

8. Knives, spare parts

Knives, spare parts

Cutting knives from high speed steel (HSS) designed for professional machining of solid soft wood, cutting knives from carbide (HM) designed for professional machining of solid soft and hard wood, glued wood and other wood-based materials. Knives 1100-4H have been improved with high performance coating HP or HX. Properly selected coating, significantly increases (even several times) life of the tool. Knives with HP and HX coating are designed for cutting dry hardwood at temperature up to 200°C (HP) and for cutting wet softwood at temperature up to 300°C (HX). They are used for machining flat surfaces, grooves, rebates and specialist surface and edge profiling

Knives are made from the highest quality high speed cutting steel and carbide in special heat treatment and profiling technology, properly selected for the type of work, parameters and conditions prevailing during the machining, in order to guarantee proper work in cooperation with other tools both in standard and extreme conditions. Knives are offered also in the version combining high speed cutting steel with carbide as in the case of knives 1100-4.

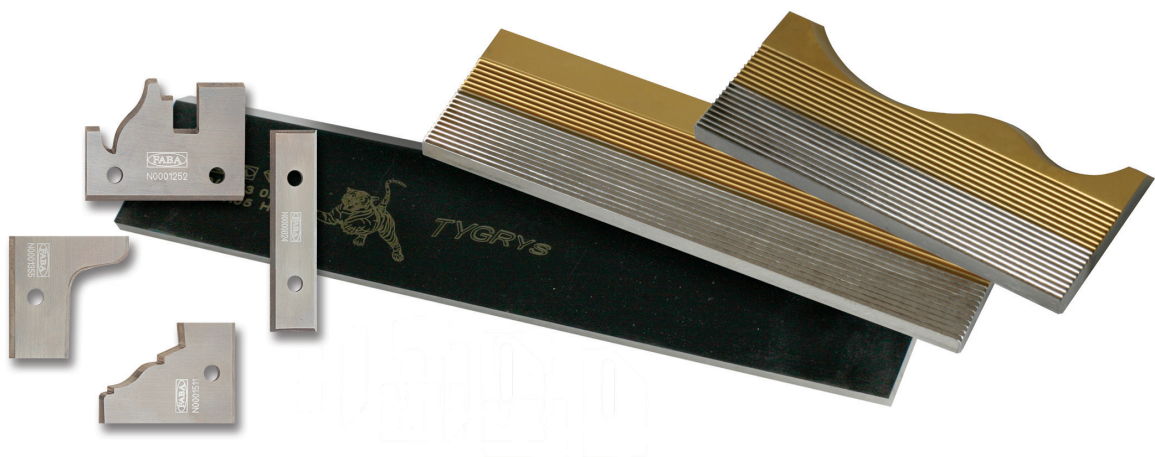
Knives are designed for cutter heads with or without shear angle and optimized chip flow. Very precise tool production and balancing allows for rotation speed up to 24 000 r.p.m.

All types of cutting knives are manufactured on modern CNC machines of world-renowned producers, which guarantee high accuracy and precision of the produced tools. The construction and production remains in accordance with all points of safety standard EN/PN-847-1 concerning tools for mechanical woodworking.

Knives and spare parts chapter includes only examples of knives with basic dimensions. On request, we can suggest and manufacture proper knife for the required type of tool, profile, work, material as well as parameters and conditions during machining. The production time of knives or catalogue components indicated with "+" as well as special ones made on client's request in most cases does not take more than 10-15 working days.

Orders should include:

- tool outer diameter (D) or diameters range,
- HM tip depth (h),
- knife length (B),
- knife height (L),
- knife thickness (b),
- profile depth (G_p),
- type of machined material,
- number of teeth (z) or spindle rotation speed and feed speed.



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Pictograms



solid dry softwood



solid dry hardwood



solid wet softwood



solid wet hardwood



chipboard



glued wood



MDF



plastics



high-speed cutting steel



high-speed cutting steel 18% wolfram



carbide



HP coating



HX coating



flat surfaces



grooving



profiling



debarking

- available / stock product
 - + production time 9–15 working days.
- Minimum order for knives and inserts is agreed individually.

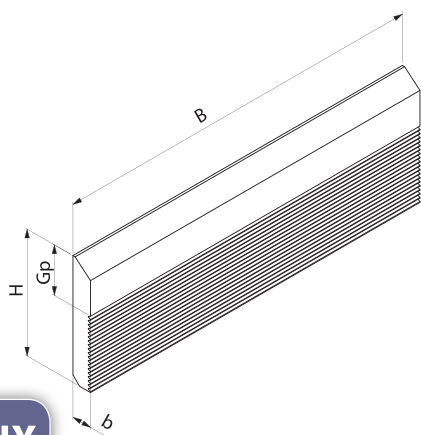
GP

Cutting knife, type **GP-01** or **GP-03** with one cutting edge, designed for professional machining of solid wood. The knife is used for cutting flat surfaces or profiling. Height is regulated by precise serration. The knife is offered also with HP or HX coating.

Type of work: cutting flat surfaces, profiling.

Material:

- HSS** solid wood
- HP** solid, dry wood, plastics
- HX** solid, wet wood, plastics



GP-01

D = mm b = mm H = mm Gp _{max} = mm	122 8 40 15	122 8 50 15	122 8 60 20	122 8 70 30	137 10 50 15
B mm	Catalogue number HSS	Catalogue number HSS	Catalogue number HSS	Catalogue number HSS	Catalogue number HSS
40		N2050012 •	N2050022 •		
50		N2050013 +	N2050023 +		
60	N20500004 +	N2050014 •	N2050024 •		
80		N2050015 •	N2050025 •		N2050035 +
100		N2050016 •	N2050026 •	N2050046 +	
120		N2050017 •	N2050027 +	N2050047 +	
150		N2050018 •	N2050028 •	N2050048 +	
180		N2050019 •	N2050029 +	N2050049 +	
200		N2050020 +	N2050030 +	N2050050 +	N2050040 +
410		N2050149 •	N2050150 •	N2050155 +	

Profiles in knives GP-01 are made only on client's request according to individual pricing.

GP-03

D = mm b = mm H = mm	122 5 40	122 5 40	122 5 40
B mm	Catalogue number HSS	Catalogue number HP	Catalogue number HX
60	N2050186 +	N2050186HP +	N2050186HX +
80	N2050187 +	N2050187HP +	N2050187HX +
100	N2050188 +	N2050188HP +	N2050188HX +
130	N2050189 +	N2050189HP +	N2050189HX +
150	N2050190 +	N2050190HP +	N2050190HX +
200	N2050191 +	N2050191HP +	N2050191HX +

More informations about knives with HP or HX coating on page 8.8 of the catalogue.

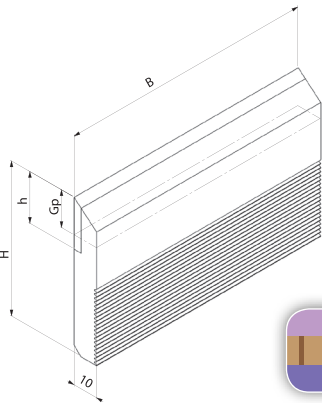
Cutting knife with **HM tip** designed for professional machining of solid wood. The knife is used for precise cutting of flat surfaces. Special geometry allows for working together with GP cutter heads. Height regulated with precise serration. Knives thickness 10 mm. Depending on size and depth of the profile mould, the proper height of the carbide tip should be chosen.

Type of work: cutting flat surfaces, profilings

Material: solid soft and hard wood, glued wood, chipboard, MDF, PCV



HM tipped knives



H = mm h = mm Gp _{max} = mm	50 20 15	60 20 15	60 25 19
B mm			
60	+	+	+
80	+	+	+
100	+	+	+
130	+	+	+

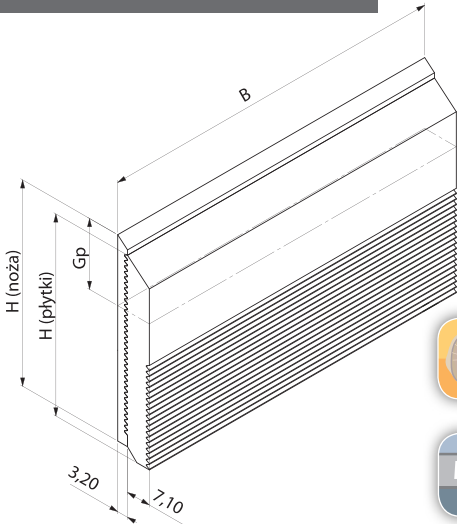
Cutting **knife HM with backing plate** designed for professional machining of solid wood. The knife is used for precise cutting of flat surfaces and profiling. Special geometry allows for working together with GP-01 and GPL-01 cutter heads. Height regulated with precise serration. Knives thickness 3,2 mm. The set includes backing plate which guarantees better support of the HM tip.

Type of work: cutting flat surfaces, profiling

Material: solid soft and hard wood, glued wood, chipboard, MDF, PCV

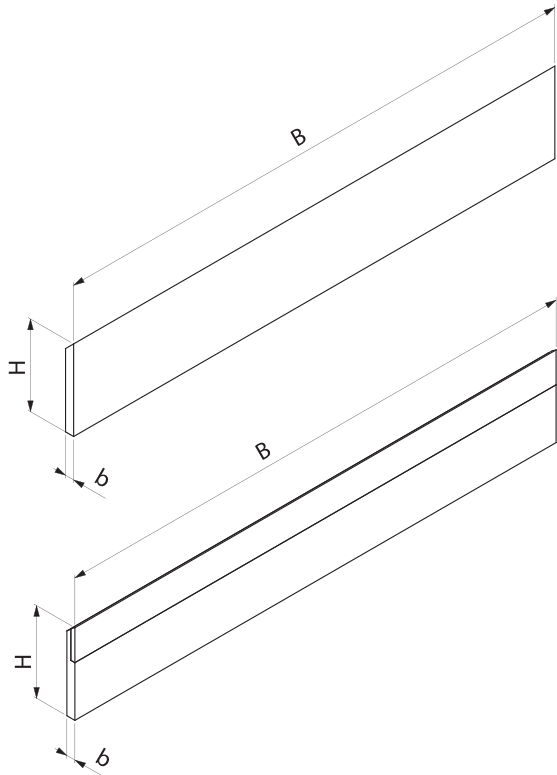


HM knives and backing plates



L mm	Knife size B x H (Gp _{max}) mm	Tip size B x H mm
60	50 x 3,2 (15)	47 x 7,1
60	60 x 3,2 (20)	57 x 7,1
100	50 x 3,2 (15)	47 x 7,1
100	60 x 3,2 (20)	57 x 7,1
150	50 x 3,2 (15)	47 x 7,1
150	60 x 3,2 (20)	57 x 7,1



1100-4






Precise cutting knife, type **1100-4** with one cutting edge, designed for professional machining of solid wood. The knife is used for cutting flat surfaces. Special geometry allows for working together with 1100-4 and 1100-5 cutter heads.

Type of work: cutting flat surfaces

Material:

-  solid softwood
-  solid hardwood







b H	3 30		3 35		3 30	
B mm	Catalogue number 		Catalogue number 		Catalogue number 	
60	N2040101	•	N2040201	•	N2040101W	•
80	N2040102	•	N2040202	+	N2040102W	•
100	N2040103	•	N2040203	•	N2040103W	•
130	N2040104	•	N2040204	•	N2040104W	•
150	N2040105	•	N2040205	•	N2040105W	•
160	N2040106	•	N2040206	+	N2040106W	•
180	N2040107	•	N2040207	•	N2040107W	•
200	N2040141	•			N2040141W	+
230	N2040108	•	N2040208	•	N2040108W	•
270	N2040109	•	N2040209	+	N2040109W	+
300	N2040110	+	N2040210	+	N2040110W	+
310	N2040137	•				
350	N2040111	+	N2040211	+	N2040111W	+
410	N2040112	•	N2040212	•	N2040112W	•
510	N2040114	•	N2040214	•	N2040114W	+
610	N2040116	•	N2040216	•	N2040116W	+
640	N2040118	•	N2040218	•		
710	N2040119	+	N2040219	+		
810	N2040120	•	N2040220	•		

Knives 1100-4 with length not given in the chart we offer on client’s request according to individual pricing.

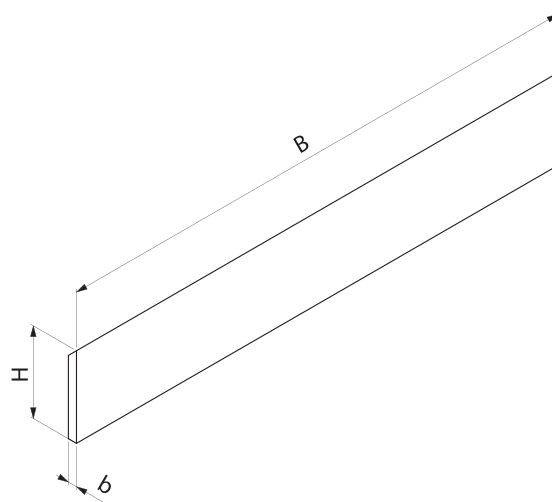
Precise cutting knife, type **1100-4H** and coated knife type TYGRYS with one cutting edge, designed for professional machining of solid wood. The knife is used for precise cutting of flat surfaces. Special geometry allows for working together with 1100-4H and 1100-5H cutter heads. The knife is offered as HSS steel or HSS 18% wolfram version, as well as with HP and HX coating increasing life of the knife several times.

Type of work: cutting flat surfaces.

Material:

-  solid softwood
-  solid, dry softwood and hardwood
-  solid, dry wood, plastics
-  solid, wet wood, plastics

1100-4 H



TYGRYS



b H	3 30		3 30		3 30		3 30	
B mm	Catalogue number	HSS	Catalogue number	HSS 18%	Catalogue number	HP	Catalogue number	HX
60	N2041101	+	N2041101.18	+	N2081101HP	•	N2081101HX	+
80	N2041102	+	N2041102.18	+	N2081102HP	+	N2081102HX	+
100	N2041103	•	N2041103.18	•	N2081103HP	•	N2081103HX	+
130	N2041104	•	N2041104.18	•	N2081104HP	•	N2081104HX	+
150	N2041105	•	N2041105.18	•	N2081105HP	•	N2081105HX	+
160	N2041106	•	N2041106.18	•	N2081106HP	+	N2081106HX	+
180	N2041107	•	N2041107.18	•	N2081107HP	•	N2081107HX	+
200					N2081141HP	+	N2081141HX	+
230	N2041108	•	N2041108.18	•	N2081108HP	•	N2081108HX	+
270	N2041109	+	N2041109.18	+	N2081109HP	+	N2081109HX	+
300	N2041110	+			N2081110HP	+	N2081110HX	+
310					N2081137HP	+	N2081137HX	+

Knives 1100-4 HSS with length not given in the chart (max 310 mm) we offer on client's request according to individual pricing.

More informations about knives with HP or HX coating on page 8.8 of the catalogue.

SUPER LONGLIFE knives 1100-4 H TYGRYS HP and HX

PERFECT SURFACE QUALITY
INCREASED LIFE OF THE KNIFE



1100-4H knives have been improved by adding special HP or HX coating. The coating, properly chosen for the kind of machined material significantly (even several times) increases life of the knife.

Planer knives **1100-4H** in special version with increased manufacturing precision with coating:

- **HP** are designed for dry and hard wood cutting. Maximum temperature of work in wood up to 200°C.
- **HX** are designed for wet and soft wood cutting. Maximum temperature of work in wood up to 300°C.

We produce knives 35 mm high or with dimensions not given in the catalogue (max. 310mm) as well as HX coated knives on client's request within 20 working days according to individual pricing.

8



Cutting blades with two cutting edges designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The blades are used for cutting flat surfaces, grooving and profiling.

Type of work: cutting flat surfaces, grooving.

Material: solid wood, chipboard.

Two-edge T

Inserts made from very hard carbide which guarantees increased durability and abrasion resistance.

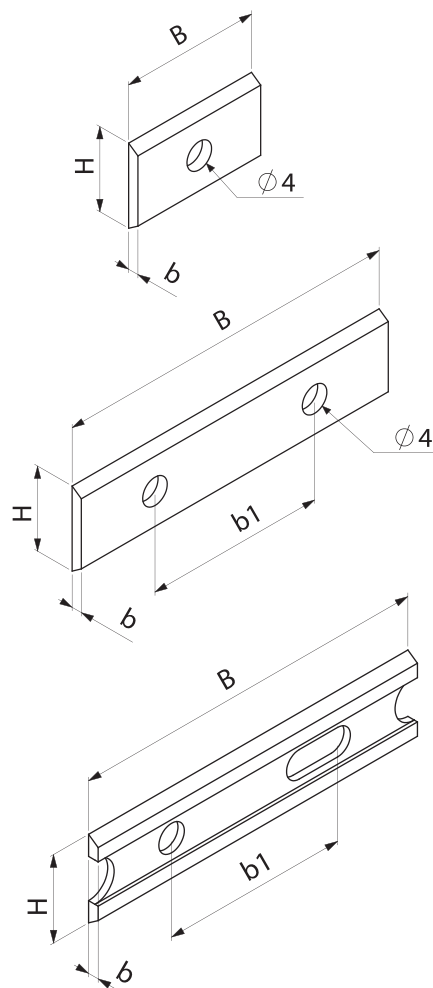
Material: chipboard, laminated board, MDF.

Two-edge S

Inserts made from super hard carbide which guarantees increased durability and abrasion resistance.

Material: chipboard, laminated board, MDF, HDF.

Two-edge inserts



Catalogue number	Type	B x H x b mm	b1 mm	Number of holes
N0000801		7,5 x 12 x 1,5		1 •
N0000802		9,6 x 12 x 1,5		1 •
N0000803		11,6 x 12 x 1,5		1 •
N0000804		15,0 x 12 x 1,5		1 •
N0000829		15,7 x 12 x 1,5		1 +
N0000826		17,0 x 12 x 1,5		1 +
N0000805		20,0 x 12 x 1,5		1 •
N0000821	T	20,0 x 12 x 1,5		•
N0000806		24,7 x 12 x 1,5-1		1 •
N0000807		24,7 x 12 x 1,5-2	14	2 •
N0000808		30,0 x 12 x 1,5	14	2 •
N0000822	T	30,0 x 12 x 1,5	14	2 •

Catalogue number	Type	B x H x b mm	b1 mm	Number of holes
N0000835	S	30,0 x 12 x 1,5	14	2 •
N0000809		40,0 x 12 x 1,5	26	2 •
N0000823	T	40,0 x 12 x 1,5	26	2 •
N0000810		50,0 x 12 x 1,5	26	2 •
N0000723E	ECO	50,0 x 12 x 1,5	20-26	2 •
N0000824	T	50,0 x 12 x 1,5	26	2 •
N0000837	S	50,0 x 12 x 1,5	26	2 •
N0000811		60,0 x 12 x 1,5	26	2 •
N0000825	T	60,0 x 12 x 1,5	26	2 •
N0000838	S	60,0 x 12 x 1,5	26	2 •
N0000861		80,0 x 13 x 2,2		2 •
N0000843		100,0 x 13 x 2,2		2 +

Four-edge inserts

Cutting blades with four cutting edges designed for professional machining of solid wood and wood-based materials such as chipboard, MDF and others. The blades are used for cutting flat surfaces and grooving.

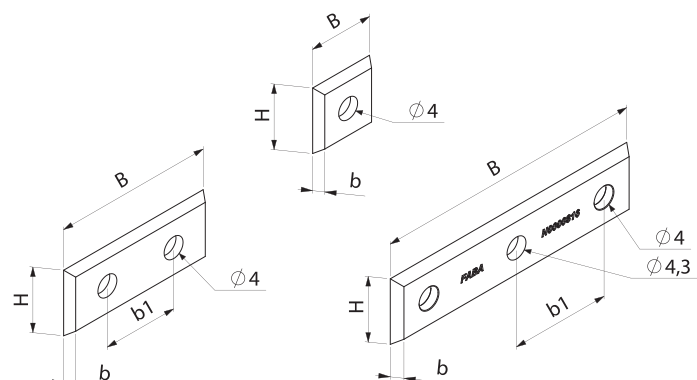
Type of work: cutting flat surfaces, grooving.

Material: solid wood, chipboard.

Four-edge T

Inserts made from very hard carbide which guarantees increased durability and abrasion resistance.

Material: chipboard, laminated board, MDF, HDF.



Catalogue number	Type	B x H x b mm	b1 mm	Number of holes
N0000813		12 x 12 x 1,5		1 •
N0000854	T	12 x 12 x 1,5		1 •
N0000828		17 x 17 x 2,0		1 •
N0000814		29,5 x 12 x 1,5	14	2 •

Catalogue number	Type	B x H x b mm	b1 mm	Number of holes
N0000815		39,5 x 12 x 1,5	26	2 +
N0000816		49,5 x 12 x 1,5	26	2 •
N0000862	T	49,5 x 12 x 1,5	26	2 +
N0000812		50 x 12 x 1,7	18,5	3 •

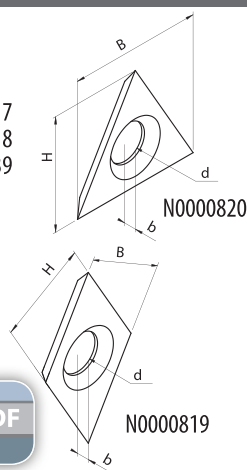
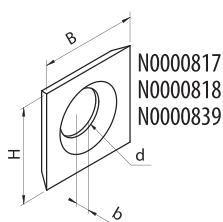
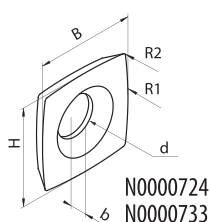
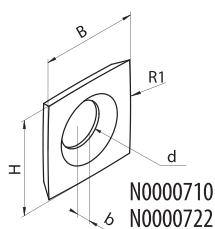
Four-edge R / Spur knives

Four-edge inserts R used in cutter heads type G309 and G509. The inserts are perfect for finishing. Special geometry guarantees excellent surface quality.

Spur knives used for tenoning cutter heads as well as traditional and spiral ones. Designed for machining solid hard and soft wood and glued wood.

Type of work: cutting flat surfaces, grooving.

Material: solid wood, chipboard, MDF.



Catalogue number	B x H x b mm	R1/R2 mm	d mm	
N0000710	14 x 14 x 2,0	150	6,5	•
N0000722	15 x 15 x 2,5	50	6,2	+
N0000724	15 x 15 x 2,5	50/0,6	6,2	+
N0000733	15 x 15 x 2,5	150/0,5	6,2	•

Catalogue number	B x H x b mm	d mm	
N0000817	14 x 14 x 1,2	8,3	•
N0000818	14 x 14 x 2,0	6,5	•
N0000819	14 x 14 x 2,0	6,5	•
N0000839	14,3 x 14,3 x 2,5	6,5	•
N0000820	22 x 19 x 2,0	6,5	•

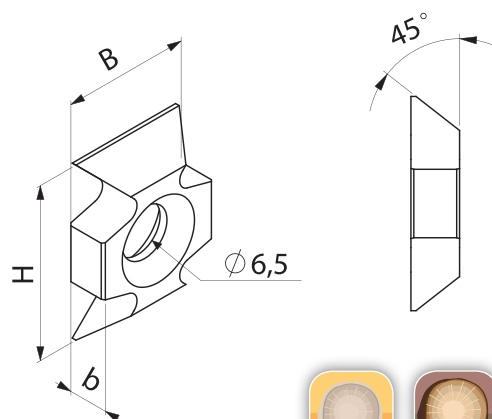
Knives type **FKB-45** are used in specialist cutter heads for edge beveling of the machined elements. Edge beveling is possible within the range of 1–3 mm x 45°. The knife is made entirely from HM.

Material: solid wood, soft and hard, glued wood.

Catalogue number	B x H x b mm		
N0000870	16 x 22 x 5	45°	•



FKB-45°



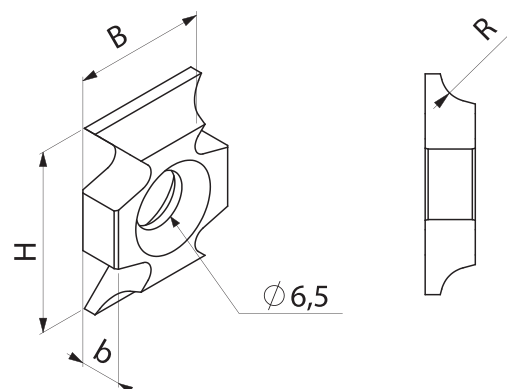
Knives type **FKB-R** are used in specialist cutter heads for edge rounding of the machined elements. Edge rounding is possible within the range of 1–3 mm. The knife is made entirely from HM.

Material: solid wood, soft and hard, glued wood.

Catalogue number	B x H x b mm	R mm	
N0000871	16 x 22 x 5	1,0	+
N0000872	16 x 22 x 5	1,5	•
N0000873	16 x 22 x 5	2,0	•
N0000874	16 x 22 x 5	2,5	•
N0000875	16 x 22 x 5	3,0	•



FKB-R



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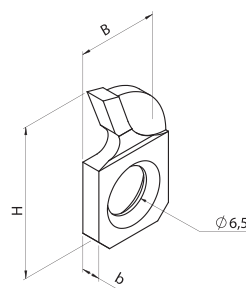
Grooving knives are used for making grooves e.g. for silicone. The range of available width 3–5 mm. Maximum groove depth 10 mm.

Material: solid wood, soft and hard, glued wood.

Catalogue number	H x B x b mm	b mm	
N0000880	24,5 x 13 x 3,0	3	+
N0000881	24,5 x 13 x 4,0	4	•
N0000882	24,5 x 13 x 5,0	5	+



Grooving knife

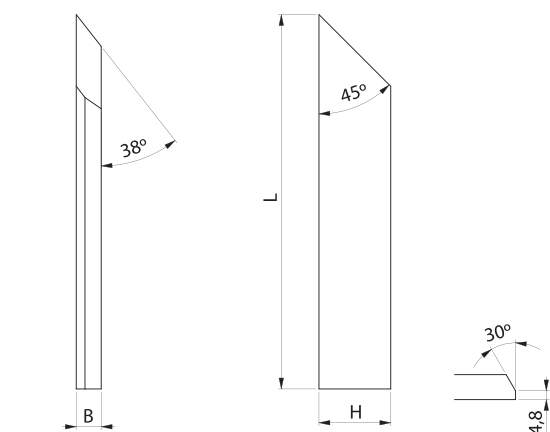


NOB-01A

Cutting knife, type **NOB-01A** designed for solid wood roughing. The knife is used for pre-cutting. Additional profile edge improves surface quality and lowers energy consumption.

Type of work: cutting flat surfaces.

Material: solid hardwood.



Drawing shows left knife.



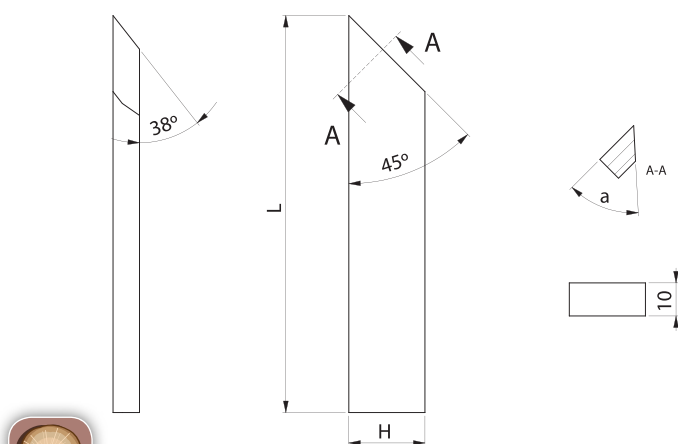
Catalogue number	L mm	H mm	B mm		↗	
N2100593P	140	20	10	HSS	P	+
N2100593L	140	20	10	HSS	L	+
N2100416P	140	33	10	HSS	P	+
N2100416L	140	33	10	HSS	L	•
N2100536P	200	20	10	HSS	P	+
N2100536L	200	20	10	HSS	L	+

NOB-01B

Cutting knife, type **NOB-01B** designed for solid wood roughing. The knife is used for pre-cutting. Special geometry increases performance and machining efficiency.

Type of work: cutting flat surfaces.

Material: solid hardwood.



Drawing shows left knife.

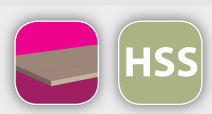


Catalogue number	L mm	H mm	B mm	α		↗	
N2100319P	200	20	10	40°	HSS	P	+
N2100319L	200	20	10	40°	HSS	L	•
N2100088P	200	20	10	35°	HSS	P	+
N2100088L	200	20	10	35°	HSS	L	+

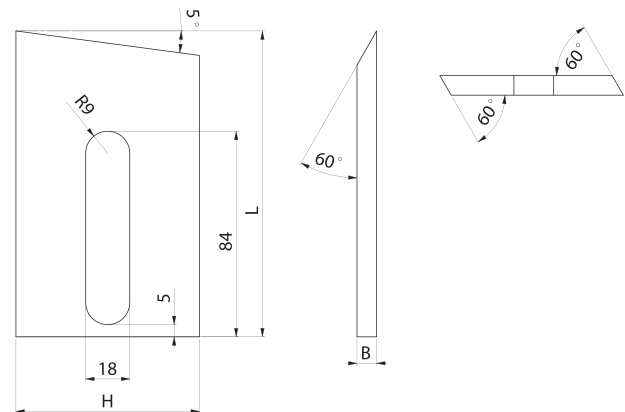
Cutting knife, type **NOB-02A** designed for solid wood roughing. The knife is used for pre-cutting. Special geometry increases performance and machining efficiency. The knife is equipped with a special slot enabling height regulation.

Type of work: cutting flat surfaces.

Material: solid hardwood.



NOB-02A



Drawing shows left knife.



Catalogue number	L mm	H mm	B mm			
N2100006P	125	75	5	HSS	P	+
N2100006L	125	75	5	HSS	L	•
N2100412P	125	75	8	HSS	P	+
N2100412L	125	75	8	HSS	L	+

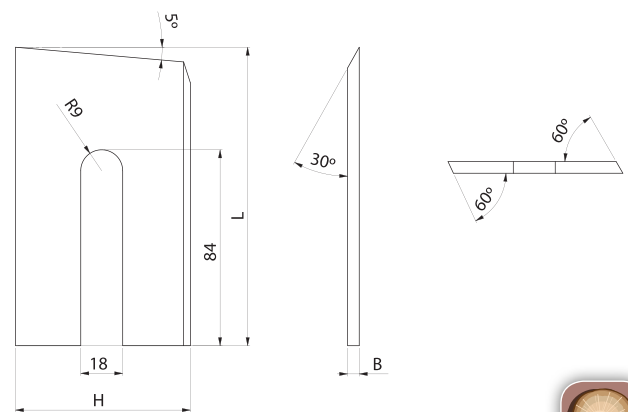
Cutting knife, type **NOB-02B** designed for pre-cutting. Special geometry increases performance and machining efficiency. The knife is equipped with a special slot enabling height regulation and easy installation.

Type of work: cutting flat surfaces.

Material: solid hardwood.



NOB-02B



Drawing shows left knife.



Catalogue number	L mm	H mm	B mm			
N2100438P	125	75	5	HSS	P	+
N2100438L	125	75	5	HSS	L	•
N2100540P	135	75	5	HSS	P	+
N2100540L	135	75	5	HSS	L	+

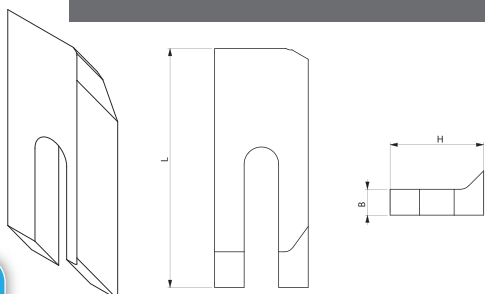
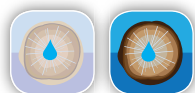
Knives NOB-02 with length not given in the chart we offer on client's request according to individual pricing.

NNK-01

Cutting knife, type **NNK-01** designed for pre-cutting during debarking. Additional profile edge improves surface quality and lowers energy consumption. The knife is equipped with a special slot enabling height regulation and easy installation.

Type of work: debarking.

Material: solid wet wood



Drawing shows right knife.



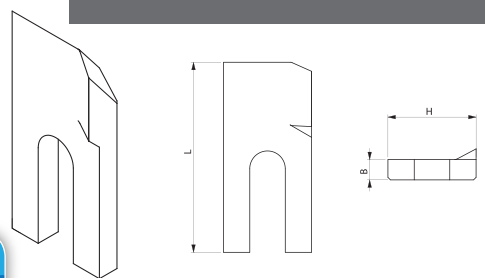
Catalogue number	L mm	H mm	B mm		↗	
N2100834P	97	38	18	HSS	P	+
N2100834L	97	38	18	HSS	L	+
N2100190P	98	38	17	HSS	P	+
N2100190L	98	38	17	HSS	L	+

NNK-02

Cutting knife, type **NNK-02** designed for pre-cutting during debarking. Additional profile edge improves surface quality and lowers energy consumption. The knife is equipped with a special slot enabling height regulation.

Type of work: debarking.

Material: solid wet wood



Drawing shows left knife.



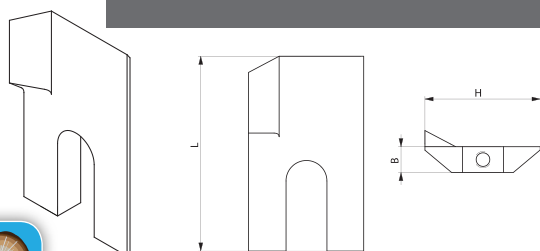
Catalogue number	L mm	H mm	B mm		↗	
N2100750P	75	35	12,5	HSS	P	+
N2100750L	75	35	12,5	HSS	L	+

NNK-03

Cutting knife, type **NNK-03** designed for pre-cutting during debarking. Additional profile edge improves surface quality and lowers energy consumption. The knife is equipped with a special slot enabling height regulation and additional positioning system.

Type of work: debarking

Material: solid wet wood



Drawing shows right knife.



Catalogue number	L mm	H mm	B mm		↗	
N2100232	71	42	15,3	HSS	P	+
N2100233	71	42	15,3	HSS	L	+

Cutting HM and HSS knives with properly chosen number of cutting edges, designed for professional machining of solid wood and wood-based materials. The knives are used for precise cutting of flat surfaces and profiling. Special geometry allows for working with chosen cutter heads. Properly chosen for the type of material as well as parameters and conditions during work.

Knives and inserts made on client's individual request.

With the order the following information should be given:

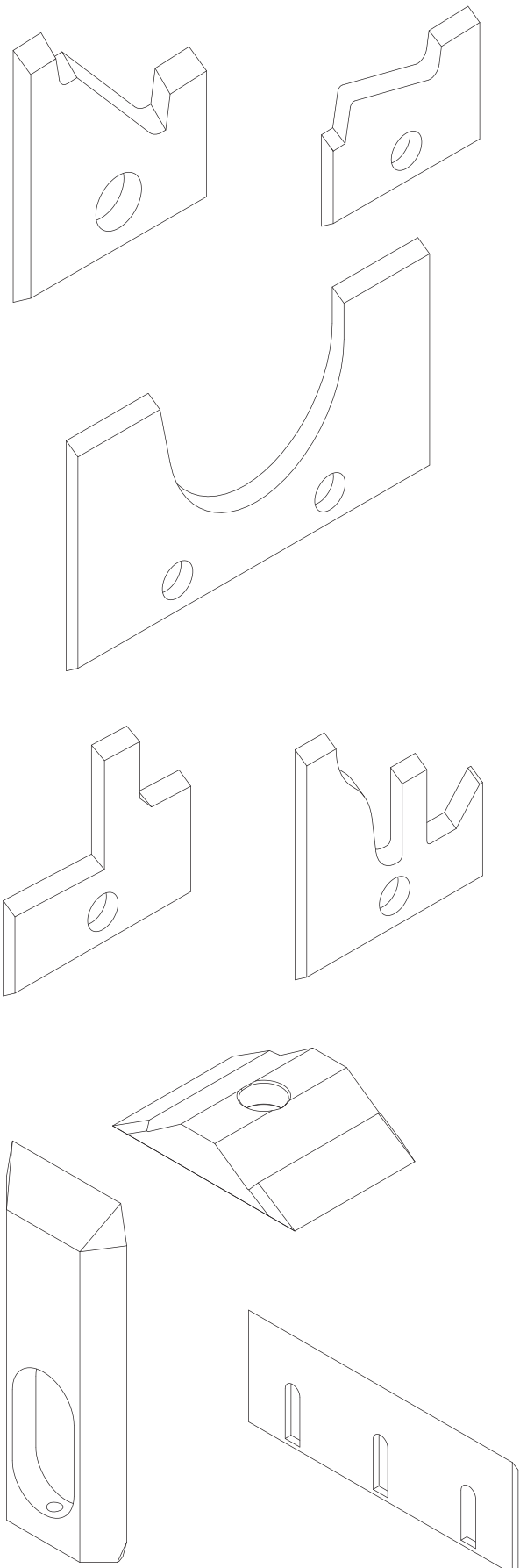
- tool outer diameter (D) or diameter range,
- HM tip depth (h),
- knife length (H),
- knife thickness (b),
- profile depth (Gp),
- type of machined material,
- number of teeth (z) or spindle rotation speed and feed speed.

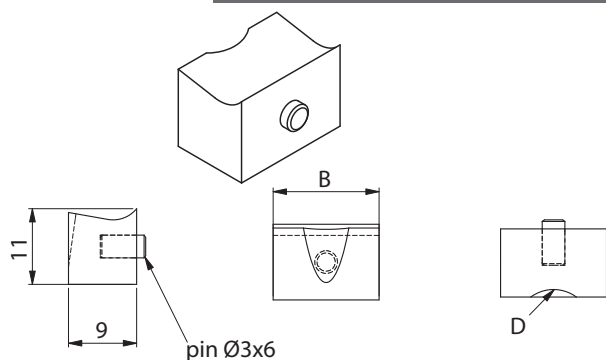
Type of work: cutting flat surfaces, grooving, rebating, edge and surface profiling.

Material:

- HSS** solid softwood
- HM** solid hardwood

Knives and inserts

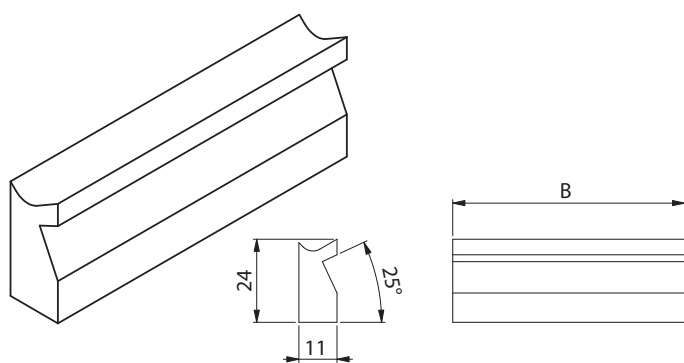


KST-01

Clamping wedge, type **KST-01** designed for mounting cutting knives in the cutter head body slot. Includes safety pin.

Type of work: straight and profile cutter heads.

Catalogue number	D mm	B mm	b (knife) mm	
WHAK00024	7	7	9,6	+
WHAK00025	7	8,0	9,6	+
WHAK00026	10	10	11,6	+
WHAK00082	10	12	15,7	+
WHAK00030	10	14	17	+
WHAK00034	10	17	20	+
WHAK00037	10	22	25	+
WHAK00040	10	27	30	+
WHAK00043	10	47	50	+
WHAK00046	10	77	80	•

KST-02

Clamping wedge, type **KST-02** designed for mounting cutting knives in the cutter head body slot. Works with cutter heads type 1100-4 and 1100-4H.

Type of work: cutter heads 1100-4 and 1100-4H.

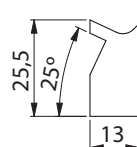
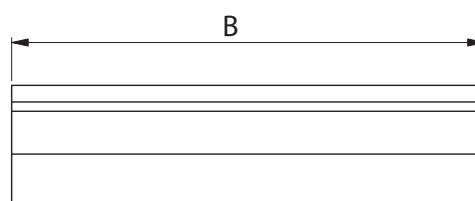
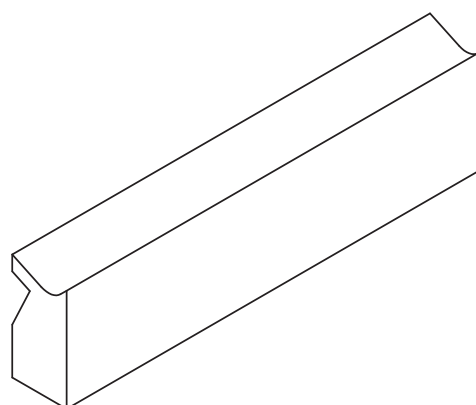
Catalogue number	B mm	b (knife) mm	
WHAK00002	57	60	+
WHAK00003	77	80	+
WHAK00004	97	100	+
WHAK00095	117	120	+
WHAK00096	127	130	+
WHAK00085	147	150	+
WHAK00016	177	180	+
WHAK00098	227	230	+

Clamping wedge, type **KST-03** designed for mounting cutting knives in the cutter head body slot. Works with cutter heads type GP-01 and GP-01 H. The wedge is used for precise mounting of knives with thicknesses of 8 and 10 mm.

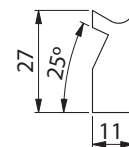
Type of work: cutter heads GP-01 and GP-01 H.

Catalogue number	B mm	b (knife) mm	
WHAK00101	40	8	+
WHAK00122	40	10	+
WHAK00102	50	8	+
WHAK00123	50	10	+
WHAK00103	60	8	+
WHAK00124	60	10	+
WHAK00105	80	8	+
WHAK00125	80	10	+
WHAK00107	100	8	+
WHAK00126	100	10	+
WHAK00109	120	8	+
WHAK00112	150	8	+
WHAK00128	150	10	+
WHAK00115	180	8	+
WHAK00117	200	8	+
WHAK00130	200	10	+

KST-03



for knife b = 8 mm

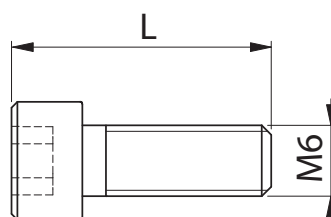


for knife b = 10 mm

Clamping screws, cylindrical type **SC-01** designed for mounting sets of cutter heads and cutters.

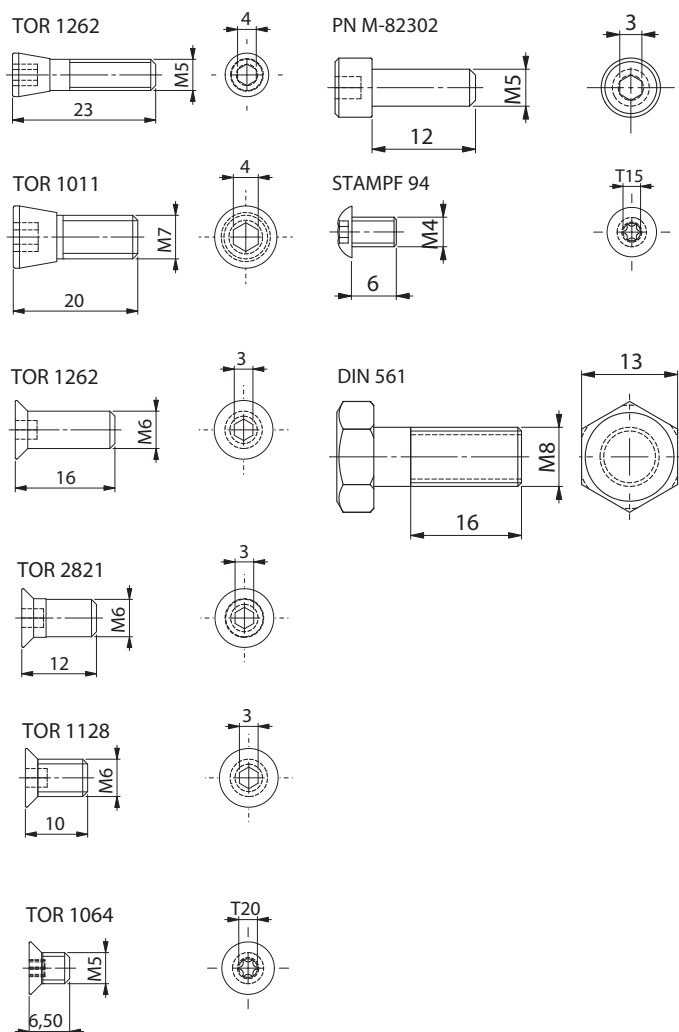
Catalogue number	Standard	M6xL mm	
WHAS00116	PN 82302	M6x17	+
WHAS00102	PN 82302	M6x36	+
WHAS00068	PN 82302	M6x46	+
WHAS00069	PN 82302	M6x50	+
WHAS00037	PN 82302	M6x58	+
WHAS00100	PN 82302	M6x60	+
WHAS00085	PN 82302	M6x25	+
WHAS00053	PN 82302	M6x68	+
WHAS00061	PN 82302	M6x73	+
WHAS00093	PN 82302	M6x85	+
WHAS00091	PN 82302	M6x88	+
WHAS00092	PN 82302	M6x61	+
WHAS00040	PN 82302	M6x98	+
WHAS00030	PN 82302	M6x100	+
WHAS00099	PN 82302	M6x108	+

SC-01



SM-01

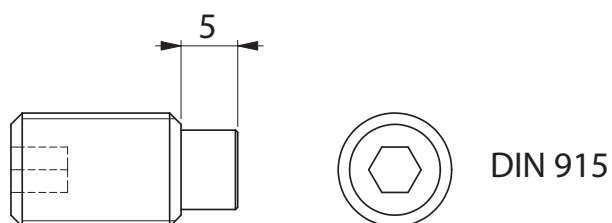
Clamping screws, type **SM-01** designed for precise mounting of cutting tools elements.



Catalogue number	Standard	Dimensions
WHAS00004	STAMPF 94	M4 x 6 •
WHAS00024	TOR 7020	M4 x 6 +
WHAS00008	TOR 1064	M5 x 6,5 •
WHAS00009	TOR1924	M5 x 7 •
WHAS00015	TOR 1065	M5 x 10 •
WHAS00026	DIN 551	M5 x 10 +
WHAS00023	PN82302	M5 x 12 +
WHAS00007	TOR 1262	M5 x 23 •
WHAS00006	TOR 1128	M6 x 10 •
WHAS00012	TOR 2821	M6 x 11,8 •
WHAS00010	TOR 1244	M6 x 16 •
WHAS00002	PN 82302	M6 x 22 •
WHAS00011	TOR 1011	M7 x 20 •
WHAS00003	TOR 5046	M8 x 12 •
WHAS00001	DIN 561	M8 x 16 •

WM-01

Clamping screws, type **WM-01** designed for precise mounting of cutting tools elements.



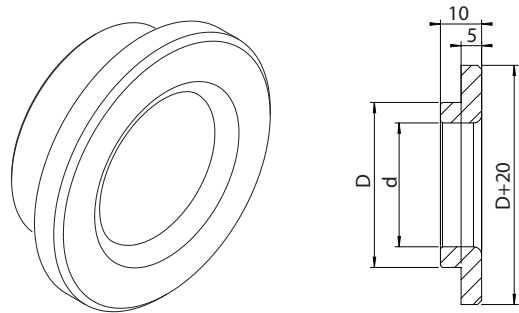
Catalogue number	Standard	Dimensions
WHAW00001	DIN 915	M4 x 6 •
WHAW00009	DIN 914	M5 x 5 •
WHAW00002	DIN 915	M5 x 12 •
WHAW00008	DIN 914	M6 x 6 •
WHAW00003	DIN 915	M6 x 10 •
WHAW00004	DIN 915	M6 x 16 •
WHAW00005	DIN 915	M8 x 16 •
WHAW00006	DIN 915	M10 x 16 +
WHAW00007	DIN 915	M10 x 20 •
WHAW00012	DIN 915	M10 x 1 x 20 +

Reduction sleeve with flange, type **TRK**, designed for reducing bore diameter.

Type of work: cutter heads and cutters with bore.

D mm	30	35	40	45	50	60	70	80
d mm								
25	+	+	+	+	+	+	+	+
30		+	+	+	+	+	+	+
35			+	+	+	+	+	+
40					+	+	+	+
50						+	+	+
60							+	+

TRK

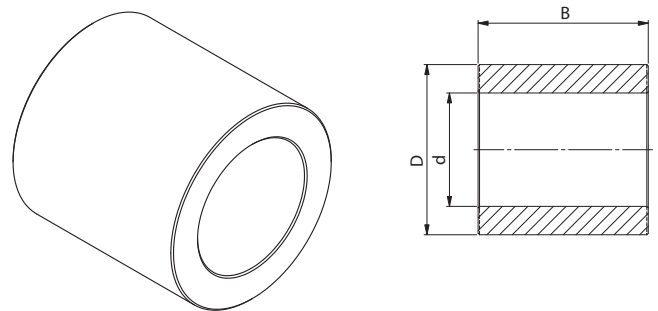


Reduction sleeve, type **TR**, designed for reducing bore diameter.

Type of work: cutter heads and cutters with bore.

D mm	30	35	40	50	60
d mm	25	30	35	40	50
B mm					
30	+	+	+	+	+
40	+	+	+	+	+
50	+	+	+	+	+
60	+	+	+	+	+
70	+	+	+	+	+
80	+	+	+	+	+
90	+	+	+	+	+
100	+	+	+	+	+

TR

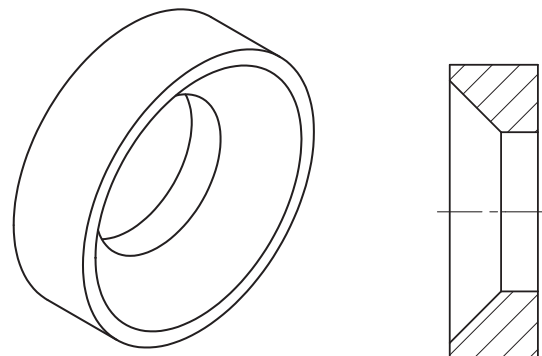


Positioning sleeves, type **TB-01** designed for profile cutter heads. Used for precise mounting of cutting blades.

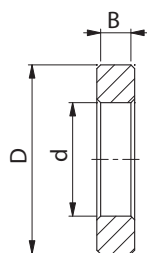
Type of work: profile cutter heads.

Catalogue number	Dimensions	
WHAT00044	12 x 6,5 x 3,6	+
WHAT03285	12 x 6,5 x 2,8	+
WHAT01605	12 x 6,5 x 2,3	+
WHAT00456	12 x 6,5 x 1,7	+
WHAT00358	12 x 6,5 x 2,5	+

TB-01

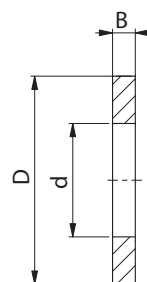


PD-01



D mm d mm	50 25	50 30	60 35	60 40	70 50
B mm					
1,0	+	•	+	•	+
2,0	+	•	+	•	+
5,0	+	•	+	•	+
10,0	+	•	+	•	+

PD-02



B mm	0,05	0,1	0,2	0,3	0,5
D/d mm					
55/30	+	•	+	•	+

PD-03



B mm	0,05	0,1	0,2	0,3
D/d mm				
15/6,2	+	+	+	+
80/60	+	+	+	+