

KNURLING HOLDERS & BITE HOLDERS



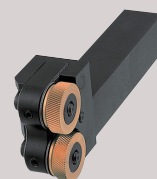
Cut knurling holders,
wheels
P.256 ►



Cut knurling holders for
small material (cross cut)
P.258 ►



Cut knurling holders for
small material (plain cut)
P.258 ►



Roll knurling holders,
wheels
P.260 ►



Cut off tool holders
P.262 ►



Cutting tool holders
P.262 ►



Cutting bites
P.262 ►

CUT KNURLING HOLDER

FOR REMARKABLE IMPROVEMENT OF THE KNURLING PRODUCTIVITY

- Productivity improvement depends on conditions such as the workpiece material, the processing duration, the applied machine, etc.
- Applicable also to difficult-to-process materials such as copper alloy, aluminum, stainless steel, resin, etc.
- Minimize swelling of workpiece diameter during knurling process.
- The holder head is designed to take minimum space and still be sturdy, making the tool greatly versatile.
- The load during knurling process is extremely small, which reduces load to the machine, and it is also good for the control and maintenance of the machine precision. Small materials or hollow materials can also be processed.
- Special ball bearings used at the knurling wheel rotary axis allow smooth rotation and prevent burning due to cut chip clogging, thus extending the wheel life and preventing damage to the wheel.

CUT KNURLING PROCESS CONDITIONS

Table 1 Process condition table (approximate value)

External dia.	Material	Carbon steel	Mild steel	Stainless steel	Aluminum	Copper	Brass	Nylon resin (* caution)
φ5~ φ12	Peripheral speed V(m/min)	40	50	30	80	50	60	50
	Feed per revolution S' (mm/rev)	0.08	0.10	0.06	0.16	0.10	0.10	0.08
φ12~ φ50	Peripheral speed V(m/min)	40	50	30	80	50	60	50
	Feed per revolution S' (mm/rev)	0.10	0.12	0.08	0.20	0.12	0.12	0.10
φ50~φ250	Peripheral speed V(m/min)	35	45	25	75	45	55	45
	Feed per revolution S' (mm/rev)	0.10	0.12	0.08	0.20	0.12	0.12	0.10

* Caution : The values in the table are in reference with MC Nylon (MC901) and Duracon (MC90-44).
For the values of other materials, please contact Super Tool.

Revolution speed

$$N(\text{rpm}) = \frac{1000 \cdot V}{\pi \cdot D}$$

D=processed material diameter (mm)
V=peripheral speed (m/min)

Feed speed

$$\text{Smm/min} = N \cdot S'$$

S'=feed per revolution S' (mm)
N=number of revolution per minute (rpm)

Cutting amount

The cutting amount of the cut knurling holder is about 80% of the knurling pitch.

$$T\text{mm} = P \cdot 0.8$$

P=pitch of the knurling wheel

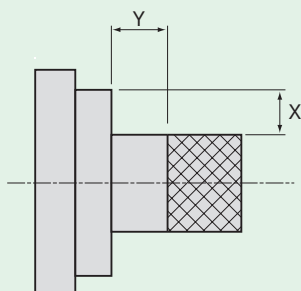


Table 2 Cross cut head swing angle chart

drawing on the right
head swing angle scale

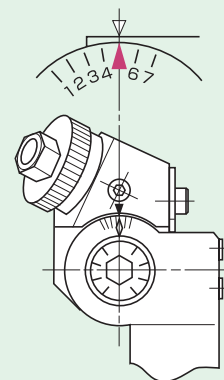
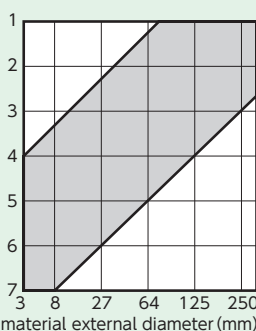


Table 3 Stepped part process range (unit : mm)

KH1CN20N KH1CN25N		KH1CA08, KH1CA10 KH1CA12, (R)		KH2CN20N KH2CN25N		KH2CA0.8, KH2CA10 KH2CA12, (R)	
X (Step gap)	Y	X (Step gap)	Y	X (Step gap)	Y	X (Step gap)	Y
1~4	1.5~5	under 0.5	0.6	1~4	1.5~5	under 0.5	0.6
over 4	8.5	0.5~2	0.6~3.5	4~7	5~8.5	0.5~2	0.6~3.5
		2~4	3.5~5.5	7~48	8.5	2~4	3.5~5.5
		over 4	5.5	over 48	25	over 4	5.5

*The values above are reference values. Refer to them as rough indications.

KH-CN-N

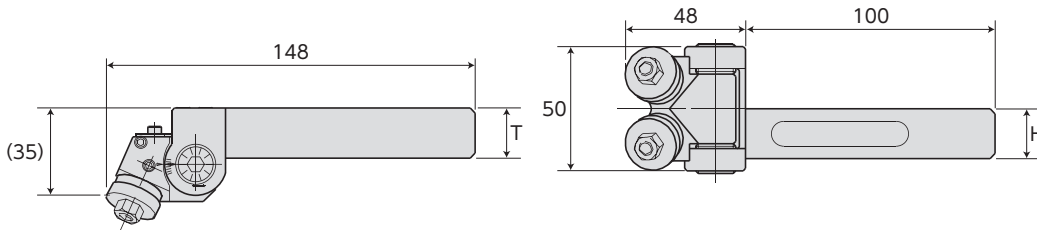
CUT KNURLING HOLDER (Cross Cut / Plain Cut)

Cross cut (for NC lathe, multi-purpose lathe)



KH2CN25N

* Knurling wheels are sold separately. (2 pcs are needed)



MOVIE ▶



▶ Accessories



KNURLING HOLDERS & BITE HOLDERS

Cut knurling holders, wheels

Roll knurling holders, wheels

Bite holders

Item No.	Size(mm)			Applicable knurling wheel	N.W. (g)
	H	T	Knurling range		
KH2CN20N	20	20	φ5~φ250	KNCD2505~2520	650
			φ18~φ250	KNCD2106~2115	
KH2CN25N	25	25	φ5~φ250	KNCD2505~2520	840
			φ18~φ250	KNCD2106~2115	

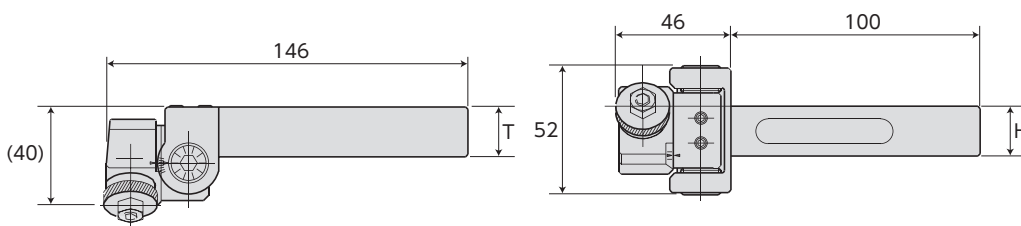
⚠ The knurling external diameter differs depending on the pitch. Refer to the cut knurling wheel P.259.

Plain cut (for NC lathe, multi-purpose lathe)

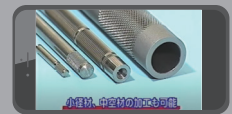


KH1CN20N

* Knurling wheel is sold separately.



MOVIE ▶



▶ Accessories



Item No.	Size(mm)			Applicable knurling wheel	N.W. (g)
	H	T	Knurling range		
KH1CN20N	20	20	φ5~φ250	KNCF2105R~2120R	710
KH1CN25N	25	25	φ5~φ250		890

⚠ The knurling external diameter differs depending on the pitch. Refer to the cut knurling wheel P.259.

KH-CA-R

CUT KNURLING HOLDER FOR SMALL MATERIAL (Cross Cut / Plain Cut)

Feature

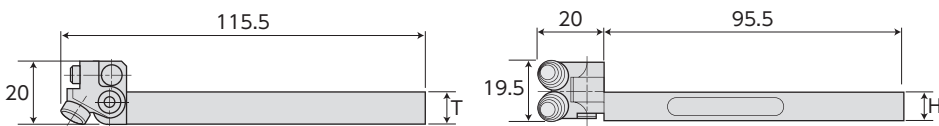
- The cut knurling holder for small material shows strong cutting abilities for small diameter knurling with small material NC lathe, auto lathe or desktop lathe.

Cross cut

KH2CA08R



* Knurling wheels are sold separately. (2 pcs are needed)



MOVIE



Accessories



Item No.	Size (mm)			Applicable knurling wheel	N.W. (g)
	H	T	Knurling range		
KH2CA08R	8	8	$\phi 3 \sim \phi 20$	KNCD0903~0910	100
KH2CA10R	10	10			130
KH2CA12R	12	12			145

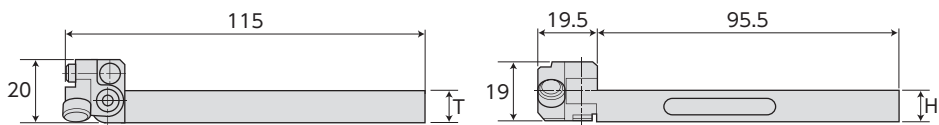
⚠ The knurling external diameter differs depending on the pitch. Refer to the cut knurling wheel P.259.

Plain cut

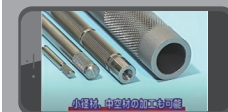
KH1CA08R



* Knurling wheel is sold separately.



MOVIE



Accessories



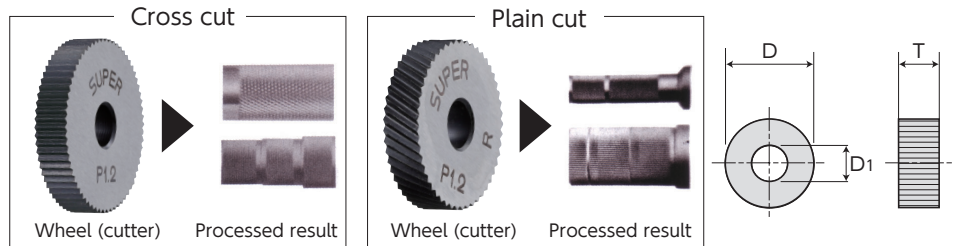
Item No.	Size (mm)			Applicable knurling wheel	N.W. (g)
	H	T	Knurling range		
KH1CA08R	8	8	$\phi 3 \sim \phi 20$	KNCF0903R~0910R	100
KH1CA10R	10	10			130
KH1CA12R	12	12			145

⚠ The knurling external diameter differs depending on the pitch. Refer to the cut knurling wheel P.259.

KNCD • KNCF-R

CUT KNURLING WHEEL

• Material : SKH51



Cross cut

Item No.	Pitch (mm)	Module (approximate value)	Number of knurl per inch (reference)	Size (mm)				Applicable holder
				External dia. D	Hole dia. D1	Width T	Applicable knurling range (reference)	
KNCD2520	2	0.64	12	25.4	6	5	φ25~φ250	KH2CN20N KH2CN25N
KNCD2518	1.8	0.57	14					
KNCD2516	1.6	0.51	16					
KNCD2515	1.5	0.48	17					
KNCD2512	1.2	0.38	22					
KNCD2510	1	0.32	26					
KNCD2508	0.8	0.26	32					
KNCD2506	0.6	0.19	42					
KNCD2505	0.5	0.16	50	21.5	6	5	φ5~ φ20	
KNCD2115	1.5	0.48	17					
KNCD2112	1.2	0.38	22					
KNCD2110	1	0.32	26					
KNCD2108	0.8	0.26	32					
KNCD2106	0.6	0.19	42					

Plain cut

Item No.	Pitch (mm)	Module (approximate value)	Number of knurl per inch (reference)	Size (mm)				Applicable holder	
				External dia. D	Hole dia. D1	Width T	Applicable knurling range (reference)		
KNCF2120R	2	0.64	12	21.5	6	5	φ25~φ250	KH1CN20N KH1CN25N	
KNCF2118R	1.8	0.57	14						
KNCF2116R	1.6	0.51	16						
KNCF2115R	1.5	0.48	17						
KNCF2112R	1.2	0.38	22				φ15~φ150		
KNCF2110R	1	0.32	26						
KNCF2108R	0.8	0.26	32						
KNCF2106R	0.6	0.19	42				φ5~ φ20		
KNCF2105R	0.5	0.16	50						

Cross cut for small material

Item No.	Pitch (mm)	Module (approximate value)	Number of knurl per inch (reference)	Size (mm)				Applicable holder	
				External dia. D	Hole dia. D1	Width T	Applicable knurling range (reference)		
KNCD0910	1	0.32	26	9.5	4	2.5	φ12~φ20	KH2CA08R KH2CA10R KH2CA12R	
KNCD0908	0.8	0.26	32						
KNCD0907	0.7	0.22	36						
KNCD0906	0.6	0.19	42				φ3~φ20		
KNCD0905	0.5	0.16	50						
KNCD0904	0.4	0.13	64						
KNCD0903	0.3	0.10	84						

Plain cut for small material

Item No.	Pitch (mm)	Module (approximate value)	Number of knurl per inch (reference)	Size (mm)				Applicable holder	
				External dia. D	Hole dia. D1	Width T	Applicable knurling range (reference)		
KNCF0910R	1	0.32	26	9.5	4	2.5	φ12~φ20	KH1CA08R KH1CA10R KH1CA12R	
KNCF0908R	0.8	0.26	32						
KNCF0907R	0.7	0.22	36						
KNCF0906R	0.6	0.19	42				φ3~φ20		
KNCF0905R	0.5	0.16	50						
KNCF0904R	0.4	0.13	64						
KNCF0903R	0.3	0.10	84						

(Reference) : For the number of knurl per inch, P (pitch) = $\pi \times m$ (module)

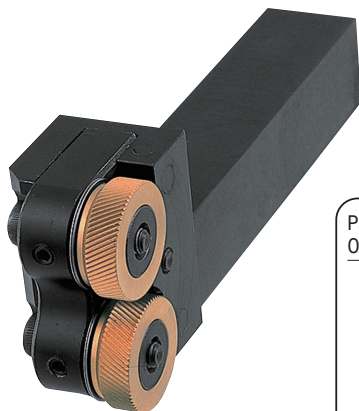
KH-E

■ ROLL KNURLING HOLDER (E-Type) (Cross Cut / Plain Cut)

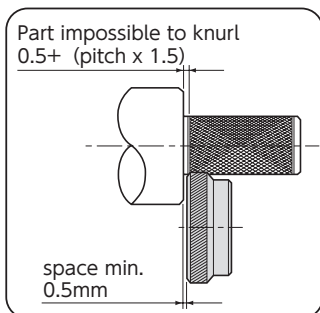
► Feature

- The roll knurling holder enables the knurling of stepped work up to the edge.

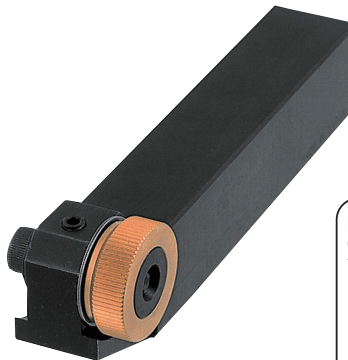
Cross cut for edge knurling



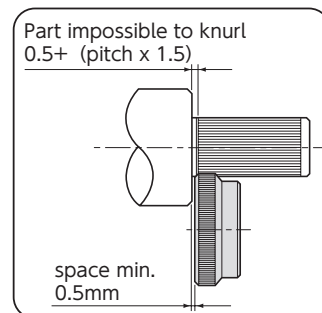
* Knurling wheels are sold separately.



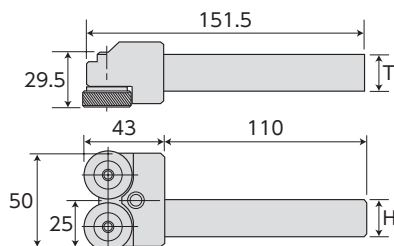
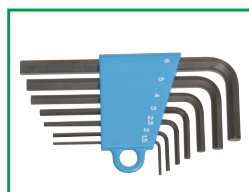
Plain cut for edge knurling



* Knurling wheel is sold separately.

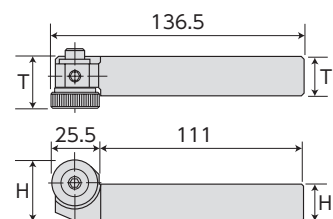


► Accessories



Item No.	Size (mm)			Applicable knurling wheel	N.W. (g)
	H	T	Knurling range		
KH2E20	20	20	φ10~φ250	KNE15RL~06RL	720
KH2E25	25	25			910

► Accessories



Item No.	Size (mm)					Applicable knurling wheel	N.W. (g)
	H	H1	T	T1	Knurling range		
KH1E20	32.5	20	27.5	20	φ10~φ250	KNE15F~06F	430
KH1E25	37.5	25	30	25			630

KNE-RL • KNE-F

■ ROLL KNURLING WHEEL (E-Type)

► Feature

- The TiN (titanium nitride) coating treatment extends the life of the wheel.

Wheel for edge knurling

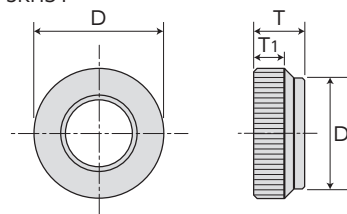
- Material : SKH51



RL (Cross cut)



F (Plain cut)



Item No.		Knurls	Number of knurl per inch	Pitch (mm)	Module	Size (mm)			
Cross cut (a pair)	Plain cut					D	D1	T	T1
KNE15RL	KNE15F	Coarse	17	1.5	0.48	25.4	22	10	6
KNE12RL	KNE12F		22	1.2	0.38				
KNE10RL	KNE10F		26	1	0.32				
KNE08RL	KNE08F	Medium	32	0.8	0.26				
KNE06RL	KNE06F		42	0.6	0.19				

KHS•KH

AUTO SLIDING ROLL KNURLING HOLDER

Features

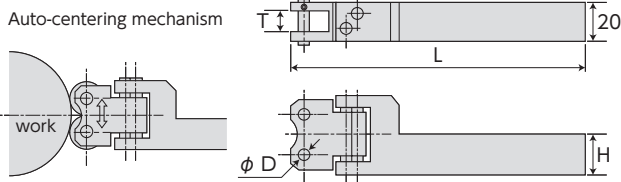
- Easy fixing : A mechanism for the initial positioning of the knurling wheel supporting part is included.
The initial position is clearly set, so it is easy to fix to auto lathe or NC lathe.
- No need for precise positioning : The auto-sliding mechanism enables automatic centering adjustment.
The centering range is within $\pm 2.5\text{mm}$ to the initial position center.
- Fine finish : The knurling wheel supporting part moves up and down, which reduces the rolling force difference occurring between the 2 wheels and enables an even knurl depth.

Cross cut with Japanese standard knurling wheel



- No wheel

- Accessories
- Hex key wrench



Item No.	Size(mm)					Applicable knurling wheel	N.W. (g)
	L	H	D	T	Knurling range		
KHS	147	20	4.7	6.5	$\phi 10 \sim \phi 250$	KNSRL14~50	550

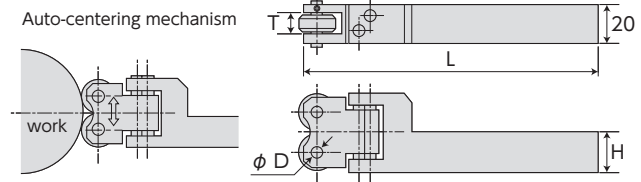
* Pin for wheel fixing item No. : KNSP

Cross cut with Supertool standard knurling wheel



Accessories

- Medium knurl wheels
- Hex key wrench



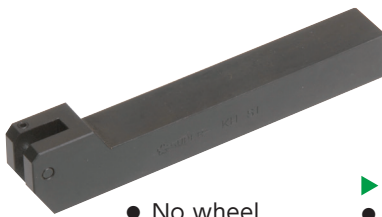
Item No.	Size(mm)					Applicable knurling wheel	N.W. (g)
	L	H	D	T	Knurling range		
KH1	130	16	5.5	8	$\phi 10 \sim \phi 250$	KN12CRL~FRL	410
KH2	147	20	6.3	9.6		KN30CRL~FRL	580

* Pin for wheel fixing item No. : KH1P for KH1, KH2P for KH2

KHS1•NS

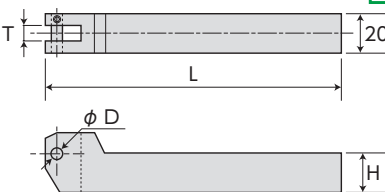
ROLL KNURLING HOLDER (S1 / S Type)

Plain cut with Japanese standard knurling wheel



- No wheel

- Accessories
- Hex key wrench



Item No.	Size(mm)					Applicable knurling wheel	N.W. (g)
	L	H	D	T	Knurling range		
KHS1	147	20	4.7	6.5	$\phi 10 \sim \phi 250$	KNSF14~50	420

* Pin for wheel fixing item No. : KNSP

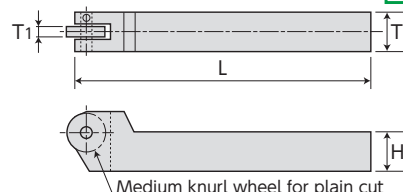
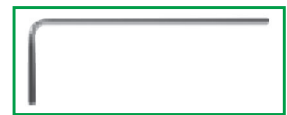
Plain cut with Supertool standard knurling wheel

- Medium knurl wheel for plain cut (1 set) is included, and the height of the wheel center is the same as the height of the holder shank part, making the holder very easy to use.



Accessories

- Medium knurl wheels
- Hex key wrench



Item No.	Size(mm)					Applicable knurling wheel	N.W. (g)
	L	H	T	T1	Knurling range		
NS1	130	20	20	8	$\phi 10 \sim \phi 250$	KN12CF~FF	420
NS2	150	25	25	9.6		KN30CF~FF	720
NS3	175	32	25				1,060

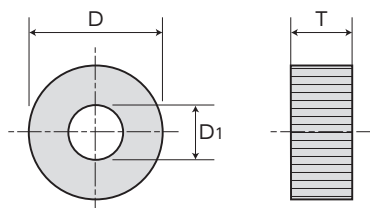
* Pin for wheel fixing item No. : NS1P for NS1, NS23P for NS2, NS3.

KNSRL • KNSF • KN-(CRL • MRL • FRL • CF • MF • FF) • KNPRL • KNPFL

ROLL KNURLING WHEEL

Japanese standard knurling wheel (for holder KHS, KHS1)

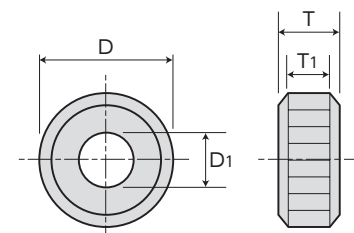
- Material : SKS31



Item No.		Knurls	Number of knurl per inch	Pitch (mm)	Module	Size (mm)		
Cross cut (a pair)	Plain cut					External dia. D	Hole dia. D1	Width T
KNSRL14	KNSF14	Coarse	14	1.81	0.58	19.2	4.76	6.35
KNSRL16	KNSF16		16	1.59	0.51			
KNSRL18	KNSF18		18	1.41	0.45			
KNSRL20	KNSF20		20	1.27	0.40			
KNSRL22	KNSF22	Medium	22	1.16	0.37			
KNSRL24	KNSF24		24	1.06	0.34			
KNSRL26	KNSF26		26	1	0.31			
KNSRL28	KNSF28		28	0.91	0.30			
KNSRL30	KNSF30		30	0.85	0.27			
KNSRL32	KNSF32		32	0.79	0.25			
KNSRL34	KNSF34	Fine	34	0.75	0.24			
KNSRL40	KNSF40		40	0.64	0.20			
KNSRL50	KNSF50		50	0.51	0.16			

Supertool standard knurling wheel (for holder KH1·2, NS1~3)

- Material : SKS31

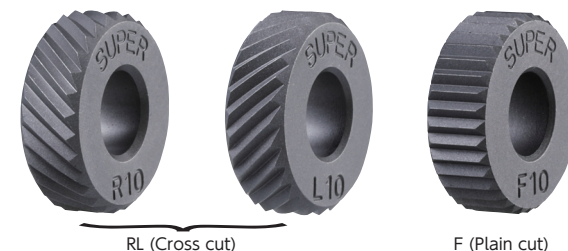
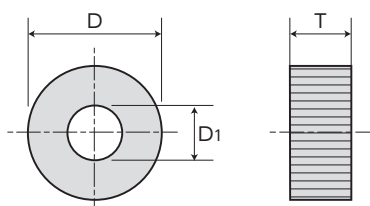


Item No.		Knurls	Number of knurl per inch	Pitch (mm)	Module	Size (mm)			
Cross cut (a pair)	Plain cut					External dia. D	Hole dia. D1	Width T	Knurl width T1
KN12CRL	KN12CF	Coarse	14	1.81	0.58	16	5.56	7.94	4.76
KN12MRL	KN12MF	Medium	22	1.16	0.37				
KN12FRL	KN12FF	Fine	34	0.75	0.24				

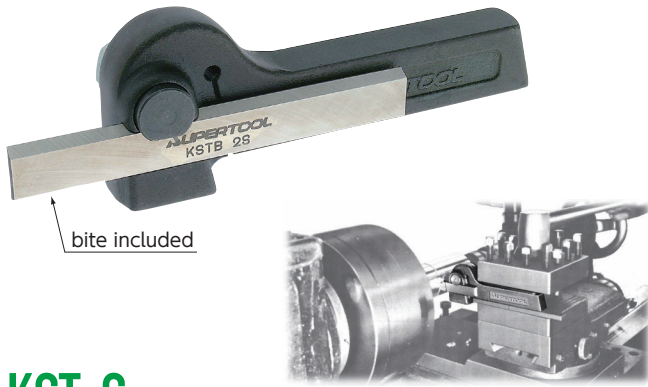
Item No.		Knurls	Number of knurl per inch	Pitch (mm)	Module	Size (mm)			
Cross cut (a pair)	Plain cut					External dia. D	Hole dia. D1	Width T	Knurl width T1
KN30CRL	KN30CF	Coarse	14	1.81	0.58	19.2	6.35	9.52	6.35
KN30MRL	KN30MF	Medium	22	1.16	0.37				
KN30FRL	KN30FF	Fine	34	0.75	0.24				

Knurling wheel for small material (for discontinued holder items KHN1L, KHP1, KH10AL, KH12AL)

- Material : SKS31



Item No.		Knurls	Number of knurl per inch	Pitch (mm)	Module	Size (mm)		
Cross cut (a pair)	Plain cut					External dia. D	Hole dia. D1	Width T
KNPRL1.0	KNPFL1.0	Medium	26	1	0.31	12	5	4
KNPRL0.8	KNPFL0.8		32	0.80	0.25			
KNPRL0.6	KNPFL0.6	Fine	42	0.60	0.19			
KNPRL0.5	KNPFL0.5		50	0.50	0.16			



KST-S

CUTTING BITE & HOLDER SET

► Features

- Mold forged with special steel and heat treatment.
- The hale processing type enables softer shocking to the bite and smoother cutting operation.
- 1 bite is included.

Item No.	Applicable bite	Applicable holder	N.W. (g)
KST1S	KSTB1	KST1	305
KST2S	KSTB2S	KST2	350
KST3S	KSTB3	KST3	688



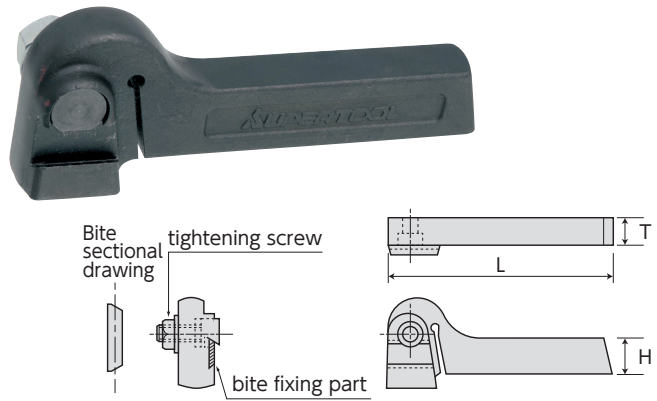
KSTB-KSTB-S

CUTTING BITE

► Feature

- Heat treatment appropriately applied to a special steel enables excellent toughness and outstanding durability.
- Material : SKH57
- Hardness : 66~68HRC

Item No.	Size (mm)			Applicable holder	N.W. (g)
	L	H	T		
KSTB1	90	12.7	3.2	KST1	25
KSTB2S	115	15.9	4	KST2	50
KSTB3	140	19	4.8	KST3	88



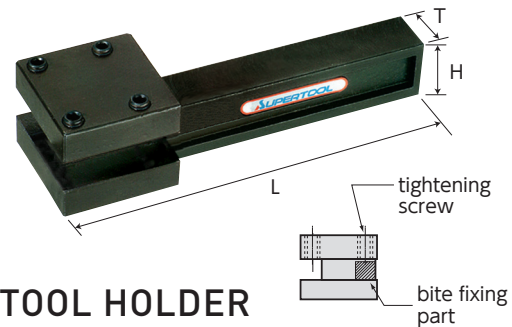
KST

CUTTING BITE HOLDER

► Features

- Mold forged with special steel and heat treatment.
- The hale processing type enables softer shocking to the bite and smoother cutting operation.

Item No.	Holder size (mm)			Bite size (mm)	N.W. (g)
	L	H	T		
KST1	115	19	13	3.2×12.7×90	280
KST2	135	22	15	4×15.9×115	300
KST3	160	25	17	4.8×19×140	600



KBT

BITE TOOL HOLDER

► Feature

- Suitable for a wide range of operations from auto lathe to NC lathe.

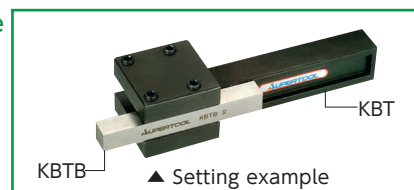
Item No.	Holder size (mm)			Applicable bite	Bite size (mm)	N.W. (g)
	L	H	T			
KBT10	115	16	13	KBTB1	□6.35(1/4)×65	270
KBT20	120	20	15	KBTB2	□9.52(3/8)×75	430
KBT30	140	20	17	KBTB3	□12.7(1/2)×100	660

KBTB

CUTTING BITE

- Material : SKH57
- Hardness : 66~68HRC

► Example of use



Item No.	Size (mm)	Applicable holder	N.W. (g)
KBTB1	□6.35(1/4)×65	KBT10	21
KBTB2	□9.52(3/8)×75	KBT20	55
KBTB3	□12.7(1/2)×100	KBT30	130

Cut knurling holders, wheels

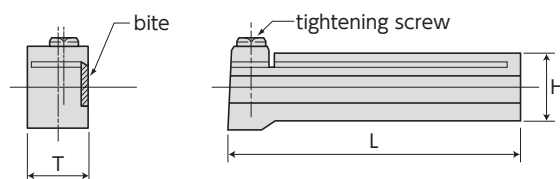
Roll knurling holders, wheels

Bite holders



KCT

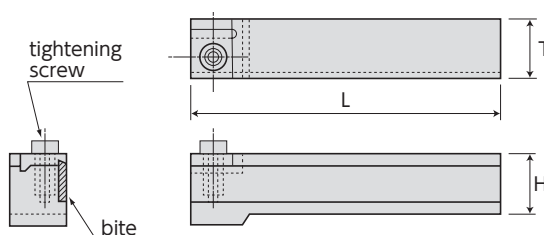
CUT OFF TOOL HOLDER



Item No.	Holder size (mm)			Applicable bite	Bite size (mm)	Lock wrench	N.W. (g)
	L	H	T				
KCT1	90	19	16	KST00	2.4×10×100	LW3	240
KCT2	100	22	19	KST10	2.4×13×115	LW4	340
KCT3	110	25	22	KST20	2.4×16×127	LW5	480
KCT4	125	28	25	KST30	3.2×19×127	LW5	680

K-S

CUTTING TOOL HOLDER



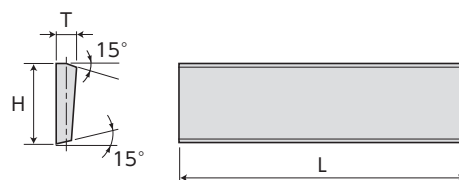
Item No.	Holder size (mm)			Applicable bite	Bite size (mm)	N.W. (g)
	L	H	T			
K19S	115	20	18	KST10	2.4×13×115	330
K20S	125	25	22	KST20	2.4×16×127	570
K21S	150	32	24	KST30	3.2×19×127	800

KST

CUTTING BITE



- Material : SKH57
- Hardness : 66~68HRC



Item No.	Bite size (mm)			N.W. (g)
	L	H	T	
KST00	100(4)	10(²⁵ / ₆₄)	2.4(³ / ₃₂)	22
KST10	115(4 ¹ / ₂)	13(¹ / ₂)	2.4(³ / ₃₂)	24
KST20	127(5)	16(⁵ / ₈)	2.4(³ / ₃₂)	30
KST30	127(5)	19(³ / ₄)	3.2(¹ / ₈)	50
KST40	150(6)	22(⁷ / ₈)	3.2(¹ / ₈)	70
KST50	165(6 ¹ / ₂)	25(1)	4.8(³ / ₁₆)	170