TaeguTec Times
News and Technology from TaeguTec
Feb. 2013
www.taegutec.com

Product News / English

RHINOTURN

Tiny & Mighty

Current trends in manufacturing involve component production with reduced machining stock due to improved casting and forging technology. Depths of cut in rough turning are predominantly in the range of 2 to 3 mm, thus rendering the conventional ISO turning inserts with 12/15 mm cutting edge lengths towards redundancy. In the modern machining environment with high focus on cost reduction, Taegutec is proud to launch the RHINOTURN series of mini ISO turning inserts to meet the manufacturing industry's needs of reduced machining costs and competitiveness.

The RHINOTURN series' outstanding performance is credit to the insert's smaller but durable size and two directional clamping forces, making the RHINOTURN "Tiny & Mighty" in size and stature. Moreover, the RHINOTURN outperforms conventional ISO turn's one directional clamping force because of its two directional clamping forces. This results in improved productivity via high feed cutting with low cutting force in general applications. A further benefit of RHINOTURN is the exceptional performance in interrupted machining on weak machine set-ups.

Not only does the RHINOTURN include holders with rigid clamping but also optimal chip breaker inserts available in three types-FG, PC & MT.

This new line will mean high productivity and cost savings through efficiency and improved clamping design as well as the insert's smaller but optimal size.

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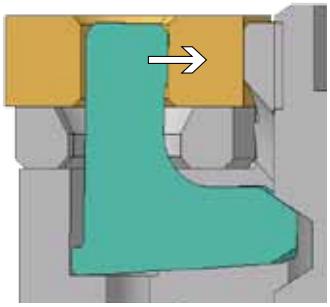
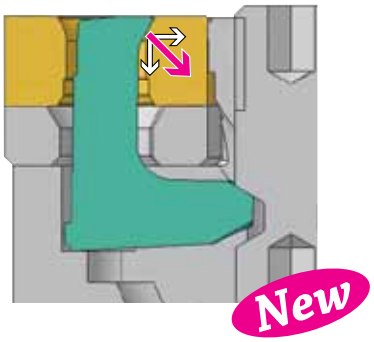
Excellent insert rigidity! Strong clamping holder!

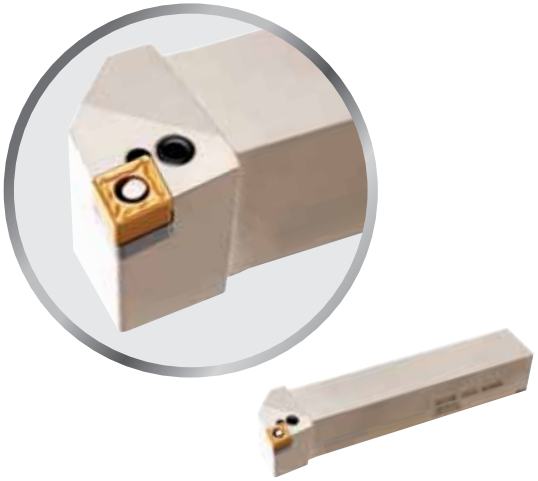
"Next generation clamping system"

Conventional ISO clamping structure
One directional clamping force



RHINOTURN clamping structure
Two directional clamping forces





Features

- Exceptionally stable machining credit to two directional clamping forces over the existing conventional ISO lever holder's one directional clamping force
- Excellent productivity and longer, stable tool life in high feed turning applications
- Optimal performance in interrupted cutting on weak/old machine set-ups
- Extended insert tool life credit to next generation clamping system

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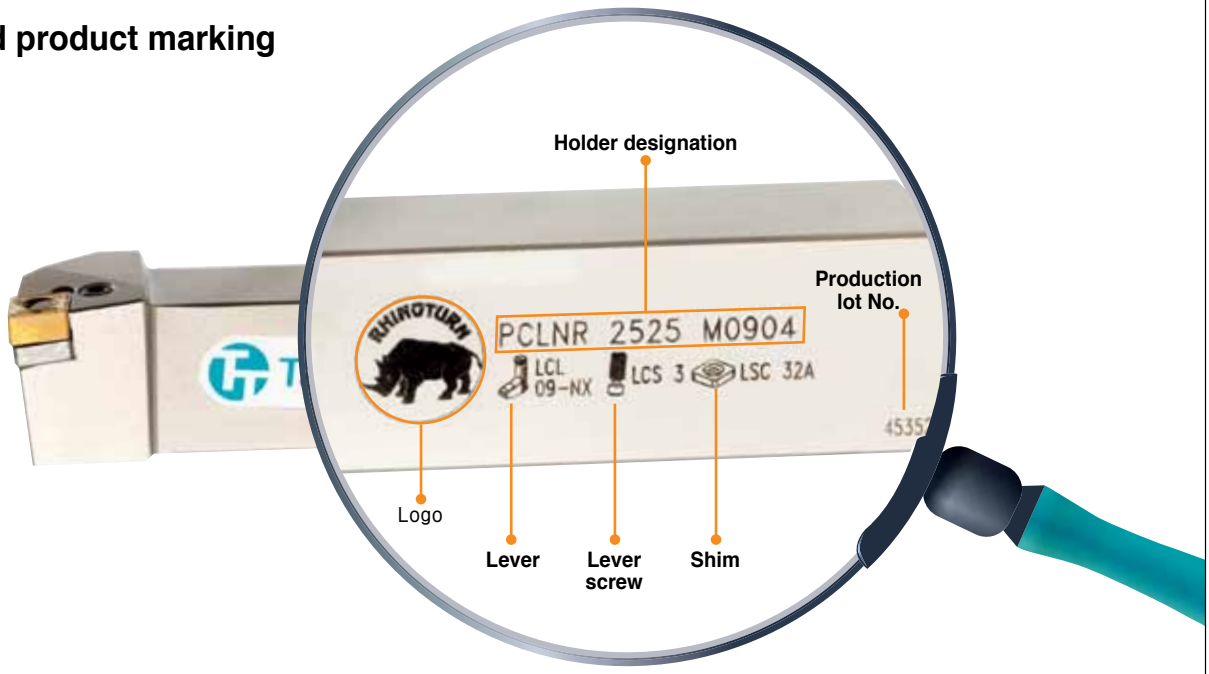
Detailed product marking



New

RHINOTURN holder vs. ISO standard holder tool life comparison test

(Test in TaeguTec tech center)

Interrupted cut (TaeguTec tech center)

- Work piece: Medium carbon alloy steel
- Process: Interrupted facing
- Cutting condition: V=100m/min, f=0.6mm/rev, d=4mm, Dry

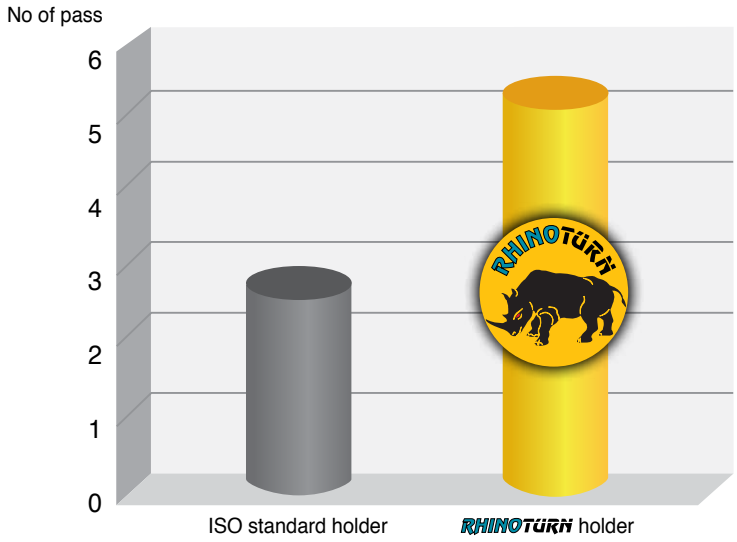
Comparison test

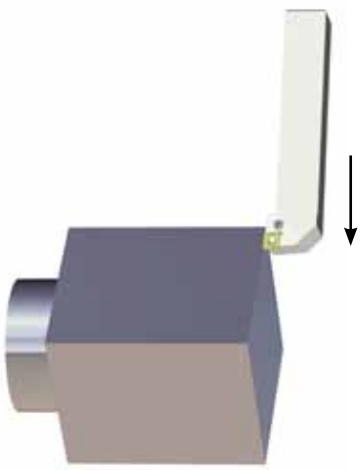
❶ CNMG 120408 + PCLNR 2525 M12 holder (ISO standard holder)

❷ CNMG 090408 + PCLNR 2525 M0904 (RHINOTURN holder)

* Chip breaker & grade are the same

Insert life





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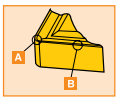
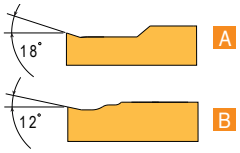
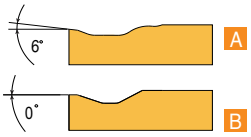
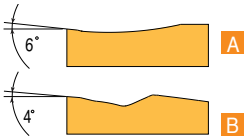
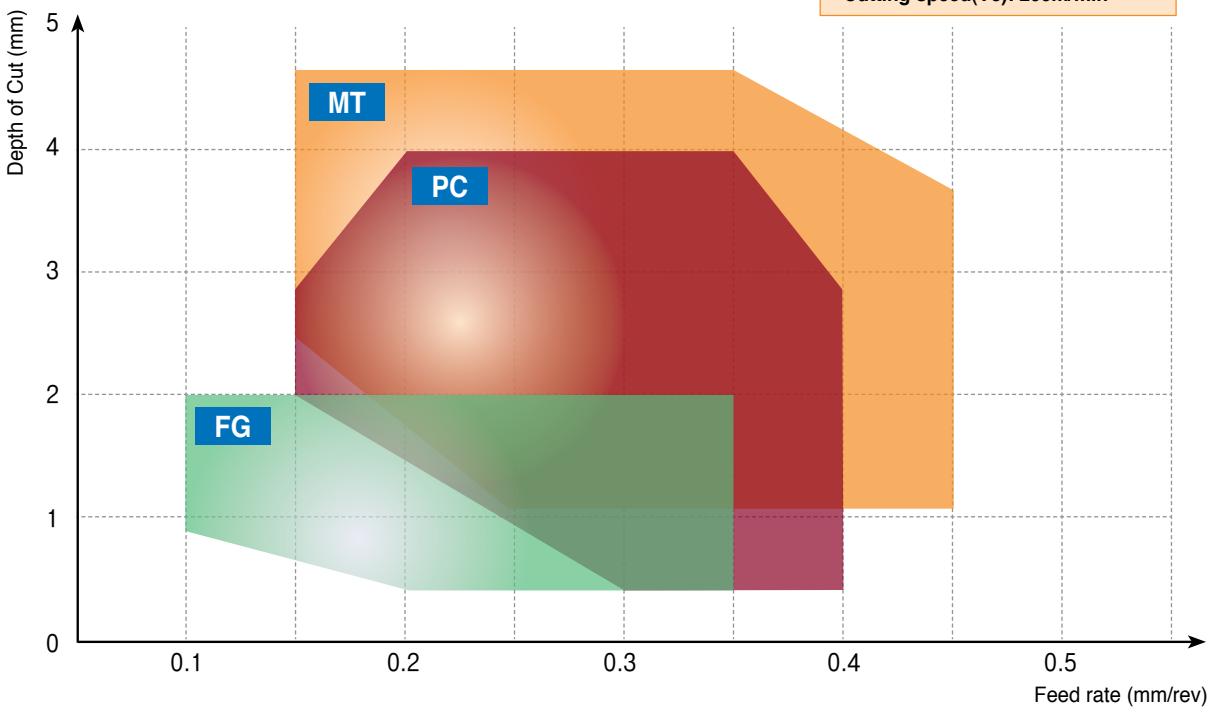


Available Chip breaker

Chip breaker			Range & features
FG			• For finishing applications in steel, stainless steel machining • Low cutting force & effective chip breaking
PC			• For semi-finish to medium applications in steel machining • Positive geometry • Excellent chip control on medium applications • First choice for automotive component machining
MT			• For medium to medium rough applications in steel machining • Suitable for continuous & interrupted cut

Chip breaker range

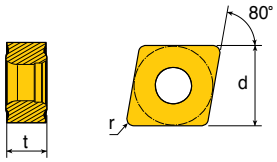
Workpiece: Medium carbon steel
Cutting speed(Vc): 200m/min



Product News / English

CNMG Negative 80°Rhombic inserts

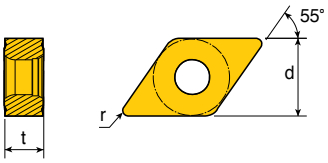
Designation		d	t	r
CNMG	090404	9.52	4.76	0.4
	090408	9.52	4.76	0.8
	090412	9.52	4.76	1.2



Insert	Designation		Recommended Machining Conditions		Grade CVD Coated			
			feed (mm/rev)	ap (mm)	TT8115	TT8125	TT8135	TT5100
	CNMG	090404 FG	0.07 - 0.30	0.20 - 2.00	●	●		●
		090408 FG	0.10 - 0.35	0.50 - 2.00	●	●		●
		090412 FG	0.15 - 0.40	0.50 - 2.00	●	●		●
	CNMG	090404 PC	0.10 - 0.30	0.40 - 4.00	●	●	●	●
		090408 PC	0.15 - 0.40	0.50 - 4.00	●	●	●	●
		090412 PC	0.18 - 0.50	0.60 - 4.00	●	●	●	●
	CNMG	090404 MT	0.10 - 0.35	0.80 - 4.50	●	●	●	●
		090408 MT	0.15 - 0.45	1.00 - 4.50	●	●	●	●
		090412 MT	0.20 - 0.55	1.20 - 4.50	●	●	●	●

DNMG Negative 55° Rhombic inserts

Designation		d	t	r
DNMG	130504	11.11	5.56	0.4
	130508	11.11	5.56	0.8
	130512	11.11	5.56	1.2



Insert	Designation		Recommended Machining Conditions		Grade CVD Coated			
			feed (mm/rev)	ap (mm)	TT8115	TT8125	TT8135	TT5100
	DNMG	130504 FG	0.07 - 0.30	0.20 - 2.00	●	●		●
		130508 FG	0.10 - 0.35	0.50 - 2.00	●	●		●
		130512 FG	0.15 - 0.40	0.50 - 2.00	●	●		●
	DNMG	130504 PC	0.10 - 0.30	0.40 - 4.00	●	●	●	●
		130508 PC	0.15 - 0.40	0.50 - 4.00	●	●	●	●
		130512 PC	0.18 - 0.50	0.60 - 4.00	●	●	●	●
	DNMG	130504 MT	0.10 - 0.35	0.80 - 4.50	●	●	●	●
		130508 MT	0.15 - 0.45	1.00 - 4.50	●	●	●	●
		130512 MT	0.20 - 0.55	1.20 - 4.50	●	●	●	●

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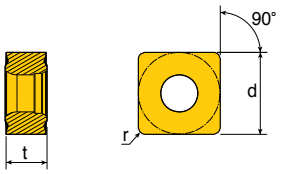
SNMG Negative 60° Square inserts

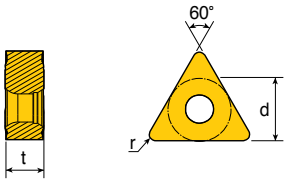
Designation		d	t	r
SNMG	090404	9.52	4.76	0.4
	090408	9.52	4.76	0.8
	090412	9.52	4.76	1.2



Insert	Designation		Recommended Machining Conditions		Grade CVD Coated			
			feed (mm/rev)	ap (mm)	TT8115	TT8125	TT8135	TT5100
	SNMG	090404 FG	0.07 - 0.30	0.20 - 2.00	●	●		●
		090408 FG	0.10 - 0.35	0.50 - 2.00	●	●		●
		090412 FG	0.15 - 0.40	0.50 - 2.00	●	●		●
	SNMG	090404 PC	0.10 - 0.30	0.40 - 3.50	●	●	●	●
		090408 PC	0.15 - 0.40	0.50 - 3.50	●	●	●	●
		090412 PC	0.18 - 0.50	0.60 - 3.50	●	●	●	●
	SNMG	090404 MT	0.10 - 0.35	0.80 - 4.00	●	●	●	●
		090408 MT	0.15 - 0.45	1.00 - 4.00	●	●	●	●
		090412 MT	0.20 - 0.55	1.20 - 4.00	●	●	●	●

TNMG Negative 60° Triangular inserts

Designation		d	t	r
TNMG	130404	7.94	4.76	0.4
	130408	7.94	4.76	0.8
	130412	7.94	4.76	1.2



Insert	Designation		Recommended Machining Conditions		Grade CVD Coated			
			feed (mm/rev)	ap (mm)	TT8115	TT8125	TT8135	TT5100
	TNMG	130404 FG	0.07 - 0.30	0.25 - 1.50	●	●		●
		130408 FG	0.10 - 0.35	0.30 - 1.50	●	●		●
		130412 FG	0.15 - 0.40	0.35 - 1.50	●	●		●
	TNMG	130404 PC	0.10 - 0.30	0.40 - 3.00	●	●	●	●
		130408 PC	0.15 - 0.40	0.50 - 3.00	●	●	●	●
		130412 PC	0.18 - 0.50	0.60 - 3.00	●	●	●	●
	TNMG	130404 MT	0.10 - 0.35	0.80 - 3.50	●	●	●	●
		130408 MT	0.15 - 0.45	1.00 - 3.50	●	●	●	●
		130412 MT	0.20 - 0.55	1.20 - 3.50	●	●	●	●

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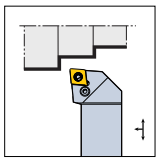
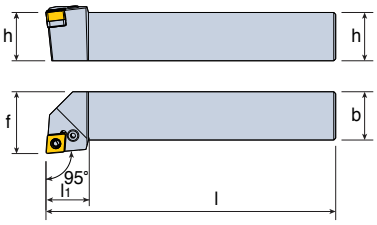
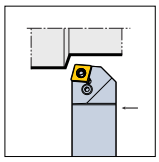
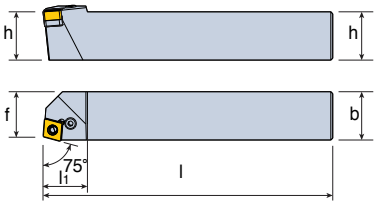
PCLNR/L PCBNR/L


PCLNR/L

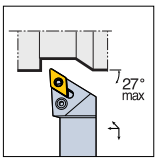



PCBNR/L

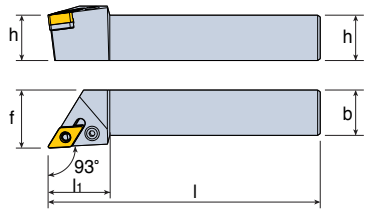


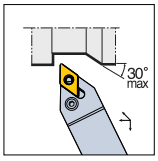
Entering Angle	Designation		Dimension (mm) h	b	l	l_1	f	Insert	Components: Lever	Screw	Shim	Shim Pin	Wrench
95°	PCLNR/L	1616 H0904	16	16	100	22	20	CNMG 0904 □□	LCL 09-NX	LCS 3	LSC 32A	LSP 3A	L-W 2.5
		2020 K0904	20	20	125	22	25						
		2525 M0904	25	25	150	22	32						
75°	PCBNR/L	2020 K0904	20	20	125	23	18.5						
		2525 M0904	25	25	150	23	23.5						

PDJNR/L PDNNR/L PDQNR/L

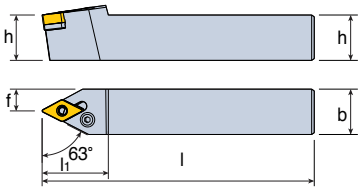


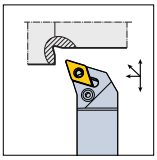
PDJNR/L

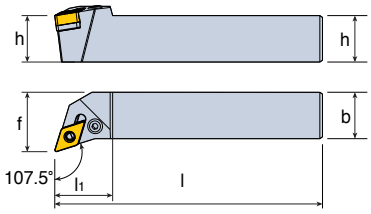




PDNNR/L




PDQNR/L



Entering Angle	Designation		Dimension (mm) h	b	l	l_1	f	Insert	Components: Lever	Screw	Shim	Shim Pin	Wrench
93°	PDJNR/L	2020 K1305	20	20	125	34	25	DNMG 1305 □□	LCL 11-NX	LCS 4	LSD 3.52	LSP 4	L-W 3
		2525 M1305	25	25	150	34	32						
63°	PDNNR/L	2020 K1305	20	20	125	36.5	10						
		2525 M1305	25	25	150	36.5	12						
107.5°	PDQNR/L	2020 K1305	20	20	125	31	25						
		2525 M1305	25	25	150	31	32						

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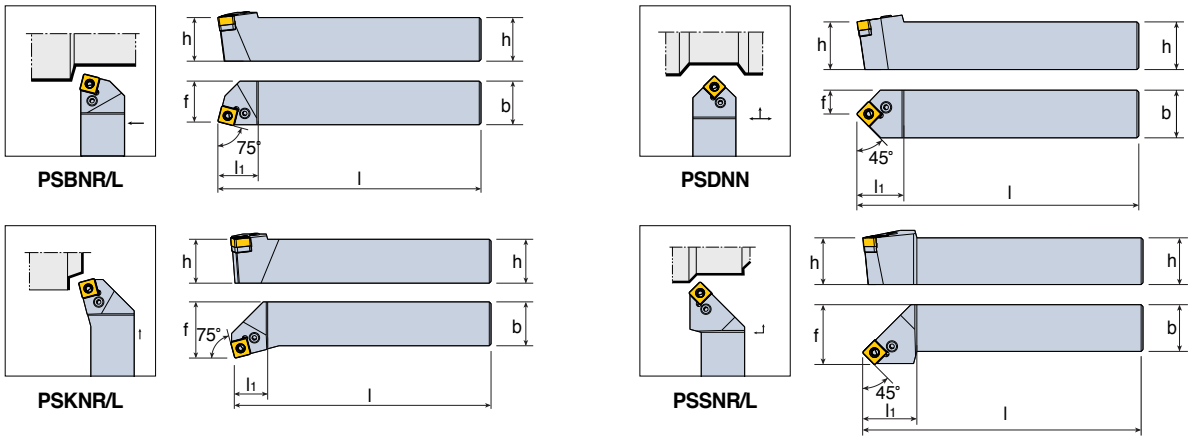
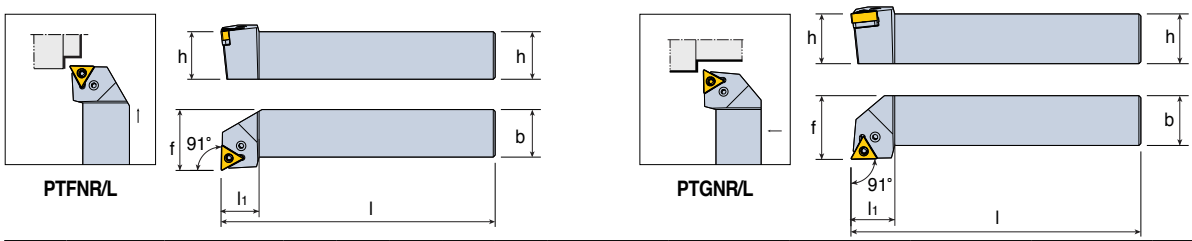
PSBNR/L PSDNN PSKNR/L PSSNR/L



Entering Angle	Designation		Dimension (mm) h	b	l	l_1	f	Insert	Components: Lever	Screw	Shim	Shim Pin	Wrench
75°	PSBNR/L	2020 K0904	20	20	125	23	18.5	SNMG 0904 □□	LCL 09-NX	LCS 3	LSS 32A	LSP 3A	L-W 2.5
		2525 M0904	25	25	150	23	23.5						
45°	PSDNN	2020 K0904	20	20	125	25	10						
		2525 M0904	25	25	150	25	12.5						
75°	PSKNR/L	2020 K0904	20	20	125	19	25						
		2525 M0904	25	25	150	19	32						
45°	PSSNR/L	2020 K0904	20	20	125	21.5	25						
		2525 M0904	25	25	150	29	32						

PTFNR/L PTGNR/L



Entering Angle	Designation		Dimension (mm) h	b	l	l_1	f	Insert	Components: Lever	Screw	Shim	Shim Pin	Wrench
91°	PTFNR/L	2020 K1304	20	20	125	20	25	TNMG 1304 □□	LCL 08-NX	LCS 3-NX	LST 2.51.8	LSP 3B	L-W 2.5
		2525 M1304	25	25	150	20	32						
91°	PTGNR/L	1616 H1304	16	16	100	22	20						
		2020 K1304	20	20	125	22	25						
		2525 M1304	25	25	150	22	32						

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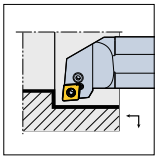
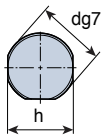
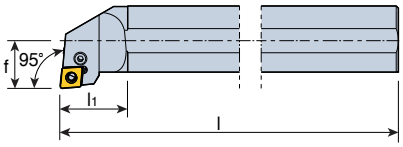
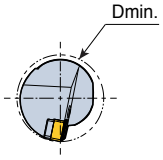
S-PCLNR/L



S-PCLNR/L

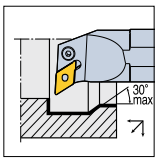




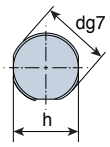


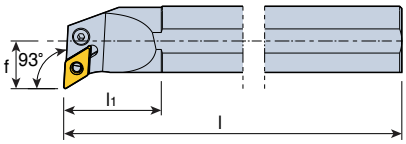
Designation	Dimension (mm)						Insert	Components					
								Lever	Screw	Shim	Shim Pin	Snap Ring	Wrench
	d	h	l	l_1	f	D							
S16Q PCLNR/L 0904	16	15	180	25	11	20	CNMG 0904 □□	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2
S20Q PCLNR/L 0904	20	18	180	28	13	25							
S25R PCLNR/L 0904	25	23	200	31	17	32							
S32S PCLNR/L 0904	32	30	250	31	22	40		LCL 09-NX	LCS 3	LSC 32	LSP 3A	-	L-W 2.5

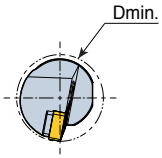
S-PDUNR/L S-PDZNR/L

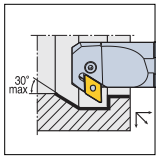


S-PDUNR/L

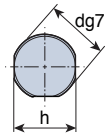


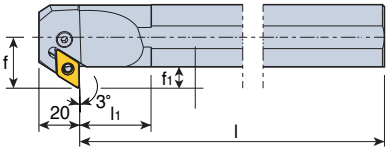


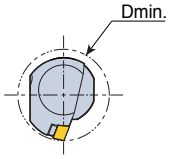




S-PDZNR/L







Designation	Dimension (mm)							Insert	Components					
									Lever	Screw	Shim	Shim Pin	Snap Ring	Wrench
	d	h	l	l_1	f	f_1	D							
S32S PDUNR/L 1305	32	30	250	45	22	-	40	DNMG 1305 □□	LCL 11-NX	LCS 4S	LSD 3.52B	LSP 4	-	L-W 3
S40T PDUNR/L 1305	40	37	300	55	27	-	50							
S32S PDZNR/L 1305	32	30	250	35	25	10.5	45							
S40T PDZNR/L 1305	40	37	300	40	29	10.5	50							

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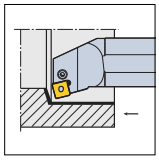
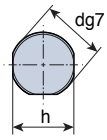
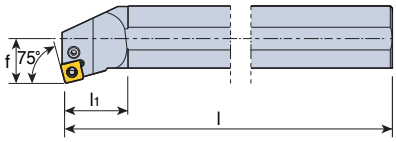
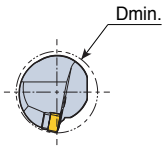
S-PSKNR/L



S-PSKNR/L

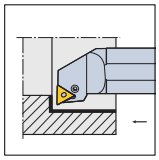




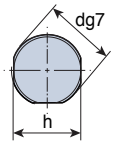


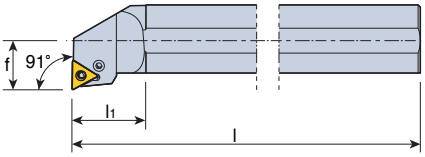
Designation	Dimension (mm)						Insert	Components					
								Lever	Screw	Shim	Shim Pin	Snap Ring	Wrench
	d	h	l	l_1	f	D							
S25R PSKNR/L 0904	25	23	200	31	17	32	SNMG 0904 □□	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2
S32S PSKNR/L 0904	32	30	250	31	22	40		LCL 09-NX	LCS 3	LSS 32	LSP 3A	-	L-W 2.5

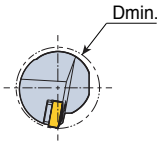
S-PTFNR/L



S-PTFNR/L







Designation	Dimension (mm)						Insert	Components					
								Lever	Screw	Shim	Shim Pin	Snap Ring	Wrench
	d	h	l	l_1	f	D							
S16Q PTFNR/L 1304	16	15	180	25	11	20	TNMG 1304 □□	LCL 08B-NX	LCS 3B	-	-	LSR 3B	L-W 2
S20Q PTFNR/L 1304	20	18	180	28	13	25							
S25R PTFNR/L 1304	25	23	200	33	17	32							
S32S PTFNR/L 1304	32	30	250	33	22	40		LCL 08-NX	LCS 3-NX	LST 2.51.8B	LSP 3B	-	L-W 2.5

Availability
In stock

Price
Available in the GAL system

Sincerely,
TaeguTec

S. Y. Shin

Shin, Su Yong
Turning & T-Clamp Product Manager