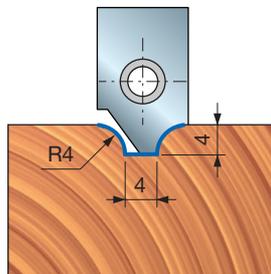
PROFILE 3



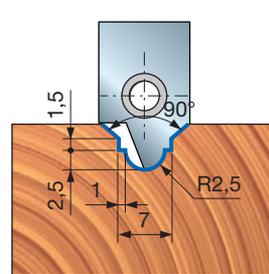
PROFILE 4



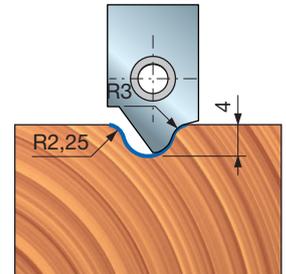
PROFILE 5



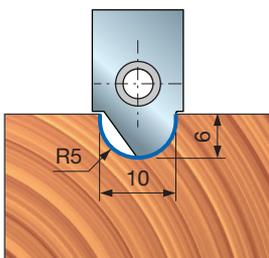
PROFILE 6



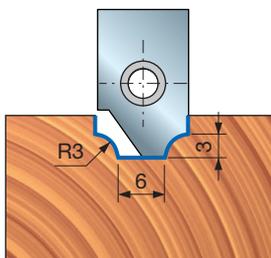
PROFILE 7



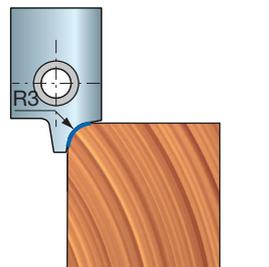
PROFILE 8



PROFILE 9



PROFILE 10



PROFILE 11

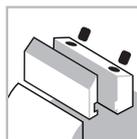


NC02M

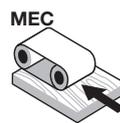
CNC router cutter with profiled knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance knives router cutter with 6 available profiles (knives included in the box).

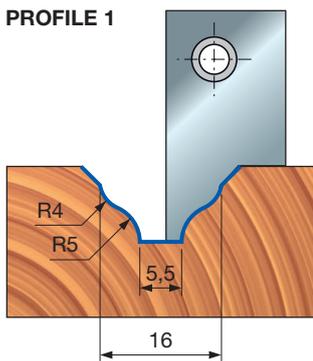
- 12x50 mm and 20x50 mm shank available.
- Steel body.

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
50	35	12	12.000	NC02M11012	F03FC15441
50	35	20	12.000	NC02M11020	F03FC15443

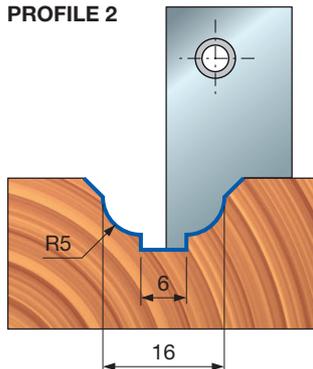
Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M5 x 5	2615M CC9	F03FA07420
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163
	Allen key	2,5	2619M CA9	F03FA07432

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	17,5 x 35 x 3	CC02M110A01	F03FC23740
2	Knife	17,5 x 35 x 3	CC02M110B01	F03FC23741
3	Knife	17,5 x 35 x 3	CC02M110C01	F03FC23742
4	Knife	17,5 x 35 x 3	CC02M110D01	F03FC23743
5	Knife	17,5 x 35 x 3	CC02M110E01	F03FC23744
6	Knife	17,5 x 35 x 3	CC02M110F01	F03FC23745

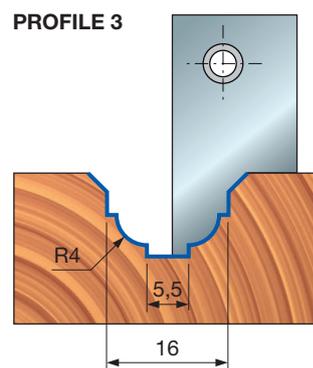
PROFILE 1



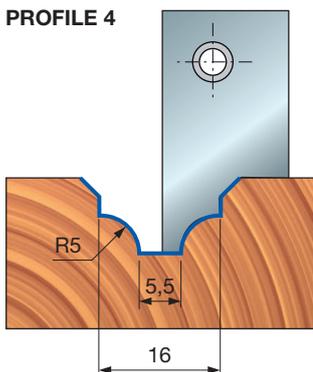
PROFILE 2



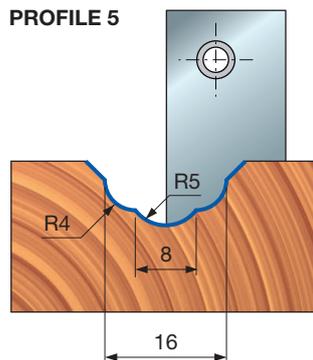
PROFILE 3



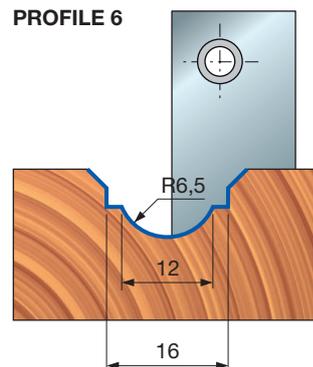
PROFILE 4

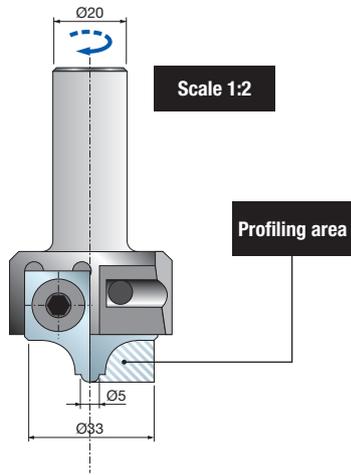


PROFILE 5



PROFILE 6

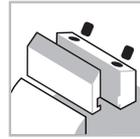




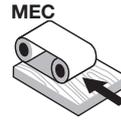
PCN110 Customised CNC router cutter with profiled knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance CNC router cutter suitable for customised profiles.

- Steel body.
- **PCN110** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys for orders please specify: shank dimensions, profile drawing (please refer to knife profiling area).

D	B	A	Max RPM	Freud Code	Art. No.
mm	mm	mm	1/min.		
50	33	20 x 50	25.000	PCN110	-

	Spare parts	Dimensions	Freud Code	Art. No.
		mm		
	Knife	17,5 x 35 x 3	CCN110	
	Screw	M5 x 5	2615M CC9	F03FA07420
	Screw	M6 x 12	2607M 006	F03FA07456
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163
	Allen key	2,5	2619M CA9	F03FA07432

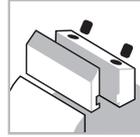


NC21MCA

CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance knives router cutter suitable for profiling with 3 available profiles.

- Steel body.
- 20x50 mm shank.

***NC21MCA**: complete with all available knives.

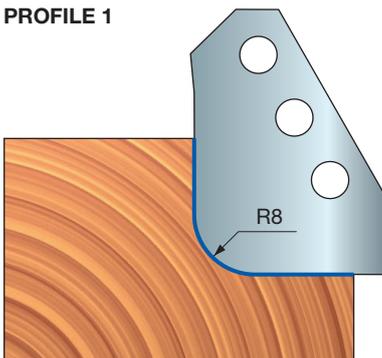
****NC21M-A**: knives to be ordered separately.

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
48	34	20 x 50	18.000	NC21MCA*	F03FC15446
48	34	20 x 50	18.000	NC21M-A**	F03FC15445

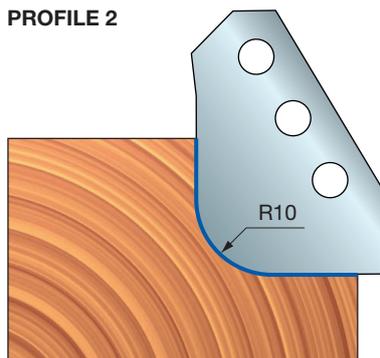
Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M4 x 10	2622M AB9	F03FA07453
	Screw	M8 x 18	2622M DF9	F03FA07457
	Washer	9 x 1,5 x 4	VT18M AH9	F03FA04481
	Allen key	2,5	2619M CA9	F03FA07432

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	24 x 34 x 2,5 R=8	CC21MT0101	F03FC23746
2	Knife	24 x 34 x 2,5 R=10	CC21MT0201	F03FC23747
3	Knife	24 x 34 x 2,5 R=12	CC21MT0301	F03FC23748

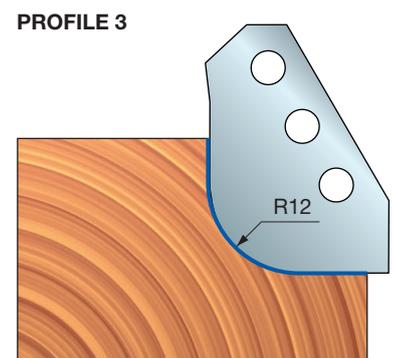
PROFILE 1



PROFILE 2



PROFILE 3



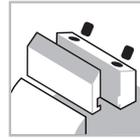


NC23MCA

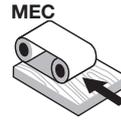
CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance knives router cutter suitable for profiling with 3 available profiles.

- Steel body.
- 20x50 mm shank.

***NC23MCA**: complete with all available knives.

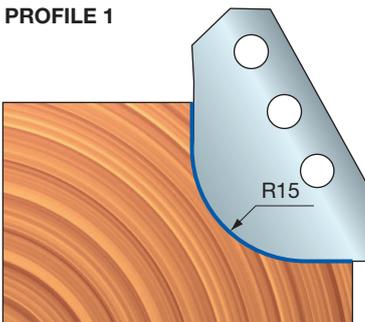
****NC23M-A**: knives to be ordered separately.

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
48	34	20 x 50	18.000	NC23MCA*	F03FC15448
48	34	20 x 50	18.000	NC23M-A**	F03FC15447

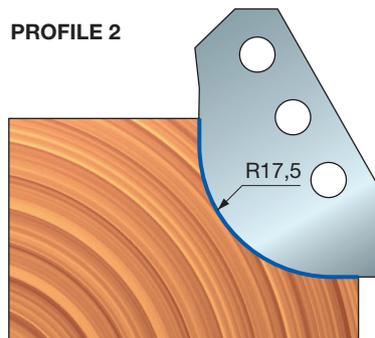
	Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw	M4 x 10	2622M AB9	F03FA07453
	Screw	M8 x 18	2622M DF9	F03FA07457
	Washer	9 x 1,5 x 4	VT18M AH9	F03FA04481
	Allen key	2,5	2619M CA9	F03FA07432

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	24 x 34 x 2,5 R=15	CC23MT0101	F03FC23749
2	Knife	24 x 34 x 2,5 R=17,5	CC23MT0201	F03FC23750
3	Knife	24 x 34 x 2,5 R=20	CC23MT0301	F03FC23751

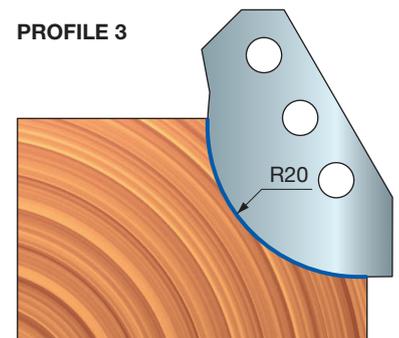
PROFILE 1

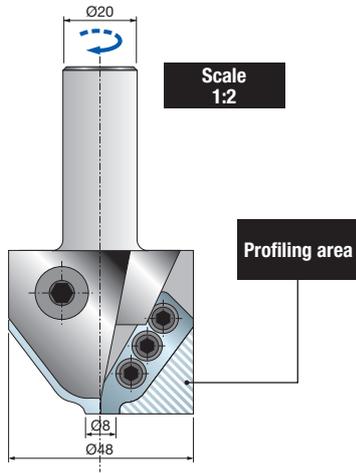


PROFILE 2



PROFILE 3



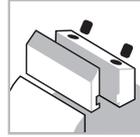


PCN121

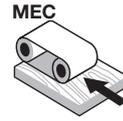
Customised CNC router cutter with profiled knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance CNC router cutter suitable for customised profiles.

- Steel body.
- **PCN121** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

D	B	A	Max RPM	Freud Code	Art. No.
mm	mm	mm	1/min.		
65	45	20 x 50	18.000	PCN121	-

	Spare parts	Dimensions	Freud Code	Art. No.
		mm		
	Knife	24,5 x 34 x 2,5	CCN120	-
	Screw	M8 x 18	2622M DF9	F03FA07457
	Screw	M4 x 10	2622M AB9	F03FA07453
	Washer	9 x 1,5 x 4	VT18M AH9	F03FA04481
	Allen key	2,5	2619M CA9	F03FA07432

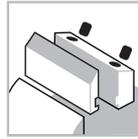


NC30MCA

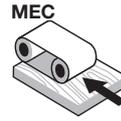
CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
96	55	20	11.000	NC30MCA*	F03FC15451
96	55	20	11.000	NC30M-A**	F03FC15449

Spare parts	Dimensions mm	Freud Code	Art. No.
	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	 Knife	55 x 35 x 3 R=2	CC30MT0201	F03FC23752
2	 Knife	55 x 35 x 3 R=3	CC30MT0301	F03FC23753
3	 Knife	55 x 35 x 3 R=4	CC30MT0401	F03FC23754
4	 Knife	55 x 35 x 3 R=5	CC30MT0501	F03FC23755
5	 Knife	55 x 35 x 3 R=6	CC30MT0601	F03FC23756
6	 Knife	55 x 35 x 3 R=7	CC30MT0701	F03FC23757



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

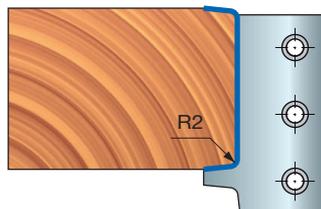
Performance knives router cutter suitable for profiling with 6 available radius profiles.

- Steel body.
- 20x50 mm shank.

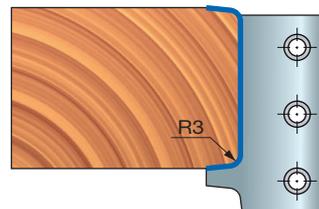
*NC30MCA: complete with all available knives.

**NC30M-A: knives to be ordered separately.

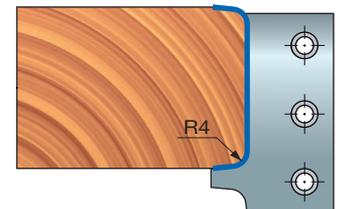
PROFILE 1



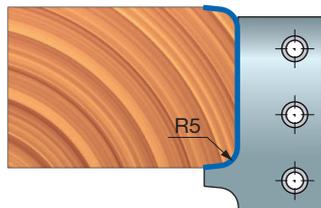
PROFILE 2



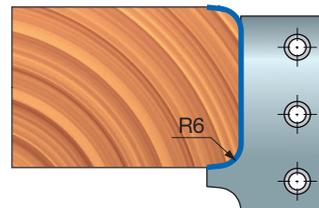
PROFILE 3



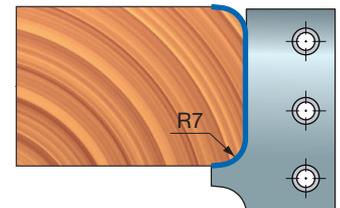
PROFILE 4



PROFILE 5



PROFILE 6



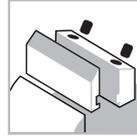


NC30MCB

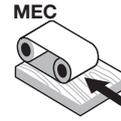
CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

Performance knives router cutter suitable for profiling with 6 available radius profiles.

- Steel body.
- 20x50 mm shank.

***NC30MCB**: complete with all available knives.

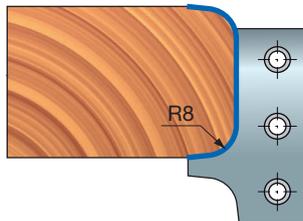
****NC30M-B**: knives to be ordered separately.

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
96	55	20	11.000	NC30MCB*	F03FC15452
96	55	20	11.000	NC30M-B**	F03FC15450

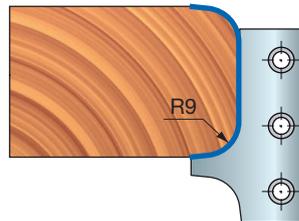
Spare parts	Dimensions mm	Freud Code	Art. No.
 Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1 	Knife	55 x 35 x 3 R=8	CC30MT0801	F03FC23758
2 	Knife	55 x 35 x 3 R=9	CC30MT0901	F03FC23759
3 	Knife	55 x 35 x 3 R=10	CC30MT1001	F03FC23760
4 	Knife	55 x 35 x 3 R=11	CC30MT1101	F03FC23761
5 	Knife	55 x 35 x 3 R=12	CC30MT1201	F03FC23762
6 	Knife	55 x 35 x 3 R=13	CC30MT1301	F03FC23763

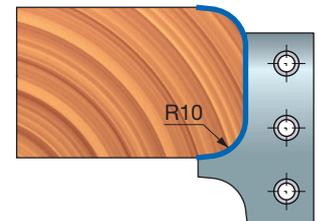
PROFILE 1



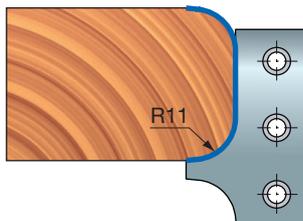
PROFILE 2



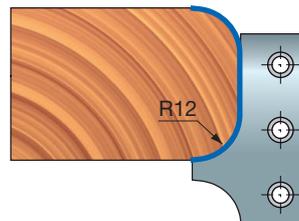
PROFILE 3



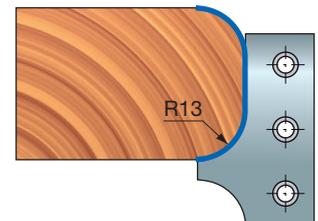
PROFILE 4

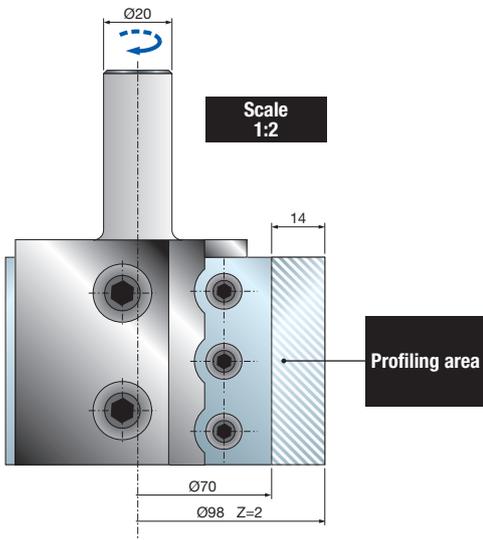


PROFILE 5



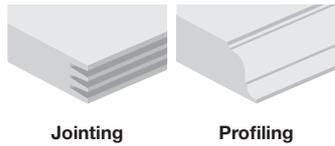
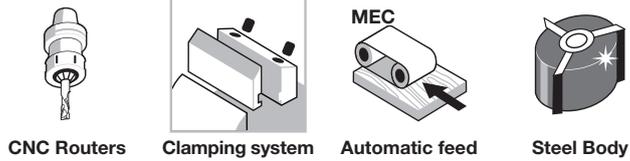
PROFILE 6





PCN130

Customised CNC router cutter with profiled knives



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Joining and profiling.

Technical information:

Performance CNC router cutter suitable for customised profiles.

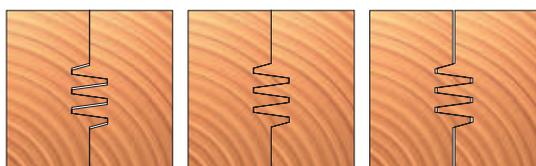
- Steel body.
- **PCN130** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

D	B	A	Max RPM	Freud Code	Art. No.
mm	mm	mm	1/min.		
98	55	20 x 50	11.000	PCN130	-

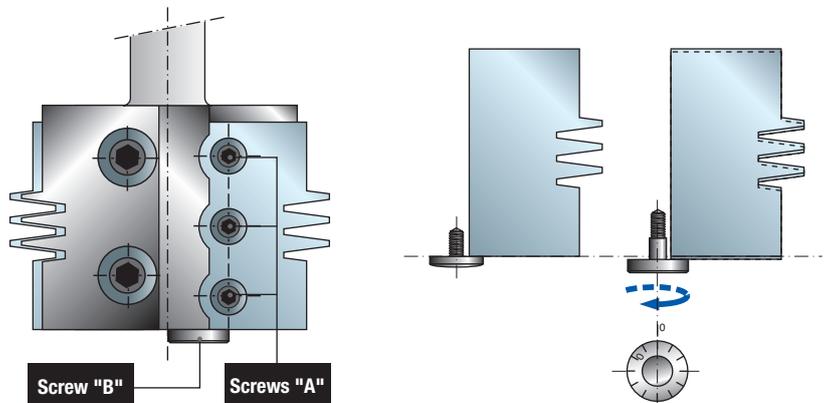
Spare parts	Dimensions	Freud Code	Art. No.
	mm		
Knife	55 x 35 x 3	CCN130	-
Screw	M6 x 12	2607M 006	F03FA07456
Screw	M10 x 25	2622M EH9	F03FA07459
Washer	14 x 2 x 6	VT18M AL9	F03FC20662
Allen key	4	CB03M BA9	F03FA00163
* Screw	M4 x 6	2602M CE9	F03FA07349
* Screw	18 x 7 x M6	VT08M AG9	F03FC20653

*Spare parts needed in case of joining profiles.

Adjustment examples

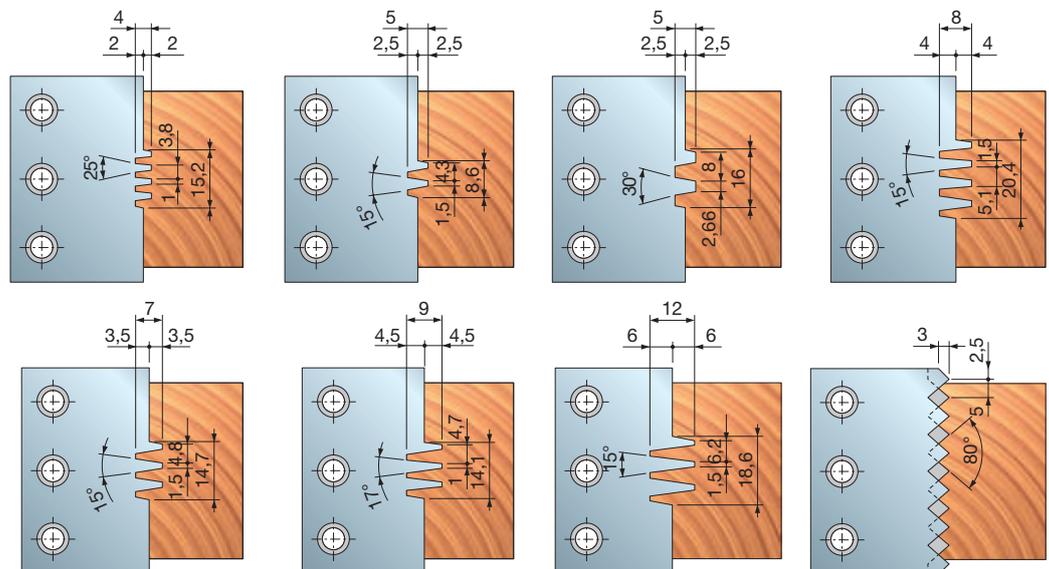


Regular joint Tight joint Loose joint



How to achieve different types of joint:

- Loosen screws "A" with the key supplied.
- Loosen or tighten screw "B" to obtain the desired type of joint.
- Tighten screws "A" while pushing the knife towards screw "B" and the knife seat.



PCN130 is suitable for joining too, with 8 different joint proposals with adjusting system to manage regular, tight and loose joint.

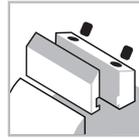


NC33MCA

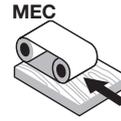
CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

Performance knives router cutter suitable for profiling with 5 available radius profiles.

- Steel body.
- 20x88 mm shank.

***NC33MCA**: complete with all available knives.

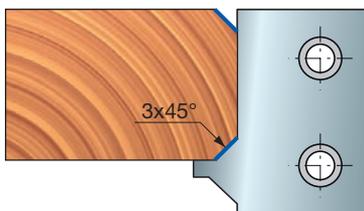
****NC33M-A**: knives to be ordered separately.

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
87	35	20 x 88	11.000	NC33MCA*	F03FC15454
87	35	20 x 88	11.000	NC33M-A**	F03FC15453

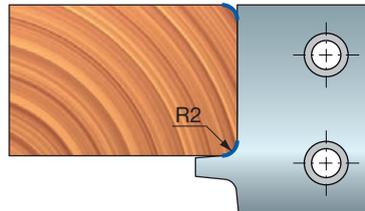
	Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	35 x 34 x 3 3x45°	CC33MT0101	F03FC23764
2	Knife	35 x 34 x 3 R=2	CC33MT0201	F03FC23765
3	Knife	35 x 34 x 3 R=3	CC33MT0301	F03FC23766
4	Knife	35 x 34 x 3 R=4	CC33MT0401	F03FC23767
5	Knife	35 x 34 x 3 R=5	CC33MT0501	F03FC23768

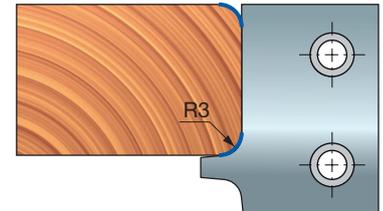
PROFILE 1



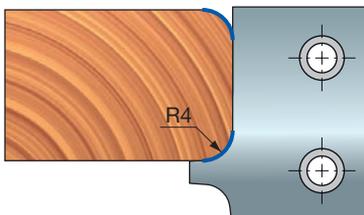
PROFILE 2



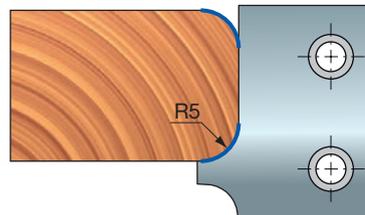
PROFILE 3

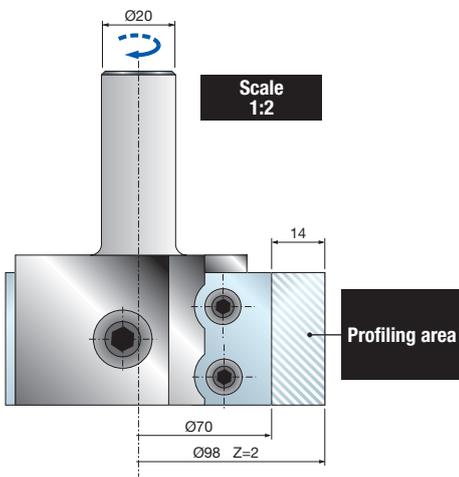


PROFILE 4



PROFILE 5



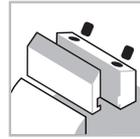


PCN133

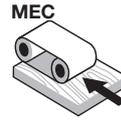
Customised CNC router cutter with profiled knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Jointing



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and jointing.

Technical information:

Performance CNC router cutter suitable for customised profiles.

- Steel body.
- **PCN133** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
98	35	20 x 50	11.000	PCN133	-

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife	35 x 35 x 3	CCN133	
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

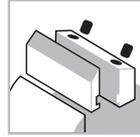


NC40MCA

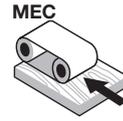
CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance knives router cutter suitable for profiling with 4 available radius profiles.

- Steel body.
- 20x50 mm shank.

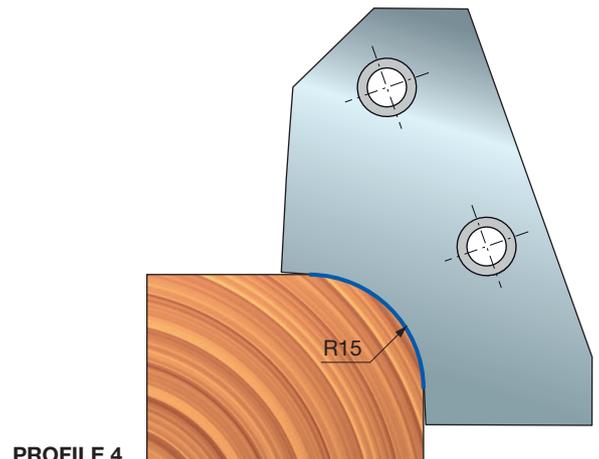
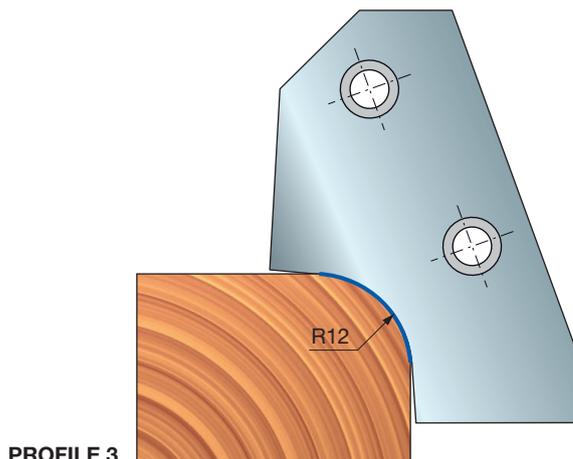
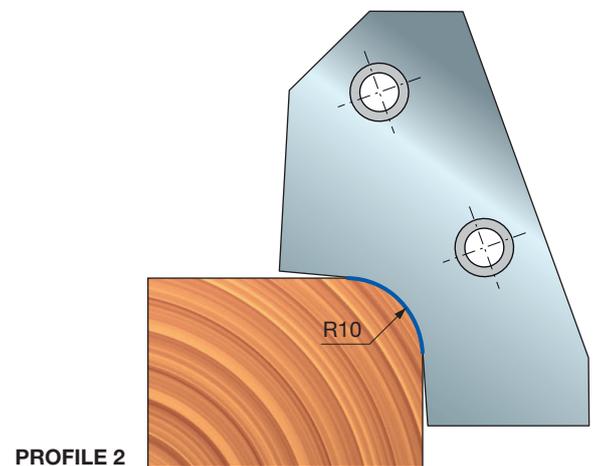
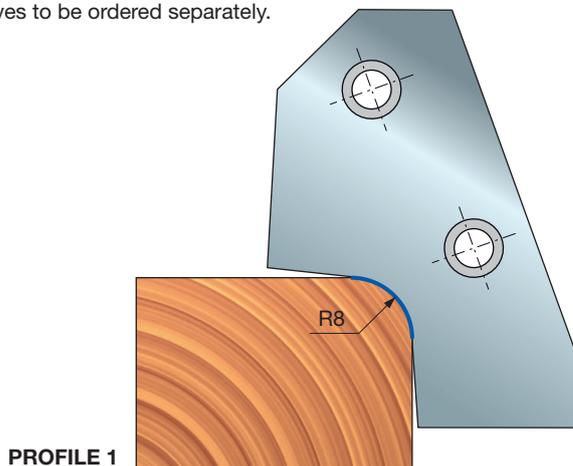
***NC40MCA**: complete with all available knives.

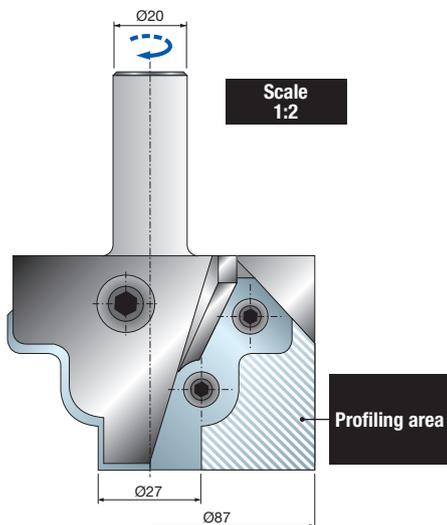
****NC40M-A**: knives to be ordered separately.

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
76	58	20 x 50	12.000	NC40MCA*	F03FC15456
76	58	20 x 50	12.000	NC40M-A**	F03FC15455

Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	48 x 53 x 3 R=8	CC40MT0101	F03FC23769
2	Knife	48 x 53 x 3 R=10	CC40MT0201	F03FC23770
3	Knife	48 x 53 x 3 R=12	CC40MT0301	F03FC23771
4	Knife	48 x 53 x 3 R=15	CC40MT0401	F03FC23772

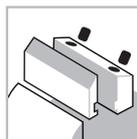




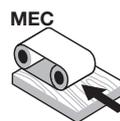
PCN140 Customised CNC router cutter with profiled knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance CNC router cutter suitable for customised profiles.

- Steel body.
- **PCN140** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
90	58	20 x 50	12.000	PCN140	-

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Knife	48 x 53 x 3	CCN140	
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

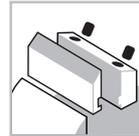


NC50MCA

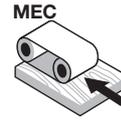
CNC router cutter with multiradius knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and grooving.

Technical information:

Performance knives router cutter suitable for profiling with 3 available radius profiles.

- Steel body.
- 20x50 mm shank.

***NC50MCA**: complete with all available knives.

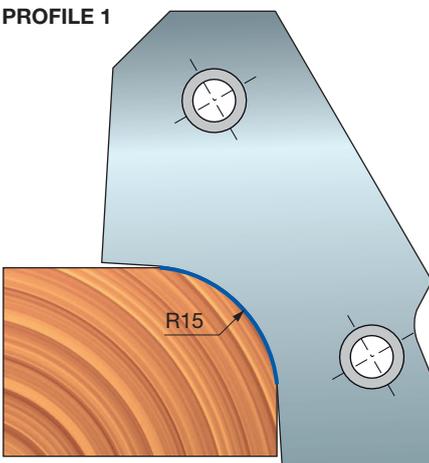
****NC50M-A**: knives to be ordered separately.

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
72	59	20 x 50	12.000	NC50MCA*	F03FC15458
72	59	20 x 50	12.000	NC50M-A**	F03FC15457

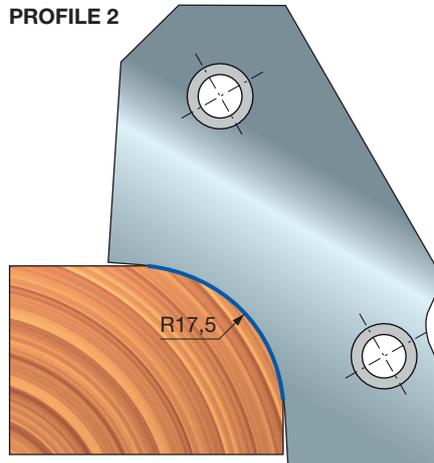
Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	47 x 53 x 3 R=15	CC50MT0101	F03FC23773
2	Knife	47 x 53 x 3 R=17,5	CC50MT0201	F03FC23774
3	Knife	47 x 53 x 3 R=20	CC50MT0301	F03FC23775

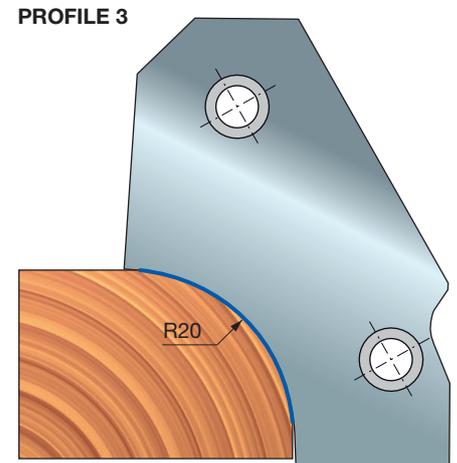
PROFILE 1

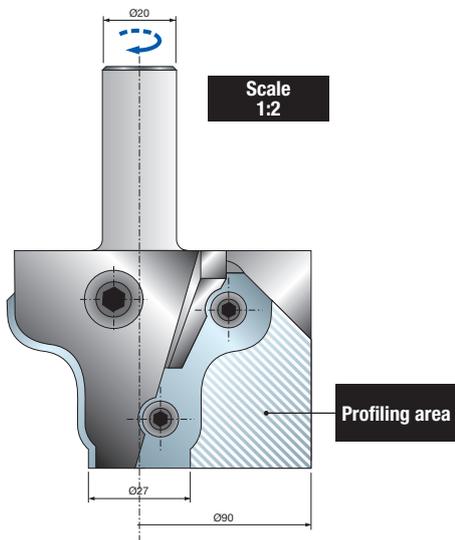


PROFILE 2



PROFILE 3





Machines:
CNC overhead routing machines.

Materials:
Softwood, hardwood, wood based panels and MDF.

Applications:
Profiling.

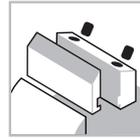
Technical information:
Performance CNC router cutter suitable for customised profiles.

- Steel body.
- **PCN150** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

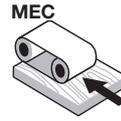
PCN150 Customised CNC router cutter with profiled knives



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Grooving

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
90	59	20 x 50	12.000	PCN150	-

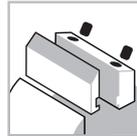
	Spare parts	Dimensions mm	Freud Code	Art. No.
	Knife	47 x 53 x 3	CCN150	
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

NC60MCA

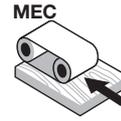
CNC raised panel router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood

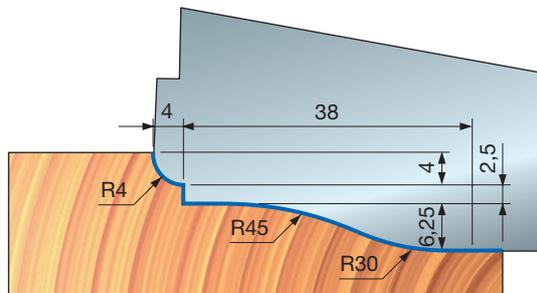


Profiling

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
114	54	20 x 50	9.000	NC60MCA	F03FC15459

Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M5 x 8	VT05M AA9	F03FA04444
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Positioning plate	20 x 11,6 x 2,2	VT18M AS9	F03FC20665
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
	Knife	60 x 36 x 3	CC60MT0101	F03FC23776



Machines:
CNC overhead routing machines.

Materials:
Softwood and hardwood.

Applications:
Profiling.

Technical information:
Performance knives raised panel cutter.

- Knives included in the tool set.
- Steel body.
- 20x50 mm shank.

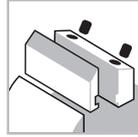


NC62MCA

CNC raised panel router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Profiling



Machines:
CNC overhead routing machines.

Materials:
Softwood and hardwood.

Applications:
Profiling.

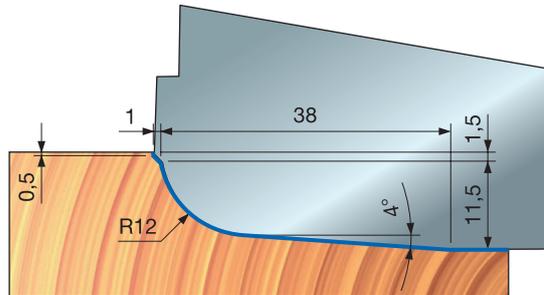
Technical information:
Performance knives raised panel cutter.

- Knives included in the tool set.
- Steel body.
- 20x50 mm shank.

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
114	54	20 x 50	9.000	NC62MCA	F03FC15460

Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M5 x 8	VT05M AA9	F03FA04444
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Positioning plate	20 x 11,6 x 2,2	VT18M AS9	F03FC20665
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
	Knife	60 x 36 x 3	CC62MT0101	F03FC23777

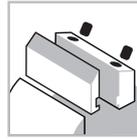


NC64MCA

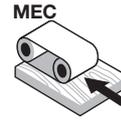
CNC raised panel router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling

D mm	h mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
114	54	20 x 50	9.000	NC64MCA*	F03FC15462
114	54	20 x 50	9.000	NC64M-A**	F03FC15461

Spare parts	Dimensions mm	Freud Code	Art. No.
Screw	M6 x 12	2607M 006	F03FA07456
Screw	M10 x 25	2622M EH9	F03FA07459
Washer	14 x 2 x 6	VT18M AL9	F03FC20662
Allen key	4	CB03M BA9	F03FA00163

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	60 x 36 x 3	CC64MD0101	F03FC23778
2	Knife	60 x 36 x 3	CC64MD0201	F03FC23779
3	Knife	60 x 36 x 3	CC64MD0301	F03FC23780
4	Knife	60 x 36 x 3	CC64MD0401	F03FC23781
5	Knife	60 x 36 x 3	CC64MD0501	F03FC23782



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

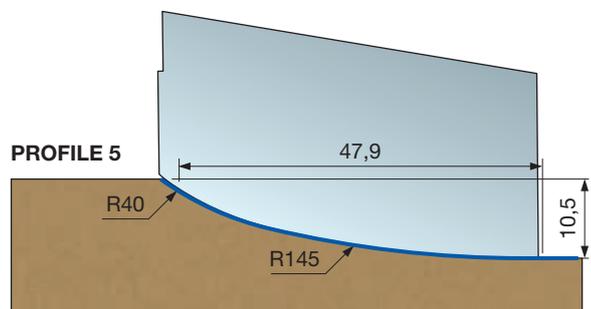
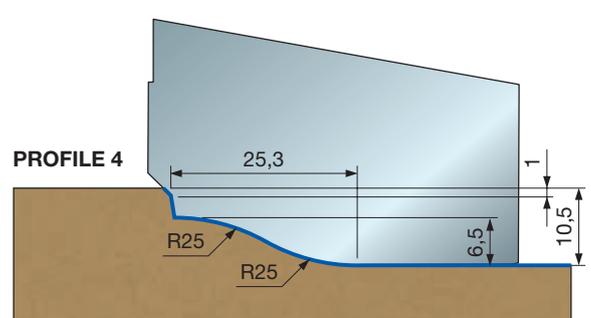
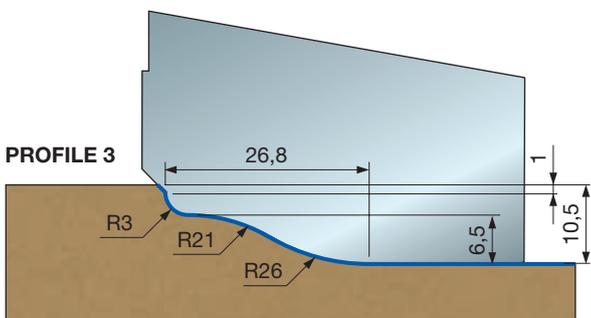
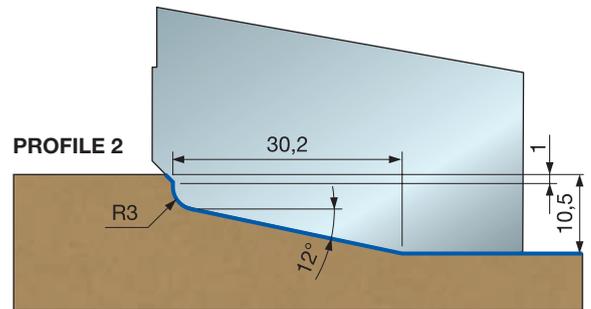
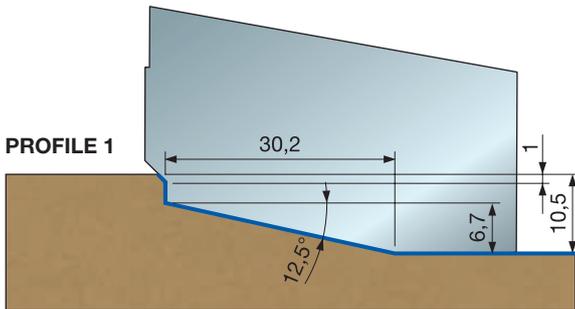
Technical information:

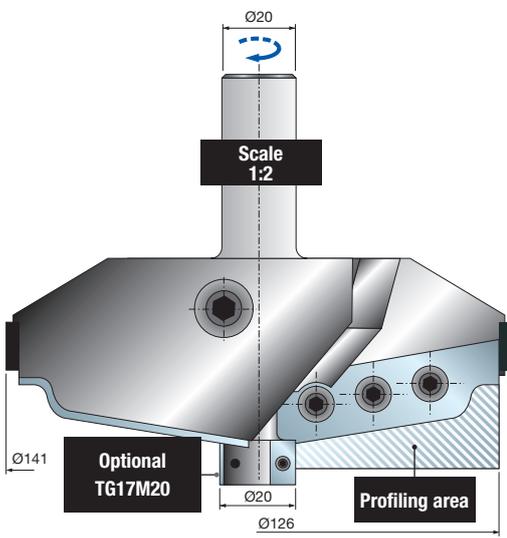
Performance knives raised panel cutter with 5 available profiles.

- Steel body.
- 20x50 mm shank.

*NC64MCA: complete with all available knives.

**NC64M-A: knives to be ordered separately.



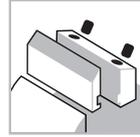


PCN160

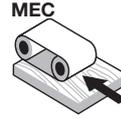
Customised CNC raised panel router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

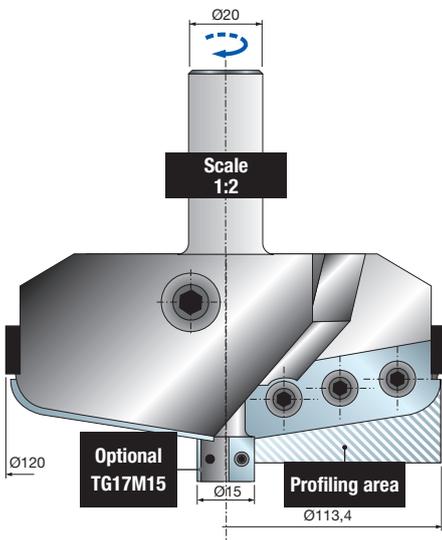
Technical information:

Performance CNC router cutter suitable for customised raised panels.

- Steel body.
- **PCN160** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

D	B	A	Max RPM	Freud Code	Art. No.
mm	mm	mm	1/min.		
141	54	20 x 50	9.000	PCN160	-

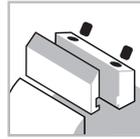
	Spare parts	Dimensions	Freud Code	Art. No.
		mm		
	Knife	60 x 35 x 3	CCN160	
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Screw	M5 x 8	VT05M AA9	F03FA04444
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Positioning plate	20 x 11,6 x 2,2	VT18M AS9	F03FC20665
	Allen key	4	CB03M BA9	F03FA00163



PCN160R Customised CNC raised panel router cutter



CNC Routers



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

Performance CNC router cutter suitable for customised raised panels.

- Steel body.
- **PCN160R** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

D	h	A	Max RPM	Freud Code	Art. No.
mm	mm	mm	1/min.		
120	54	20 x 50	9.000	PCN160R	-

	Spare parts	Dimensions	Freud Code	Art. No.
		mm		
	Knife	60 x 35 x 3	CCN160	
	Screw	M6 x 12	2607M 006	F03FA07456
	Screw	M10 x 25	2622M EH9	F03FA07459
	Screw	M5 x 8	VT05M AA9	F03FA04444
	Washer	14 x 2 x 6	VT18M AL9	F03FC20662
	Positioning plate	20 x 11,6 x 2,2	VT18M AS9	F03FC20665
	Allen key	4	CB03M BA9	F03FA00163

NC90MCA

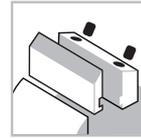
CNC cabinet door router cutter - profile



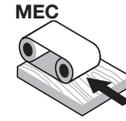
CNC Routers



CNC Machines



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
102	35	20 x 50	10.500	NC90MCA*	F03FC15465
102	35	20 x 50	10.500	NC90M-A**	F03FC15463

Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw M10 x 18	VT03M CC9	F03FA04438
	Screw M6 x 14,5	VT16M AA9	F03FA04476
	Screw M5 x 7 x 18	VT08M AE9	F03FA04457
	Grooving insert 34 x 4	SR06MDAG302	F03FC24193
	Grooving insert 34 x 7	SR06MDAH302	F03FC24194
	Allen key 5	CB03M EA9	F03FA00169
	Chuck 20 x 33 x 93	AP08M DA9	F03FC00579



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

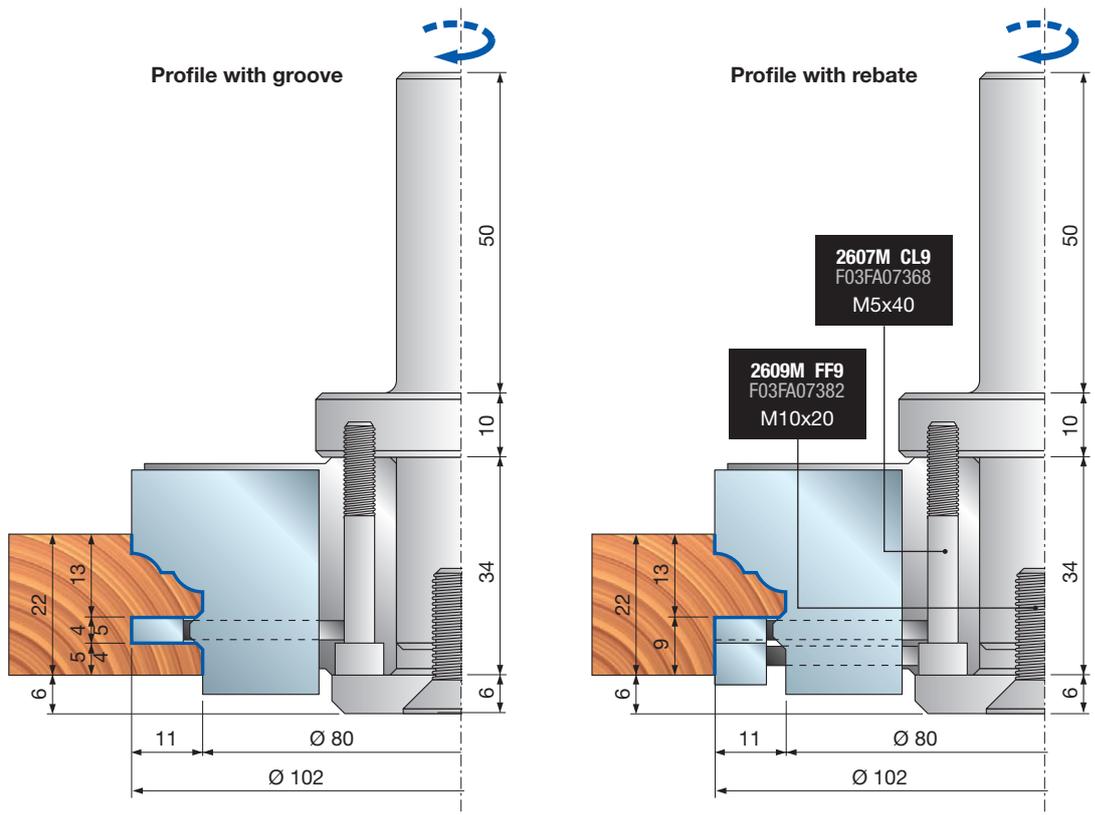
Performance knives raised panel cutter.

- Knives included in the tool set.
- Steel body.
- 20x50 mm shank.

*NC90MCA: complete with all available knives.

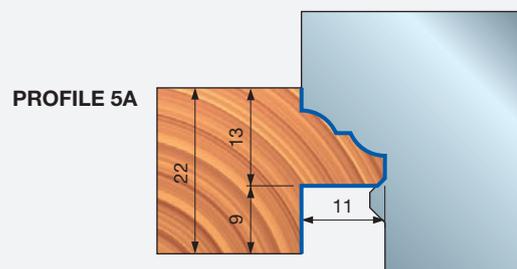
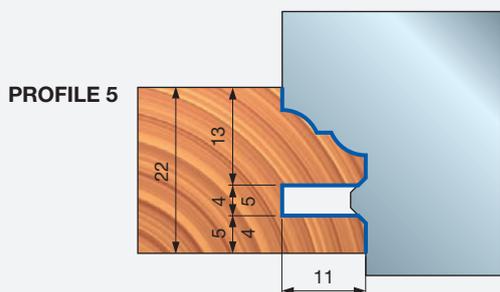
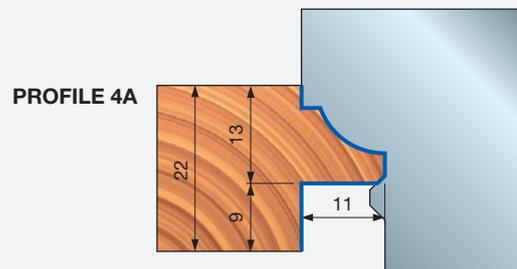
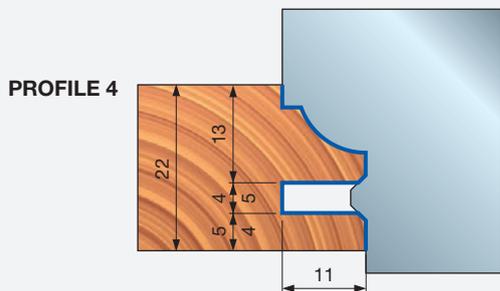
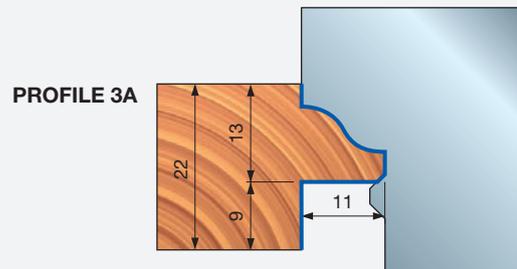
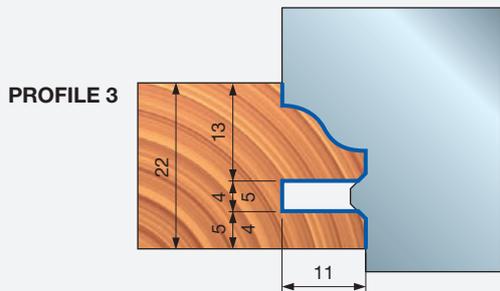
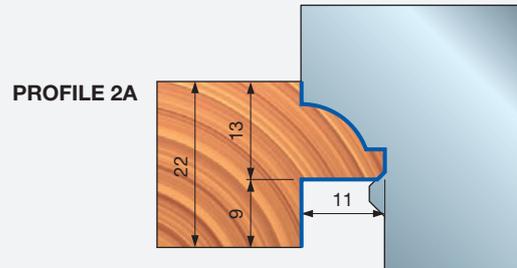
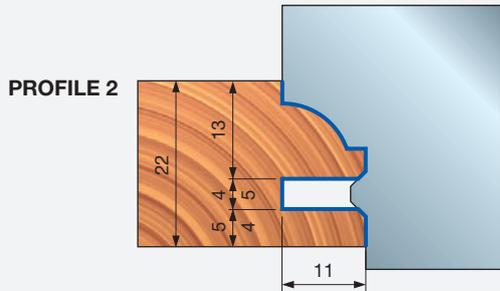
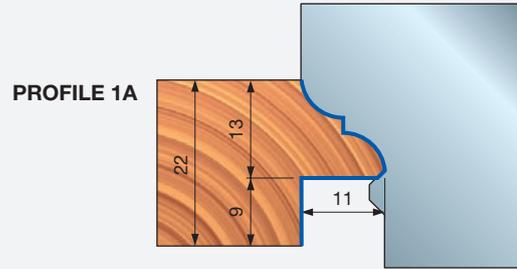
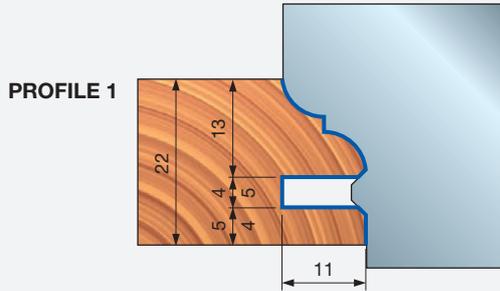
**NC90M-A: knives to be ordered separately.

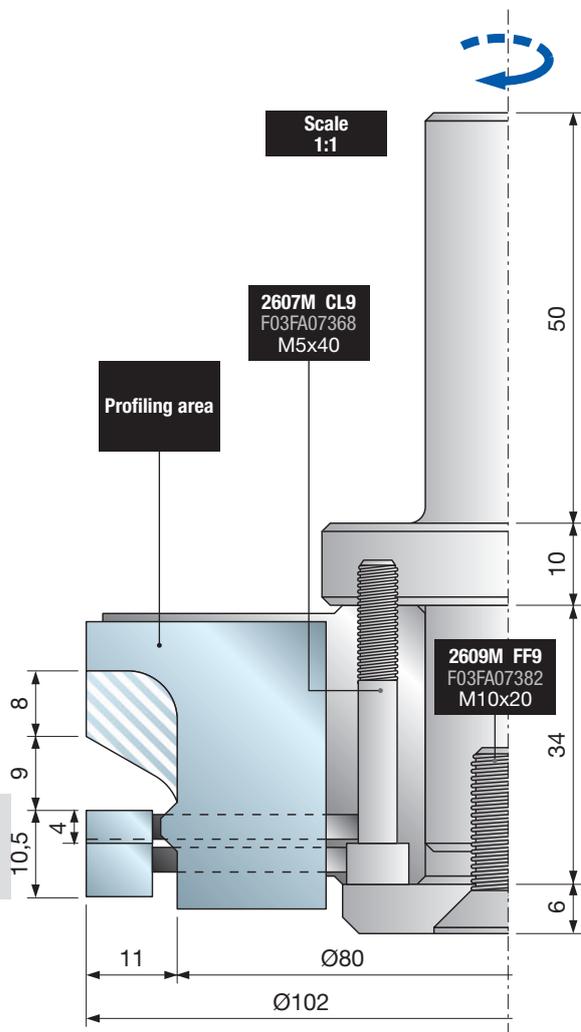
To obtain a 5 mm groove, it is necessary to replace the **SR06MDAG302** (4 mm thick) inserts with the **SR06MDAH302** (5 mm thick) inserts which must be ordered separately.



Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1/1A 	Knife	35 x 30 x 3	CC90MT0101	F03FC23783
2/2A 	Knife	35 x 30 x 3	CC90MT0201	F03FC23784
3/3A 	Knife	35 x 30 x 3	CC90MT0301	F03FC23785
4/4A 	Knife	35 x 30 x 3	CC90MT0401	F03FC23786
5/5A 	Knife	35 x 30 x 3	CC90MT0501	F03FC23787

Example of profiles





PCN300

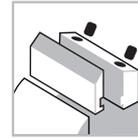
Customised CNC cabinet door router cutter - profile



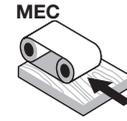
CNC Routers



CNC Machines



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
102	35	20 x 50	10.500	PCN300	-

Spare parts		Dimensions mm	Freud Code	Art. No.
	Knife	35 x 30 x 3	CK02 DC3	
	Screw	M10 x 18	VT03M CC9	F03FA04438
	Screw	M6 x 14,5	VT16M AA9	F03FA04476
	Screw	M5 x 7 x 18	VT08M AE9	F03FA04457
	Grooving insert	34 x 4	SR06MDAG302	F03FC24193
	Grooving insert	34 x 7	SR06MDAH302	F03FC24194
	Allen key	5	CB03M EA9	F03FA00169



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

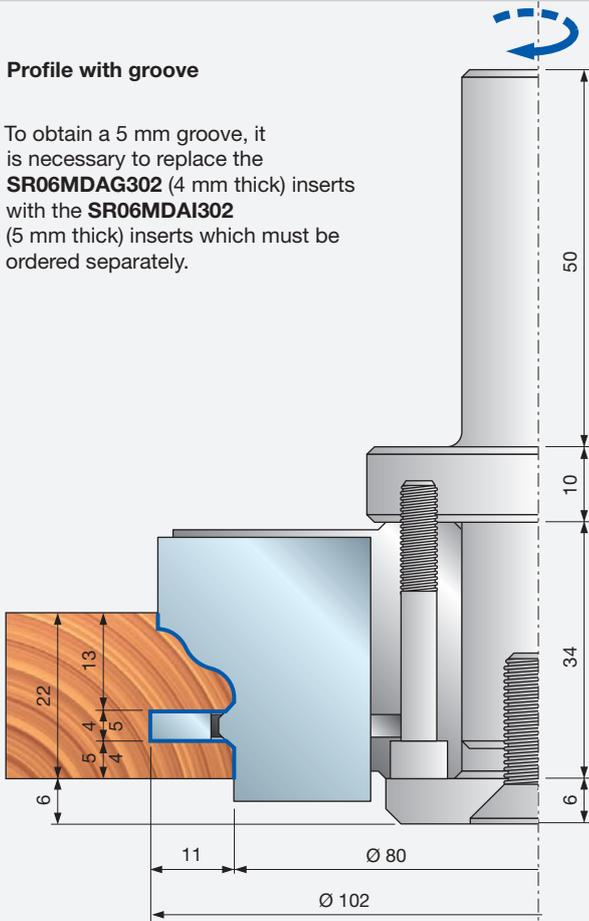
Performance CNC router cutter suitable for customised cabinet doors profiles.

- Profile available both with and without groove.
- 22 mm timber.
- Steel body.
- **PCN300** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

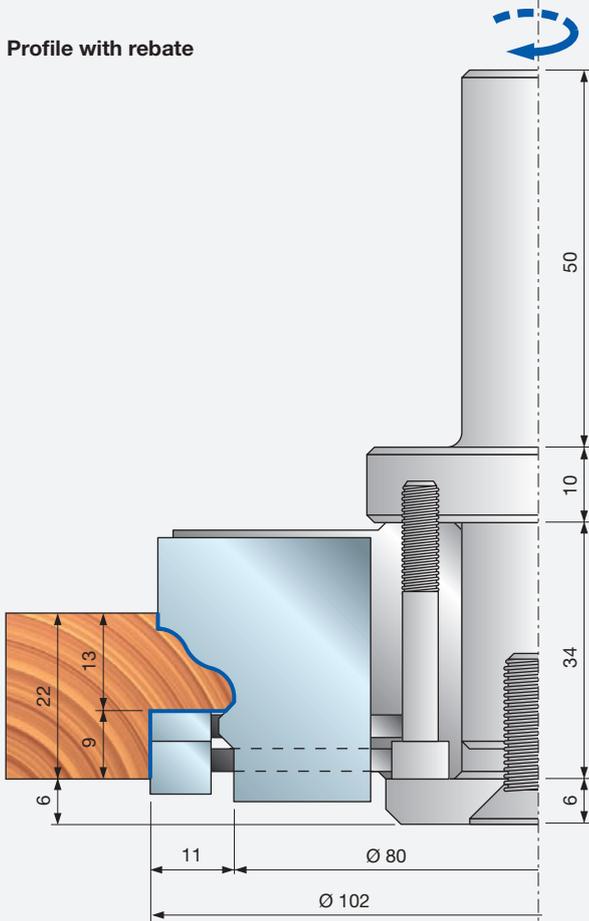
Example of profiles

Profile with groove

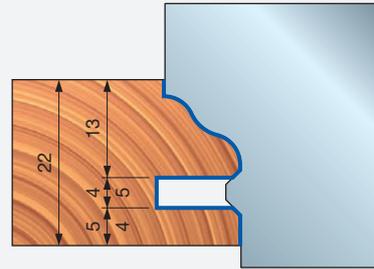
To obtain a 5 mm groove, it is necessary to replace the **SR06MDAG302** (4 mm thick) inserts with the **SR06MDAI302** (5 mm thick) inserts which must be ordered separately.



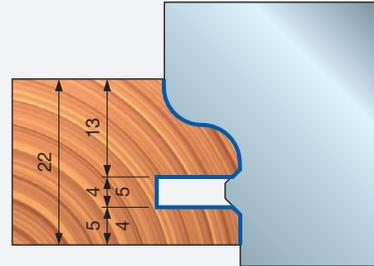
Profile with rebate



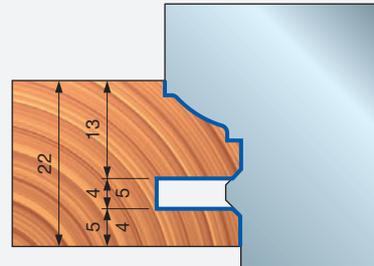
PROFILE 1



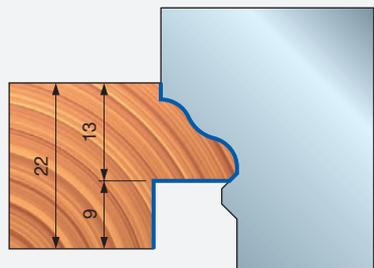
PROFILE 2



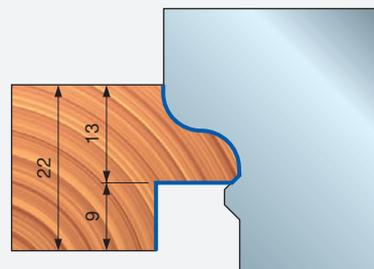
PROFILE 3



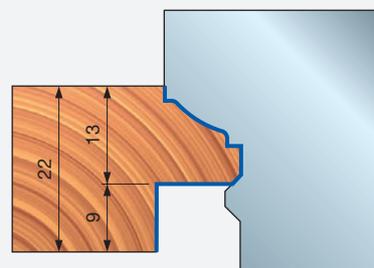
PROFILE 1



PROFILE 2



PROFILE 3





NC91MCA

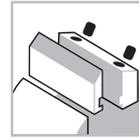
CNC cabinet door router cutter - scribe



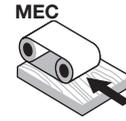
CNC Routers



CNC Machines



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

Performance knives cutter suitable for cabinet doors scribes with 5 available profiles (please refer to NC90M profiles).

- Profile available both with and without groove.
- Steel body.
- 20x50 mm shank.
- Chuck not included.

***NC91MCA**: complete with all available knives.

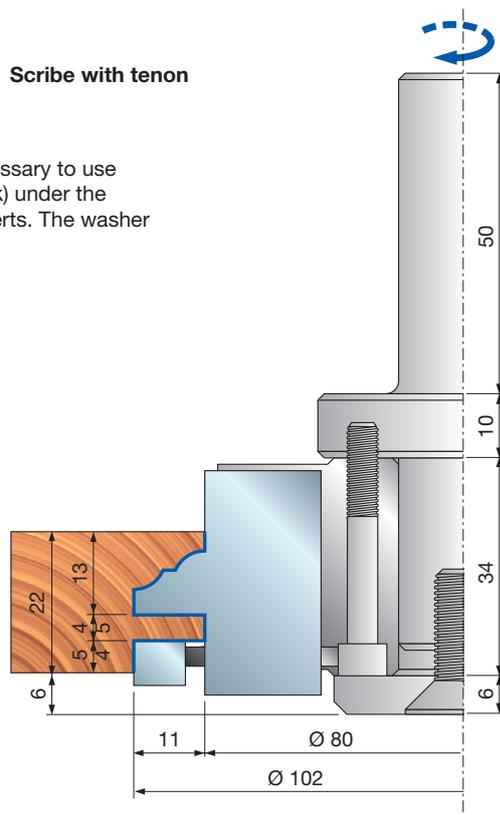
****NC91M-A**: knives to be ordered separately.

D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
102	35	20 x 50	10.500	NC91MCA*	F03FC15468
102	35	20 x 50	10.500	NC91M-A**	F03FC15466

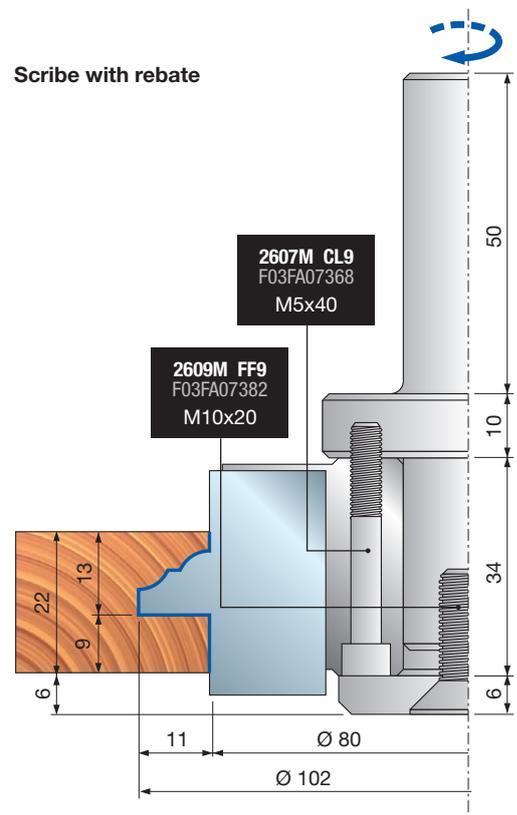
Spare parts	Dimensions mm	Freud Code	Art. No.
 Screw	M10 x 18	VT03M CC9	F03FA04438
 Screw	M6 x 14,5	VT16M AA9	F03FA04476
 Screw	M5 x 7 x 18	VT08M AE9	F03FA04457
 Grooving insert	34 x 7	SR06MDAH302	F03FC24194
 Allen key	5	CB03M EA9	F03FA00169
 Chuck	20 x 33 x 93	AP08M DA9	F03FC00579

Scribe with tenon

To obtain a 5 mm tenon, it is necessary to use a washer **ST07M-109** (1 mm thick) under the **SR06MDAH302** (7 mm thick) inserts. The washer must be ordered separately.

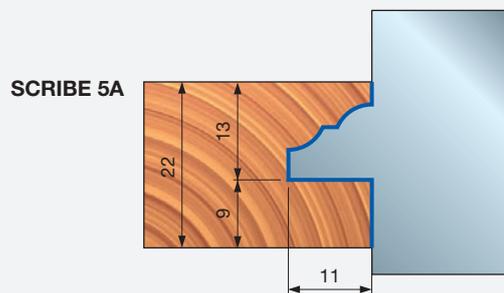
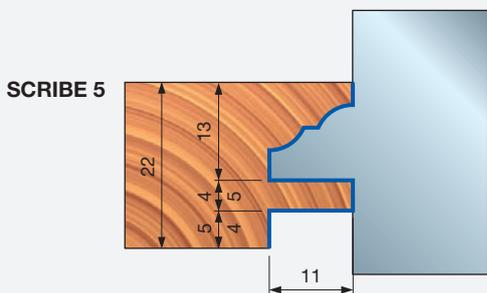
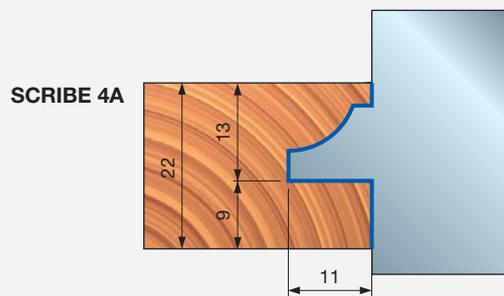
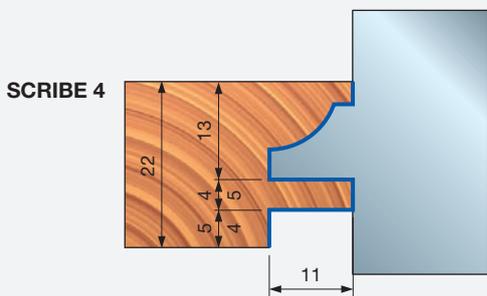
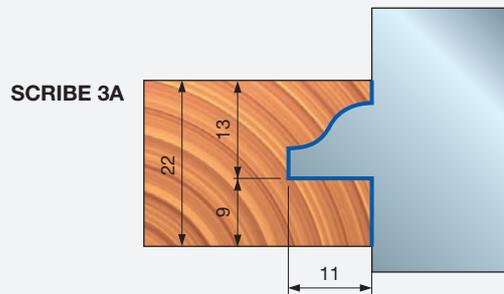
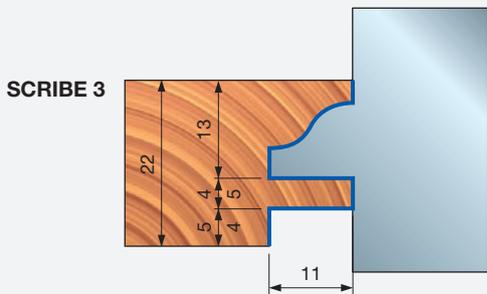
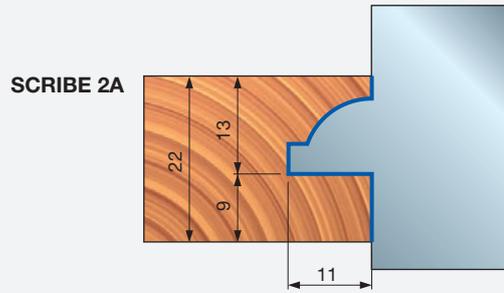
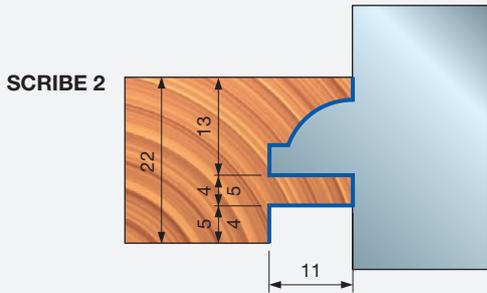
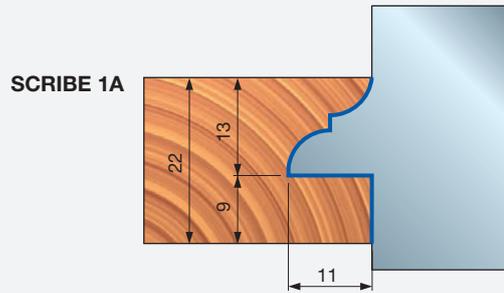
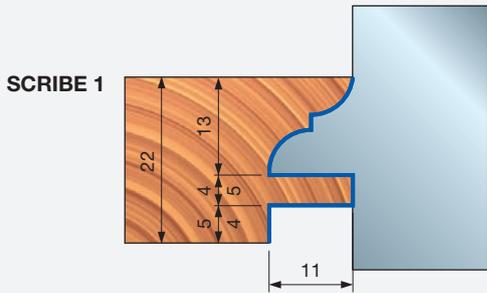


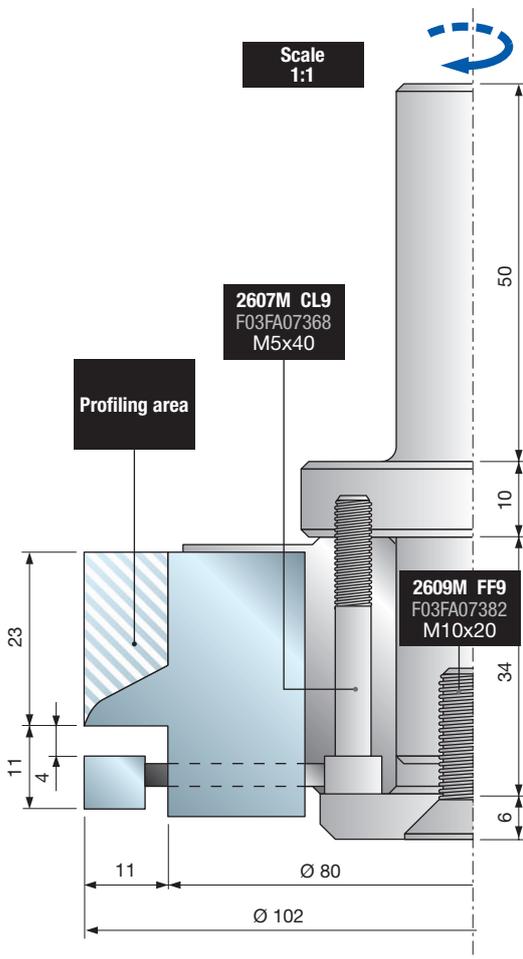
Scribe with rebate



Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1/1A 	Knife	35 x 30 x 3	CC91MT0101	F03FC23788
2/2A 	Knife	35 x 30 x 3	CC91MT0201	F03FC23789
3/3A 	Knife	35 x 30 x 3	CC91MT0301	F03FC23790
4/4A 	Knife	35 x 30 x 3	CC91MT0401	F03FC23791
5/5A 	Knife	35 x 30 x 3	CC91MT0501	F03FC23792

Example of profiles





PCN310

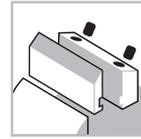
Customised CNC cabinet door router cutter - scribe



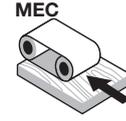
CNC Routers



CNC Machines



Clamping system



Automatic feed



Steel Body



Softwood



Hardwood



Chipboard



MDF



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling.

Technical information:

Performance CNC router cutter suitable for customised cabinet doors counter-profiles.

- Profile available both with and without groove.
- 22 mm timber.
- Steel body.
- **PCN310** item includes router cutter complete of components, knives (minimum order quantity 6 pieces) and maintenance keys. For orders please specify: shank dimensions and profile drawing (please refer to knife profiling area).

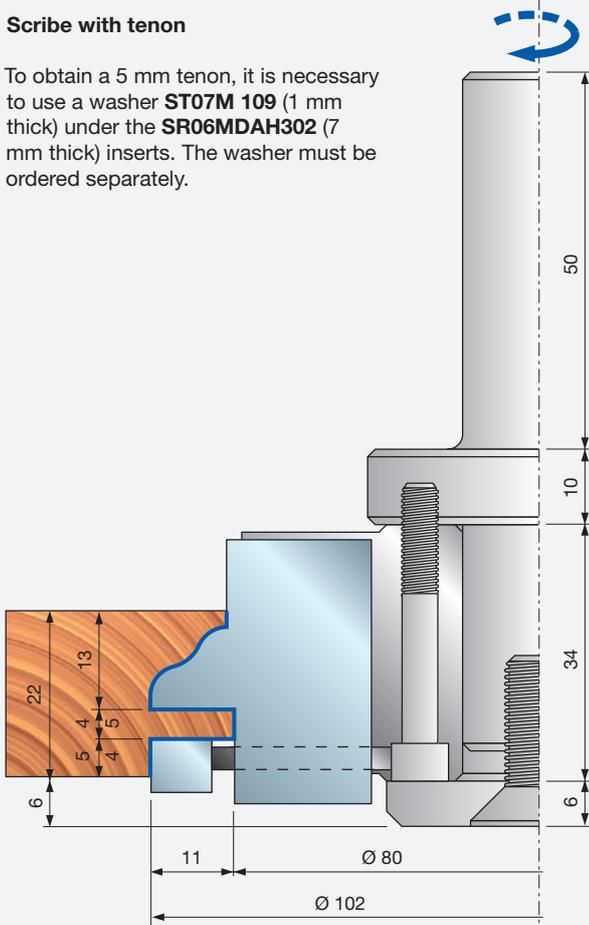
D mm	B mm	A mm	Max RPM 1/min.	Freud Code	Art. No.
102	35	20 x 50	10.500	PCN310	-

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Knife	35 x 30 x 3	CK02 DC3	-
	Screw	M10 x 18	VT03M CC9	F03FA04438
	Screw	M6 x 14,5	VT16M AA9	F03FA04476
	Screw	M5 x 7 x 18	VT08M AE9	F03FA04457
	Grooving insert	34 x 7	SR06MDAH302	F03FC24194
	Allen key	5	CB03M EA9	F03FA00169

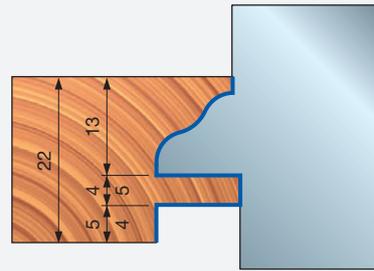
Example of scribes

Scribe with tenon

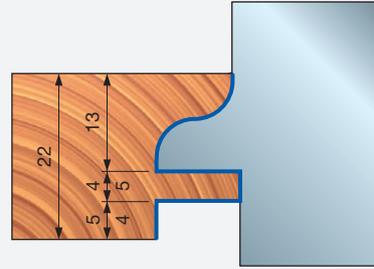
To obtain a 5 mm tenon, it is necessary to use a washer **ST07M 109** (1 mm thick) under the **SR06MDAH302** (7 mm thick) inserts. The washer must be ordered separately.



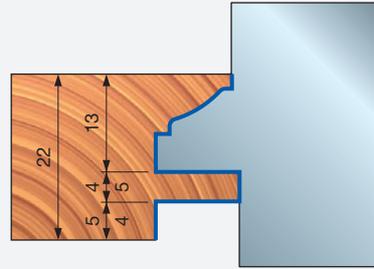
SCRIBE 1



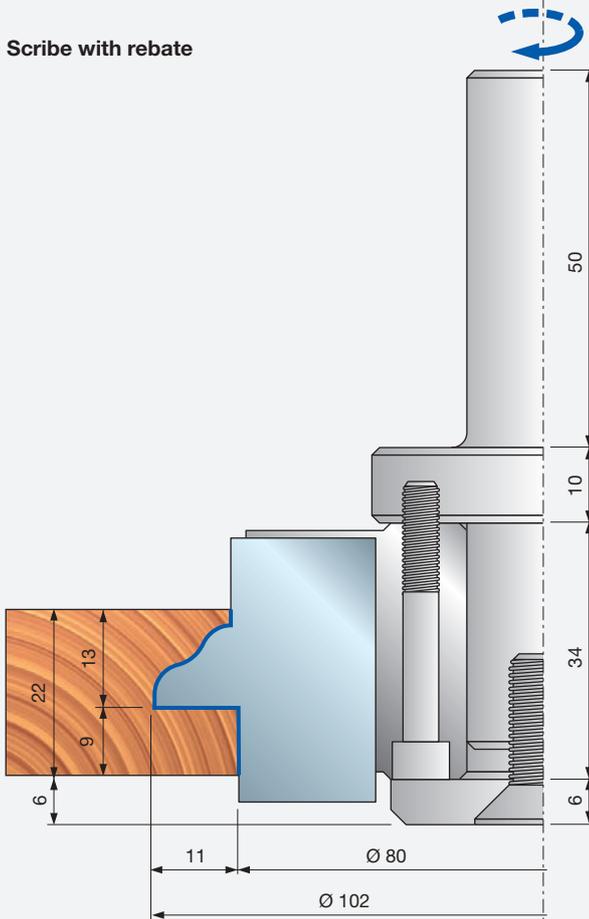
SCRIBE 2



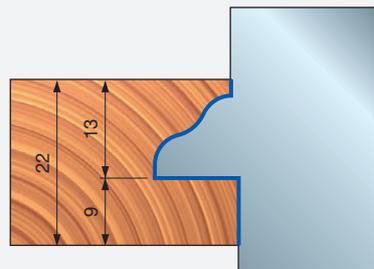
SCRIBE 3



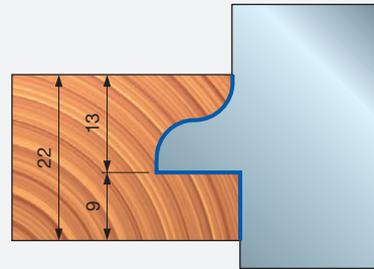
Scribe with rebate



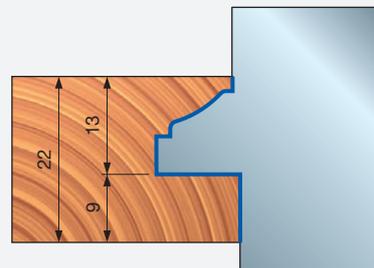
SCRIBE 1



SCRIBE 2



SCRIBE 3



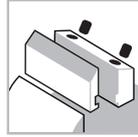


NCSEM22

CNC tool for cabinet door frame profile - 22 mm



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Profiling.

Technical information:

CNC tool set suitable for cabinet doors with 6 available profiles.

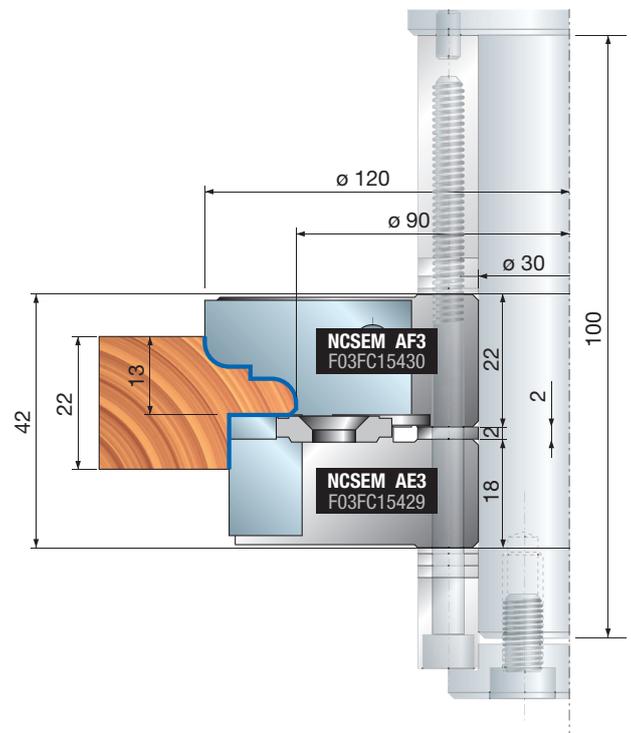
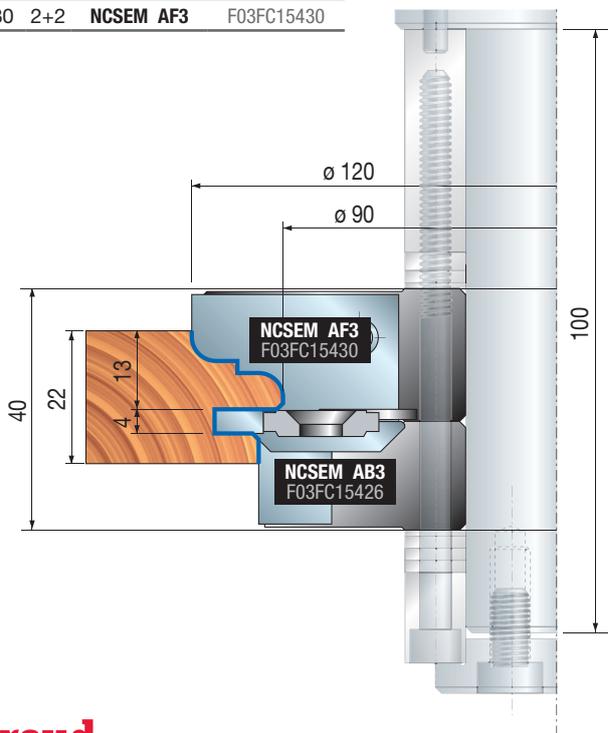
- Profile available both with and without groove.
- 22 mm timber.
- Aluminium light alloy body.
- Chuck and knives to be ordered separately.

Tools for NCSEM22A01 and NCSEM22A03 sets

D	B	d	Z	Freud Code	Art. No.
mm	mm	mm			
112	20	30	2+2	NCSEM AE3	F03FC15429
112,5	19	30	2+4	NCSEM AB3	F03FC15426
120	22	30	2+2	NCSEM AF3	F03FC15430

D	B	d	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm		1/min.		
120	38	30	2	11.000	NCSEM22A01	F03FC15432
120	39	30	2	11.000	NCSEM22A03	F03FC15434

	Spare parts	Dimensions	Freud Code	Art. No.	
		mm			
NCSEM AB3		Knife	14,6 x 12 x 1,5	CG06MBA310	F03FH02890
		Wedge	13	CN01M CA9	F03FC01250
		Screw	M8 x 16	VT03M AA9	F03FA04435
		Beveling insert	22 x 16 x 5	IG51MBA305	F03FH03022
NCSEM AE3		Screw	M6 x 14,5	VT16M AA9	F03FA04476
		Grooving insert	27 x 4 x 16	IG04MSAA3T05	F03FC24155
		Screw	M6 x 14,5	VT16M AA9	F03FA04476
		Knife	20 x 12 x 1,5	CG06MCA310	F03FH02891
		Wedge	15 x 16 x 8	CN09MS AC9	F03FC01325
NCSEM AF3		Nut	10 x 11,5 x M6	VT20M AA9	F03FA04497
		Screw	M6 x 22	VT19M AB9	F03FA04491
		Spur	22,86 x 2,5	RG02MAA305	F03FH03041
		Screw	M5 x 8	VT05M AA9	F03FA04444
		Positioning plate	22 x 1,7 x 6,5	VT18M GA9	F03FA04488
		Screw	M10 x 16	2616M EE9	F03FA07426
		Grooving insert	27 x 4 x 16	IG04MDAA3T05	F03FC24151
		Screw	M6 x 14,5	VT16M AA9	F03FA04476
	Screw	M5 x 8	VT05M AA9	F03FA04444	

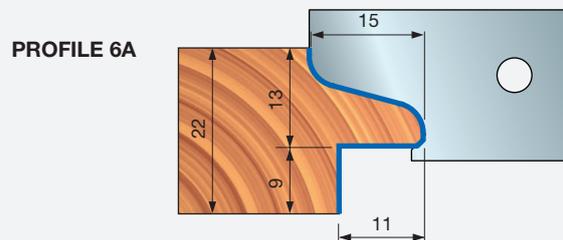
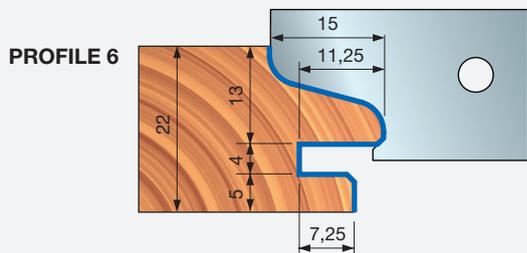
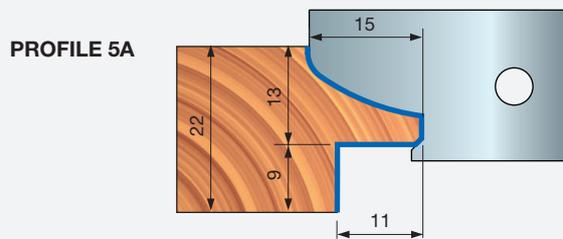
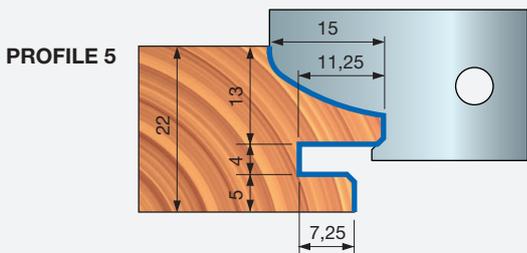
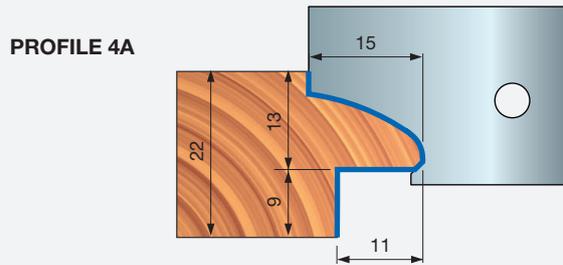
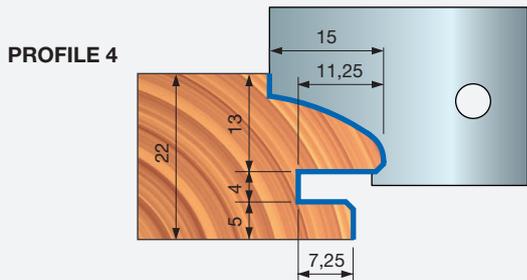
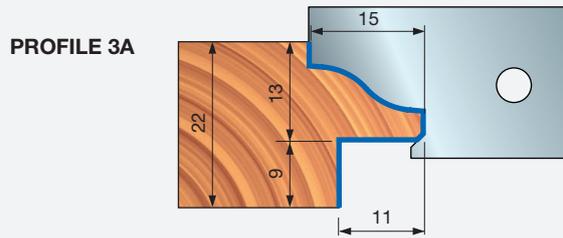
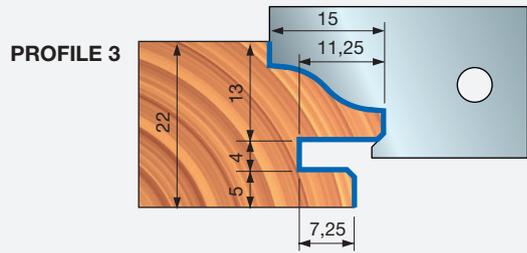
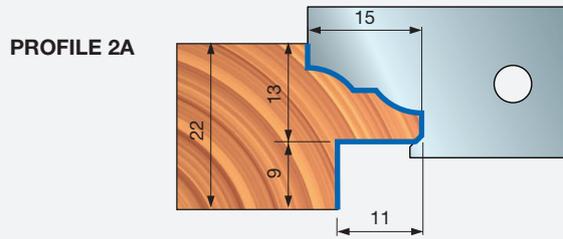
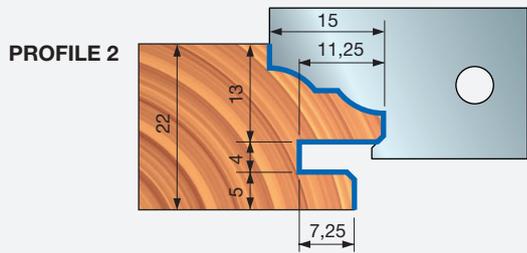
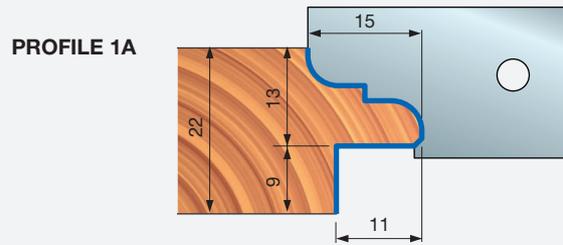
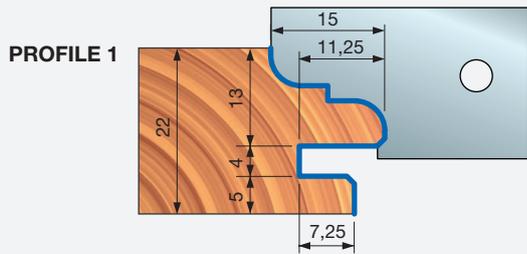


NCSEM22

CNC tool for cabinet door frame profile - 22 mm

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1/1A	Knife	20 x 34 x 3	CCSEMCA301	F03FC23728
2/2A	Knife	20 x 34 x 3	CCSEMCA301	F03FC23729
3/3A	Knife	20 x 34 x 3	CCSEMCA301	F03FC23730
4/4A	Knife	20 x 34 x 3	CCSEMCA301	F03FC23731
5/5A	Knife	20 x 34 x 3	CCSEMCA301	F03FC23732
6/6A	Knife	20 x 34 x 3	CCSEMCA301	F03FC23733

Example of profiles



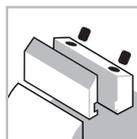


NCSEM22

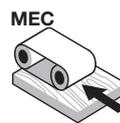
CNC tool for cabinet door frame scribe - 22 mm



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Profiling



D mm	B mm	d mm	Z	Max RPM 1/min.	Freud Code	Art. No.
120	41	30	2	11.000	NCSEM22A02	F03FC15433
120	29	30	2	11.000	NCSEM22A04	F03FC15435

Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Profiling.

Technical information:

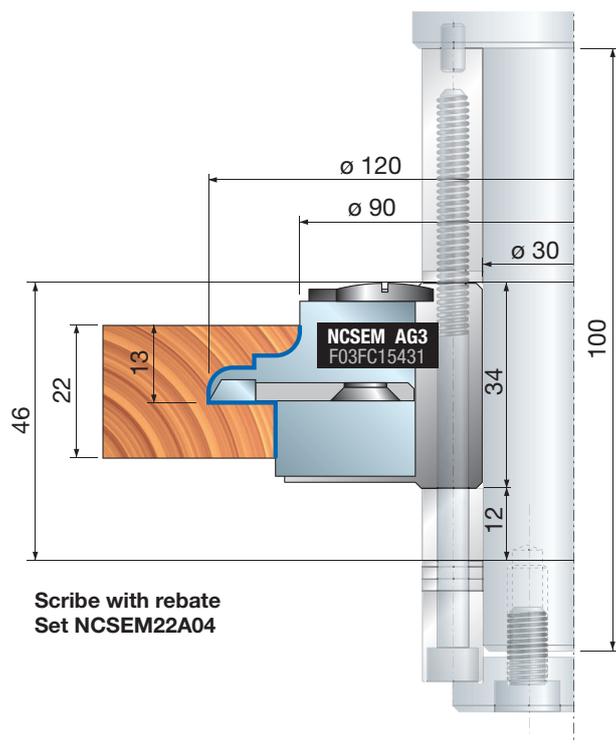
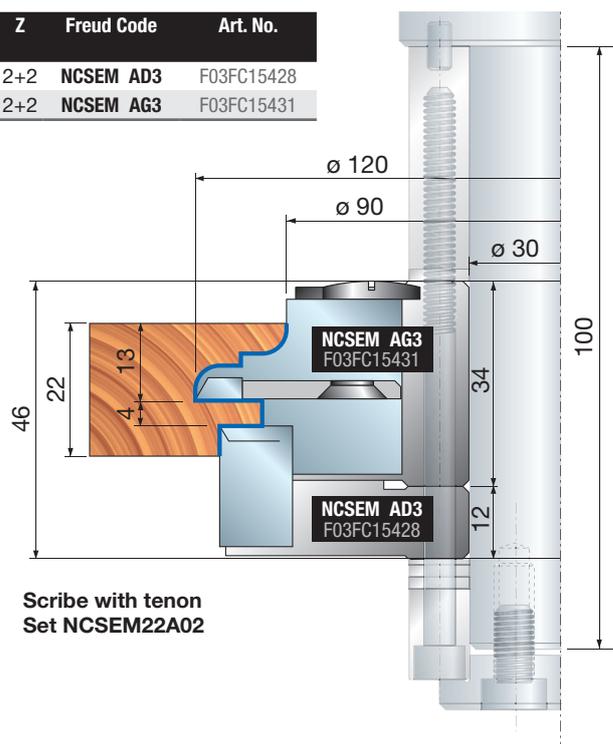
CNC tool set suitable for cabinet doors with 6 available counte-profiles (please refer to NCSEM22 profiles).

- Profile available both with and without groove.
- 22 mm timber.
- Aluminium light alloy body.
- Chuck and knives to be ordered separately.

	Spare parts	Dimensions mm	Freud Code	Art. No.
NCSEM AD3	Knife	20 x 12 x 1,5	CG06MCA310	F03FH02891
	Wedge	16	CN01MS DA9	F03FC01264
	Screw	M8 x 16	VT03M AA9	F03FA04435
NCSEM AG3	Spur	22,86 x 2,5	RG02MAA305	F03FH03041
	Screw	M5 x 8	VT05M AA9	F03FA04444
	Positioning plate	22 x 1,7 x 6,5	VT18M GA9	F03FA04488
	Screw	M10 x 16	2616M EE9	F03FA07426
	Spur insert	34 x 3,5 x 16	SR06MDBA302	F03FC24197
	Screw	M6 x 11,5	VT16M AB9	F03FA04477
	Screw	M5 x 8	VT05M AA9	F03FA04444

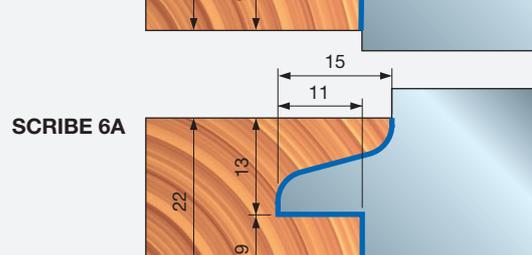
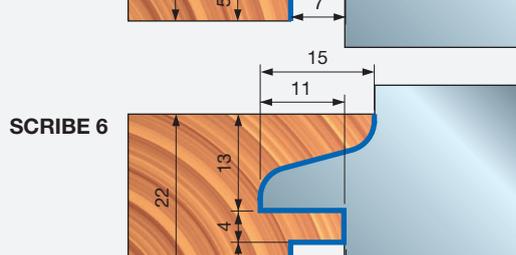
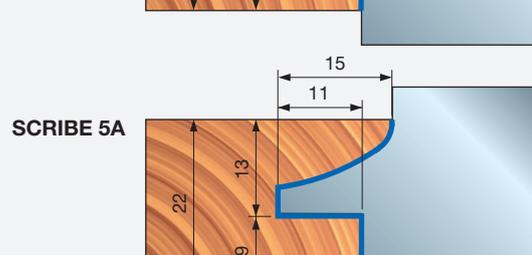
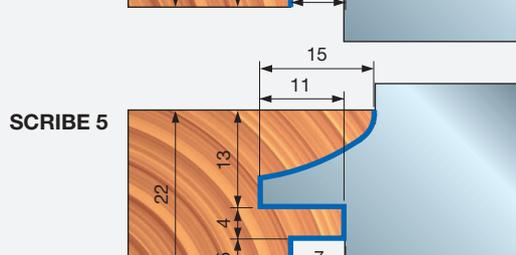
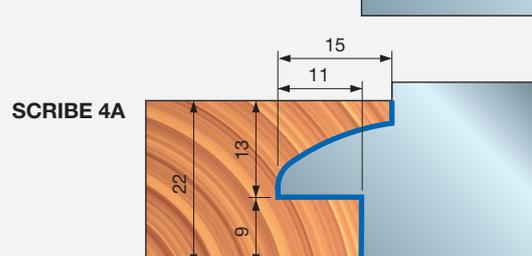
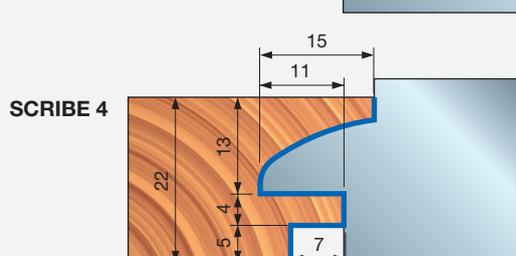
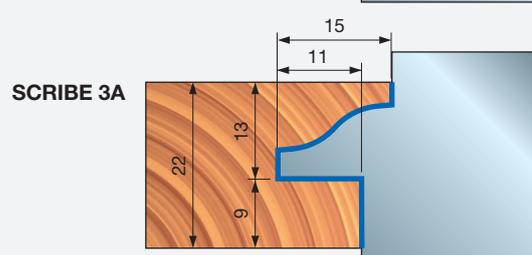
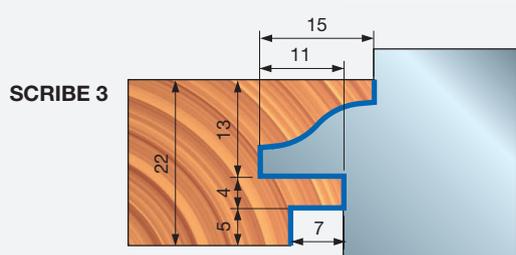
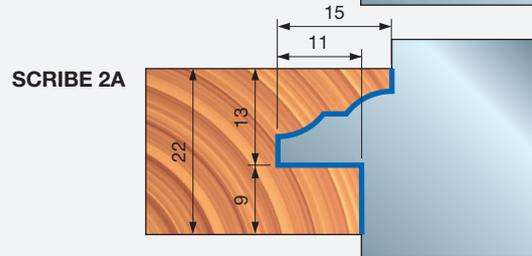
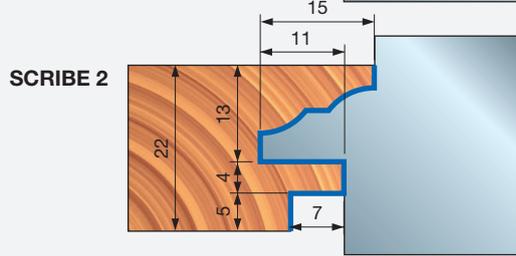
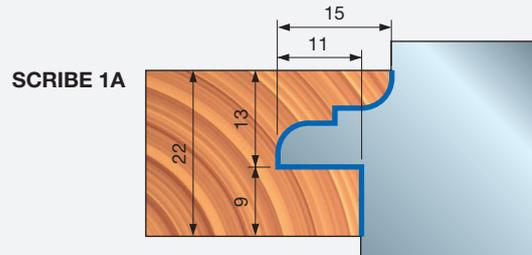
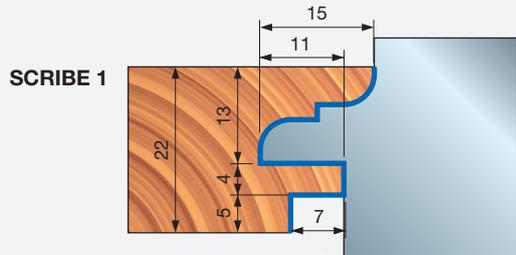
Tools for NCSEM22A02 and NCSEM22A04 sets

D mm	B mm	d mm	Z	Freud Code	Art. No.
112	20	30	2+2	NCSEM AD3	F03FC15428
120	29	30	2+2	NCSEM AG3	F03FC15431



Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1/1A 	Knife	30 x 34 x 3	CCSEMDA301	F03FC23734
2/2A 	Knife	30 x 34 x 3	CCSEMDB301	F03FC23735
3/3A 	Knife	30 x 34 x 3	CCSEMDC301	F03FC23736
4/4A 	Knife	30 x 34 x 3	CCSEMDD301	F03FC23737
5/5A 	Knife	30 x 34 x 3	CCSEMDE301	F03FC23738
6/6A 	Knife	30 x 34 x 3	CCSEMDF301	F03FC23739

Example of scribes

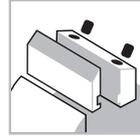


NCSEM30

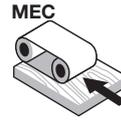
CNC tool for cabinet door frame profile - 30 mm



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Profiling



D	B	d	Z	Max RPM	Freud Code	Art. No.
mm	mm	mm		1/min.		
120	43	30	2	11.000	NCSEM30A01	F03FC15436
120	42	30	2	11.000	NCSEM30A03	F03FC15438

Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Profiling.

Technical information:

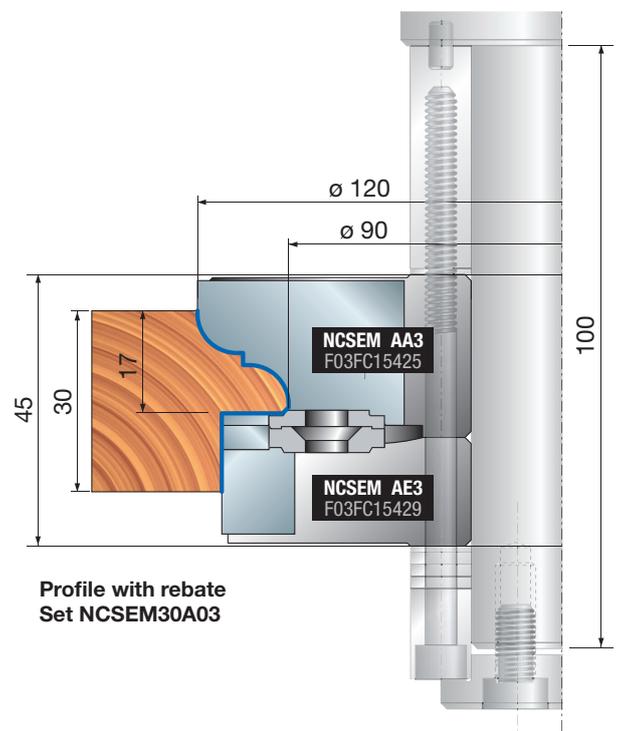
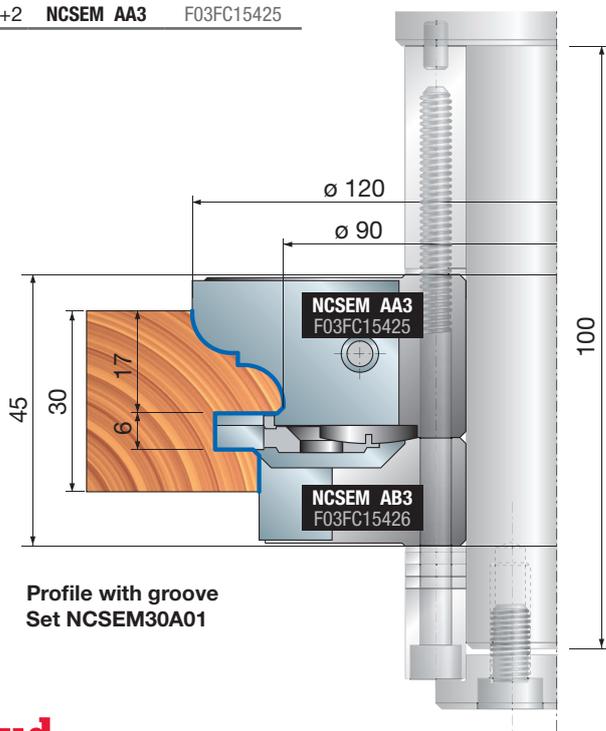
CNC tool set suitable for cabinet doors with 6 available profiles.

- Profile available both with and without groove.
- 30 mm timber.
- Aluminium light alloy body.
- Chuck and knives to be ordered separately.

Tools for NCSEM30A01 and NCSEM30A03 sets

D	B	d	Z	Freud Code	Art. No.
mm	mm	mm			
112	20	30	2+2	NCSEM AE3	F03FC15429
112,5	19	30	2+4	NCSEM AB3	F03FC15426
120	28	30	2+2	NCSEM AA3	F03FC15425

	Spare parts	Dimensions	Freud Code	Art. No.
NCSEM AA3	Positioning plate	22 x 1,7 x 6,5	VT18M GA9	F03FA04488
	Screw	M10 x 16	2616M EE9	F03FA07426
	Grooving insert	27 x 4 x 16	IG04MDAA3T05	F03FC24151
	Screw	M6 x 14,5	VT16M AA9	F03FA04476
NCSEM AB3	Screw	M5 x 8	VT05M AA9	F03FA04444
	Knife	14,6 x 12 x 1,5	CG06MBA310	F03FH02890
	Wedge	13	CN01M CA9	F03FC01250
	Screw	M8 x 16	VT03M AA9	F03FA04435
	Beveling insert	22 x 16 x 5	IG51MBA305	F03FH03022
	Screw	M6 x 14,5	VT16M AA9	F03FA04476
NCSEM AE3	Grooving insert	27 x 4 x 16	IG04MSAA3T05	F03FC24155
	Screw	M6 x 14,5	VT16M AA9	F03FA04476
	Knife	20 x 12 x 1,5	CG06MCA310	F03FH02891
	Wedge	15 x 16 x 8	CN09MS AC9	F03FC01325
	Nut	10 x 11,5 x M6	VT20M AA9	F03FA04497
	Screw	M6 x 22	VT19M AB9	F03FA04491
	Spur	22,86 x 2,5	RG02MAA305	F03FH03041
	Screw	M5 x 8	VT05M AA9	F03FA04444

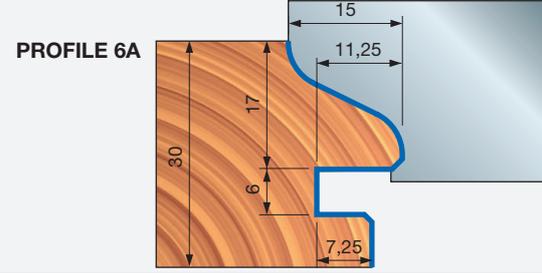
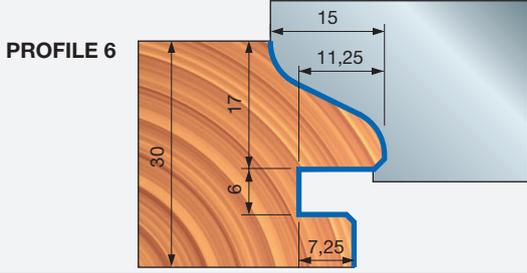
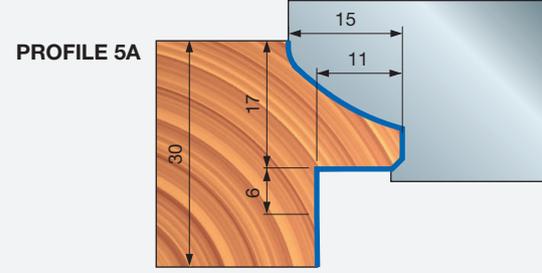
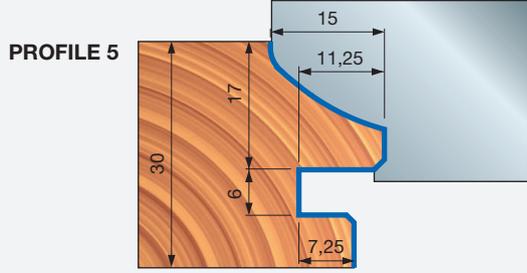
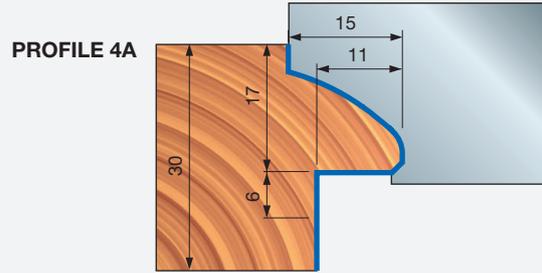
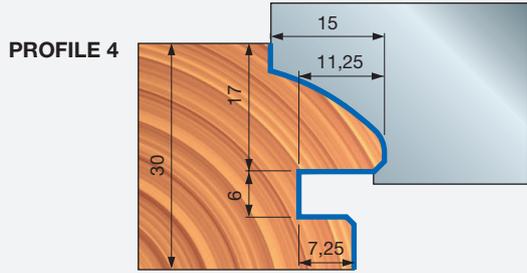
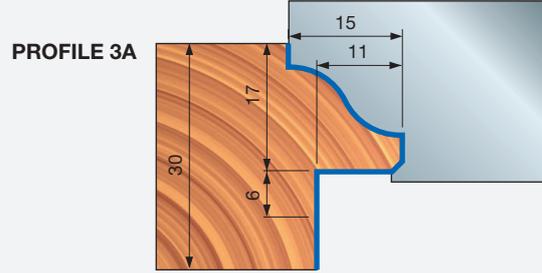
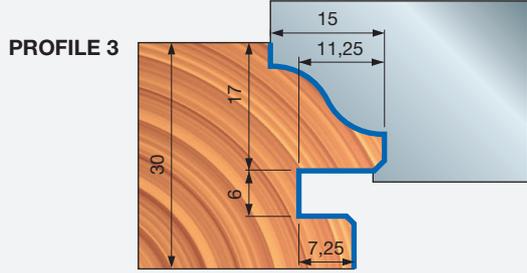
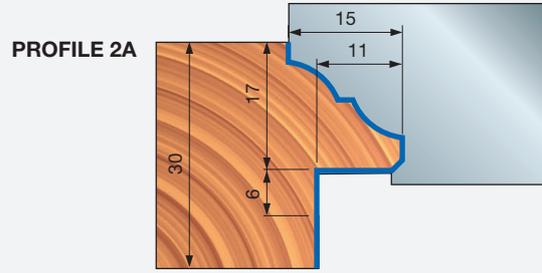
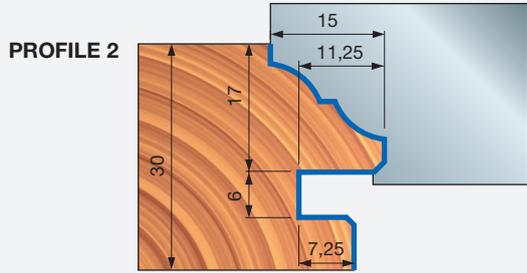
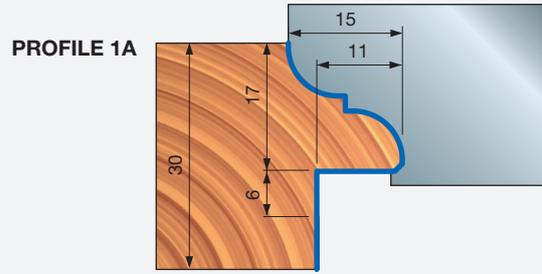
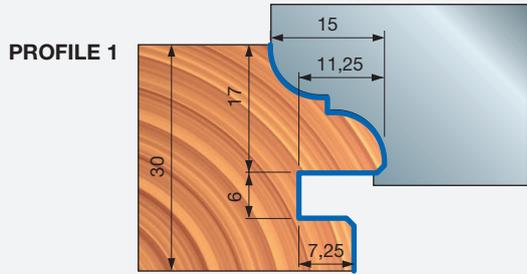


NCSEM30

CNC tool for cabinet door frame profile - 30 mm

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1/1A	Knife	24 x 34 x 3	CCSEMAA301	F03FC01398
2/2A	Knife	24 x 34 x 3	CCSEMAB301	F03FC23169
3/3A	Knife	24 x 34 x 3	CCSEMAC301	F03FC23657
4/4A	Knife	24 x 34 x 3	CCSEMAA301	F03FC23715
5/5A	Knife	24 x 34 x 3	CCSEMAE301	F03FC23717
6/6A	Knife	24 x 34 x 3	CCSEMAF301	F03FC23718

Example of profiles



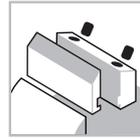


NCSEM30

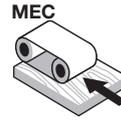
CNC tool for cabinet door frame scribe - 30 mm



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Profiling



Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Profiling.

Technical information:

CNC tool set suitable for cabinet doors with 6 available counter profiles (please refer to NCSEM22 profiles).

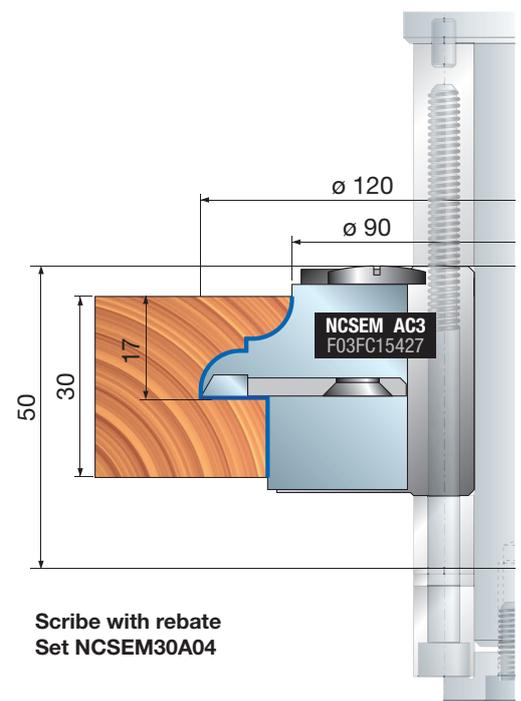
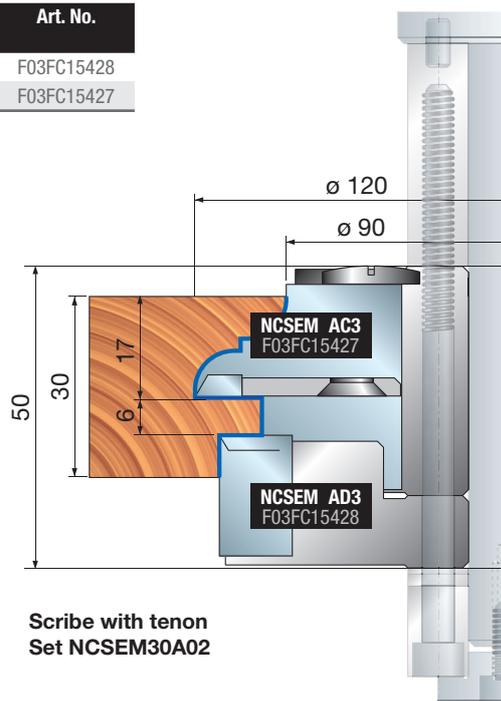
- Profile available both with and without groove.
- 30 mm timber.
- Aluminium light alloy body.
- Chuck and knives to be ordered separately.

D mm	B mm	d mm	Z	Max RPM 1/min.	Freud Code	Art. No.
120	41	30	2	11.000	NCSEM30A02	F03FC15437
120	29	30	2	11.000	NCSEM30A04	F03FC15439

	Spare parts	Dimensions mm	Freud Code	Art. No.
NCSEM AC3	Positioning plate	22 x 1,7 x 6,5	VT18M GA9	F03FA04488
	Screw	M10 x 16	2616M EE9	F03FA07426
	Spur insert	34 x 3,5 x 16 x 3 x 3	SR06MDBA302	F03FC24197
	Screw	M6 x 11,5	VT16M AB9	F03FA04477
	Screw	M5 x 8	VT05M AA9	F03FA04444
NCSEM AD3	Knife	14,6 x 12 x 1,5	CG06MBA310	F03FH02890
	Wedge	13	CN01M CA9	F03FC01250
	Screw	M8 x 16	VT03M AA9	F03FA04435
	Beveling insert	22 x 16 x 5	IG51MBA305	F03FH03022
	Screw	M6 x 14,5	VT16M AA9	F03FA04476
	Grooving insert	27 x 4 x 16	IG04MSAA3T05	F03FC24155

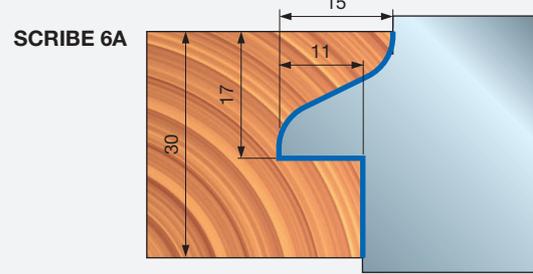
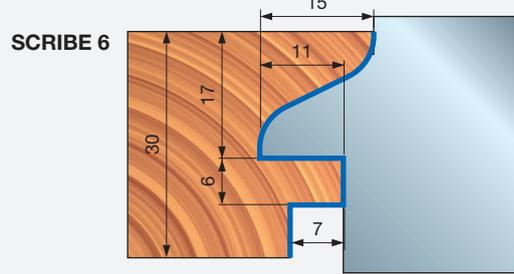
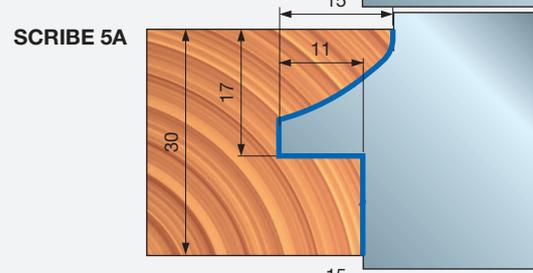
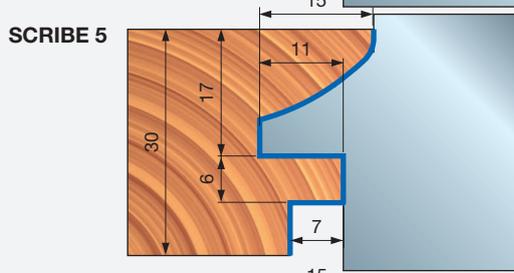
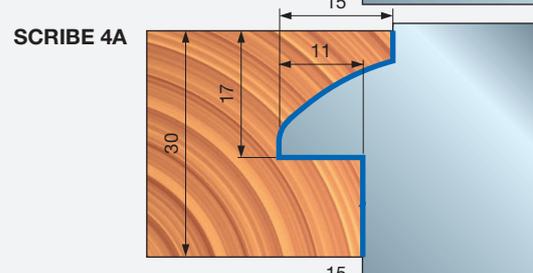
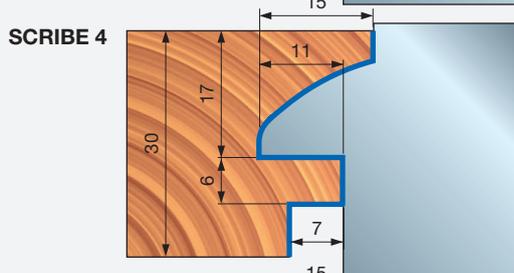
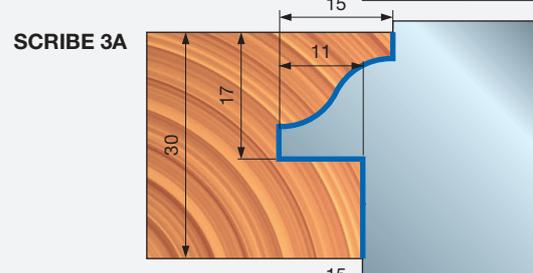
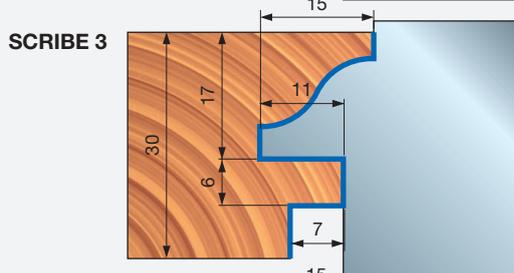
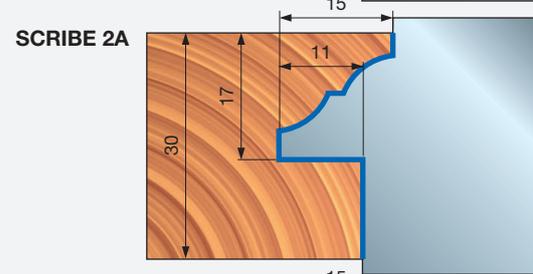
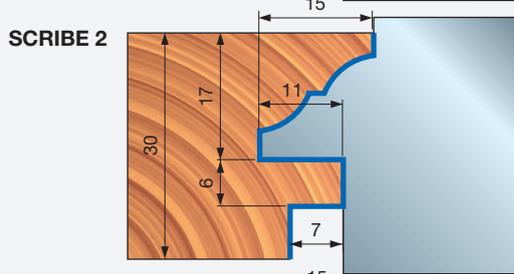
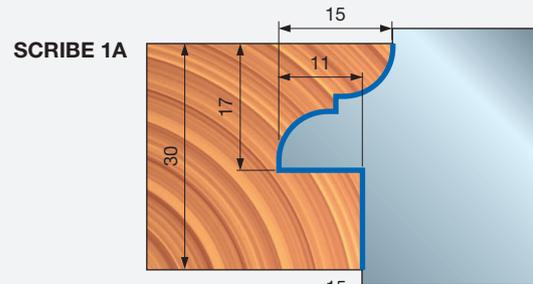
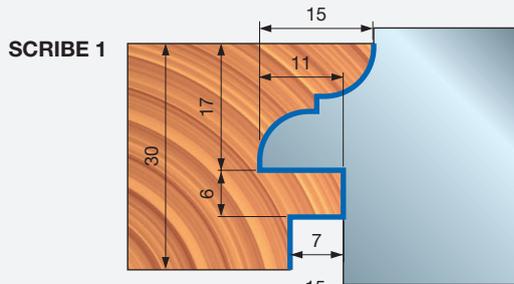
Tools for NCSEM30A02 and NCSEM30A04 sets

D mm	B mm	d mm	Z	Freud Code	Art. No.
112	20	30	2+2	NCSEM AD3	F03FC15428
120	34	30	2+2	NCSEM AC3	F03FC15427



Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1/1A	Knife	24 x 34 x 3	CCSEMAA301	F03FC01398
2/2A	Knife	24 x 34 x 3	CCSEMAB301	F03FC23169
3/3A	Knife	24 x 34 x 3	CCSEMAC301	F03FC23657
4/4A	Knife	24 x 34 x 3	CCSEMA301	F03FC23715
5/5A	Knife	24 x 34 x 3	CCSEMAE301	F03FC23717
6/6A	Knife	24 x 34 x 3	CCSEMAF301	F03FC23718

Example of scribes



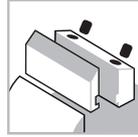


TD54MD

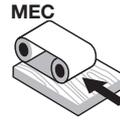
CNC multiprofile raised panel router cutter



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Chipboard



Profiling



Machines:
CNC overhead routing machines.

Materials:
Softwood, hardwood and chipboard.

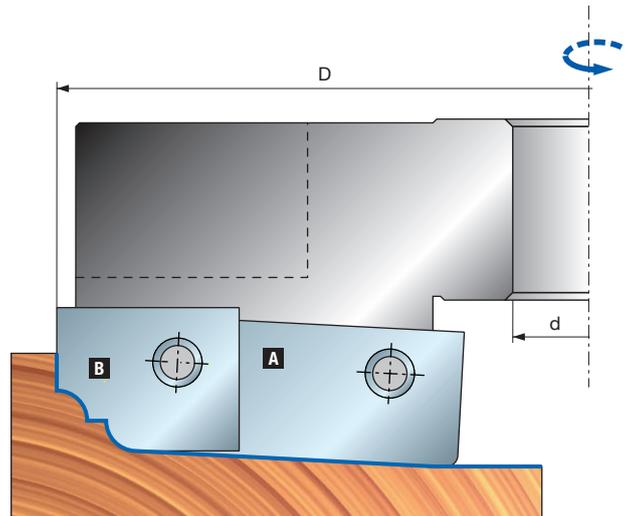
Applications:
Profiling.

Technical information:
Performance knives raised panel cutter with 9 available profiles.

- 2+2 cutting design to reach maximum finishing.
- Aluminium light alloy body.
- 20x50 mm shank.
- Knives to be ordered separately.

D mm	A mm	d mm	Z	Max RPM 1/min.	Freud Code	Art. No.
140	20 x 50	20	2+2	9.600	TD54MD AA3	F03FC22230
140	20 x 50	20	2+2	9.600	TD54MD BA3	F03FC22204

	Spare parts	Dimensions mm	Freud Code	Art. No.
AA3	Wedge	42,9 x 18 x 7,8	CN54M AA9	F03FC22200
	Wedge	16,6 x 21,3 x 8,5	CN54M AB9	F03FC22201
BA3	Wedge	42,8 x 16,7 x 7,8	CN54M BA9	F03FC22202
	Wedge	16,5 x 21,8 x 8,5	CN54M BB9	F03FC22203
	Screw	M10 x 18	VT03M CC9	F03FA04438
	Screw	M8 x 10 x 22	VT08M AD9	F03FA04456
	Screw	M5 x 7 x 18	VT08M AE9	F03FA04457
	Allen key	5	CB03M EA9	F03FA00169
	Chuck	20 x 33 x 93	AP08M DA9	F03FC00579



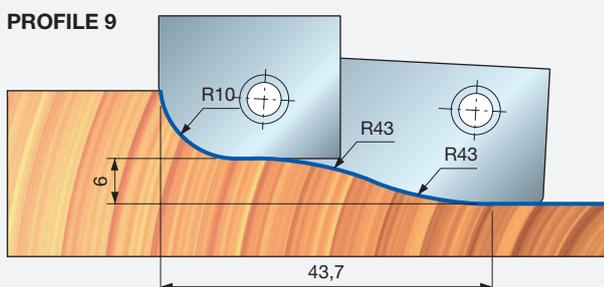
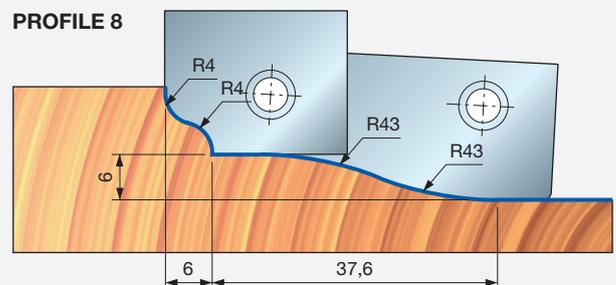
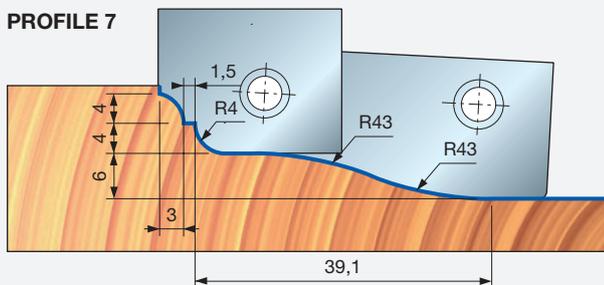
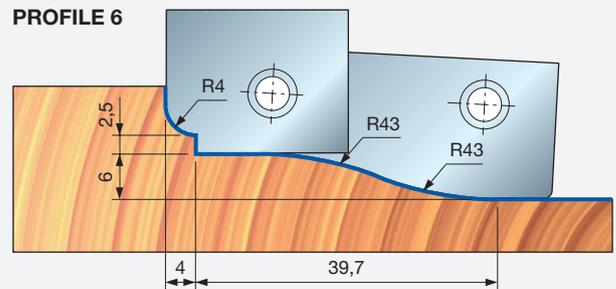
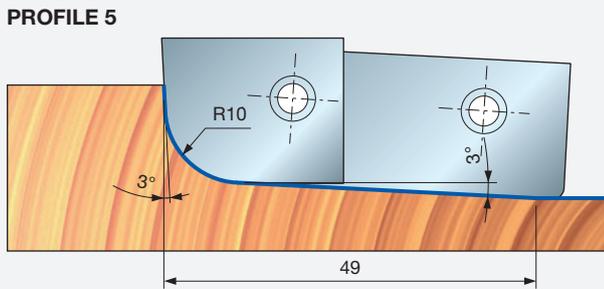
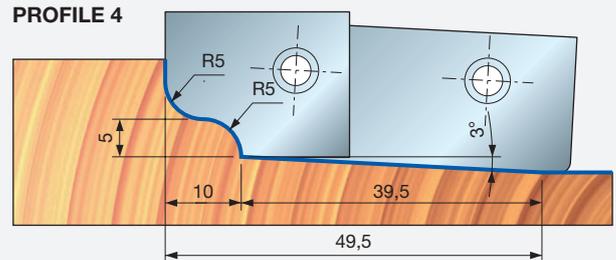
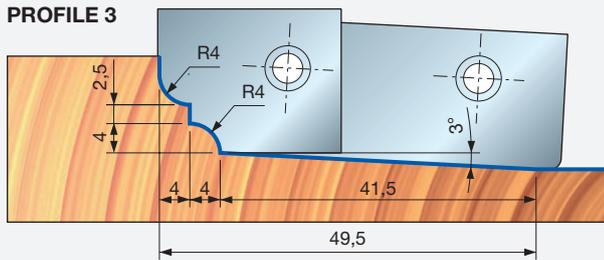
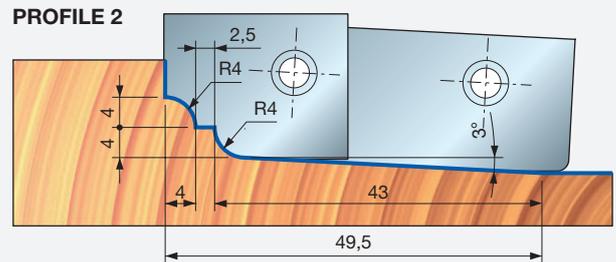
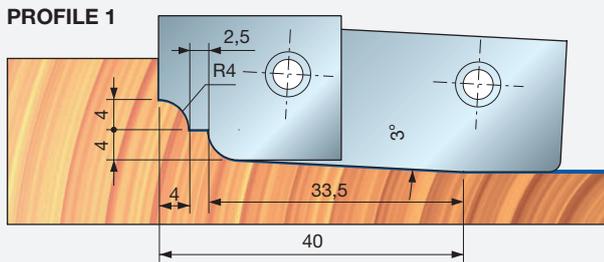
Knives for TD54MD AA3

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife A	64 x 20 x 3	CT54MDBA301	F03FC24069
	Knife B	19 x 24 x 3	CT54MDAA301	F03FC24061
2	Knife A	64 x 20 x 3	CT54MDBB301	F03FC24070
	Knife B	19 x 24 x 3	CT54MDAA301	F03FC24061
3	Knife A	64 x 20 x 3	CT54MDBC301	F03FC24071
	Knife B	19 x 24 x 3	CT54MDAC301	F03FC24062
4	Knife A	64 x 20 x 3	CT54MDBD301	F03FC24072
	Knife B	19 x 24 x 3	CT54MDAD301	F03FC24063
5	Knife A	64 x 20 x 3	CT54MDBE301	F03FC24073
	Knife B	19 x 24 x 3	CT54MDAE301	F03FC24064

Knives for TD54MD BA3

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
6	Knife A	64 x 20 x 3	CT54MDBF301	F03FC24074
	Knife B	19 x 24 x 3	CT54MDAF301	F03FC24065
7	Knife A	64 x 20 x 3	CT54MDBG301	F03FC24075
	Knife B	19 x 24 x 3	CT54MDAG301	F03FC24066
8	Knife A	64 x 20 x 3	CT54MDBH301	F03FC24076
	Knife B	19 x 24 x 3	CT54MDAH301	F03FC24067
9	Knife A	64 x 20 x 3	CT54MDBL301	F03FC24077
	Knife B	19 x 24 x 3	CT54MDAL301	F03FC24068

Example of scribes



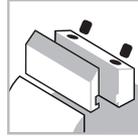


NC92M

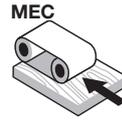
CNC tool with profiled knives



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Chipboard



MDF



Profiling



Planing



Machines:

CNC overhead routing machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Profiling and planing.

Technical information:

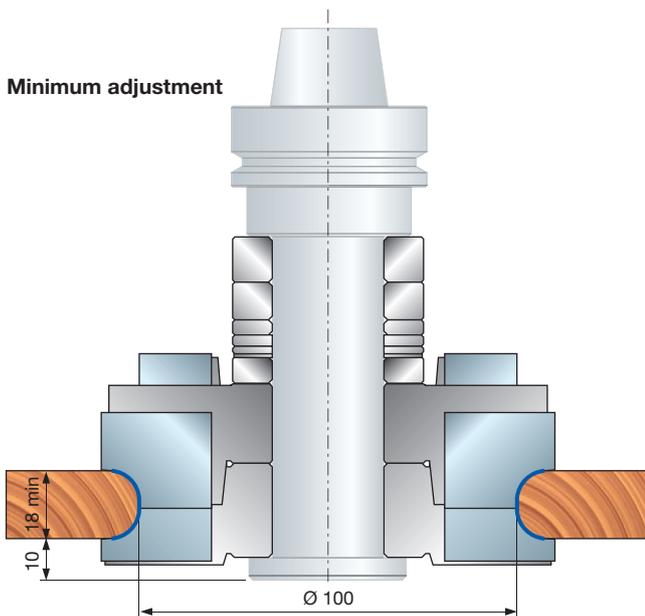
Performance CNC tool set suitable for profiling with 8 available radius and bevel profiles.

- Aluminium light alloy body.
- Chuck and knives to be ordered separately.

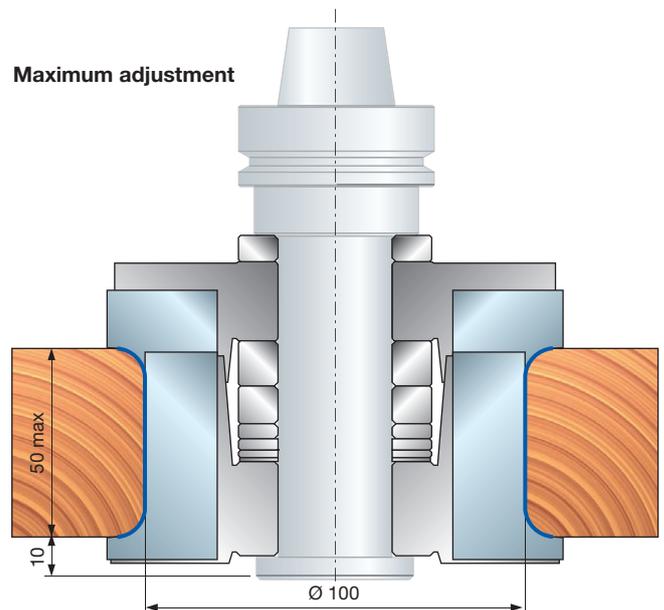
D mm	B mm	d mm	Max RPM 1/min.	Freud Code	Art. No.
120	30	30	10.000	NC92M 100*	F03FC15469

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Wedge	30,7 x 28 x 8	CN13M CC9	F03FC01391
	Wedge	50 x 28 x 8	CN13M CD9	F03FC01392
	Screw	M10 x 18	VT03M CC9	F03FA04438
	Screw	M5 x 7 x 18	VT08M AE9	F03FA04457
	Allen key	5	CB03M EA9	F03FA00169

Minimum adjustment



Maximum adjustment



Tools for NC92M set

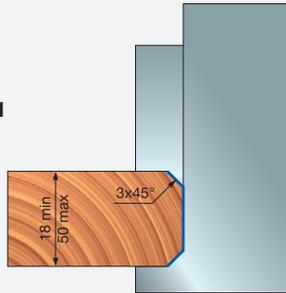
Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	35 x 30 x 3 3x45°	CC92M1T0101	F03FC23793
2	Knife	35 x 30 x 3 5x45°	CC92M1T0201	F03FC23794
3	Knife	35 x 30 x 3 R=3	CC92M1T0301	F03FC23795
4	Knife	35 x 30 x 3 R=4	CC92M1T0401	F03FC23796
5	Knife	35 x 30 x 3 R=5	CC92M1T0501	F03FC23797
6	Knife	35 x 30 x 3 R=6	CC92M1T0601	F03FC23798
7	Knife	35 x 30 x 3 R=7	CC92M1T0701	F03FC23799
8	Knife	35 x 30 x 3 R=8	CC92M1T0801	F03FC23800

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
1	Knife	55 x 30 x 3 3x45°	CC92M2T0101	F03FC23801
2	Knife	55 x 30 x 3 5x45°	CC92M2T0201	F03FC23802
3	Knife	55 x 30 x 3 R=3	CC92M2T0301	F03FC23803
4	Knife	55 x 30 x 3 R=4	CC92M2T0401	F03FC23804
5	Knife	55 x 30 x 3 R=5	CC92M2T0501	F03FC23805
6	Knife	55 x 30 x 3 R=6	CC92M2T0601	F03FC23806
7	Knife	55 x 30 x 3 R=7	CC92M2T0701	F03FC23807
8	Knife	55 x 30 x 3 R=8	CC92M2T0801	F03FC23808

Example of scribes

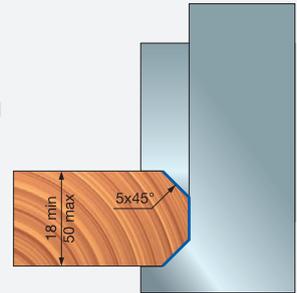
PROFILE 1

Obtainable with knives:
CC92M1T0101 + CC92M2T0101



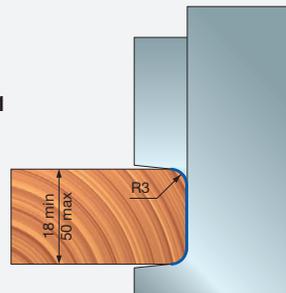
PROFILE 2

Obtainable with knives:
CC92M1T0201 + CC92M2T0201



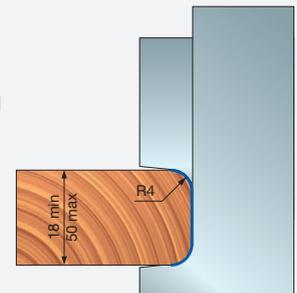
PROFILE 3

Obtainable with knives:
CC92M1T0301 + CC92M2T0301



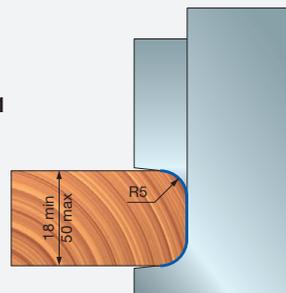
PROFILE 4

Obtainable with knives:
CC92M1T0401 + CC92M2T0401



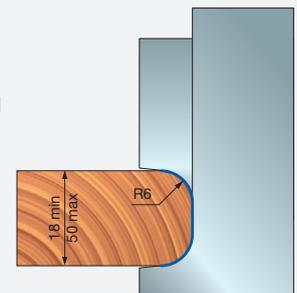
PROFILE 5

Obtainable with knives:
CC92M1T0501 + CC92M2T0501



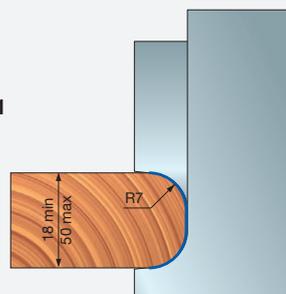
PROFILE 6

Obtainable with knives:
CC92M1T0601 + CC92M2T0601



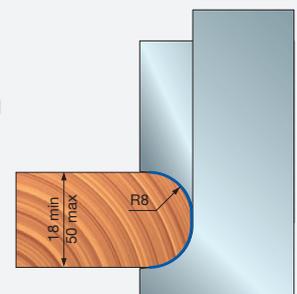
PROFILE 7

Obtainable with knives:
CC92M1T0701 + CC92M2T0701



PROFILE 8

Obtainable with knives:
CC92M1T0801 + CC92M2T0801



Item **NC92M 100** is supplied without chuck (for chuck ref. see the catalogue accessories).

Order example:	NC92M 100	Group	1 piece
	CC92M1T0101	Knives	2 pieces
	CC92M2T0101	Knives	2 pieces
	MP05M AE9	Chuck	1 piece

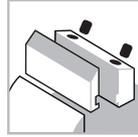


NC93M

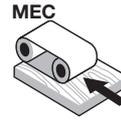
CNC finger joint tool



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Jointing



Machines:

CNC overhead routing machines.

Materials:

Softwood and hardwood.

Applications:

Jointing.

Technical information:

Adjustable CNC tool set suitable for jointing.

- Timber from 40 to 80 mm.
- Adjusting system to manage regular, tight and loose joint.
- Tool available in left and right hand rotation.
- Aluminium light alloy body.
- Chuck and knives to be ordered separately.

D mm	B mm	d mm	Max RPM 1/min.	Freud Code	Art. No.
120	30	30	10.000	NC93M 100*	F03FC15472

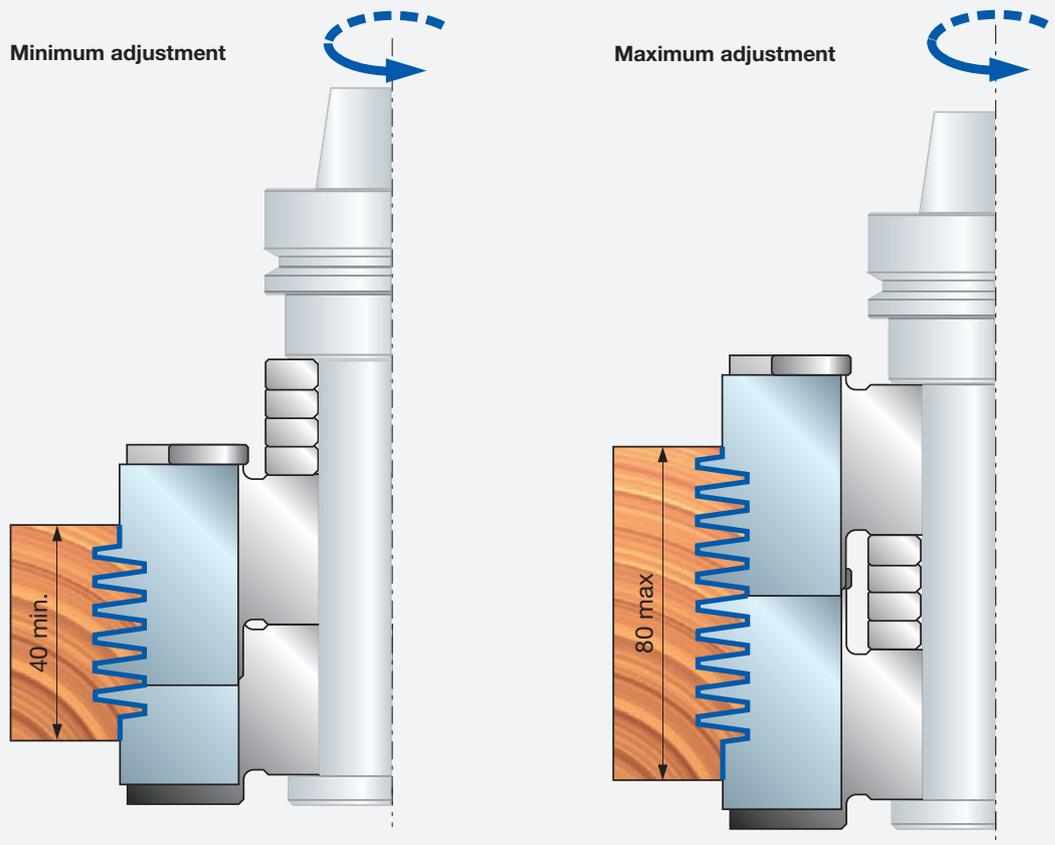
Spare parts		Dimensions mm	Freud Code	Art. No.
	Wedge	41 x 17 x 8	CN11M B410	F03FC01351
	Screw	M4 x 6	2602M CE9	F03FA07349
	Screw	M10 x 18	VT03M CC9	F03FA04438
	Screw	M5 x 7 x 18	VT08M AE9	F03FA04457
	Screw	18 x 7 x M6	VT08M AG9	F03FC20653
	Spacer	50 x 5,8 x 30	AN04M AC9	F03FC00500
	Allen key	2	2619M BA9	F03FA07431
	Allen key	5	CB03M EA9	F03FA00169

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
	Knife	45 x 30 x 3	CW24MAAA301	F03FC24128
	Knife	45 x 30 x 3	CW24MBAA301	F03FC24129

Tools for set NC93M 100

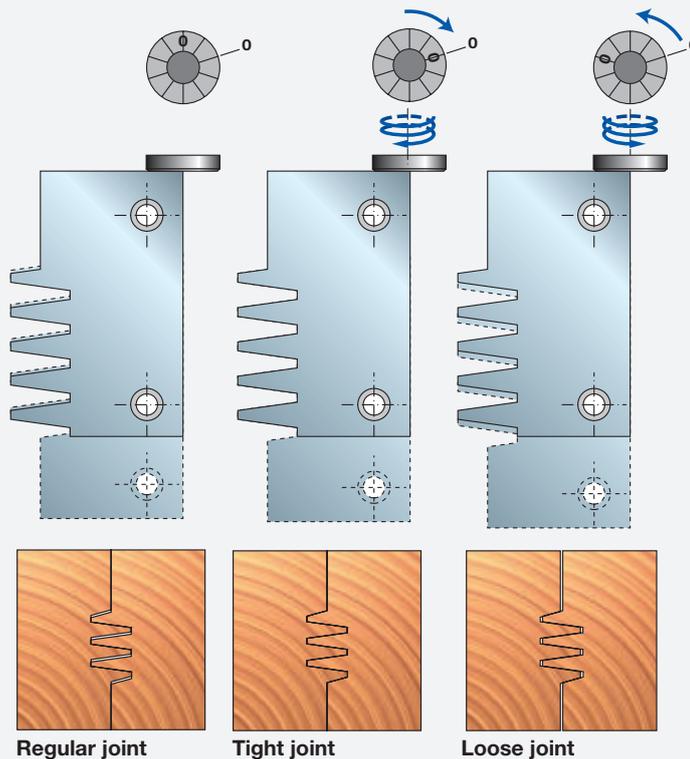
D mm	B mm	D mm	Z mm	Freud Code	Art. No.
120	52	30	2	NC93M100-1	F03FC15473
120	55	30	2	NC93M100-2	F03FC15474

Adjustment examples:



Follow below instructions:

- Before rotating the adjusting screw, the clamping screw must be loosened.
- Rotating the adjusting screw clockwise, the tightness of the screw increases progressively (every notch on the adjusting screw corresponds to a movement of 1/10 mm). The perfect alignment of the knives is 0:0 (the "0" on the adjusting screw with the "0" on the tool body). This alignment results in a tight joint.
- Rotate the adjusting screw anti-clockwise in order to loosen the joint.



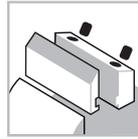


NC94MGC13

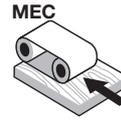
CNC finger joint tool



CNC Machines



Clamping system



Automatic feed



Aluminium body



Softwood



Hardwood



Jointing



Machines:
CNC overhead routing machines.

Materials:
Softwood and hardwood.

Applications:
Jointing.

- Technical information:**
Adjustable CNC tool set suitable for jointing.
- Timber from 44 to 92 mm.
 - Adjusting system to manage regular, tight and loose joint.
 - Tool available in left and right hand rotation.
 - Aluminium light alloy body.
 - Chuck and knives to be ordered separately.

D mm	B mm	d mm	Z	Max RPM 1/min.	Freud Code	Art. No.
120	107	30	2	11.000	NC94MGC13-D	F03FC23626
120	107	30	2	11.000	NC94MGC13-S	F03FC23627

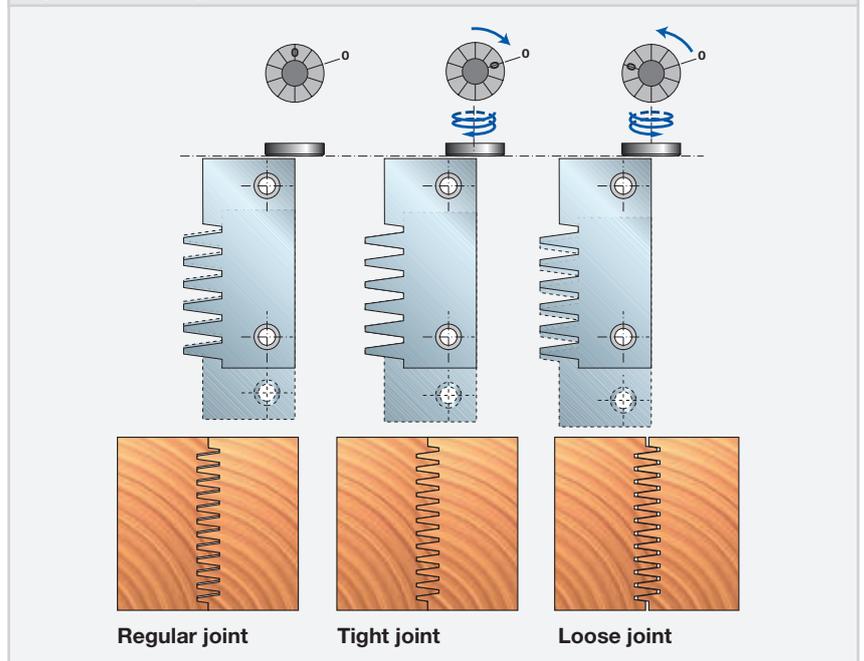
Spare parts	Dimensions mm	Freud Code	Art. No.
Spacer	50 x 5,8 x 30	AN01MA0589	F03FC00039
Spacer	50 x 23 x 30	AN01MA2309	F03FC00057
Steel pin	4 x 10	2601M AB9	F03FA07326
Steel pin	2,5 x 6	2601M AV9	F03FA07342
Screw	M5 x 90	2607M CS9	F03FA18898
Wedge	53,5 x 32,5 x 8	CN94M 001	F03FC23364
Wedge	53,5 x 32,5 x 8	CN94M 002	F03FC23365
Screw	18 x 7 x M6	VT08M AG9	F03FC20653
Screw	M4 x 6	2602M CE9	F03FA07349
Screw	M10 x 16	2616M EE9	F03FA07426

Profile	Spare knives	Dimensions mm	Freud Code	Art. No.
001	Knife	55 x 29 x 3	CW94M00101	-
002	Knife	55 x 29 x 3	CW94M00201	-

Tools for set NC94M 100

D mm	B mm	d mm	Z	Freud Code	Art. No.
120	59	30	2	NC94M 001	F03FC23620
120	59	30	2	NC94M 002	F03FC23621

Adjustment examples:



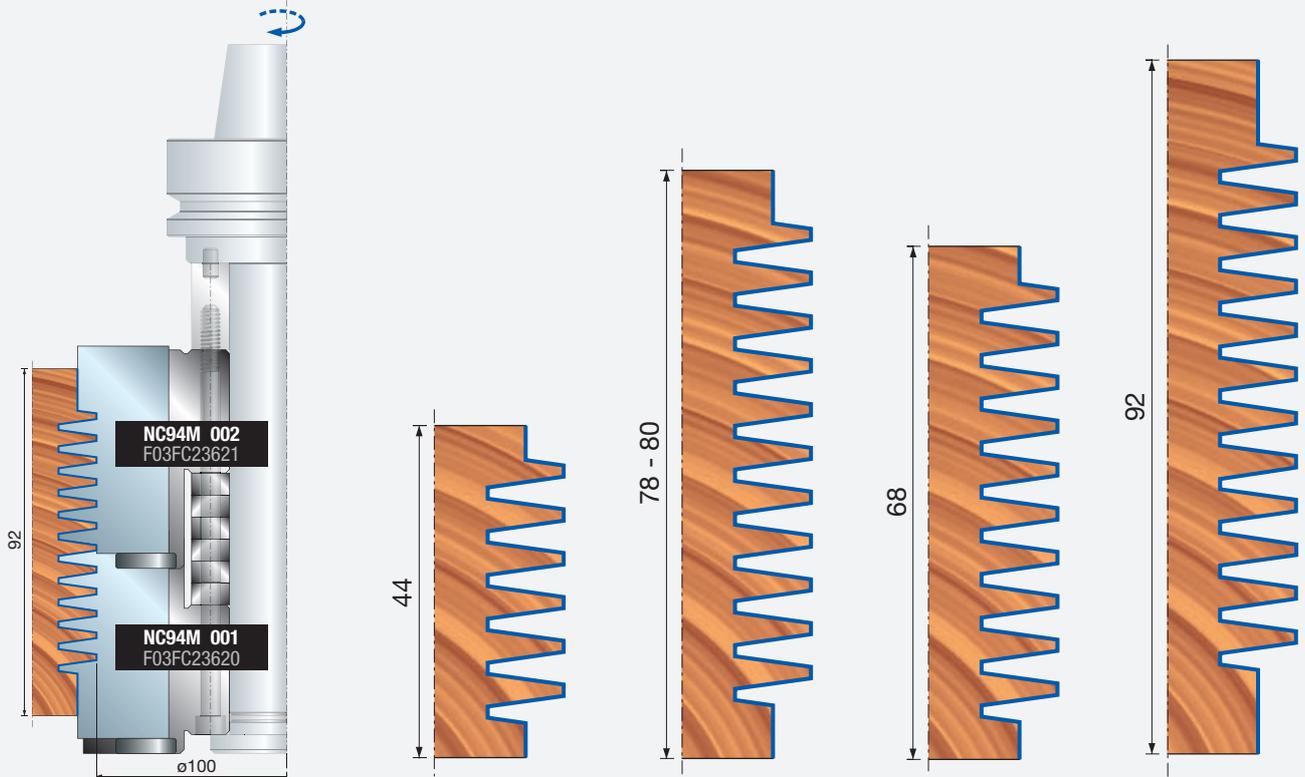
Regular joint

Tight joint

Loose joint

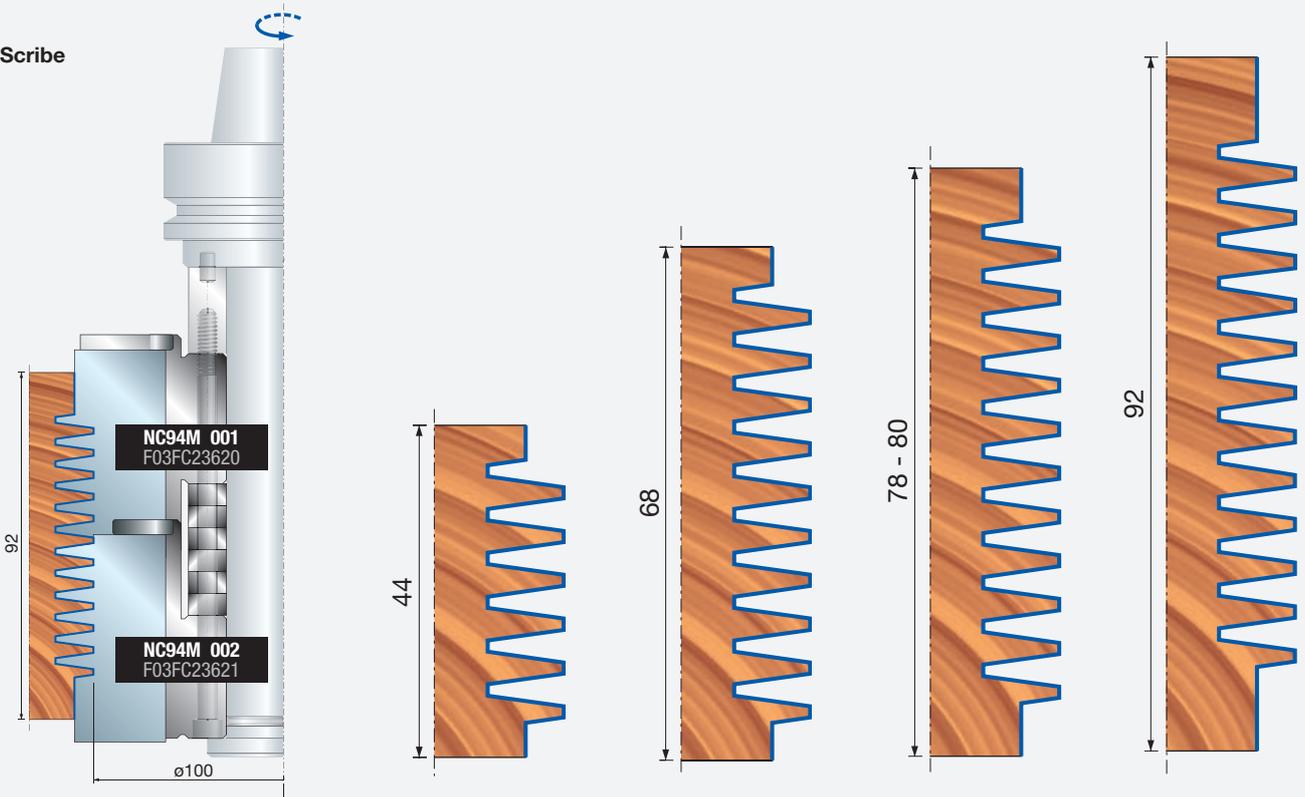
Profiles NC94MGC13-D

Profile



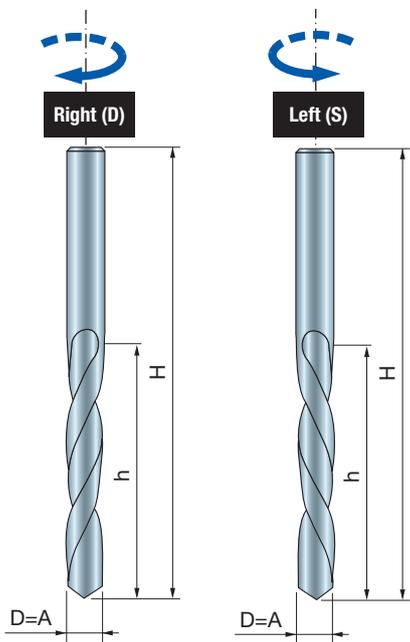
Scribes NC94MGC13-S

Scribe



Drilling





PF03MD PF03MS

Solid Carbide multipurpose drilling - screw holes



Boring Machines



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



Laminated
MDF



Plywood



Blind Holes



Through Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

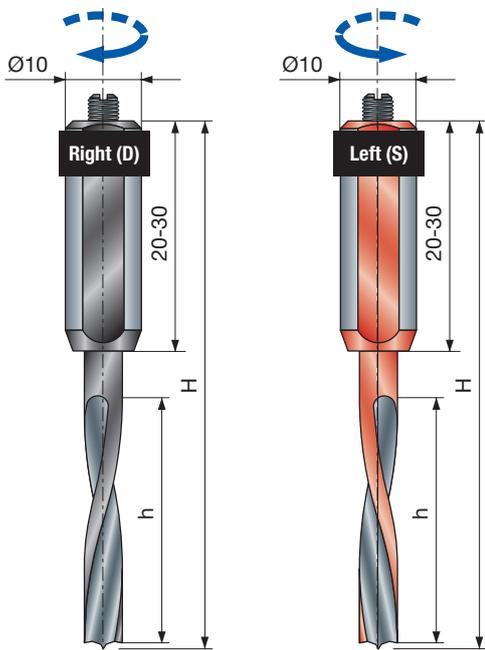
Boring and drilling.

Technical information:

Solid Carbide drills in HW suitable for screw holes.

- Constructed with two spirals with back clearance angle.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
2	24	49	2	2	PF03MD PA3	F03FA02055
2,5	24	49	2,5	2	PF03MD QA3	F03FA02056
3	30	55	3	2	PF03MD RA3	F03FA02057
3,2	30	55	3,2	2	PF03MD SA3	F03FA02058
3,5	30	55	3,5	2	PF03MD TA3	F03FA02059
4	30	55	4	2	PF03MD ZA3	F03FA02062
4,5	35	60	4,5	2	PF03MD UA3	F03FA02060
5	35	60	5	2	PF03MD VA3	F03FA02061
2	24	49	2	2	PF03MS PA3	F03FA02063
2,5	24	49	2,5	2	PF03MS QA3	F03FA02064
3	30	55	3	2	PF03MS RA3	F03FA02065
3,2	30	55	3,2	2	PF03MS SA3	F03FA02066
3,5	30	55	3,5	2	PF03MS TA3	F03FA02067
4	30	55	4	2	PF03MS ZA3	F03FA02070
4,5	35	60	4,5	2	PF03MS UA3	F03FA02068
5	35	60	5	2	PF03MS VA3	F03FA02069



PF26MD PF26MS

Dowel drills for blind holes



Boring Machines



Blind Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

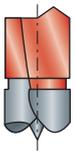
Boring.

Technical information:

Solid Carbide dowel drills suitable for blind holes.

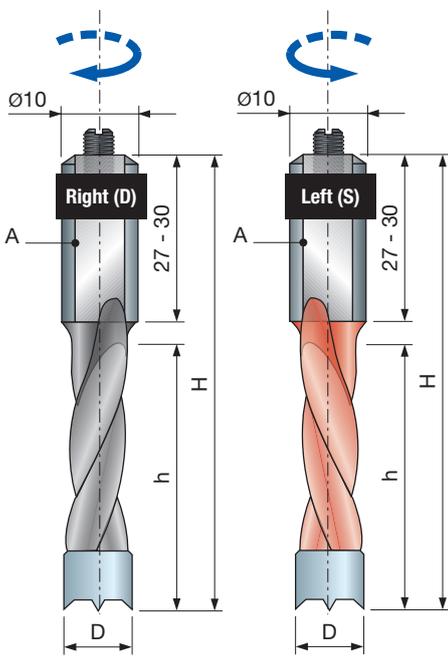
- Bit in HW with central point and cylindrical steel shank with M5 x 10 mm adjusting screw.

Geometry of the tip



D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
3	22	70	10 x 33	2	PF26MD VC3	F03FA13217
4	27	70	10 x 30	2	PF26MD ZC3	F03FA03016
5	33	70	10 x 30	2	PF26MD AC3	F03FA03013
6	33	70	10 x 30	2	PF26MD BC3	F03FA03014
8	33	70	10 x 20	2	PF26MD DC3	F03FA03015
3	22	70	10 x 33	2	PF26MS VC3	F03FA13218
4	27	70	10 x 30	2	PF26MS ZC3	F03FA03020
5	33	70	10 x 30	2	PF26MS AC3	F03FA03017
6	33	70	10 x 30	2	PF26MS BC3	F03FA03018
8	33	70	10 x 20	2	PF26MS DC3	F03FA03019

Spare parts	Dimensions mm	Freud Code	Art. No.
 Screw	M5x10	2602M DC9	F03FA07350



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

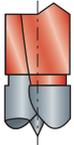
Boring.

Technical information:

Dowel drills HW tipped with centre point for blind holes.

- Round edge spurs to avoid splintering.
- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

Geometry of the tip



**PF04MD
PF04MS**

Dowel drills with round spurs



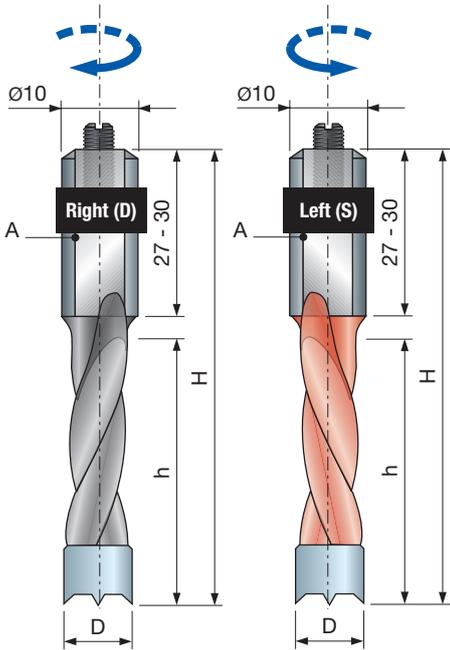
Boring Machines



Blind Holes

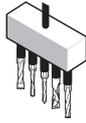
D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	27	57,5	10 x 27	2	PF04MD AA3	F03FA02071
6	27	57,5	10 x 27	2	PF04MD BA3	F03FA02073
8	27	57,5	10 x 27	2	PF04MD DA3	F03FA02075
10	27	57,5	10 x 27	2	PF04MD FA3	F03FA02077
5	35	70	10 x 30	2	PF04MD AC3	F03FA02072
6	35	70	10 x 30	2	PF04MD BC3	F03FA02074
8	35	70	10 x 30	2	PF04MD DC3	F03FA02076
10	35	70	10 x 30	2	PF04MD FC3	F03FA02078
5	27	57,5	10 x 27	2	PF04MS AA3	F03FA02079
6	27	57,5	10 x 27	2	PF04MS BA3	F03FA02081
8	27	57,5	10 x 27	2	PF04MS DA3	F03FA02083
10	27	57,5	10 x 27	2	PF04MS FA3	F03FA02085
5	35	70	10 x 30	2	PF04MS AC3	F03FA02080
6	35	70	10 x 30	2	PF04MS BC3	F03FA02082
8	35	70	10 x 30	2	PF04MS DC3	F03FA02084
10	35	70	10 x 30	2	PF04MS FC3	F03FA02086

Spare parts	Dimensions mm	Freud Code	Art. No.
 Screw	M5 x 10	2602M DC9	F03FA07350



PF06MD PF06MS

Dowel drills for blind holes



Boring Machines



Blind Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

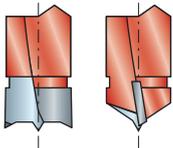
Technical information:

Dowel drills HW tipped with centre point for blind holes.

- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

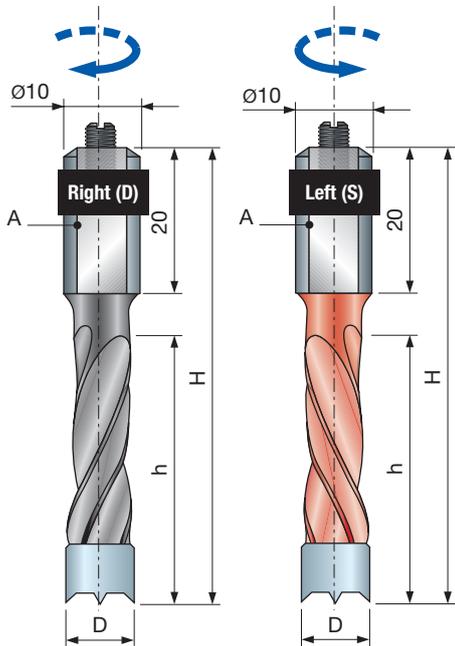
Geometry of the tip

Router bit with negative spur



D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	27	57,5	10 x 27	2	PF06MD AA3	F03FA02103
6	27	57,5	10 x 27	2	PF06MD BA3	F03FA02106
7	27	57,5	10 x 27	2	PF06MD CA3	F03FA02109
8	27	57,5	10 x 27	2	PF06MD DA3	F03FA02112
9	27	57,5	10 x 27	2	PF06MD EA3	F03FA02115
10	27	57,5	10 x 27	2	PF06MD FA3	F03FA02117
12	27	57,5	10 x 27	2	PF06MD GA3	F03FA02120
14	27	57,5	10 x 27	2	PF06MD HA3	F03FA02123
15	27	57,5	10 x 27	2	PF06MD IA3	F03FA02125
16	27	57,5	10 x 27	2	PF06MD KA3	F03FA02127
4	27	57,5	10 x 27	2	PF06MD ZA3	F03FA02132
5	35	70	10 x 30	2	PF06MD AC3	F03FA02104
5	44	77	10 x 30	2	PF06MD AD3	F03FA02105
6	35	70	10 x 30	2	PF06MD BC3	F03FA02107
6	44	77	10 x 30	2	PF06MD BD3	F03FA02108
7	35	70	10 x 30	2	PF06MD CC3	F03FA02110
7	44	77	10 x 30	2	PF06MD CD3	F03FA02111
8	35	70	10 x 30	2	PF06MD DC3	F03FA02113
8	44	77	10 x 30	2	PF06MD DD3	F03FA02114
9	35	70	10 x 30	2	PF06MD EC3	F03FA02116
10	35	70	10 x 30	2	PF06MD FC3	F03FA02118
10	44	77	10 x 30	2	PF06MD FD3	F03FA02119
12	35	70	10 x 30	2	PF06MD GC3	F03FA02121
12	44	77	10 x 30	2	PF06MD GD3	F03FA02122
14	35	70	10 x 30	2	PF06MD HC3	F03FA02124
15	35	70	10 x 30	2	PF06MD IC3	F03FA02126
16	35	70	10 x 30	2	PF06MD KC3	F03FA02128
5	27	57,5	10 x 27	2	PF06MS AA3	F03FA02135
6	27	57,5	10 x 27	2	PF06MS BA3	F03FA02138
7	27	57,5	10 x 27	2	PF06MS CA3	F03FA02141
8	27	57,5	10 x 27	2	PF06MS DA3	F03FA02144
9	27	57,5	10 x 27	2	PF06MS EA3	F03FA02147
10	27	57,5	10 x 27	2	PF06MS FA3	F03FA02149
12	27	57,5	10 x 27	2	PF06MS GA3	F03FA02152
14	27	57,5	10 x 27	2	PF06MS HA3	F03FA02155
15	27	57,5	10 x 27	2	PF06MS IA3	F03FA02157
16	27	57,5	10 x 27	2	PF06MS KA3	F03FA02159
4	27	57,5	10 x 27	2	PF06MS ZA3	F03FA02164
5	35	70	10 x 30	2	PF06MS AC3	F03FA02136
5	44	77	10 x 30	2	PF06MS AD3	F03FA02137
6	35	70	10 x 30	2	PF06MS BC3	F03FA02139
6	44	77	10 x 30	2	PF06MS BD3	F03FA02140
7	35	70	10 x 30	2	PF06MS CC3	F03FA02142
7	44	77	10 x 30	2	PF06MS CD3	F03FA02143
8	35	70	10 x 30	2	PF06MS DC3	F03FA02145
8	44	77	10 x 30	2	PF06MS DD3	F03FA02146
9	35	70	10 x 30	2	PF06MS EC3	F03FA02148
10	35	70	10 x 30	2	PF06MS FC3	F03FA02150
10	44	77	10 x 30	2	PF06MS FD3	F03FA02151
12	35	70	10 x 30	2	PF06MS GC3	F03FA02153
12	44	77	10 x 30	2	PF06MS GD3	F03FA02154
14	35	70	10 x 30	2	PF06MS HC3	F03FA02156
15	35	70	10 x 30	2	PF06MS IC3	F03FA02158
16	35	70	10 x 30	2	PF06MS KC3	F03FA02160

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw	M5 x 10	2602M DC9	F03FA07350



PF07MD PF07MS

Dowel drills for blind holes



Boring Machines



Blind Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

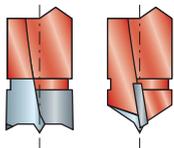
Technical information:

Dowel drills HW tipped with centre point for blind holes.

- Edge geometry to avoid splintering.
- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

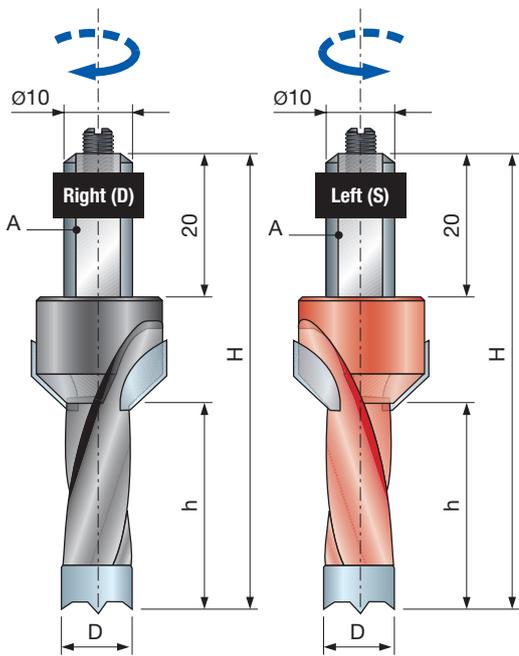
Geometry of the tip

Router bit with negative spur



D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
4	27	57,5	10 x 20	2	PF07MD ZA3	F03FA02202
5	30	57,5	10 x 20	2	PF07MD AA3	F03FA02172
5	43	70	10 x 20	2	PF07MD AC3	F03FA02174
6	30	57,5	10 x 20	2	PF07MD BA3	F03FA02175
6	43	70	10 x 20	2	PF07MD BC3	F03FA02177
7	30	57,5	10 x 20	2	PF07MD CA3	F03FA02178
7	43	70	10 x 20	2	PF07MD CC3	F03FA02180
8	30	57,5	10 x 20	2	PF07MD DA3	F03FA02181
8	43	70	10 x 20	2	PF07MD DC3	F03FA02183
9	30	57,5	10 x 20	2	PF07MD EA3	F03FA02184
9	43	70	10 x 20	2	PF07MD EC3	F03FA02186
10	30	57,5	10 x 20	2	PF07MD FA3	F03FA02187
10	43	70	10 x 20	2	PF07MD FC3	F03FA02189
12	30	57,5	10 x 20	2	PF07MD GA3	F03FA02190
12	43	70	10 x 20	2	PF07MD GC3	F03FA02192
14	30	57,5	10 x 20	2	PF07MD HA3	F03FA02193
14	43	70	10 x 20	2	PF07MD HC3	F03FA02195
15	30	57,5	10 x 20	2	PF07MD IA3	F03FA02196
15	43	70	10 x 20	2	PF07MD IC3	F03FA02198
16	30	57,5	10 x 20	2	PF07MD KA3	F03FA02199
16	43	70	10 x 20	2	PF07MD KC3	F03FA02201
4	27	57,5	10 x 20	2	PF07MS ZA3	F03FA02235
5	30	57,5	10 x 20	2	PF07MS AA3	F03FA02205
5	43	70	10 x 20	2	PF07MS AC3	F03FA02207
6	30	57,5	10 x 20	2	PF07MS BA3	F03FA02208
6	43	70	10 x 20	2	PF07MS BC3	F03FA02210
7	30	57,5	10 x 20	2	PF07MS CA3	F03FA02211
7	43	70	10 x 20	2	PF07MS CC3	F03FA02213
8	30	57,5	10 x 20	2	PF07MS DA3	F03FA02214
8	43	70	10 x 20	2	PF07MS DC3	F03FA02216
9	30	57,5	10 x 20	2	PF07MS EA3	F03FA02217
9	43	70	10 x 20	2	PF07MS EC3	F03FA02219
10	30	57,5	10 x 20	2	PF07MS FA3	F03FA02220
10	43	70	10 x 20	2	PF07MS FC3	F03FA02222
12	30	57,5	10 x 20	2	PF07MS GA3	F03FA02223
12	43	70	10 x 20	2	PF07MS GC3	F03FA02225
14	30	57,5	10 x 20	2	PF07MS HA3	F03FA02226
14	43	70	10 x 20	2	PF07MS HC3	F03FA02228
15	30	57,5	10 x 20	2	PF07MS IA3	F03FA02229
15	43	70	10 x 20	2	PF07MS IC3	F03FA02231
16	30	57,5	10 x 20	2	PF07MS KA3	F03FA02232
16	43	70	10 x 20	2	PF07MS KC3	F03FA02234

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw	M5x10	2602M DC9	F03FA07350

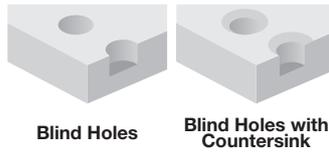


PF08MDC PF08MSC

Dowel drills with countersink - blind holes



Boring Machines



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

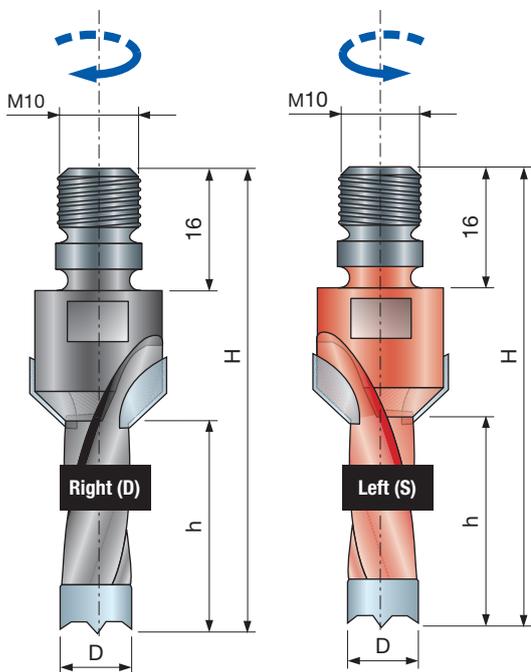
Technical information:

Dowel drills HW tipped with centre point for blind holes with 45° countersink.

- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

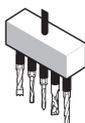
D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	15	57,5	10 x 20	2	PF08MDCAB3	F03FA02410
5	20	57,5	10 x 20	2	PF08MDCAC3	F03FA02411
6	15	57,5	10 x 20	2	PF08MDCBB3	F03FA02412
6	20	57,5	10 x 20	2	PF08MDCBC3	F03FA02413
8	15	57,5	10 x 20	2	PF08MDCCB3	F03FA02414
8	20	57,5	10 x 20	2	PF08MDCCC3	F03FA02415
10	15	57,5	10 x 20	2	PF08MDCDB3	F03FA02416
10	20	57,5	10 x 20	2	PF08MDCDC3	F03FA02417
5	15	57,5	10 x 20	2	PF08MSCAB3	F03FA02503
5	20	57,5	10 x 20	2	PF08MSCAC3	F03FA02504
6	15	57,5	10 x 20	2	PF08MSCBB3	F03FA02505
6	20	57,5	10 x 20	2	PF08MSCBC3	F03FA02506
8	15	57,5	10 x 20	2	PF08MSCCB3	F03FA02507
8	20	57,5	10 x 20	2	PF08MSCCC3	F03FA02508
10	15	57,5	10 x 20	2	PF08MSCDB3	F03FA02509
10	20	57,5	10 x 20	2	PF08MSCDC3	F03FA02510

Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M5x10	2602M DC9	F03FA07350

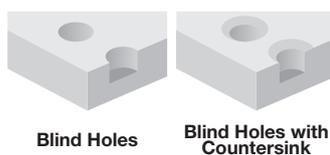


PF08MDB PF08MSB

Dowel drills with countersink - blind holes



Boring Machines



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

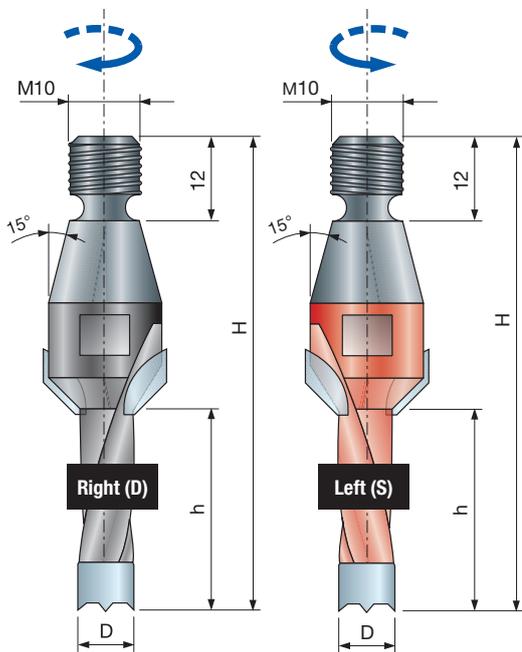
Boring.

Technical information:

Dowel drills HW tipped with centre point for blind holes with 45° countersink.

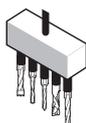
- M10 threaded shank.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	30	61	-	2	PF08MDBAB3	F03FA02368
5	40	71	-	2	PF08MDBAC3	F03FA02370
5	50	81	-	2	PF08MDBAD3	F03FA02372
6	30	61	-	2	PF08MDBBB3	F03FA02375
6	40	71	-	2	PF08MDBBC3	F03FA02377
6	50	81	-	2	PF08MDBBD3	F03FA02379
8	30	61	-	2	PF08MDBCB3	F03FA02383
8	40	71	-	2	PF08MDBCC3	F03FA02385
8	50	81	-	2	PF08MDBCD3	F03FA02387
10	30	61	-	2	PF08MDBDB3	F03FA02391
10	40	71	-	2	PF08MDBDC3	F03FA02393
10	50	81	-	2	PF08MDBDD3	F03FA02395
12	30	61	-	2	PF08MDBEB3	F03FA02398
12	40	71	-	2	PF08MDBEC3	F03FA02400
12	50	81	-	2	PF08MDBED3	F03FA02402
14	30	61	-	2	PF08MDBFB3	F03FA02405
14	40	71	-	2	PF08MDBFC3	F03FA02407
14	50	81	-	2	PF08MDBFD3	F03FA02409
5	30	61	-	2	PF08MSBAB3	F03FA02462
5	40	71	-	2	PF08MSBAC3	F03FA02464
5	50	81	-	2	PF08MSBAD3	F03FA02466
6	30	61	-	2	PF08MSBBB3	F03FA02469
6	40	71	-	2	PF08MSBBC3	F03FA02471
6	50	81	-	2	PF08MSBBD3	F03FA02473
8	30	61	-	2	PF08MSBCB3	F03FA02476
8	40	71	-	2	PF08MSBCC3	F03FA02478
8	50	81	-	2	PF08MSBCD3	F03FA02480
10	30	61	-	2	PF08MSBDB3	F03FA02484
10	40	71	-	2	PF08MSBDC3	F03FA02486
10	50	81	-	2	PF08MSBDD3	F03FA02488
12	30	61	-	2	PF08MSBEB3	F03FA02491
12	40	71	-	2	PF08MSBEC3	F03FA02493
12	50	81	-	2	PF08MSBED3	F03FA02495
14	30	61	-	2	PF08MSBFB3	F03FA02498
14	40	71	-	2	PF08MSBFC3	F03FA02500
14	50	81	-	2	PF08MSBFD3	F03FA02502



PF08MDA PF08MSA

Dowel drills with countersink - blind holes



Boring Machines



Softwood Hardwood Chipboard Laminated Chipboard MDF Laminated MDF Plywood



Blind Holes Blind Holes with Countersink

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

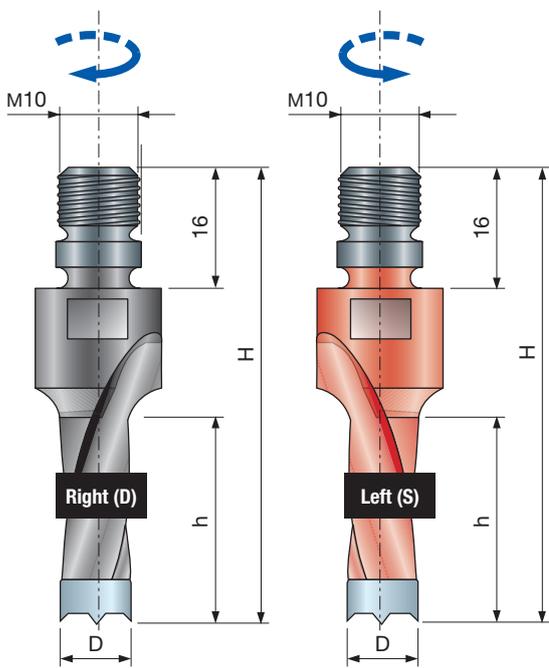
Boring.

Technical information:

Dowel drills HW tipped with centre point for blind holes with 45° countersink.

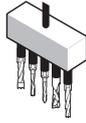
- M10 threaded shank.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	30	67	-	2	PF08MDAAB3	F03FA02325
5	40	77	-	2	PF08MDAAC3	F03FA02327
5	50	87	-	2	PF08MDAAD3	F03FA02329
6	30	67	-	2	PF08MDABB3	F03FA02332
6	40	77	-	2	PF08MDABC3	F03FA02334
6	50	87	-	2	PF08MDABD3	F03FA02336
8	30	67	-	2	PF08MDACB3	F03FA02340
8	40	77	-	2	PF08MDACC3	F03FA02342
8	50	87	-	2	PF08MDACD3	F03FA02344
10	30	67	-	2	PF08MDADB3	F03FA02347
10	40	77	-	2	PF08MDADC3	F03FA02349
10	50	87	-	2	PF08MDADD3	F03FA02351
12	30	67	-	2	PF08MDAEB3	F03FA02354
12	40	77	-	2	PF08MDAEC3	F03FA02356
12	50	87	-	2	PF08MDAED3	F03FA02358
14	30	67	-	2	PF08MDAFB3	F03FA02361
14	40	77	-	2	PF08MDAFC3	F03FA02363
14	50	87	-	2	PF08MDAFD3	F03FA02365
5	30	67	-	2	PF08MSAAB3	F03FA02420
5	40	77	-	2	PF08MSAAC3	F03FA02422
5	50	87	-	2	PF08MSAAD3	F03FA02424
6	30	67	-	2	PF08MSABB3	F03FA02427
6	40	77	-	2	PF08MSABC3	F03FA02429
6	50	87	-	2	PF08MSABD3	F03FA02431
8	30	67	-	2	PF08MSACB3	F03FA02434
8	40	77	-	2	PF08MSACC3	F03FA02436
8	50	87	-	2	PF08MSACD3	F03FA02438
10	30	67	-	2	PF08MSADB3	F03FA02441
10	40	77	-	2	PF08MSADC3	F03FA02443
10	50	87	-	2	PF08MSADD3	F03FA02445
12	30	67	-	2	PF08MSAEB3	F03FA02448
12	40	77	-	2	PF08MSAEC3	F03FA02450
12	50	87	-	2	PF08MSAED3	F03FA02452
14	30	67	-	2	PF08MSAFB3	F03FA02455
14	40	77	-	2	PF08MSAFC3	F03FA02457
14	50	87	-	2	PF08MSAFD3	F03FA02459



PF09MDB PF09MSB

Dowel drills without countersink - blind holes



Boring Machines



Blind Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

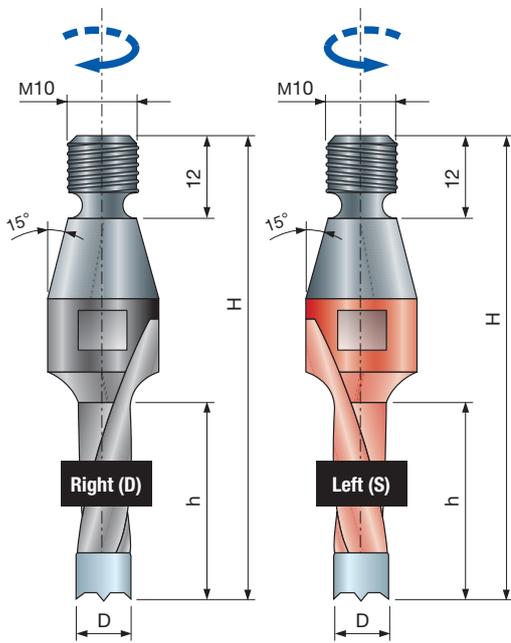
Boring.

Technical information:

Dowel drills HW tipped with centre point for blind holes with round countersink.

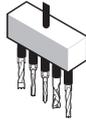
- M10 threaded shank.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	30	61	-	2	PF09MDBAB3	F03FA02719
5	40	71	-	2	PF09MDBAC3	F03FA02720
5	50	81	-	2	PF09MDBAD3	F03FA02721
6	30	61	-	2	PF09MDBBB3	F03FA02722
6	40	71	-	2	PF09MDBBC3	F03FA02723
6	50	81	-	2	PF09MDBBD3	F03FA02724
8	30	61	-	2	PF09MDBCB3	F03FA02726
8	40	71	-	2	PF09MDBCC3	F03FA02727
8	50	81	-	2	PF09MDBCD3	F03FA02728
10	30	61	-	2	PF09MDBDB3	F03FA02730
10	40	71	-	2	PF09MDBDC3	F03FA02731
10	50	81	-	2	PF09MDBDD3	F03FA02732
12	30	61	-	2	PF09MDBEB3	F03FA02734
12	40	71	-	2	PF09MDBEC3	F03FA02735
12	50	81	-	2	PF09MDBED3	F03FA02736
14	30	61	-	2	PF09MDBFB3	F03FA02737
14	40	71	-	2	PF09MDBFC3	F03FA02738
14	50	81	-	2	PF09MDBFD3	F03FA02739
5	30	61	-	2	PF09MSBAB3	F03FA02758
5	40	71	-	2	PF09MSBAC3	F03FA02759
5	50	81	-	2	PF09MSBAD3	F03FA02760
6	30	61	-	2	PF09MSBBB3	F03FA02761
6	40	71	-	2	PF09MSBBC3	F03FA02762
6	50	81	-	2	PF09MSBBD3	F03FA02763
8	30	61	-	2	PF09MSBCB3	F03FA02765
8	40	71	-	2	PF09MSBCC3	F03FA02766
8	50	81	-	2	PF09MSBCD3	F03FA02767
10	30	61	-	2	PF09MSBDB3	F03FA02769
10	40	71	-	2	PF09MSBDC3	F03FA02770
10	50	81	-	2	PF09MSBDD3	F03FA02771
12	30	61	-	2	PF09MSBEB3	F03FA02773
12	40	71	-	2	PF09MSBEC3	F03FA02774
12	50	81	-	2	PF09MSBED3	F03FA02775
14	30	61	-	2	PF09MSBFB3	F03FA02776
14	40	71	-	2	PF09MSBFC3	F03FA02777
14	50	81	-	2	PF09MSBFD3	F03FA02778



PF09MDA PF09MSA

Dowel drills without countersink - blind holes



Boring Machines



Blind Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

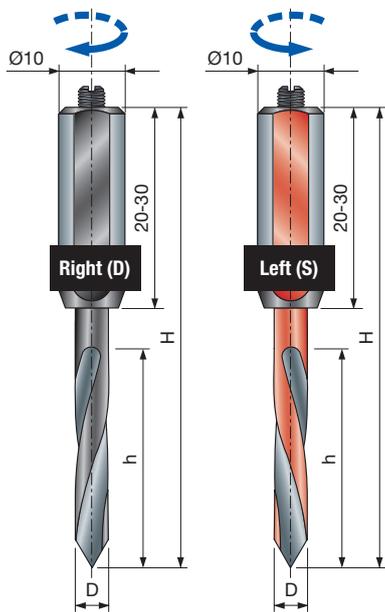
Boring.

Technical information:

Dowel drills HW tipped with centre point for blind holes with round countersink.

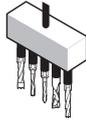
- M10 threaded shank.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	30	67	-	2	PF09MDAAB3	F03FA02701
5	40	77	-	2	PF09MDAAC3	F03FA02702
5	50	87	-	2	PF09MDAAD3	F03FA02703
6	30	67	-	2	PF09MDABB3	F03FA02704
6	40	77	-	2	PF09MDABC3	F03FA02705
6	50	87	-	2	PF09MDABD3	F03FA02706
8	30	67	-	2	PF09MDACB3	F03FA02707
8	40	77	-	2	PF09MDACC3	F03FA02708
8	50	87	-	2	PF09MDACD3	F03FA02709
10	30	67	-	2	PF09MDADB3	F03FA02710
10	40	77	-	2	PF09MDADC3	F03FA02711
10	50	87	-	2	PF09MDADD3	F03FA02712
12	30	67	-	2	PF09MDAEB3	F03FA02713
12	40	77	-	2	PF09MDAEC3	F03FA02714
12	50	87	-	2	PF09MDAED3	F03FA02715
14	30	67	-	2	PF09MDAFB3	F03FA02716
14	40	77	-	2	PF09MDAFC3	F03FA02717
14	50	87	-	2	PF09MDAFD3	F03FA02718
5	30	67	-	2	PF09MSAAB3	F03FA02740
5	40	77	-	2	PF09MSAAC3	F03FA02741
5	50	87	-	2	PF09MSAAD3	F03FA02742
6	30	67	-	2	PF09MSABB3	F03FA02743
6	40	77	-	2	PF09MSABC3	F03FA02744
6	50	87	-	2	PF09MSABD3	F03FA02745
8	30	67	-	2	PF09MSACB3	F03FA02746
8	40	77	-	2	PF09MSACC3	F03FA02747
8	50	87	-	2	PF09MSACD3	F03FA02748
10	30	67	-	2	PF09MSADB3	F03FA02749
10	40	77	-	2	PF09MSADC3	F03FA02750
10	50	87	-	2	PF09MSADD3	F03FA02751
12	30	67	-	2	PF09MSAEB3	F03FA02752
12	40	77	-	2	PF09MSAEC3	F03FA02753
12	50	87	-	2	PF09MSAED3	F03FA02754
14	30	67	-	2	PF09MSAFB3	F03FA02755
14	40	77	-	2	PF09MSAFC3	F03FA02756
14	50	87	-	2	PF09MSAFD3	F03FA02757



PF33MD PF33MS

Solid Carbide through holes drills



Boring Machines



Through Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

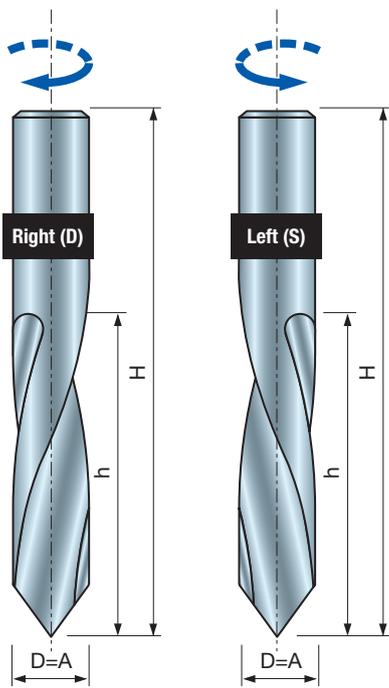
Technical information:

Solid Carbide drills suitable for through holes.

- Bit in HW and cylindrical steel shank with M5 x 10 mm adjusting screw.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
3	20	70	10 x 40	2	PF33MD VC3	F03FA13215
4	27	70	10 x 30	2	PF33MD ZC3	F03FA03025
5	35	70	10 x 30	2	PF33MD AC3	F03FA03022
6	35	70	10 x 30	2	PF33MD BC3	F03FA03023
8	35	70	10 x 20	2	PF33MD DC3	F03FA03024
3	20	70	10 x 40	2	PF33MS VC3	F03FA13216
4	27	70	10 x 30	2	PF33MS ZC3	F03FA03030
5	35	70	10 x 30	2	PF33MS AC3	F03FA03027
6	35	70	10 x 30	2	PF33MS BC3	F03FA03028
8	35	70	10 x 20	2	PF33MS DC3	F03FA03029

Spare parts		Dimensions mm	Freud Code	Art. No.
	Screw	M5 x 10	2602M DC9	F03FA07350



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

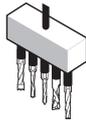
Boring.

Technical information:

Solid Carbide drills in HW suitable for through holes.

**PF31MD
PF31MS**

**Solid Carbide
multipurpose drills**



Boring Machines



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



Laminated
MDF

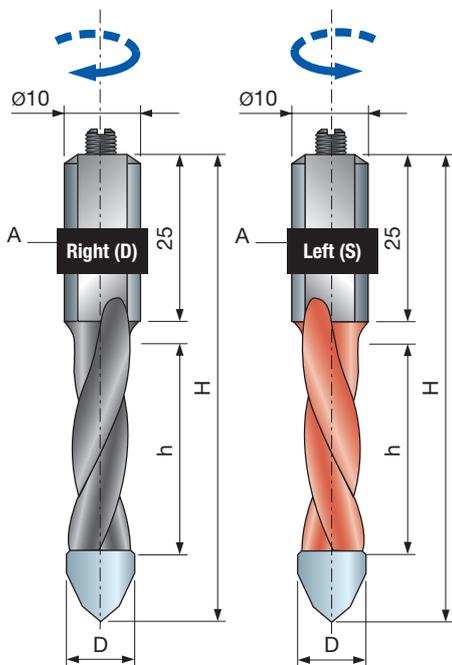


Plywood



Through Holes

D	h	H	A	Z	Freud Code	Art. No.
mm	mm	mm	mm			
10	43	70	10	2	PF31MD FC3	F03FR00355
10	43	70	10	2	PF31MS FC3	F03FR00356



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

Technical information:

Through holes drills HW tipped.

- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

**PF05MD
PF05MS**

Through holes drills



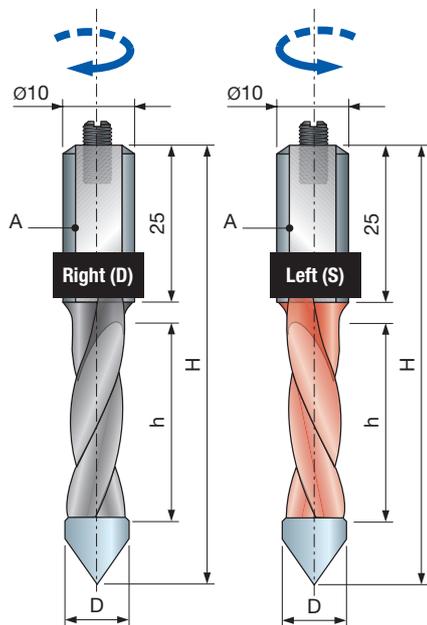
Boring Machines



Through Holes

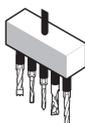
D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	22	57,5	10 x 25	2	PF05MD AA3	F03FA02087
5	35	70	10 x 25	2	PF05MD AC3	F03FA02088
6	22	57,5	10 x 25	2	PF05MD BA3	F03FA02089
6	35	70	10 x 25	2	PF05MD BC3	F03FA02090
8	22	57,5	10 x 25	2	PF05MD DA3	F03FA02091
8	35	70	10 x 25	2	PF05MD DC3	F03FA02092
10	22	57,5	10 x 25	2	PF05MD FA3	F03FA02093
10	35	70	10 x 25	2	PF05MD FC3	F03FA02094
5	22	57,5	10 x 25	2	PF05MS AA3	F03FA02095
5	35	70	10 x 25	2	PF05MS AC3	F03FA02096
6	22	57,5	10 x 25	2	PF05MS BA3	F03FA02097
6	35	70	10 x 25	2	PF05MS BC3	F03FA02098
8	22	57,5	10 x 25	2	PF05MS DA3	F03FA02099
8	35	70	10 x 25	2	PF05MS DC3	F03FA02100
10	22	57,5	10 x 25	2	PF05MS FA3	F03FA02101
10	35	70	10 x 25	2	PF05MS FC3	F03FA02102

Spare parts	Dimensions mm	Freud Code	Art. No.
Screw	M5 x 10	2602M DC9	F03FA07350



PF10MD PF10MS

Through holes drills



Boring Machines



Softwood Hardwood Chipboard Laminated Chipboard MDF Laminated MDF Plywood



Through Holes

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

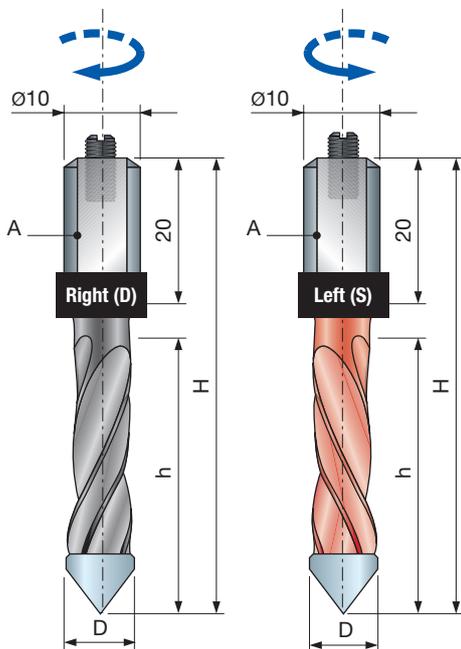
Technical information:

Through holes drills HW tipped.

- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
4	22	57,5	10 x 25	2	PF10MD ZA3	F03FA02928
5	22	57,5	10 x 25	2	PF10MD AA3	F03FA02911
5	35	70	10 x 25	2	PF10MD AC3	F03FA02913
6	22	57,5	10 x 25	2	PF10MD BA3	F03FA02914
6	35	70	10 x 25	2	PF10MD BC3	F03FA02916
7	22	57,5	10 x 25	2	PF10MD CA3	F03FA02917
7	35	70	10 x 25	2	PF10MD CC3	F03FA02919
8	22	57,5	10 x 25	2	PF10MD DA3	F03FA02920
8	35	70	10 x 25	2	PF10MD DC3	F03FA02922
10	22	57,5	10 x 25	2	PF10MD EA3	F03FA02923
10	35	70	10 x 25	2	PF10MD EC3	F03FA02925
12	22	57,5	10 x 25	2	PF10MD GA3	F03FA02926
12	35	70	10 x 25	2	PF10MD GC3	F03FA02927
4	22	57,5	10 x 25	2	PF10MS ZA3	F03FA02947
5	22	57,5	10 x 25	2	PF10MS AA3	F03FA02930
5	35	70	10 x 25	2	PF10MS AC3	F03FA02932
6	22	57,5	10 x 25	2	PF10MS BA3	F03FA02933
6	35	70	10 x 25	2	PF10MS BC3	F03FA02935
7	22	57,5	10 x 25	2	PF10MS CA3	F03FA02936
7	35	70	10 x 25	2	PF10MS CC3	F03FA02938
8	22	57,5	10 x 25	2	PF10MS DA3	F03FA02939
8	35	70	10 x 25	2	PF10MS DC3	F03FA02941
10	22	57,5	10 x 25	2	PF10MS EA3	F03FA02942
10	35	70	10 x 25	2	PF10MS EC3	F03FA02944
12	22	57,5	10 x 25	2	PF10MS GA3	F03FA02945
12	35	70	10 x 25	2	PF10MS GC3	F03FA02946

Spare parts	Dimensions mm	Freud Code	Art. No.
 Screw	M5 x 10	2602M DC9	F03FA07350



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

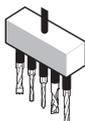
Technical information:

Through holes drills HW tipped.

- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

**PF11MD
PF11MS**

Through holes drills



Boring Machines



Softwood



Hardwood



Chipboard



Laminated
Chipboard



MDF



Laminated
MDF



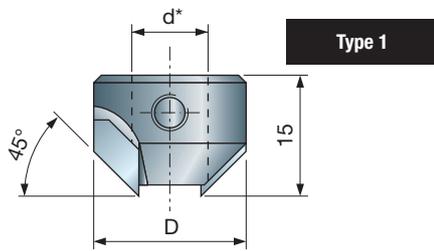
Plywood



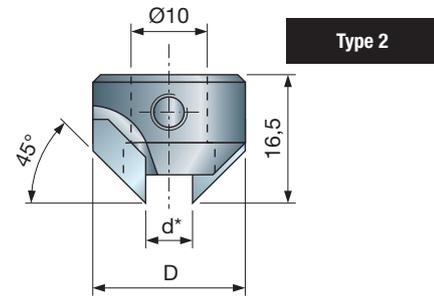
Through Holes

D mm	h mm	H mm	A mm	Z	Freud Code	Art. No.
5	27	57,5	10 x 20	2	PF11MD AA3	F03FA02977
5	40	70	10 x 20	2	PF11MD AC3	F03FA02979
6	27	57,5	10 x 20	2	PF11MD BA3	F03FA02980
6	40	70	10 x 20	2	PF11MD BC3	F03FA02982
8	27	57,5	10 x 20	2	PF11MD DA3	F03FA02984
8	40	70	10 x 20	2	PF11MD DC3	F03FA02986
10	27	57,5	10 x 20	2	PF11MD FA3	F03FA02987
10	40	70	10 x 20	2	PF11MD FC3	F03FA02989
12	27	57,5	10 x 20	2	PF11MD GA3	F03FA02990
12	40	70	10 x 20	2	PF11MD GC3	F03FA02992
5	27	57,5	10 x 20	2	PF11MS AA3	F03FA02993
5	40	70	10 x 20	2	PF11MS AC3	F03FA02995
6	27	57,5	10 x 20	2	PF11MS BA3	F03FA02996
6	40	70	10 x 20	2	PF11MS BC3	F03FA02998
8	27	57,5	10 x 20	2	PF11MS DA3	F03FA03000
8	40	70	10 x 20	2	PF11MS DC3	F03FA03002
10	27	57,5	10 x 20	2	PF11MS FA3	F03FA03003
10	40	70	10 x 20	2	PF11MS FC3	F03FA03005
12	27	57,5	10 x 20	2	PF11MS GA3	F03FA03006
12	40	70	10 x 20	2	PF11MS GC3	F03FA03008

Spare parts	Dimensions mm	Freud Code	Art. No.
 Screw	M5 x 10	2602M DC9	F03FA07350



Type 1



Type 2

Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

Technical information:

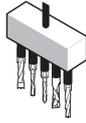
Countersink cutters HW tipped with side fixing screw.

*Type 1 suitable for **PF11M** and **PF07M** to fix on bits helix.

*Type 2 suitable for **PF10M** and **PF06M** to fix on bits shank.

**SV05MD
SV05MS**

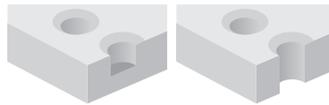
**Carbide loose
countersink cutters**



Boring Machines



Softwood Hardwood Chipboard Laminated Chipboard MDF Laminated MDF Plywood



Blind Holes with Countersink Through Holes with Countersink

D mm	d* mm	H mm	A mm	Z	Freud Code	Art. No.
14	4	15	type 1	2	SV05MD ZA3	F03FA03901
16	5	15	type 1	2	SV05MD AA3	F03FA03890
16	6	15	type 1	2	SV05MD BA3	F03FA03891
18	7	15	type 1	2	SV05MD CA3	F03FA03892
18	8	15	type 1	2	SV05MD DA3	F03FA03893
20	9	15	type 1	2	SV05MD EA3	F03FA03894
20	10	15	type 1	2	SV05MD FA3	F03FA03895
22	12	15	type 1	2	SV05MD GA3	F03FA03896
24	14	15	type 1	2	SV05MD HA3	F03FA03897
20	5÷10	16,5	type 2	2	SV05MD TA3	F03FA03899
22	11÷12	16,5	type 2	2	SV05MD TB3	F03FA03900
14	4	15	type 1	2	SV05MS ZA3	F03FA03914
16	5	15	type 1	2	SV05MS AA3	F03FA03902
16	6	15	type 1	2	SV05MS BA3	F03FA03903
18	7	15	type 1	2	SV05MS CA3	F03FA03904
18	8	15	type 1	2	SV05MS DA3	F03FA03905
20	9	15	type 1	2	SV05MS EA3	F03FA03906
20	10	15	type 1	2	SV05MS FA3	F03FA03908
22	12	15	type 1	2	SV05MS GA3	F03FA03909
24	14	15	type 1	2	SV05MS HA3	F03FA03910
20	5÷10	16,5	type 2	2	SV05MS TA3	F03FA03912
22	11÷12	16,5	type 2	2	SV05MS TB3	F03FA03913

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw	M5 x 5	2615M CC9	F03FA07420
	Screw	M6 x 6	2615M DD9	F03FA07423

PC04MD PC04MS

Carbide boring bits for hinges



Boring Machines



Softwood



Hardwood



Laminated Chipboard



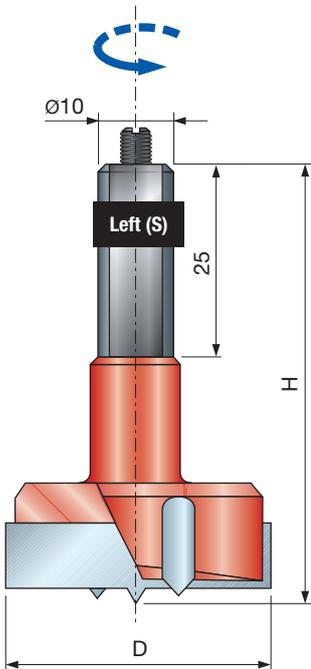
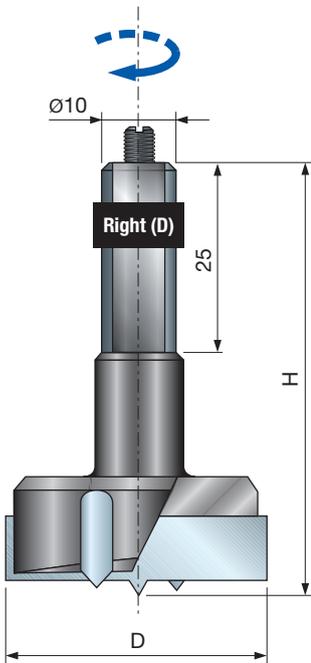
Laminated MDF



Blind Holes



Hinge Pockets



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

Technical information:

Boring bits HW tipped suitable for hinges.

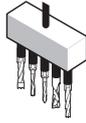
- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

D mm	H mm	A mm	Z	Freud Code	Art. No.
12	57,5	10 x 25	2+2	PC04MD 123	F03FA01782
14	57,5	10 x 25	2+2	PC04MD 143	F03FA01783
15	57,5	10 x 25	2+2	PC04MD 153	F03FA01784
16	57,5	10 x 25	2+2	PC04MD 163	F03FA01785
18	57,5	10 x 25	2+2	PC04MD 183	F03FA01786
20	57,5	10 x 25	2+2	PC04MD 203	F03FA01787
22	57,5	10 x 25	2+2	PC04MD 223	F03FA01788
25	57,5	10 x 25	2+2	PC04MD 253	F03FA01789
26	57,5	10 x 25	2+2	PC04MD 263	F03FA01790
30	57,5	10 x 25	2+2	PC04MD 303	F03FA01791
35	57,5	10 x 25	2+2	PC04MD 353	F03FA01792
38	57,5	10 x 25	2+2	PC04MD 383	F03FA01793
40	57,5	10 x 25	2+2	PC04MD 403	F03FA01794
50	57,5	10 x 25	2+2	PC04MD 503	F03FA01795
60	57,5	10 x 25	2+2	PC04MD 603	F03FA13297
12	57,5	10 x 25	2+2	PC04MS 123	F03FA01796
14	57,5	10 x 25	2+2	PC04MS 143	F03FA01797
15	57,5	10 x 25	2+2	PC04MS 153	F03FA01798
16	57,5	10 x 25	2+2	PC04MS 163	F03FA01799
18	57,5	10 x 25	2+2	PC04MS 183	F03FA01800
20	57,5	10 x 25	2+2	PC04MS 203	F03FA01801
22	57,5	10 x 25	2+2	PC04MS 223	F03FA01802
25	57,5	10 x 25	2+2	PC04MS 253	F03FA01803
26	57,5	10 x 25	2+2	PC04MS 263	F03FA01804
30	57,5	10 x 25	2+2	PC04MS 303	F03FA01805
35	57,5	10 x 25	2+2	PC04MS 353	F03FA01806
38	57,5	10 x 25	2+2	PC04MS 383	F03FA01807
40	57,5	10 x 25	2+2	PC04MS 403	F03FA01808
50	57,5	10 x 25	2+2	PC04MS 503	F03FA13296
60	57,5	10 x 25	2+2	PC04MS 603	F03FA13298

	Spare parts	Dimensions mm	Freud Code	Art. No.
	Screw	M5 x 10	2602M DC9	F03FA07350

PC05MD PC05MS

Carbide boring bits for hinges



Boring Machines

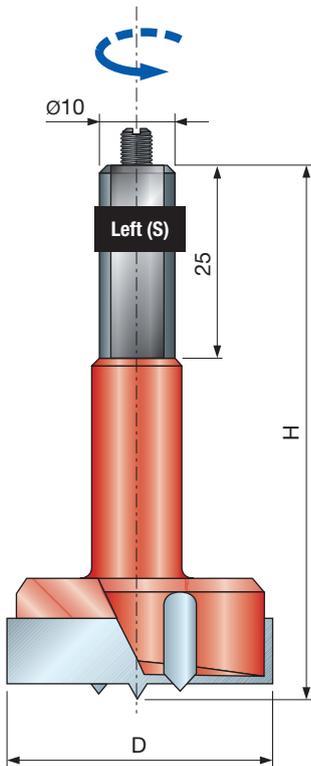
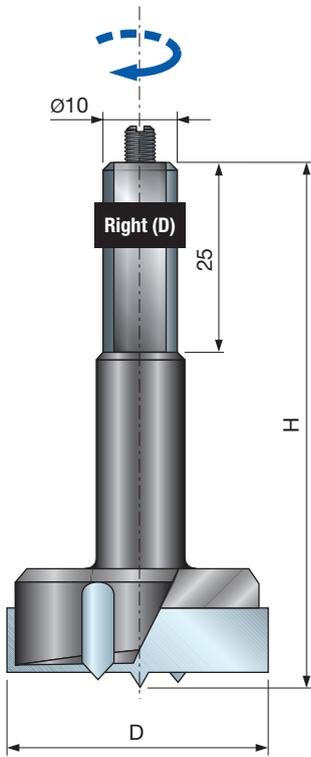


Blind Holes

Hinge Pockets

D mm	H mm	A mm	Z	Freud Code	Art. No.
12	70	10 x 25	2+2	PC05MD 123	F03FA01809
14	70	10 x 25	2+2	PC05MD 143	F03FA01810
15	70	10 x 25	2+2	PC05MD 153	F03FA01811
16	70	10 x 25	2+2	PC05MD 163	F03FA01812
18	70	10 x 25	2+2	PC05MD 183	F03FA01813
20	70	10 x 25	2+2	PC05MD 203	F03FA01814
22	70	10 x 25	2+2	PC05MD 223	F03FA01815
25	70	10 x 25	2+2	PC05MD 253	F03FA01816
26	70	10 x 25	2+2	PC05MD 263	F03FA01817
30	70	10 x 25	2+2	PC05MD 303	F03FA01818
35	70	10 x 25	2+2	PC05MD 353	F03FA01819
38	70	10 x 25	2+2	PC05MD 383	F03FA01820
40	70	10 x 25	2+2	PC05MD 403	F03FA01821
12	70	10 x 25	2+2	PC05MS 123	F03FA01822
14	70	10 x 25	2+2	PC05MS 143	F03FA01823
15	70	10 x 25	2+2	PC05MS 153	F03FA01824
16	70	10 x 25	2+2	PC05MS 163	F03FA01825
18	70	10 x 25	2+2	PC05MS 183	F03FA01826
20	70	10 x 25	2+2	PC05MS 203	F03FA01827
22	70	10 x 25	2+2	PC05MS 223	F03FA01828
25	70	10 x 25	2+2	PC05MS 253	F03FA01829
26	70	10 x 25	2+2	PC05MS 263	F03FA01830
30	70	10 x 25	2+2	PC05MS 303	F03FA01831
35	70	10 x 25	2+2	PC05MS 353	F03FA01832
38	70	10 x 25	2+2	PC05MS 383	F03FA01833
40	70	10 x 25	2+2	PC05MS 403	F03FA01834

Spare parts	Dimensions mm	Freud Code	Art. No.
Screw	M5 x 10	2602M DC9	F03FA07350



Machines:

CNC, boring and multi boring machines.

Materials:

Softwood, hardwood, wood based panels and MDF.

Applications:

Boring.

Technical information:

Boring bits HW tipped suitable for hinges.

- 10 mm cylindrical shank with M5 x 10 mm adjusting screw.

TOOLS

Tools shall be used only by persons of training and experience who have knowledge of how to use and handle tools.

The maximum rotational speed marked on the tool shall not be exceeded.

One piece tool with visible cracks shall not be used.

Clamping surfaces shall be cleaned to remove dirt, grease, oil and water.

Resin shall only be removed from light alloys with solvents that do not affect the mechanical characteristics of these materials.

Tools and tool bodies shall be clamped in such a way, that they shall not loosen during operation.

Tools with cylindrical shank must be clamped in a way that the mark of the maximum free shank length shall be covered, at least partially, by the clamping device or by the locking collet.

Care shall be taken of mounting tools to ensure that the clamping is by the hub respectively by the clamping surface of the tool and that the cutting edges are not in contact with each other or with the clamping elements.

Fastening screws and nuts shall be tightened using the appropriate spanners etc. and to the torque value provided by the manufacturer. Extension of the spanner or tightening using hammer blows shall not be permitted.

Clamping screws shall be tightened according to instructions provided, by the manufacturer. Where instructions are not provided clamping screws shall be tightened in sequence from the centre outwards.

Use of fixed rings, e. g. pressed or held by adhesive fixing, in flanged sleeves, shall be permitted if made to the manufacturers specifications.

Repair and regrinding of tools shall only be allowed according to the tool manufacturer's instructions.

After repair and regrinding of tools it shall be ensured that the tools observe balancing requirements.

The design of composite (tipped) tools, shall not be changed in the process of repair.

Composite tools shall be repaired by a competent person, i.e. a person of training and experience, who has knowledge of the design requirements and understands the level of safety to be achieved. Repair shall therefore include, e.g. use of spare parts which are in accordance with the specification of the original parts provided by the manufacturer.

Tolerances which ensure correct clamping shall be maintained.

For one piece tools care shall be taken that regrinding of the cutting edge will not cause weakening of the hub and the connection of the cutting edge to the hub.

To avoid injuries, tools shall be handled in accordance with the guidance provided by the manufacturer. Typically, safe handling involves the use of devices such as carrying hooks, proprietary handles, frames (e. g. for circular saw blades), boxes, trolleys etc.

The wearing of protective gloves improves the grip on the tool and further reduces the risk of injury.

Maintenance and modification of milling tools and related components and circular saw blades should always be in accordance with the design requirements/the manufacturer's instructions.

Maintenance and modification of milling tools and circular saw blades should only be carried out by a competent person, i. e. a person of training and experience, who has knowledge of the design requirements and understand levels of safety to be achieved.

When regrinding milling tools and circular saw blades, the minimum requirements of cutting blade thickness and cutting blade projection should be observed.

Composite tools should be repaired by persons experienced in and with understanding of design and use of milling tools for processing wood and similar materials, e.g. an expert with a relevant education and knowledge of the brazing process, including in particular the influence of the brazing process on tension in tool body and cutting material.

When brazing off worn tips and subsequently brazing on new tips it should be made sure that the tip is correctly mounted in the tool body and that the process does not result in critical tension in the tool body. After any type of maintenance, milling tools marked with MAN should

continue to observe the requirements of the standards related to tools for hand feed.

When modifying milling tools, e. g. modification of bore diameter, modification of shank, retipping of composite tools and similar, it should be ensured that the requirements of the standard relating to balancing are still observed.

After being modified and/or retipped, milling tools and circular saw blades should be marked according to the rules applying to new tools. However, the name/logo of the company making the modification/retipping should be added.

To avoid injuries, tools shall be handled in accordance with the guidance provided by the manufacturer.

Tools which weigh more than 15 kg may require the use of special handling devices or attachments, these will depend on the features that the manufacturer has designed into the tool to allow easy handling. The manufacturer can advise on the availability of necessary devices.

CLAMPING DEVICES

The speeds indicated on the clamping device and the tool to be clamped should be compared. For adjusting the speed on the machine the lower speed should be applied.

Screws and nuts should be tightened using the appropriate spanners; Clamping surfaces should be cleaned to remove dirt, grease, oil and water.

Clamping devices and tools should be mounted or clamped according to given torques, pressures and wrenches to be used; extension of spanners or tightening or loosening by means of hammer blows should not be permitted.

Maximum tool diameters and tool lengths should not be exceeded; Shank diameters must be in accordance with the clamping range of the clamping devices.

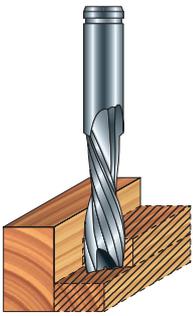
The minimum required clamping length must be kept.

Care should be taken that the data relevant to the safety of the clamped tool are always stored in the data medium.

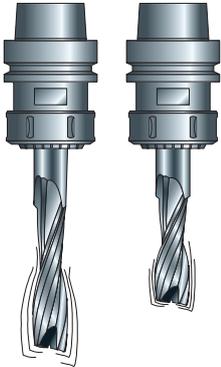
Repairs should only be carried out by a competent person, i.e. a person with professional training and experience, who has knowledge of the design, construction and safety requirements.

Repair should therefore include the use of spare parts which are in compliance with the specifications of the original parts.

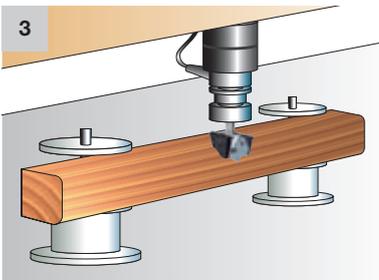
1



2



3

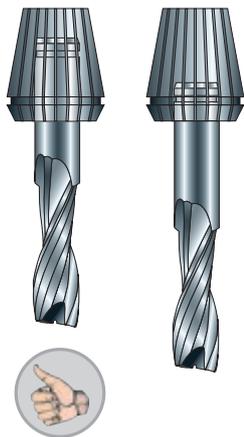


ADVICE FOR CORRECT USE

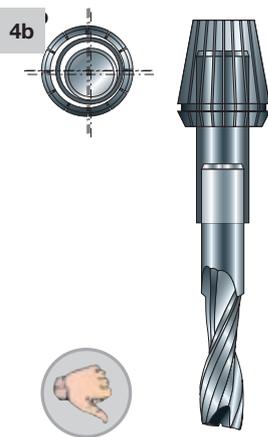
To reduce vibrations from the router bit, which can compromise the finish and cause damages to both the tool and the workpiece, it is necessary to respect the following conditions:

- For large removals, carry out more passes or proceed with a feedrate and RPM rate in proportion to the depth of cut (Fig. 1).
- A router bit with a shorter cutting height vibrates less than a router bit with the same diameter but with a longer cutting height (Fig. 2).
- Control your machine regularly (especially guides and ball bearings), making sure that there are no eccentricity problems, so as to avoid the arbor from vibrating hazardously.
- Accurately block the workpiece to the work table surface (Fig. 3).
- Respect the minimum fixing length of the shank with a preference to short chucks, with the aim of reducing eccentricity errors (Fig. 4a).
- For the same reason the use of extensions are generally avoided (Fig. 4b).
- Router bits with staggered cutters tend to leave marks caused by small eccentricity tolerances (Fig. 5).
- To identify eccentricity issues in a router bit or a chuck: make a milling on the workpiece, rotate the tool 90° on the chuck and repeat the operation. If the marks left on the wood are unvaried between the 2 processes then the tool is defective, if there's a difference the issue is probably on the chuck/collet.
- Do not exceed the maximum RPM limit marked on the tool. Higher RPM, extreme feedrate as well as an excessive cutting depth can cause the tool breakage.
- To avoid damaging router bits, we suggest controlling if the fixing surface of the chuck and the router bit are clean and that there are no imperfections (Fig. 6).
- Always choose router bits with the appropriate dimensions for the kind of work to carry out.
- Make sure that the workpiece is properly fixed to a support with appropriate dimensions. Place the locking devices (as suckers) sufficiently far from the tool path (Fig. 7).
- To avoid dangerous kick backs, we suggest fixing a spare piece of material and milling small parts of waste which have accumulated during the working process, by carrying out more passes (Fig. 8).

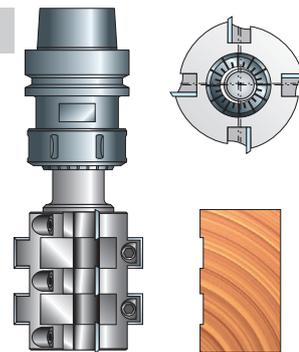
4a



4b



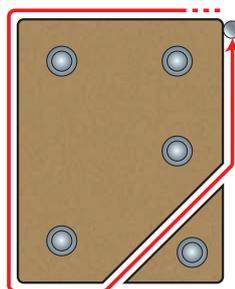
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6



7



8

