



**MULTIPURPOSE SINGLE FLUTE TOOLS
FOR ALUMINIUM ALLOYS**

Single flute tools with upcut.

These tools are a real all-rounder. Their best use is for milling aluminum and its alloys. With single flute, they create large chips. For high feed rates and cutting quality in non-ferrous metals (aluminum, brass), also suitable for plastic, wood, PVC, MDF, acrylics, etc.

During milling of aluminum, it is necessary to use misting unit - we recommend technical spirit or special cutting fluids along with COMAGRAV spray cooling system. During work with alcohol observe safety and handling, avoid open fire!

| Code | PR/PN x DR x CDN | |
|---------|-----------------------|--|
| MP310 | 1,0 / 3 x 4 x 38mm | |
| MP320 | 2,0 / 3 x 6 x 38mm | |
| MP330 | 3,0 / 3 x 11 x 38mm | |
| MP440 | 4,0 / 4 x 14 x 50mm | |
| MP44022 | 4,0 / 4 x 22 x 50mm | |
| MP6306 | 3,0 / 6 x 6 x 50mm | |
| MP63011 | 3,0 / 6 x 11 x 50mm | |
| MP650 | 5,0 / 6 x 16 x 50mm | |
| MP65022 | 5,0 / 6 x 22 x 50mm | |
| MP660 | 6,0 / 6 x 22 x 50mm | |
| MP66032 | 6,0 / 6 x 32 x 64mm | |
| MP880 | 8,0 / 8 x 22 x 64mm | |
| MP88042 | 8,0 / 8 x 42 x 100mm | |
| MP1010 | 10,0 / 10 x 32 x 76mm | |

**BALANCED MULTIPURPOSE SINGLE FLUTE TOOLS
FOR ALUMINIUM ALLOYS**

Try these tools with brand new design! They are recommended for use with **high speed spindles (30.000 RPM and more)**, where is very important care of expensive bearings. These balanced tools provides non-compromising cutting edge quality in high speeds.

| Code | PR/PN x DR x CDN | |
|----------|---------------------|--|
| MP660B | 6,0 / 6 x 12 x 50mm | |
| MP66022B | 6,0 / 6 x 22 x 58mm | |



ACRYL SINGLE FLUTE TOOLS
 FOR PLEXIGLASS, PLASTIC, WOOD, ETC.

Single flute tools with upcut.
 These tools were developed for high speeds in acrylic and plastic. With single flute, they create large chips. For high feed rates and cutting quality in non-metallic materials, wood, PVC, MDF, etc. Do not use for aluminium.

| Code | PR/PN x DR x CDN | |
|---------|------------------------|--|
| A310 | 1,0 / 3 x 4 x 30mm | |
| A315 | 1,5 / 3 x 6 x 30mm | |
| A320 | 2,0 / 3 x 8 x 30mm | |
| A32011 | 2,0 / 3 x 11 x 38mm | |
| A330 | 3,0 / 3 x 11 x 38mm | |
| A440 | 4,0 / 4 x 14 x 50mm | |
| A650 | 5,0 / 6 x 16 x 50mm | |
| A660 | 6,0 / 6 x 22 x 50mm | |
| A66032 | 6,0 / 6 x 32 x 64mm | |
| A880 | 8,0 / 8 x 22 x 64mm | |
| A88032 | 8,0 / 8 x 32 x 64mm | |
| A1010 | 10,0 / 10 x 32 x 76mm | |
| A101055 | 10,0 / 10 x 55 x 100mm | |

BALANCED ACRYL SINGLE FLUTE TOOLS
 FOR PLEXIGLASS, PLASTIC, WOOD, ETC.

Try these tools with brand new design! They are recommended for use with **high speed spindles (30.000 RPM and more)**, where is very important care of expensive bearings. These balanced tools provides non-compromising cutting edge quality in high speeds.

| Code | PR/PN x DR x CDN | |
|----------|-----------------------|--|
| A660B | 6,0 / 6 x 22 x 58mm | |
| A66032B | 6,0 / 6 x 32 x 64mm | |
| A880B | 8,0 / 8 x 22 x 64mm | |
| A88032B | 8,0 / 8 x 32 x 64mm | |
| A88042B | 8,0 / 8 x 42 x 76mm | |
| A101032B | 10,0 / 10 x 32 x 76mm | |
| A101042B | 10,0 / 10 x 42 x 76mm | |



BELIN SINGLE FLUTE TOOLS
FOR PLEXIGLASS, PLASTIC, WOOD, ETC.

Single flute tools with upcut.

These tools were developed for high speeds in acrylic and plastic. With single flute, they create large chips. For high feed rates and cutting quality in non-metallic materials, wood, PVC, MDF, etc. Do not use for aluminium.

| Code | PR/PN x DR x CDN | | |
|--------|---------------------|--|--|
| B330 | 3,0 / 3 x 12 x 40mm | | |
| B440 | 4,0 / 4 x 12 x 50mm | | |
| B44030 | 4,0 / 4 x 30 x 70mm | | |
| B660 | 6,0 / 6 x 22 x 60mm | | |
| B66038 | 6,0 / 6 x 38 x 80mm | | |
| B880 | 8,0 / 8 x 22 x 60mm | | |
| B88038 | 8,0 / 8 x 38 x 80mm | | |

BELIN SINGLE FLUTE TOOLS ALU
FOR ALUMINIUM

Single flute tools with upcut.

These tools were developed for high speeds in aluminium and its alloys.

| Code | PR/PN x DR x CDN | | |
|-------|---------------------|--|--|
| BA660 | 6,0 / 6 x 15 x 60mm | | |
| BA880 | 8,0 / 8 x 20 x 60mm | | |



**BELIN SINGLE FLUTE TOOLS RADIUSED
FOR PLEXIGLASS, PLASTIC, WOOD, ETC.**

Single flute tools with upcut and radius on top.

These tools were developed for high speeds in acrylic and plastic. It creates 2mm radius at surface of the material. Bottom part of this tool is classic single flute with 4mm diameter and length of cut 4,3mm.

| Code | PR/PN x DR x CDN | |
|--------|----------------------|--|
| B840R2 | 4,0 / 8 x 4,3 x 40mm | |



**SINGLE FLUTE TOOLS FOR PLASTIC
FOR PLEXIGLASS, PLASTIC, WOOD, ETC.**

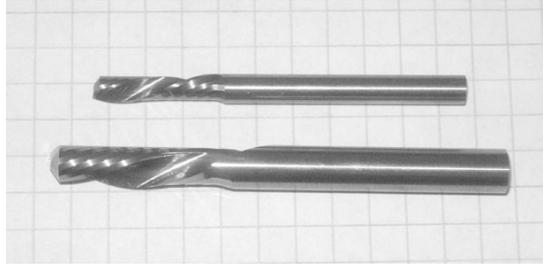
Single flute tools with upcut.

These tools were developed for high speeds in acrylic and plastic. With single flute, they create large chips. For high feed rates and cutting quality in non-metallic materials, wood, PVC, MDF, etc.

Made of hard K10 material. Do not use for aluminium.

| Code | PR/PN x DR x CDN | |
|-------|---------------------|--|
| PL330 | 3,0 / 3 x 11 x 40mm | |
| PL440 | 4,0 / 4 x 14 x 50mm | |
| PL660 | 6,0 / 6 x 22 x 60mm | |
| PL880 | 8,0 / 8 x 22 x 70mm | |

Comagrav TOOLS Knives/Knife Blades Router Bits & Routing Cutters



SINGLE FLUTE DOWNCUT TOOLS FOR PLASTIC FOR PLEXIGLASS, PLASTIC, WOOD, ETC.

Single flute tools with downcut.

During cutting of thin plastic sheets, there might be problem to ensure proper vacuum holddown. These tools do not tend to lift material. Chips are left in the routed groove.

Use ramp to enter the material with this tool.

| Code | PR/PN x DR x CDN | |
|------|---------------------|--|
| D330 | 3,0 / 3 x 12 x 50mm | |
| D440 | 4,0 / 4 x 15 x 50mm | |
| D660 | 6,0 / 6 x 22 x 60mm | |
| D880 | 8,0 / 8 x 22 x 70mm | |



COMPRESSION TOOLS
FOR PLASTIC, LAMINATED SHEETS, WOOD, ETC.

Compression tools with combined cutting direction up and down.

These tools were developed for high cutting quality of both top and bottom layer of laminated plywood and similar sheet materials.

For high feed rates and cutting quality in wood, non-metallic materials, PVC, MDF, etc.

| Code | PR/PN x DR x CDN | Price in EUR |
|-------|-----------------------|--------------|
| K330 | 3,0 / 3 x 12 x 50mm | |
| K440 | 4,0 / 4 x 15 x 50mm | |
| K660 | 6,0 / 6 x 17 x 50mm | |
| K880 | 8,0 / 8 x 22 x 70mm | |
| K1010 | 10,0 / 10 x 32 x 70mm | |

Comagrav TOOLS Knives/Knife Blades Router Bits & Routing Cutters



TWO-FLUTED TOOL WITH STRAIGHT CUT
FOR PLASTIC, WOODEN SHEETS, MANUAL MACHINES, ETC.

Double flute tools with straight cut.

These tools were developed for high speeds in plastic, MDF, wood, laminated and similar. Straight cutting edge prevents lifting of chips and material.

Suitable also for cutting out vacuum formed plastics.

| Code | PR/PN x DR x CDN | |
|------|---------------------|--|
| R330 | 3,0 / 3 x 10 x 50mm | |
| R440 | 4,0 / 4 x 10 x 50mm | |
| R660 | 6,0 / 6 x 20 x 60mm | |
| R880 | 8,0 / 8 x 25 x 70mm | |

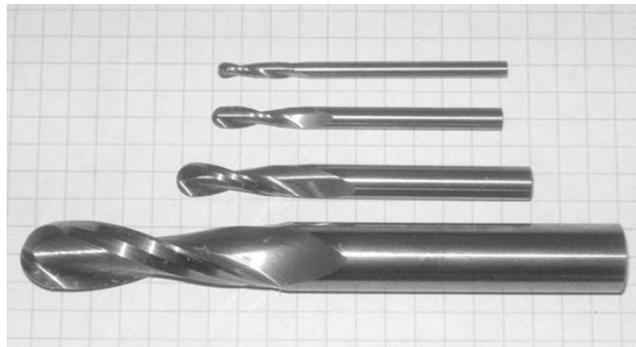


**THREE-FLUTED UPCUT TOOL
 FOR PLASTIC, WOOD, FOAMS, ETC.**

Triple flute tools with upcut.

These tools were developed for high speeds in wood, plastic, foams, MDF, laminated and similar. Three cutting edges means extreme high speeds and perfect edge quality.

| Code | PR/PN x DR x CDN | |
|----------|------------------------|--|
| U880.32 | 8,0 / 8 x 32 x 70mm | |
| U1212.32 | 12,0 / 12 x 32 x 80mm | |
| U1212.52 | 12,0 / 12 x 52 x 100mm | |



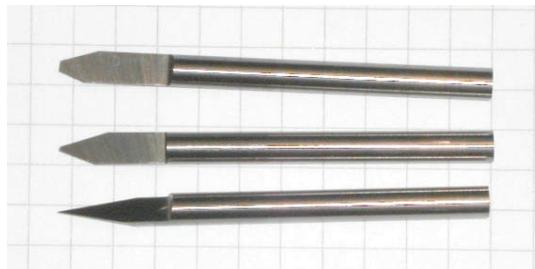
TWO-FLUTED BALLNOSE TOOL

Double flute ballnose tools with upcut.

These tools are used for threedimensional surfaces. Mostly usable for modelling, also for engraving to acrylic sheets ala neon.

| Code | PR/PN x DR x CDN | |
|------|------------------------|--|
| BN3 | 3,0 / 3 x 12 x 50mm | |
| BN4 | 4,0 / 4 x 15 x 50mm | |
| BN6 | 6,0 / 6 x 22 x 60mm | |
| BN12 | 12,0 / 12 x 42 x 100mm | |

~~Comagrav TOOLS Knives/Knife Blades Router Bits & Routing Cutters~~



ENGRAVING HALFROUND TOOLS

Microcarbide engraving tools made in USA. One of the best engraving tools in this attractive price range. Its geometry is designed for long lifetime in non-ferrous metals (brass, aluminium). They are suitable also for plastics.

| Code | CRU x PS | PN x CDN | |
|--------|-------------|----------|--|
| G33001 | 30° x 0,1mm | 3 x 38mm | |
| G33002 | 30° x 0,2mm | 3 x 38mm | |
| G33003 | 30° x 0,3mm | 3 x 38mm | |
| G33004 | 30° x 0,4mm | 3 x 38mm | |
| G33006 | 30° x 0,6mm | 3 x 38mm | |
| G34502 | 45° x 0,2mm | 3 x 38mm | |
| G34504 | 45° x 0,4mm | 3 x 38mm | |
| G36003 | 60° x 0,3mm | 3 x 38mm | |
| G43002 | 30° x 0,2mm | 4 x 50mm | |
| G43004 | 30° x 0,4mm | 4 x 50mm | |
| G44506 | 45° x 0,6mm | 4 x 50mm | |
| G44510 | 45° x 1,0mm | 4 x 50mm | |
| G44515 | 45° x 1,5mm | 4 x 50mm | |
| G46001 | 60° x 0,1mm | 4 x 50mm | |
| G46004 | 60° x 0,4mm | 4 x 50mm | |



ENGRAVING HALFROUND TOOLS FOR STEEL AND STAINLESS

For steel and hard steel we offer two kinds of engraving tools:

1. Antares (GS)
2. Nanograver (GN)

We recommend these tools for engraving of steel and stainless steel. Nanograver tool is coated and made in perfect halving tolerance $-0,000\text{mm} +0,005\text{mm}$. It is especially good when used in high speed spindles reaching 50.000 RPM and more.

| Code | CRU x PS | PN x CDN | |
|---------|-------------|----------|--|
| GS36002 | 60° x 0,2mm | 3 x 38mm | |
| GS64502 | 45° x 0,2mm | 6 x 50mm | |
| GN36002 | 60° x 0,2mm | 3 x 38mm | |
| GN36004 | 60° x 0,4mm | 3 x 38mm | |



TWO-FLUTED COATED TOOLS FOR STEEL AND STAINLESS STEEL

Top quality cutting tools for steel and stainless steel / Resopal.

The long life of the cutter ensures a small radius to 0,2mm.

During milling it is necessary to use misting unit, we recommend oil or emolliet.

| Code | PR/PN x DR x CDN |
|------|--------------------|
| N310 | 1,0 / 3 x 2 x 35mm |
| N315 | 1,0 / 3 x 3 x 35mm |
| N320 | 2,0 / 3 x 4 x 35mm |
| N330 | 3,0 / 3 x 5 x 35mm |
| N620 | 2,0 / 6 x 4 x 40mm |
| N630 | 3,0 / 6 x 5 x 40mm |
| N640 | 4,0 / 6 x 5 x 40mm |



SINGLEFLUTE TOOL PROFILING

Single flute tools with straight cut.

These tools were developed for cutting and engraving of plastics. Straight cutting edge prevents lifting of chips and material.

| Code | PR/PN x DR x CDN | |
|------|---------------------|--|
| P330 | 3,0 / 3 x 6 x 38mm | |
| P440 | 4,0 / 4 x 8 x 50mm | |
| P660 | 6,0 / 6 x 12 x 50mm | |

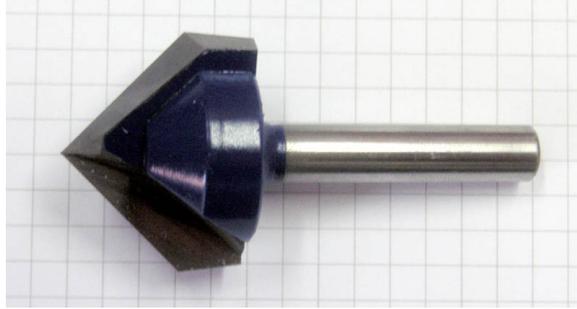


BOTHSIDED STOCK

This is unfinished tool for your grinder COMAC CU2. You can use both sides to create your own engraving tool, because both sides are halved.

| Code | PR/PN x DR x CDN | |
|------|------------------|--|
| NP3 | 3 x 11 x 50mm | |
| NP4 | 4 x 13 x 50mm | |
| NP6 | 6 x 13 x 50mm | |
| NP8 | 8 x 13 x 50mm | |

Do you not still have a tool grinder? Ask us for an offer.



V-BIT CUTTER

This carbide tool is designed for creation of 3D effects in wood, MDF and plastics. Requires special 3D software with V-bit carving function. (ie. Vectric Aspire). Cutting angle is 90°, 120° or 150°. 5 mm thick layer of carbide allows many regrinding which brings long lifetime.

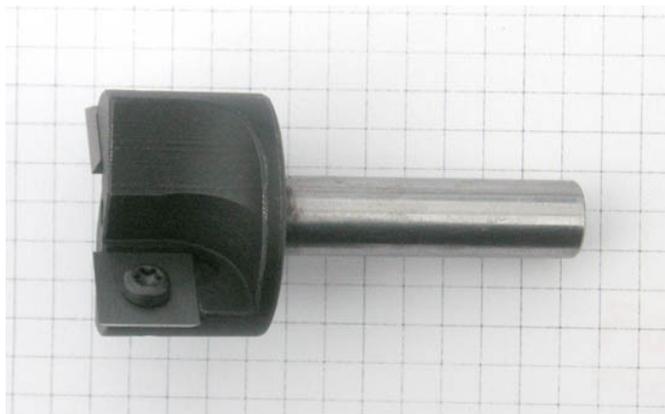
| Code | PR/PN x DR x CDN | |
|--------|------------------|--|
| V9016 | 16/6 x 14 x 55mm | |
| V9032 | 32/8 x 26 x 65mm | |
| V12032 | 32/8 x 26 x 65mm | |
| V15032 | 32/8 x 26 x 65mm | |



TOOL FOR GROOVES IN SANDWICH (ALUCOBOND)

This carbide tool was designed for extreme high speeds in sandwich materials. Suitable for bending purposes. Tool is balanced for high speed spindles.

| Code | CRU x PS | PR/PN x CDN | |
|---------------------------------|-------------|--------------|--|
| CB90 | 90° x 1,8mm | 10/10 x 50mm | |
| - for dibond 3mm, 4mm | | | |
| CB90-6 | 90° x 1,8mm | 10/6 x 45mm | |
| - for dibond 3mm, 4mm | | | |
| CB92-6 | 92° x 0,2mm | 6/6 x 50mm | |
| - for dibond 3mm | | | |
| CB210 90-6 | 90° x 1,8mm | 10/6 x 50mm | |
| - for dibond 3mm, 4mm | | | |
| CB213 90-6 | 90° x 1,8mm | 13/6 x 50mm | |
| - for dibond 3mm, 4mm, 5mm, 6mm | | | |



PLANING TOOL*

This special tool is designed for planing of large areas. 32 mm wide trail ensures quick planing even on 2x4 m machine. The tool contains 2 exchangeable plates. Next ones could be ordered with code VD1212.

| Code | PR/PN x DR x CDN | |
|--------|-------------------|--|
| P10320 | 32/10 x 12 x 60mm | |
| D1212 | 12 x 12 x 1,5mm | |



DIAMOND POLISHING TOOL FOR PLEXIGLASS*

These tools were designed for polishing of acrylic sheets. The result is fantastic. Tool is made of monocrystalic or natural diamond. In standard we supply it in 3 lengths of edge. 4mm is recommended for sheets up to 3mm thickness, 6mm for 5mm thickness and 11mm is perfect for sheets up to 10mm.

Monocrystalic diamonds are for users who need to polish often and/or require ultimate edge quality.

Polycrystalics are intended for users who need to polish sporadically and/or need to polish a thick material for 1 pass.

We also offer diamond for polishing faceted holes and edges with 45 degrees with code LDV90860. Length of diamond is 6mm in this case.

Monocrystalic

| Code | PR/PN x DR x CDN | |
|----------|------------------|--|
| LD6404 | 4/6 x 4 x 60mm | |
| LD8606 | 6/8 x 6 x 60mm | |
| LD10811 | 8/10 x 11 x 60mm | |
| LDV90860 | 8 x 6 x 60mm | |

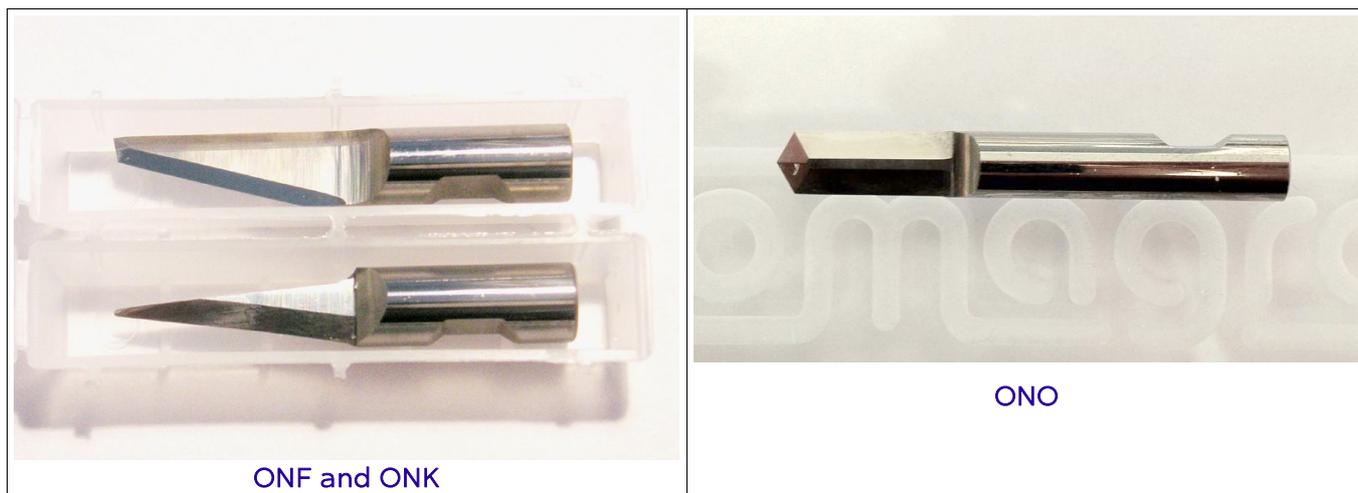
Polycrystalic

| Code | PR/PN x DR x CDN | |
|-------|-----------------------|--|
| LDP14 | 6/6 x 14 x 50 x 22mm | |
| LDP22 | 8/8 x 22 x 60 x 33mm | |
| LDP33 | 8/10 x 33 x 75 x 43mm | |



LDV90860

These tools are not calculated into volume discount!



ROUNDED KNIVES FOR OSCILLATION CUTTING Ø6mm

We offer these knives for oscillating cutting of corrugated cardboards, cardboards, fibrous materials, rubber, etc.

- ONF** - knives for cutting fibrous materials. The knife is flat on the bottom, so it cuts all fibres.
- ONK** - knives for cutting corrugated cardboard, rubber and hard materials. The tool has small radius on the bottom to prevent unexpected wear.
- ONO** - knives for cutting corrugated cardboard, foam, wool and other materials in high speeds.

These knives are usable for oscillating cutting heads COMAGRAV, primary designed for pneumatic head. Using special adapter, they can be used also in electric oscillation unit. Suitable also for Aristo plotters.

| Code | PN x DR x CDN x UB |
|--------|-----------------------|
| ONK6 | 6 x 6 x 36 mm |
| ONK10 | 6 x 10 x 36mm |
| ONK15 | 6 x 15 x 36mm |
| ONK25 | 6 x 25 x 46mm |
| ONK30 | 6 x 30 x 55mm |
| ONK50 | 6 x 50 x 68mm |
| ONK65 | 6 x 65 x 81mm |
| ONK90 | 6 x 90 x 110mm |
| ONK110 | 6 x 110 x 118mm |
| ONF10 | 6 x 10 x 36mm x 68° |
| ONF15 | 6 x 15 x 36mm x 73° |
| ONF20 | 6 x 20 x 39mm x 89° |
| ONF30 | 6 x 30 x 46mm x 82° |
| ONF35 | 6 x 35 x 55mm x 86° |
| ONF40 | 6 x 40 x 57mm x 87° |
| ONF60 | 6 x 60 x 83mm x 86,8° |
| ONO15 | 6 x 15 x 36mm |
| ONO25 | 6 x 25 x 56mm |
| ONO40 | 6 x 40 x 56mm |
| ONO65 | 6 x 65 x 81mm |

FLAT KNIVES FOR OSCILLATION CUTTING

High quality carbide knives for cutting of corrugated cardboard, carton, foam, rubber, fabrics, etc. Knives are suitable also for Zünd plotters.

| | Type | |
|---|--|--|
|  | <p>FN8 - for cutting soft materials, corrugated, PE foils, etc. Cutting length 8mm. For use with electric oscillating knife. Cuts also without oscillation. Knife thickness 0,63mm.</p> | |
|  | <p>FN12 - for cutting PE foils, leather, etc. Cutting length 12mm. For use with electric oscillating knife. Cuts also without oscillation. Knife thickness 0,63mm.</p> | |
|  | <p>FNS10 - for cutting corrugated cardboard to 10mm, rubber, etc. Cutting length 10mm. For use with electric oscillating knife. Knife thickness 0,63mm.</p> | |
|  | <p>FNS13 - for cutting corrugated cardboard to 13mm, rubber, etc. Cutting length 13mm. For use with electric oscillating knife. Knife thickness 0,63mm.</p> | |
|  | <p>FNS16 - for cutting sandwich panels to 16mm, etc. Cutting length 16mm. For use with electric oscillating knife. Knife thickness 0,63mm.</p> | |
|  | <p>FNF10 - for cutting fabrics, textile, etc. Cutting length 10mm. For use with electric oscillating knife. Knife thickness 0,63mm.</p> | |

FLAT KNIVES FOR DRAG CUTTING

Knives are designed for cutting without oscillation.
 Knives are suitable also for Zünd and ESKO plotters.

| | Type | |
|---|---|--|
|  | <p>E10 - fix knife for cutting thin and hard materials. For use with U1 holder for flat knives. Works without oscillation. Knife thickness 1,45mm.</p> | |
|  | <p>E11 - fix knife for cutting thin and hard materials. For use with U1 holder for flat knives. Works without oscillation. Knife thickness 1,45mm.</p> | |
|  | <p>E44 - same type as E11, but with additional cutting edge for fibrous materials (carpets). For use with U1 holder for flat knives. Works without oscillation. Knife thickness 1,45mm.</p> | |
|  | <p>E46 - fix knife for cutting thin and hard materials. For use with U1 holder for flat knives. Works without oscillation. Knife thickness 1,45mm.</p> | |
|  | <p>E70 - flat knife for V-cut. Knife thickness 0,63mm.</p> | |
|  | <p>E71 - flat knife for V-cut. Knife thickness 1mm.</p> | |

ROTARY KNIVES FOR TEXTILE CUTTING

Knives are designed for cutting rotations in modules for cutting fabrics and textiles.
Knives are suitable also for Zünd plotters.

| | Type | |
|---|---|--|
|  | CD25 - rotating knife for cutting fibrous materials, banners, etc. For use with motorised cutting disc. Cutting diameter 25mm. | |
|  | CD28 - rotating knife for cutting fibrous materials, banners, etc. For use with motorised cutting disc. Cutting diameter 28mm. | |
|  | CD32 - rotating knife for cutting fibrous materials, banners, etc. For use with motorised cutting disc. Cutting diameter 32mm. | |
|  | CD66 - rotating knife for cutting fibrous materials, banners, etc. For use with motorised cutting disc. Cutting diameter 66mm. | |
|  | CD160-10 - 10-sided rotating knife (HSS) for cutting fibrous insulating materials. Special knife for MCD160 module. Cutting diameter 160mm. | |
|  | CD160-20 - 20-sided rotating knife (HSS) for cutting fibrous insulating materials. Special knife for MCD160 module. Cutting diameter 160mm. | |