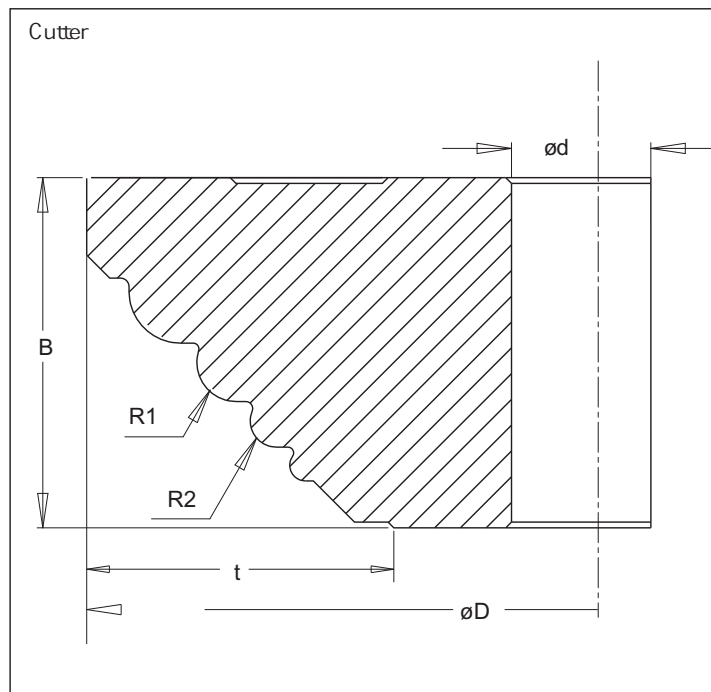
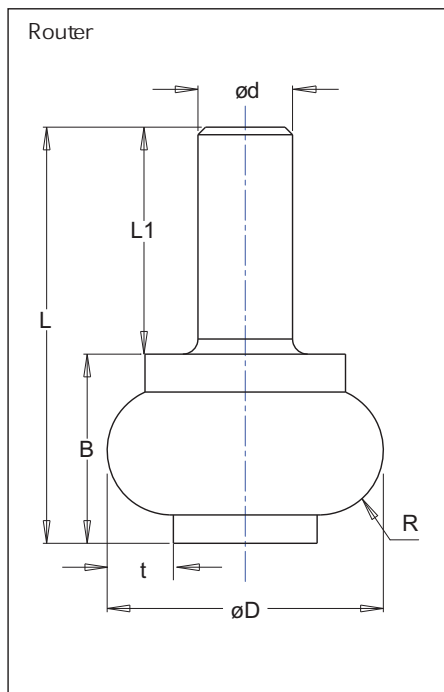


Custom Tooling

Custom tool definition

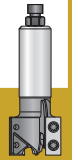
1. Tool type:
 - Is it a router, saw blade, drill, cutter etc...
 - Is it a brazed tool or a tool with replaceable knives
2. Wood type:
 - The type of the material (Solid wood, MDF, Chipboard and etc.) to be worked with.
3. Sketch of the tool (few options):
 1. required profile with dimensions.
 2. required profile drawn in a scale.
 3. wood sample to be supplied by the customer.



4. Machine interface:
 - bore or shank dimensions, max. tool diameter, max. weight, max. RPM.
5. Process information:
 - Is it manual or mechanical feed?
 - What is the required feed rate?
 - What is the direction of the rotation?
6. Order information:
 - How many tools are required?
 - What is the delivery time?
7. History:
 - Is the requested new tool replacing an existing one?
 - How the existing tool looks like? and what are the expectations from the new tool?



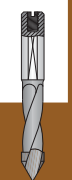
Sawing



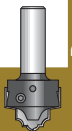
CNC



Cutting



Drilling

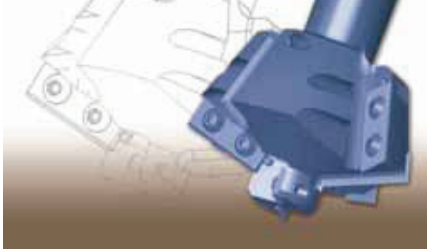


Routing

Plastic, Cortan, Aluminum



Custom Tooling



Custom Tooling

For your convenience we have drawn up some charts in order to assist you in better defining your tool.

Determination of Number of Teeth (Chart 1)

The table below indicates the required number of teeth, (Z), for a cutterhead according to:

- Rotation speed, n (min-1)
- Feed rate, s (m.min-1)
- Tooth progress, fz (mm)

suggested values for fz*:

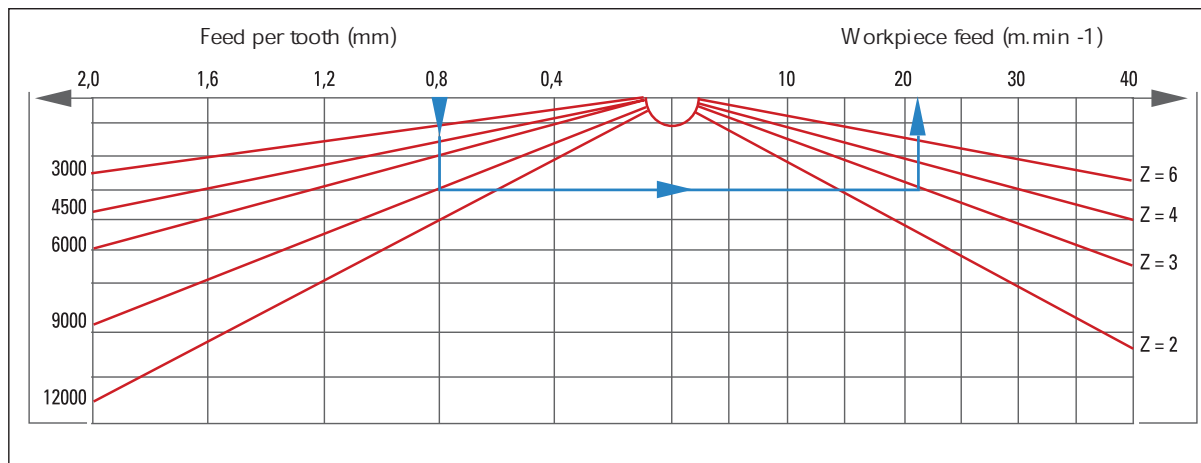
- 0.3 to 0.8 mm fine
- 0.8 to 2.5 mm smooth
- 2.5 to 5.0 mm coarse

* The best finish is obtained when a tooth progress of between 0.3 and 0.8 mm is achieved

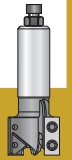
Example:

- fz = 0.8 required
- Rotation speed, n = 3500 min-1
- Feed rate, s = 20 m.min-1
- Number of teeth, Z = ?
- From the table we obtain Z = 3

(Chart 1)



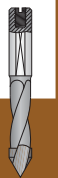
Sawing



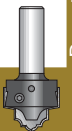
CNC



Cutting

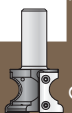


Drilling

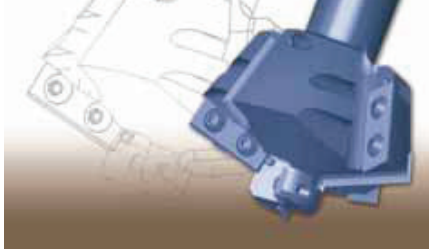


Routing

Plastic, Cortan, Aluminium



Custom Tooling



Custom Tooling

Determination of linear cutting Speed (Vc) (Chart 2)

- The linear cutting speed (Vc) can be calculated when the diameter of the tool and rotational speed are known
- The maximum permitted rotational speed, „n max.“, of each tool is etched on the tool body
- This is not the optimum speed, but the maximum safe operating speed which must not be exceeded
- As a rule, the optimum speed is 20% - 30% below the maximum speed

$$n \text{ (r.p.m)} = \frac{1000 \cdot 60 \cdot Vc}{\pi \cdot D}$$

$$Vc = \frac{\pi \cdot D \cdot n}{60,000}$$

$Vc = \text{Speed } \frac{M}{\text{sec}}$
 $D = \text{Diameter mm}$
 $n = \text{Spindle R.P.M}$

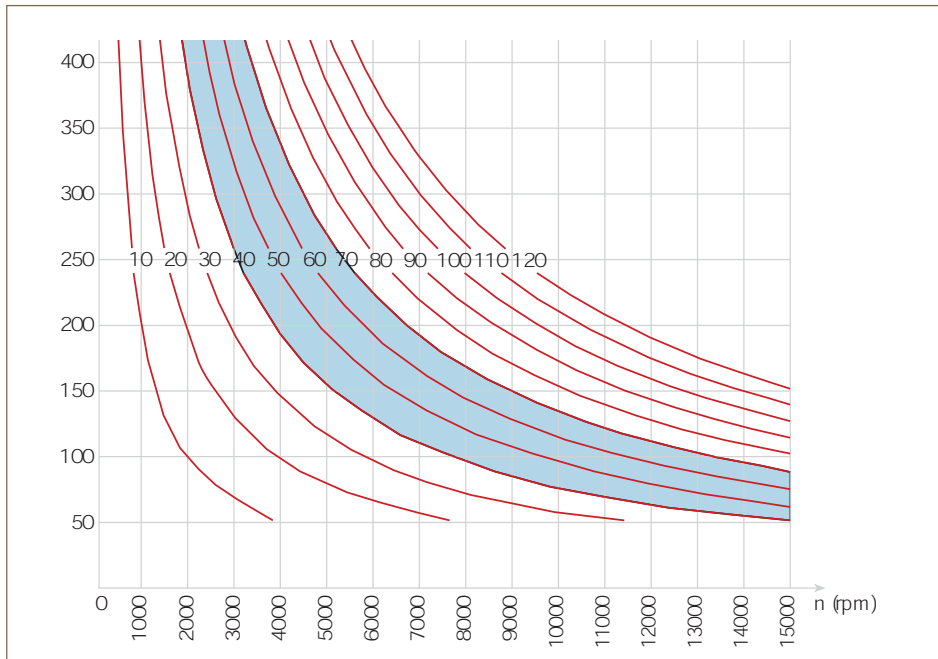
Example:

- D = 140 mm
- r.p.m. = 8000 min⁻¹
- vc = ?
- From the table we obtain vc = 58,6 m · sek⁻¹
- In relation to tool diameter, D, the optimum rotational speed can be obtained from the table

Example:

- Cutter diameter D = 140 mm optimum rotational speed range n = 5500 - 9000 min⁻¹

(Chart 2)



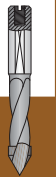
Sawing



CNC



Cutting

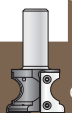


Drilling

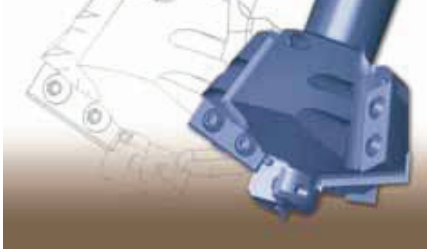


Routing

Plastic, Corian, Aluminum



Custom Tooling



Custom Tooling

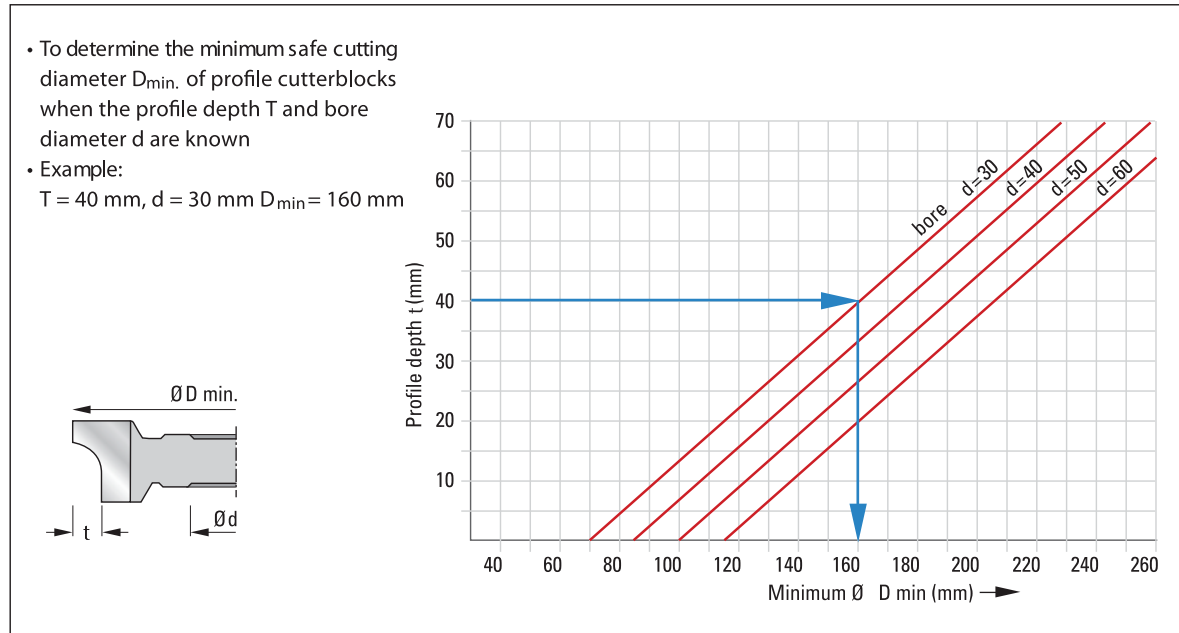
Minimum diameter (Chart 3)

the table below the relation between the profile cutting depth and the minimum tool diameter.

In tools with replacble tips the final diameter might be bigger.

- The minimum safe cutting diameter of the tool is determined within the meaning of VBG 7 (Federal German Industrial Law), and can be calculated from the following tables. No consideration is taken of the number of knives, feed rate or cuttingspeed

(Chart 3)



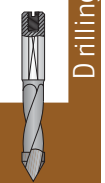
Sawing



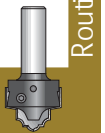
CNC



Cutting



Drilling

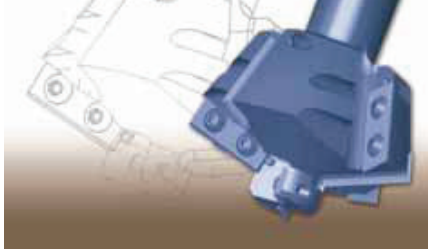


Routing

Plastic, Corian, Aluminum



Custom Tooling

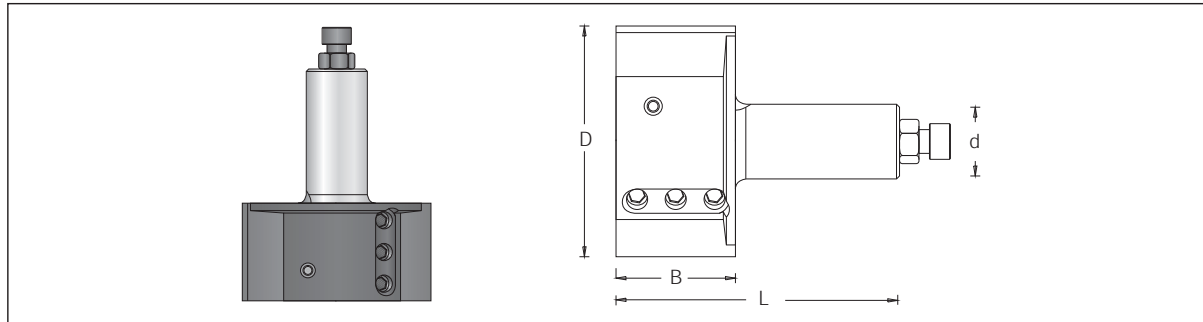


Custom Tooling

Universal Profile Tools

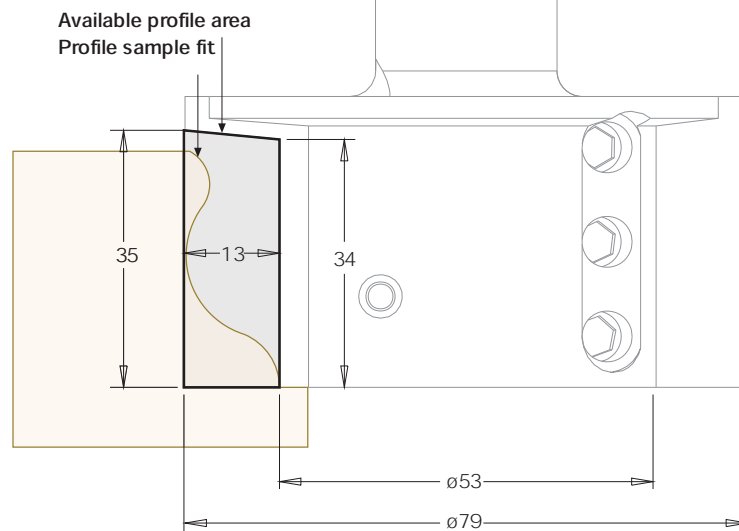
Dimar standard Universal Profile Tool Can assemble profile knives on these tools according to the customer's request. These tools are supplied as standard with a 20mm or 25mm shank. These tools are supplied with 2 or 3 profile knives (according to the tool) and supporting plates for certain tools. For your convenience, please find the attached transparencies with dimensions of 1:1 ratio of the knife area on which the profile can be produced according to the customer's request. When assembling a special knife on these tools the catalog number will change accordingly.

1. Catalogue number 8560010 (Page 2.34)



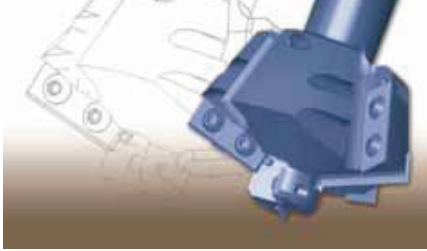
The router will be supplied with knives grinded according to customer specification that fit into the marked area.

For every new profile, 2 supporting plates need to be ordered.



Scale - 1:1

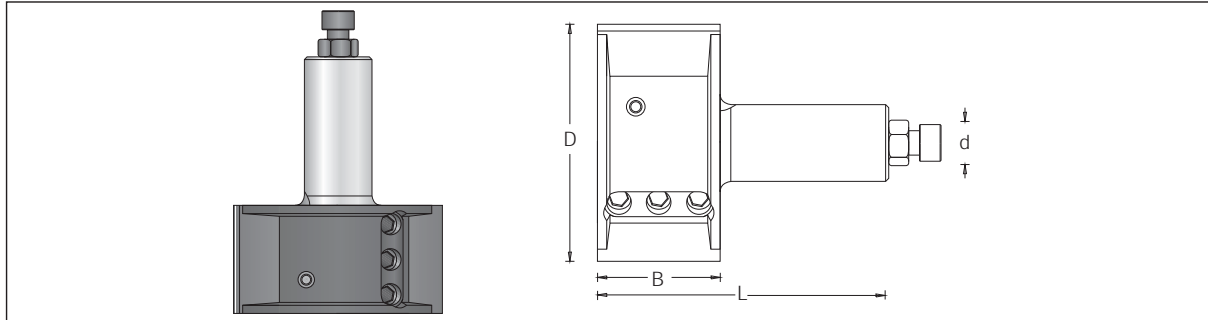
In addition to the two profile knives and the two profile supporting plates that are supplied with a special tool, need to order a minimum quantity of 10 additional profile knives for each profile. For every new profile, need to order a profile supporting plate suitable for the profile and the knife.



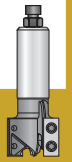
Custom Tooling

Index
→

2. Catalogue number 8560020 (page 2.34)



Sawing



CNC

The router will be supplied with knives grinded according to customer specification that fit into the marked area.

For every new profile, 2 supporting plates need to be ordered.

Available profile area
Profile sample fit

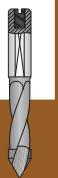
31
13
28

Ø53
Ø79

Scale - 1:1



Cutting



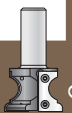
Drilling



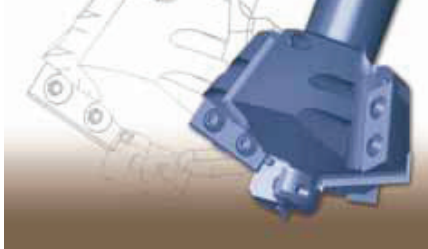
Routing

In addition to the two profile knives and the two profile supporting plates that are supplied with a special tool, you need to order a minimum quantity of 10 additional profile knives for each profile. For every new profile, need to order a profile supporting plate suitable for the profile and the knife.

Plastic, Corian, Aluminum



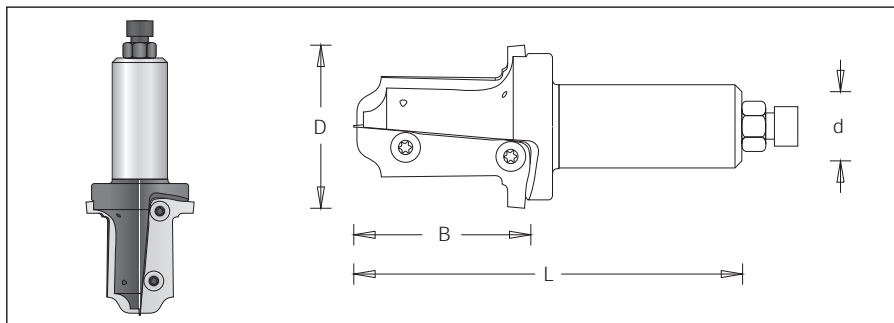
Custom Tooling



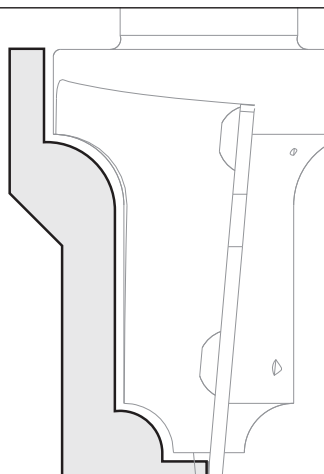
Custom Tooling

Index

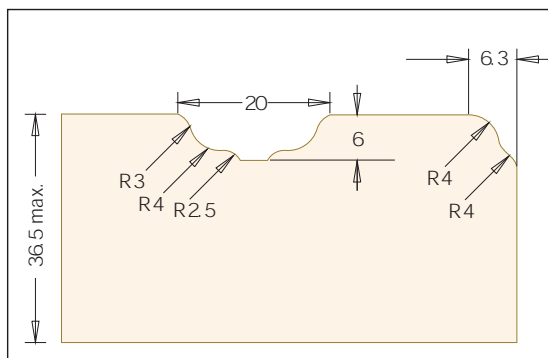
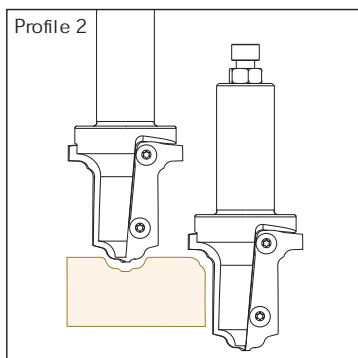
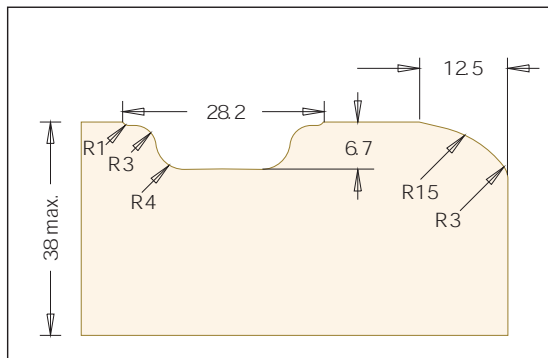
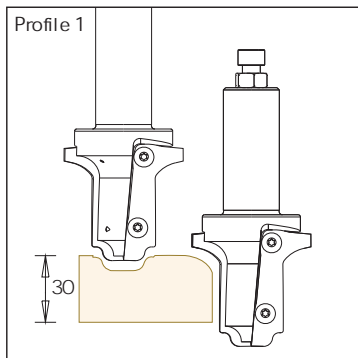
3. Catalogue number 853001H (Page 2.44)



The router bit will be supplied with standard profiles or with knives grinded according to customer specification that fit into the marked area.



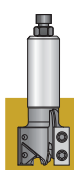
Scale - 1:1



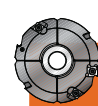
Two profile knives are assembled on the tool. need to order a minimum quantity of 10 additional profile knives for each profile.



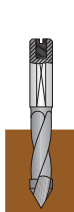
Sawing



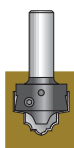
CNC



Cutting

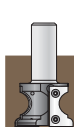


Drilling

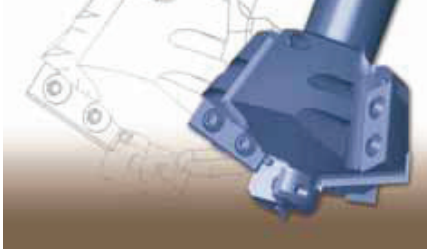


Routing

Plastic, Corian, Aluminum



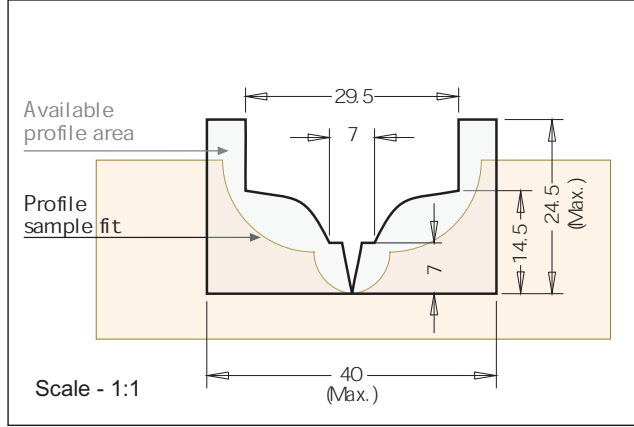
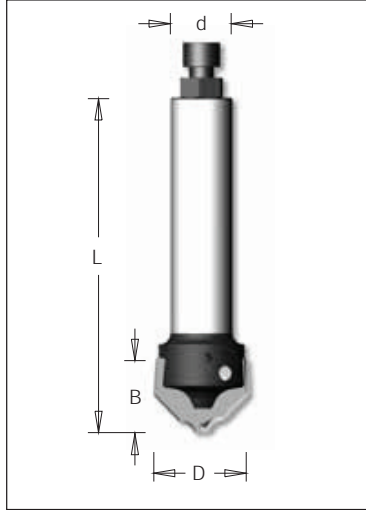
Custom Tooling



Custom Tooling

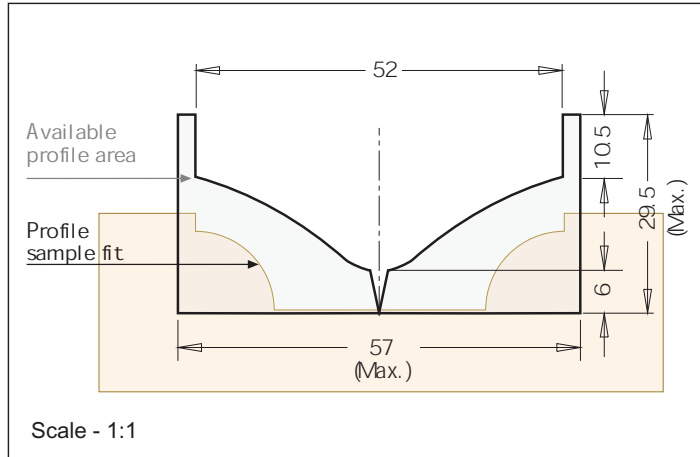
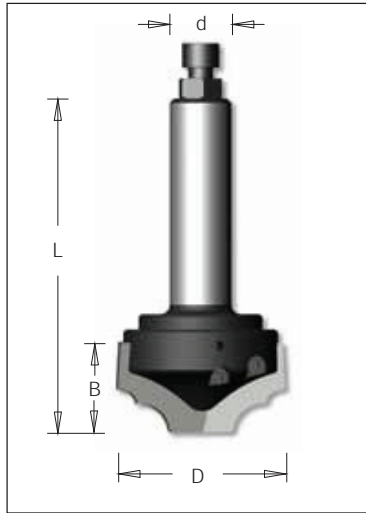
4. Catalogue number 8080110 (Page 2.40)

Two profile knives are assembled on the tool. need to order a minimum quantity of 10 additional profile knives for each profile.

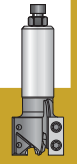


5. Catalogue number 8080350 (Page 2.39)

Two profile knives are assembled on the tool. need to order a minimum quantity of 10 additional profile knives for each profile.



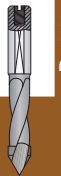
Sawing



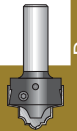
CNC



Cutting

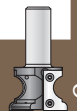


Drilling

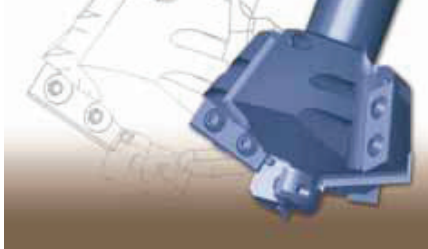


Routing

Plastic, Corian, Aluminum



Custom Tooling

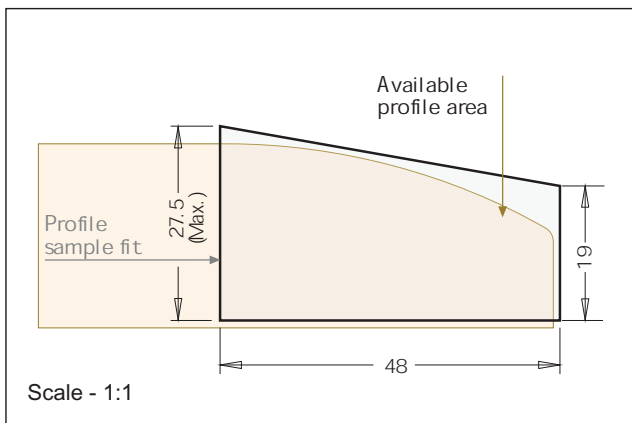
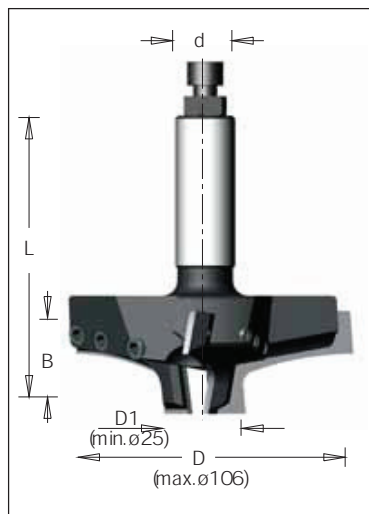


Custom Tooling

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6. Catalogue number 8171X30 (Page 2.41)

Three profiled knives and three profile supporting plates are assembled on the tool. need to order a minimum quantity of 9 additional profile knives for each profile and need to order the suitable supporting plates for each profile.



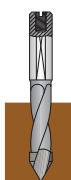
Sawing



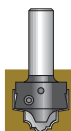
CNC



Cutting

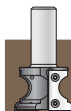


Drilling



Routing

Plastic, Corian, Aluminum



Custom Tooling