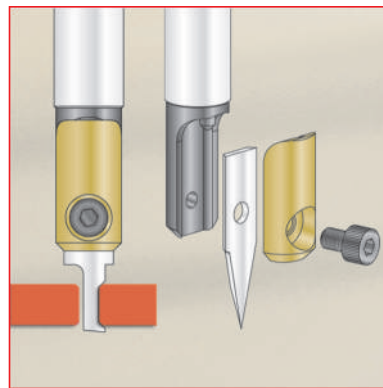


Engraving system NEW

The Engraving Insert System features one tool body with 40 SOLID CARBIDE unique insert knives designed for a variety of applications: Straight cut, core box, round corner, V grooves and Chamfering.

Industrial quality insert knives ensure clean cuts and a longer life time than the standard solid router bits. This engraving system was engineered to quickly interchange inserts while mounted in CNC machines to eliminate set up time and to maintain consistent cutting accuracy. Balanced design to minimize vibration and to provide superior cutting results. Ideal for cutting laminated materials, veneers, MDF, plastics, wood and solid surfaces.

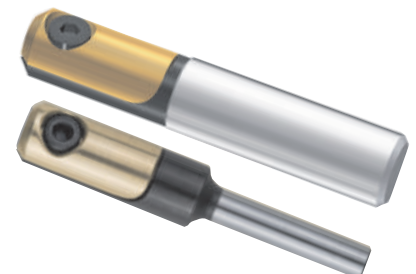


Engraving System, Arbor only



Allen screw
M4x6
1938070

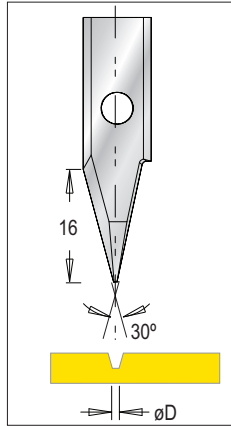
Tool no.	D	Shank	Length
G1853X04	12mm	1/4"	65mm
G1853X08	12mm	1/2"	65mm





Engraving System Insert Knives

Dealer Net Price in effect



"V" Groove 30°

Tool No.	D
*3185005	0.12mm
*3185006	0.24mm
3185007	0.50mm
3185008	0.75mm
3185009	1.0mm
3185010	1.5mm
3185011	2.25mm

*Only for use with controllable feed rate machines.

**Blades sold separately

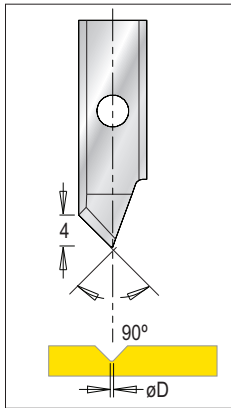
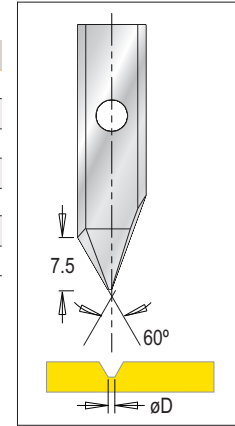
SOLID CARBIDE



"V" Groove 60°

Tool No.	D
*3185018	0.12mm
*3185019	0.24mm
3185020	0.50mm
3185021	0.75mm
3185022	1.0mm
3185023	1.5mm
3185024	2.25mm

*Blades sold separately



"V" Groove 90°

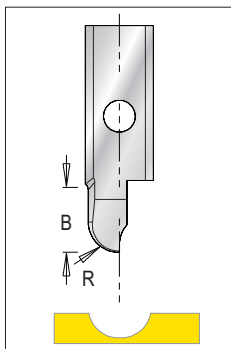
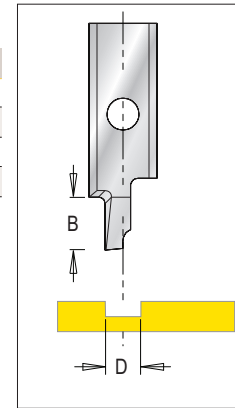
Tool No.	D
3185014	0.12mm
3185015	0.24mm
3185016	0.50mm
3185017	1.0mm

*Blades sold separately

Straight

Tool No.	D	B
3185032	3.2mm	5mm
3185033	4.76mm	6mm
3185034	6.35mm	7mm
3185035	7.94mm	8mm

*Blades sold separately



Core Box

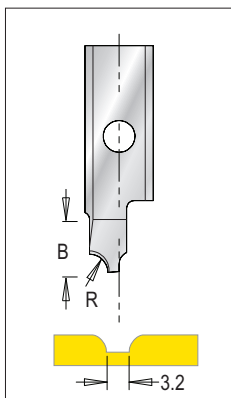
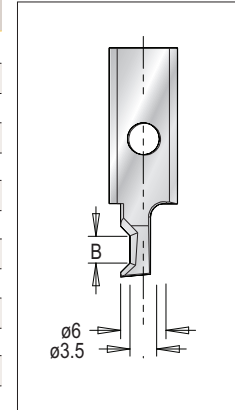
Tool No.	R	B
3185028	1.6mm	5mm
3185029	2.4mm	6mm
3185030	3.2mm	7mm
3185031	4.0mm	8mm

*Blades sold separately

Cutting and Chamfering

Tool No.	B
3185040	0.5mm
3185036	1.0mm
3185002	1.5mm
3185037	1.8mm
3185041	2.3mm
3185042	3.3mm
3185012	3.6mm
3185043	4.3mm
3185013	4.6mm
*3185003	5.0mm
*3185044	5.5mm
*3185038	6.3mm
*3185039	8.3mm

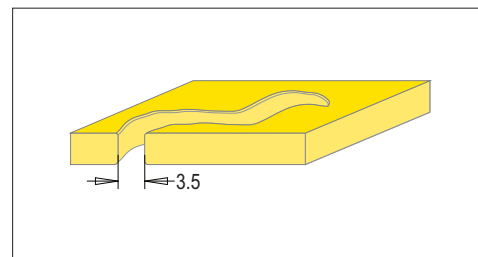
* Only for Chamfer operation.
**Blades sold separately

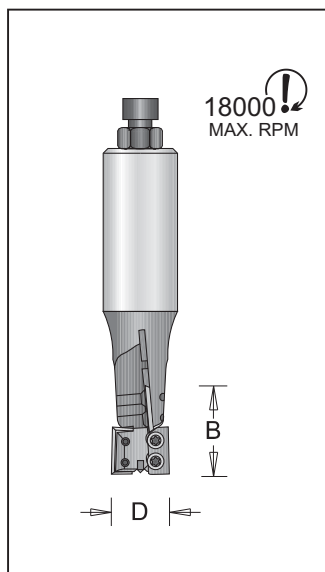


Corner Round

Tool No.	R	B
3185025	1.6mm	8mm
3185026	2.4mm	8mm
3185027	3.2mm	8mm

*Blades sold separately

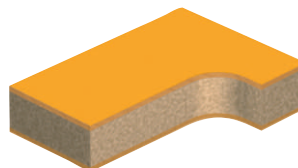
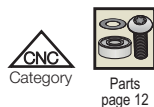




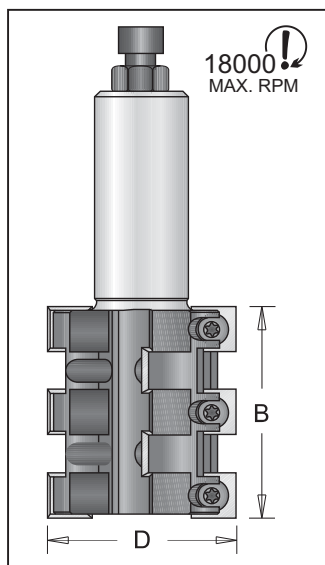
Straight Up & Down Shear Router Cutter, 2 Flutes

Disposable insert straight router bit with two up and down shear flutes and centre tip. Shear flutes squeeze the material into the middle to give an extra fine finish on both surfaces of laminated and veneered board. Replaceable inserts ensure a constant cutting diameter and finish quality.

Centre tip for improved plunging.
For use on CNC routers.



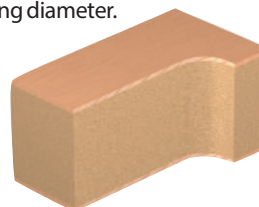
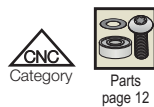
Tool no.	D	Shank	B	Length	Parts
N7R19-20N	20mm	3/4" x 55mm	30mm	110mm	14
N7RL19-20N	20mm	3/4" x 65mm	50mm	130mm	15
N7R20-20N	20mm	20mm x 55mm	30mm	110mm	14
N7RL20-20N	20mm	20mm x 65mm	50mm	130mm	15



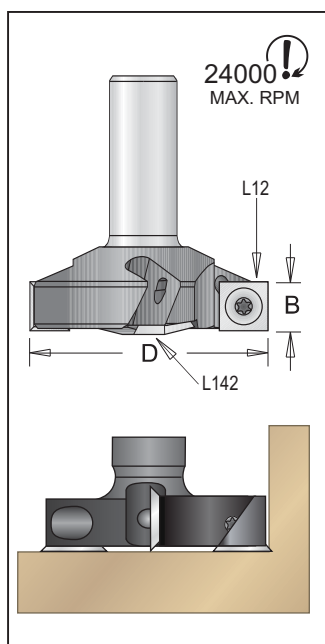
Rough Rebating Router Cutter

Disposable insert straight router bit with multiple cutting edges. Suitable for rough rebating and sizing in softwoods, hardwoods and man-made boards (with or without coating). Multiple cutting flutes ensure fine chips are produced for improved chip ejection. Replaceable inserts ensure a constant cutting diameter.

For use on CNC routers.



Tool no.	D	Shank	B	Length	No. of Blades	Parts
N119RL19-50	50mm	3/4" x 55mm	56mm	113mm	10	16
N119RLS19-50	50mm	3/4" x 65mm	78mm	135mm	14	16
N119RL20-50	50mm	20mm x 55mm	56mm	113mm	10	16
N119RLS20-50	50mm	20mm x 65mm	78mm	135mm	14	16

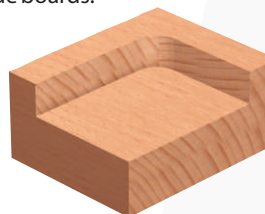


Spoil board Surfacing and Routing Cutter

Disposable insert planing and rebating router bit with two cutting flutes and two scorers. Suitable for planing and rebating in softwoods and hardwoods and man-made boards.

A good tool for fast removal of material over a large surface area.

Scorers will improve finish at the bottom of the cut. For use on CNC



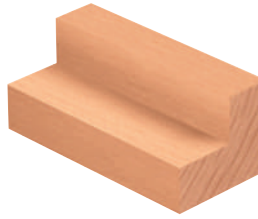
Tool no.	D	Shank	B	Length
N163R8-39	39.10mm	1/2"	12mm	58mm
N163R8-64	2 35/64"	1/2"	12mm	2 31/64"





Straight Rebater Router Cutter with Scorers

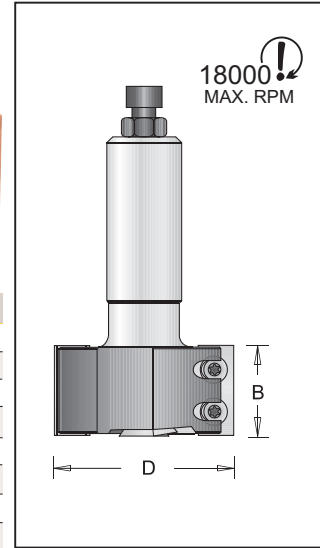
Disposable insert rebating router bit complete with two cutting edges and scorers. Suitable for trimming and rebating in softwoods, hardwoods and man-made boards. Scorers will improve finish at the bottom of the cut. For use on CNC routers.



Parts page 12



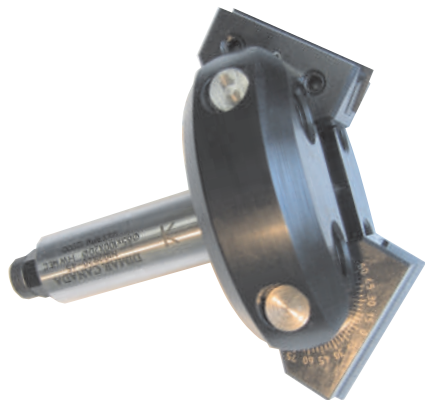
Tool no.	D	Shank	B	Length	Parts
N114R19-40	40mm	3/4"	30mm	100mm	20
N114RL19-40	40mm	3/4" x 55mm	50mm	120mm	21
N114R19-60	60mm	3/4" x 55mm	30mm	100mm	20
N114RL19-60	60mm	3/4" x 65mm	50mm	120mm	21
N114R20-40	40mm	20mm x 55mm	30mm	100mm	20
N114RL20-40	40mm	20mm x 55mm	50mm	120mm	21
N114R20-60	60mm	20mm x 55mm	30mm	100mm	20
N114RL20-60	60mm	20mm x 65mm	50mm	120mm	21



Adjustable Bevel Router Cutter, 2 Flutes

Disposable insert router bit with two flutes. Suitable for producing chamfer cuts at various angles in softwoods, hardwoods and man-made boards.

Fast tuning angle of 7.5° steps. Fine tuning angle of 1°. For use on CNC routers.

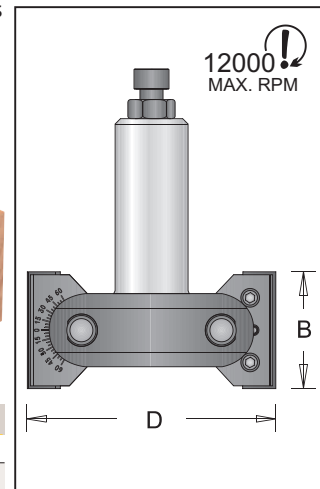


Parts page 12



Tool no.	D	Shank	B	a	Length	Parts
N102R19-45	85mm	3/4"	40mm	-45° - +90°	100mm	19
N102R20-45	85mm	20mm	40mm	-45° - +90°	100mm	19

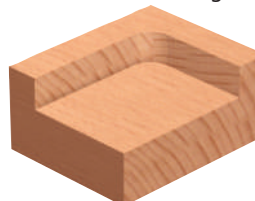
Fast tuning angle of 7.5° step. Fine tuning angle of 1°



Planing and Rebating, Router Cutter

Disposable insert planing and rebating router bit with two cutting flutes and two scorers. Suitable for planing and rebating in softwoods and hardwoods and man-made boards. A good tool for fast removal of material over a large surface area.

Scorers will improve finish at the bottom of the cut. For use on CNC routers.



Tool no.	D	Shank	B	Length
N163R19-80	80mm	3/4" x 60mm	12mm	90mm
N163R20-80	80mm	20mm x 60mm	12mm	90mm



T.C. Knife L12



T.C. Knife L142



Torx screw 1933950



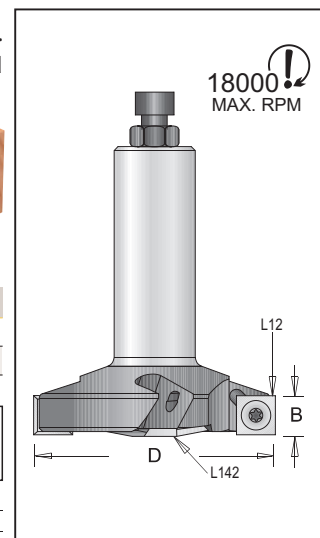
Torx screw 1933700

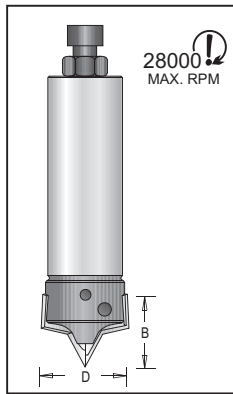


Torx key 1941015 T15



Torx key 1941060 T20





Multi Face Profile Router Cutter



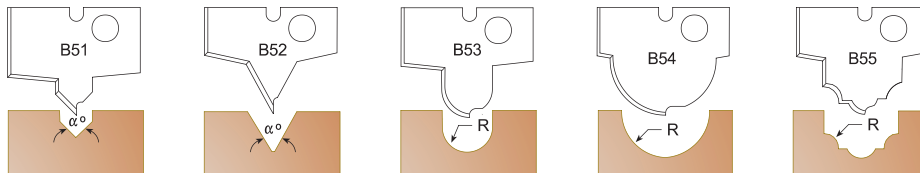
Disposable insert router bit that fits five different profile knives. Suitable for producing various profiles in soft wood, hardwood and man-made boards. For use on CNC routers.

Tool no.	D	Shank	B	α	R	Length
N105R20-B51	31.5mm	20mm	25mm	45°		89.0mm
N105R20-B52	31.5mm	20mm	25mm	30°		89.0mm
N105R20-B53	31.5mm	20mm	25mm		6.3mm	89.0mm
N105R20-B54	31.5mm	20mm	25mm		12.5mm	89.0mm
N105R20-B55	31.5mm	20mm	25mm		4.0mm	89.0mm

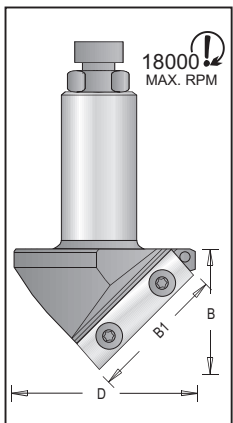


Replacement Parts:

Wedge 1990500 L=28	Allen Screw 1930490 M5 x 10	Allen Key 1940080 S2.5



Replacement Knives
B51, B52, B53, B54, B55:
Price per package of 2 knives.



V - Groove Router Cutter



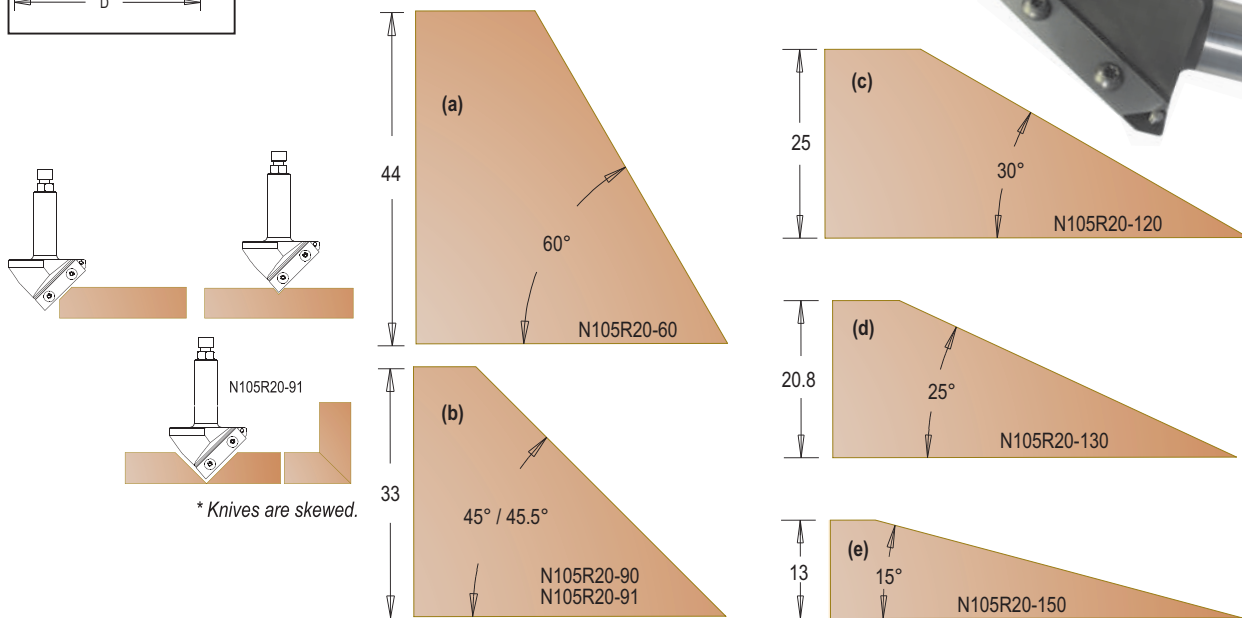
Disposable insert router complete with one or two cutting flutes designed to mitre fold on solid wood, hardwood and man-made boards to perfect the joint.

Tool no.	D	Shank	B	B1	Flutes	Length
N105R20-60	52.6mm	20mm	44.6mm	51.5mm*	1	111mm
N105R20-90	66mm	20mm	33mm	47mm*	1	97mm
N105R20-91	67mm	20mm	33mm	47mm*	1	97mm
N105R20-120	86.6mm	20mm	25mm	50mm	2	97.5mm
N105R20-130	90.6mm	20mm	20.8mm	50mm	2	98mm
N105R20-150	96.6mm	20mm	13mm	50mm*	2	90.3mm

Replacement Parts:

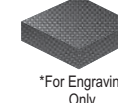
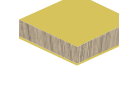
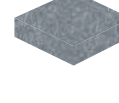
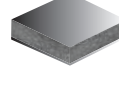
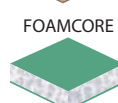
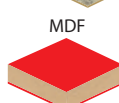
T.C. Knife	Torx screw	Torx key
(a) 3105002	1933950	1941015
(b) 3105001	1933950	1941015
(c) 3105004	1931482	1941015
(d) 3105004	1931482	1941015
(e) 3105004	1931482	1941015

Price per single knife



* Knives are skewed.

CNC Insert Carbide
Knives designed to
V-Groove these
Materials:



*For Engraving
Only



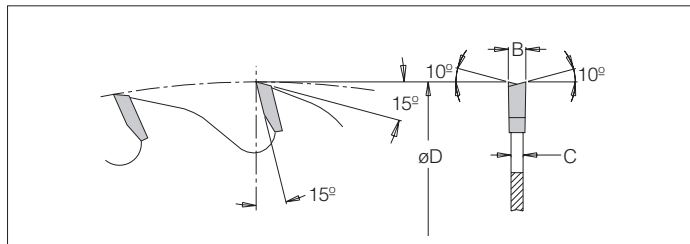
Sawblades for Cutting and Grooving



Tungsten carbide tipped alternate bevel saw blades for cutting and grooving along and across the grain on softwoods, hardwoods and man-made boards (with or without coating).

For use on routers and machining centres with CNC Control.

Tool no.	Dia.	Teeth	Kerf = B	C	RPM	Max t.	Bore
125243	125mm	24	3mm	2.0mm	19,000	25mm	30
125244	125mm	24	4mm	2.8mm	19,000	25mm	30
125245	125mm	24	5mm	3.5mm	19,000	25mm	30
150243	150mm	24	3mm	2.0mm	9,000	38mm	30
150244	150mm	24	4mm	2.8mm	9,000	38mm	30
150245	150mm	24	5mm	3.5mm	9,000	38mm	30
180303	180mm	30	3mm	2.0mm	7,000	54mm	30
180304	180mm	30	4mm	2.8mm	7,000	54mm	30
180305	180mm	30	5mm	3.5mm	7,000	54mm	30



CNC Arbor



Tool no.	Dia	d	L	⌀
1900250	71mm	20mm	90mm	4 x M5 x ø52
190025H	71mm	25mm	90mm	4 x M5 x ø52
1900252	71mm	3/4"	90mm	4 x M5 x ø52

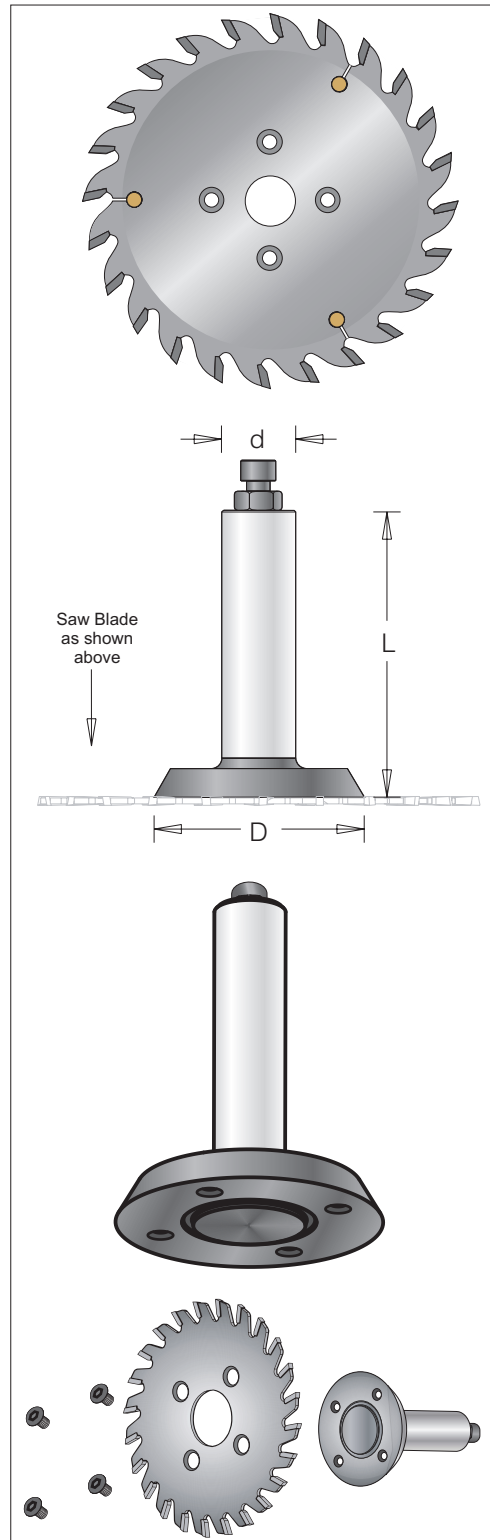
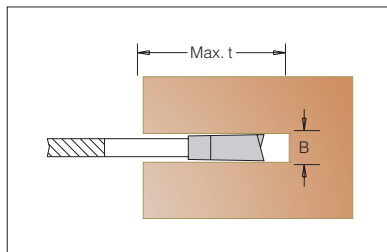
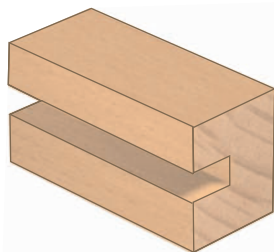
Replacement Parts



Allen screw
1930426
M5 x 12



Allen Key
1940035
S3



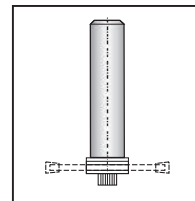
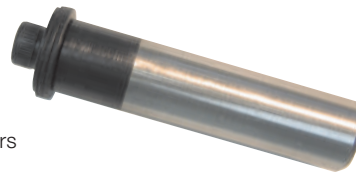
Arbor For C.N.C Routers



Tool no.	Description
108R-12CNC	1/2" Shank x 2" Length
108R-12CNCSP	1/2" Shank x 3" Length

*Fits all slotting cutters
Replacement Parts:

1 pc. Raised washer; 1920100 1 pc. 0.5mm washer; 1920120
2 pcs. 1.0mm washer; 1920110 1 pc. Screw; 1930080





Multi Profile Router Cutter

Why Choose The Multi Profile System?



Durability: Replaceable Carbide knives are harder, stronger, longer lasting and perform better on abrasive materials.

Versatility: One Router Bit gives you a wide variety of profiling options and can be used with Portable, or Industrial CNC machinery.

Safety: Chip Limitation design for safe operation. All Router bits have been tested for maximum stress by the German institute of Technology.

Service free: The Router Bits do not need sharpening. Simply replace the carbide knives.

Accuracy: Carbide knives have consistent and precise profiles for optimum and continued operation without adjustments.

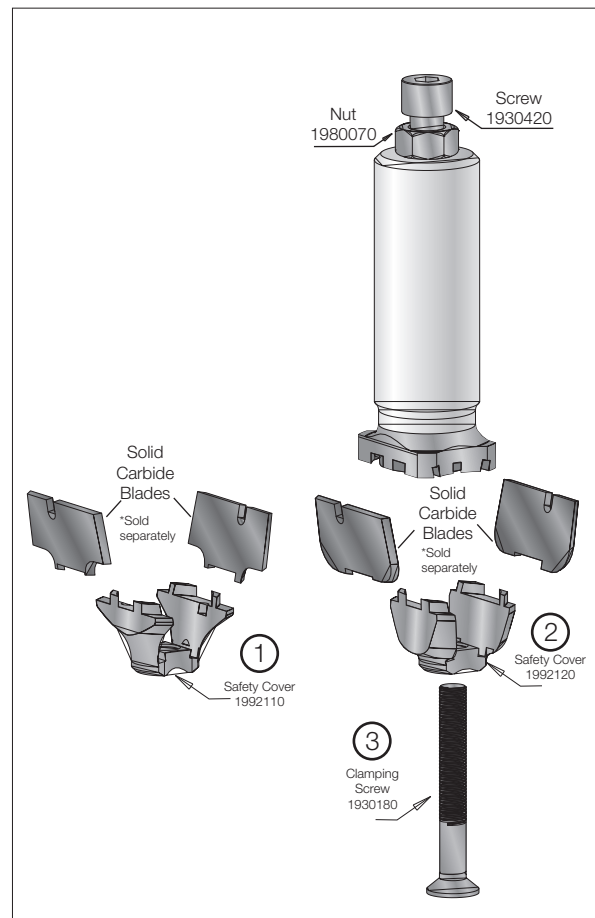
Cost effective: Longer lasting knives, better performance,



New Profile Routing Bits For CNC Machines with Replaceable Carbide Blades

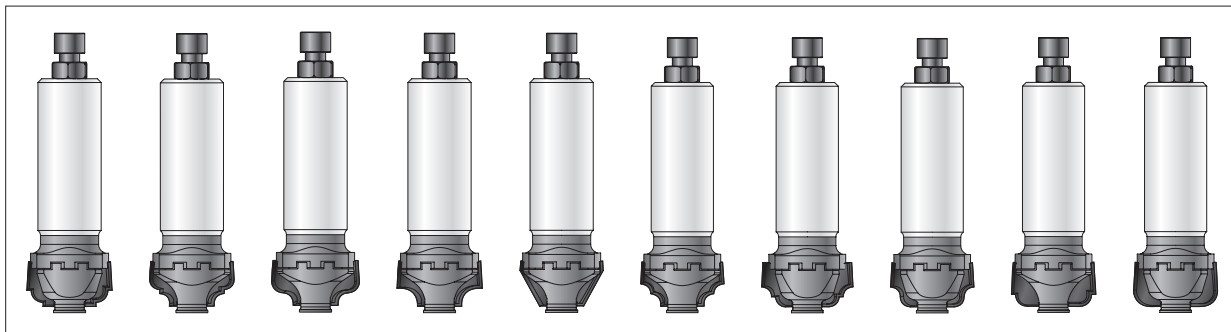
This new Multi Profile System gives you a wide range of profiling options in a single Router Bit Arbor with Replaceable Carbide Tips. Simply choose one of the CNC Router Arbors as shown in the table (depends on your choice of SHANK size) and any of the shown carbide blades will fit it.

Each Arbor is a complete set supplied with all necessary parts ①+②+③ to accept any selected carbide knives. Once you own the Arbor Set, all you need to add are your choice of blades.



Max RPM 28,000
Solid Carbide Blades sold separately. Price per package of 2 knives.

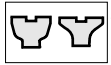
Arbor set No.	Shank Dia.	Length
8081052	3/4"	97.2mm
8081050	20mm	97.2mm
808105H	25mm	97.2mm



Routing

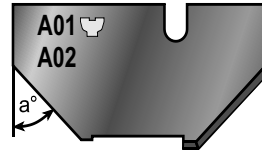


Here you will find an extensive selection of our exclusive premium line of solid carbide knives (sold & priced in pairs). All knives may be easily installed on any arbor on page 8.

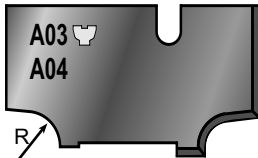


Select the proper cover according to the icon on the blades

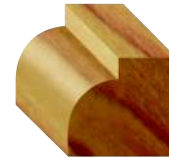
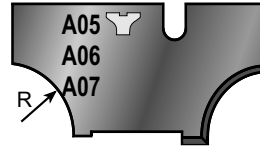
D = Diameter, Actual diameter of bits, when blades are installed.



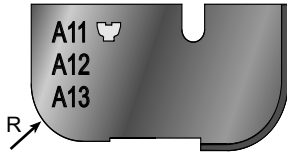
Tool no.	D	a
A01	1 3/8"	30°
A02	1 1/2"	45°



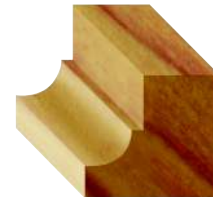
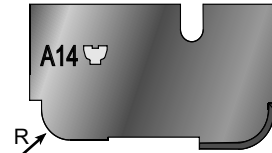
Tool no.	D	R
A03	1 3/8"	1/8"
A04	1 3/8"	3/16"



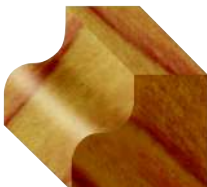
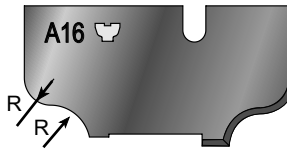
Tool no.	D	R
A05	1 3/8"	1/4"
A06	1 3/8"	5/16"
A07	1 1/2"	3/8"



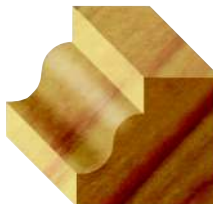
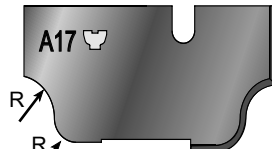
Tool no.	D	R
A11	1 3/8"	1/4"
A12	1 3/8"	5/16"
A13	1 1/2"	3/8"



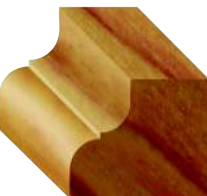
Tool no.	D	R
A14	1 3/8"	3/16"



Tool no.	D	R	R1
A16	1 1/2"	5/32"	3/16"



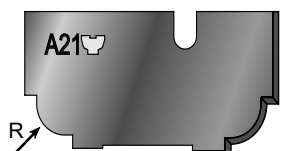
Tool no.	D	R
A17	1 3/8"	5/32"



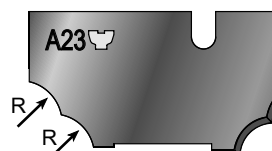
Tool no.	D	R
A19	1 1/2"	5/32"



Tool no.	D	R
A20	1 1/2"	5/32"



Tool no.	D	R
A21	1 3/8"	3/16"



Tool no.	D	R
A23	1 1/2"	5/32"

ROUTING-CNC

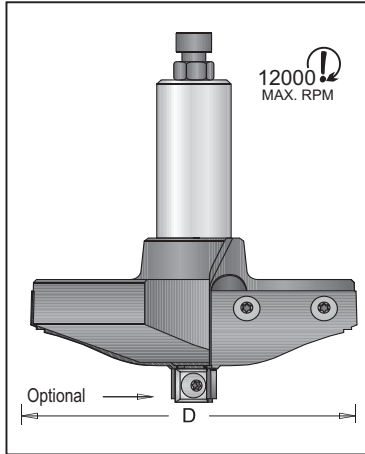


Raised Panel Router Bit, 2 Flutes

Disposable insert profile router bit with two cutting flutes. Suitable for producing various raised panel profiles in softwoods, hardwoods or man-made boards. Tool can be supplied complete with a small trimmer for machining the edge of the panel. One bit fits all eight different profiles.



Parts page 12



Optional trimmer bit N126RT sold separately.

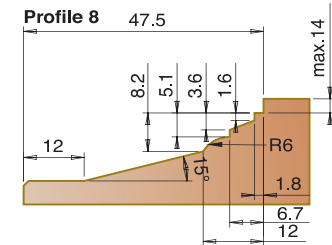
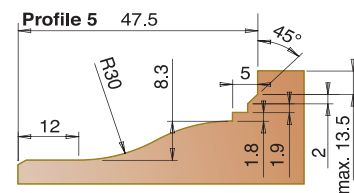
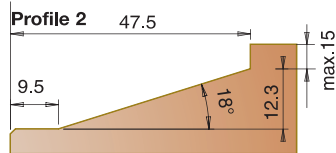
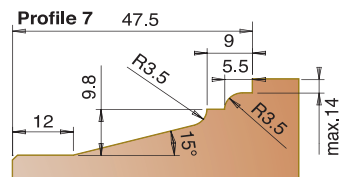
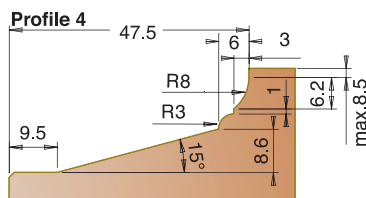
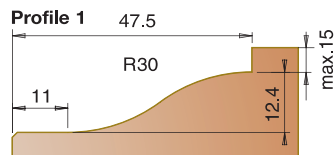
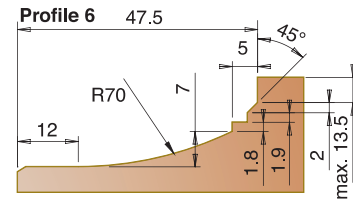
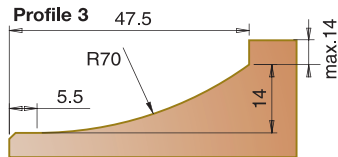
Tool no.	D	Shank	Length
N126R19-1	112mm	3/4"	110mm
N126R19-2	112mm	3/4"	110mm
N126R19-3	112mm	3/4"	110mm
N126R19-4	112mm	3/4"	110mm
N126R19-5	112mm	3/4"	110mm
N126R19-6	112mm	3/4"	110mm
N126R19-7	112mm	3/4"	110mm
N126R19-8	112mm	3/4"	110mm
N126R20-1	112mm	20mm	110mm
N126R20-2	112mm	20mm	110mm
N126R20-3	112mm	20mm	110mm
N126R20-4	112mm	20mm	110mm
N126R20-5	112mm	20mm	110mm
N126R20-6	112mm	20mm	110mm
N126R20-7	112mm	20mm	110mm
N126R20-8	112mm	20mm	110mm



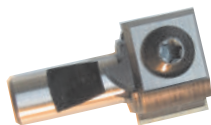
Replacement Parts:

Profile Knife	Allen Screw 1930395	Allen Key 1940200
#1 3522201		
#2 3522202		
#3 3522203		
#4 3522204		
#5 3522205		
#6 3522206		
#7 3522207	Torx Screw 1931481	Torx Key 1941015
#8 3522208		

Price per single knife.



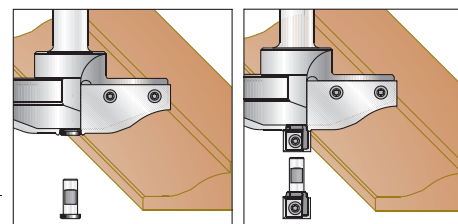
Trimmer Bit (Optional)



Replacement Parts:

T.C. Knife L12	Torx screw 1931482	Torx key 1941015

Knives sold in lots of 10 pieces. Price per single knife.





Collets



Collets are purposely manufactured from softer metal than tool holders. They feature special slots allowing them to "collapse" and "spring" to tightly grip the cutting tool. As a result, they will wear out faster than the holders will. Worn collets will cause cutting tools to fail prematurely, costing manufacturers thousands of dollars in preventable costs. Collets should be replaced whenever wear is evident so the accuracy and performance of the cutting tool and tool holder assembly is maintained. While there is no standard rule of thumb for replacing a collet, some common causes to replace them would include: If a tool is broken off while in the collet and it has scored or marked the inside or outside of the collet in any way, it should be replaced.

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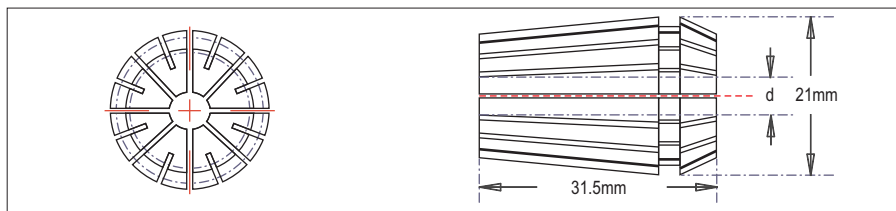
If noticeable marking is evident on the cutting tool shank, a condition called "fretting" may be occurring. Fretting happens when two steel parts are rubbing against one another.

It is visible as small copper or dark black colored pits or marks and this is evidence that the tool holder is becoming worn. Fretting is easily mistaken for rust. Once



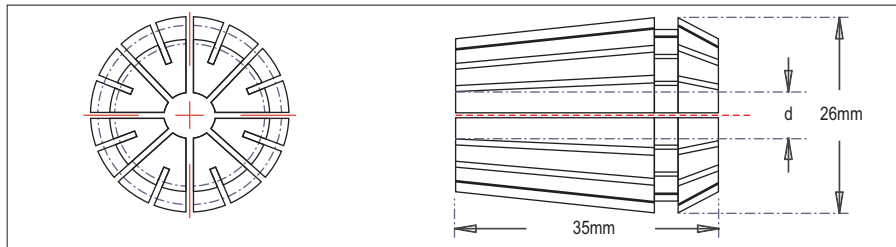
ER20

Tool no.	d
N6152018	1/8"
N61520316	3/16"
N6152014	1/4"
N61520516	5/16"
N6152038	3/8"
N6152012	1/2"



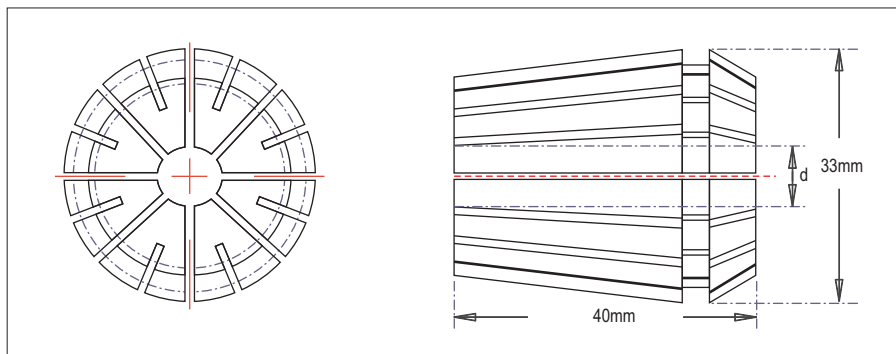
ER25

Tool no.	d
N6152518	1/8"
N61525316	3/16"
N6152514	1/4"
N61525516	5/16"
N6152538	3/8"
N6152512	1/2"



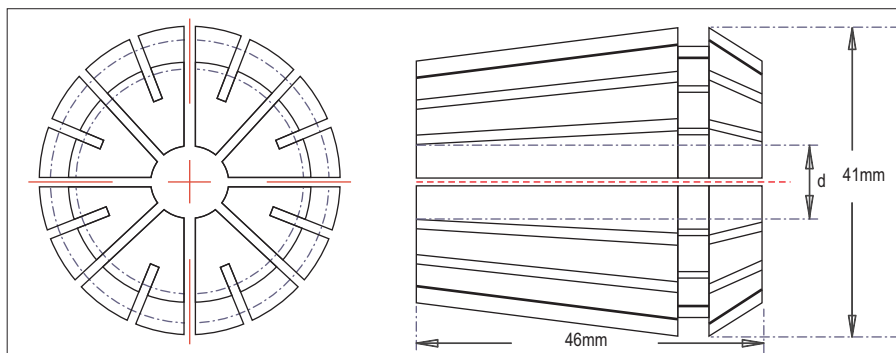
ER32

Tool no.	d
N615041	3-4mm
N61532316	1/8"
N615044	3/16"
N615012	6-7mm
N61532516	1/4"
N615013	7-8mm
N615010	5/16"
N6153238	8mm
N615009	10mm
N615053	3/8"
N615056	1/2"
N6153234	3/4"
N6153220	20mm



ER40

Tool no.	d
N615060	3-4 mm (1/8")
N615065	8 mm
N61540316	3/16"
N6154014	1/4"
N615007	10 mm
N61540516	5/16"
N6154038	3/8"
N615006	1/2"
N615003	19-20 mm
N6154034	3/4"
N615077	20-21 mm
N615001	25-26 mm

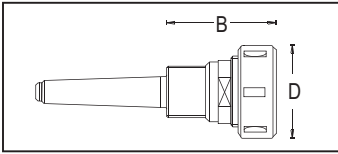




CNC Chucks and Arbors

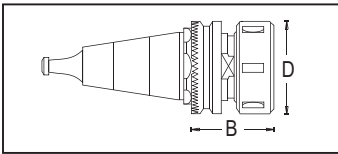


Complete range of high precision CNC chucks and arbors suitable for all popular makes of machines and production environment. Chucks & arbors are supplied complete with clamping nuts. Pull studs, collets & spanners are sold separately



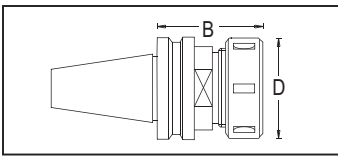
Morse Adapter for ER 32 collet

Tool no.	Adapter Standard	D	B	Collet Standard
N642005	MK2	50mm	60mm	ER32



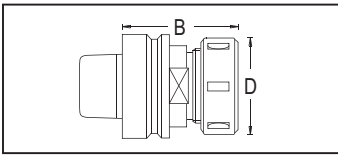
ISO Tool Holder with Pull Stud for Morbidelli Machines

Tool no.	Adapter Standard	D	B	Collet Standard
N641010	ISO 30	50mm	55mm	ER32



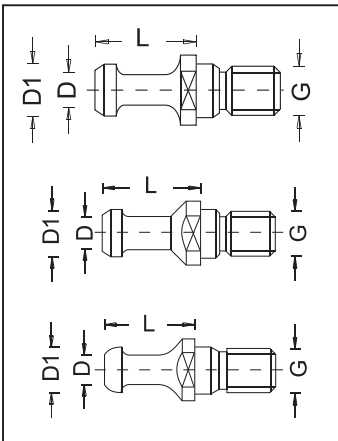
ISO Tool Holder

Tool no.	Adapter Standard	D	B	Collet Standard
N641011	ISO 30	50mm	42mm	ER32
N641021	ISO 40	50mm	63mm	ER32



HSK Tool Holder

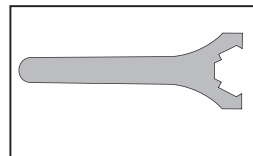
Tool no.	Adapter Standard	D	B	Collet Standard
N641031	HSK63-F	50mm	76mm	ER32
N641030	HSK63-F	63mm	76mm	ER40



Pullstud for Machines

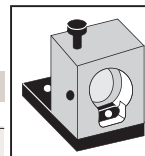


Tool no.	Adapter	D1	D	G	L	For Machine
N650014	ISO 30	12mm	8mm	M12	24mm	Esseteam
N650015	ISO 30	12.8mm	9mm	M12	24mm	CMS
N650018	ISO 30	12mm	8mm	M12	24mm	Biesse (After 09/92), Masterwood



Key

Tool no.	D
N631004	For ER32 nut
N631003	For ER40 nut



Tightening Device

Tool no.	D
N642001	For ISO30 Tool Holder



Replacement Parts

Parts #	TC Knife (mm)	Special Blade TC Knife (mm)	Torx Screw	Torx Screw	Allen Screw	Allen/Torx Key	Wedge	Wedge Lock
14	3007716 16x7x1.5		1934000			1941100		
15	3007728 28x7x1.5		1934000			1941100		
16	L12 12x12x1.5		1931482			1941015		
19		3000528 40x12x1.5 35° 26 c.c.			1930494 1930265	1940035 1940036	1990820	1994031
20	L30 30x12x1.5	L142 14x14x2	1931481	1933700		1941015 1941060		
21	L50 50x12x1.5	L142 14x14x2	1931481	1933700		1941015 1941060		

Price per single knife.