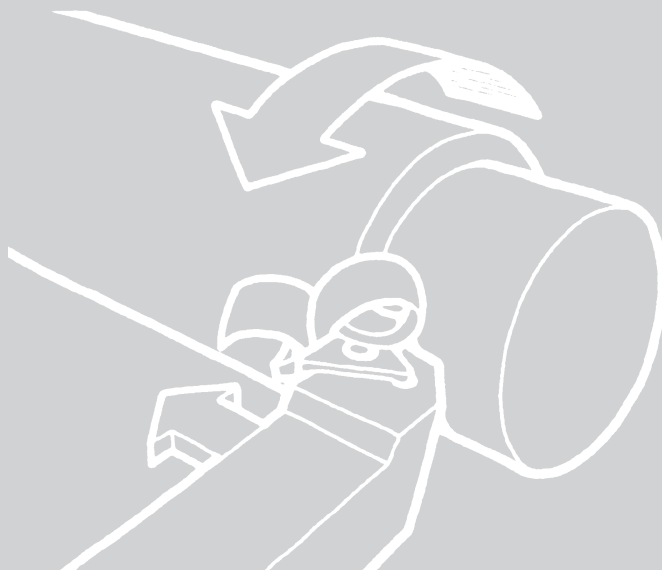


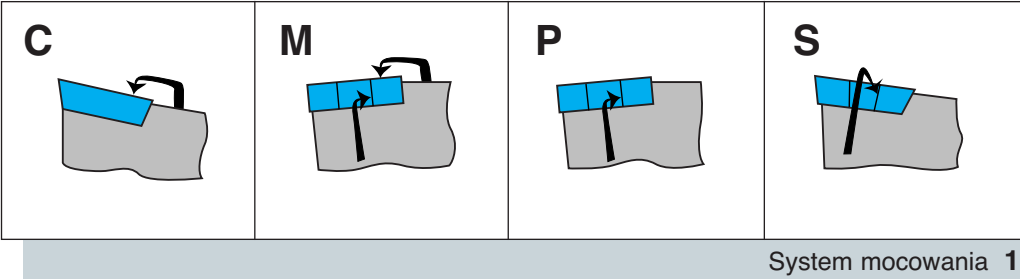
NARZĘDZIA DO TOCZENIA

str.	rozdział:
C 42	Oznaczenie noży do toczenia zewnętrznego
C 43	Oznaczenie noży do toczenia wewnętrznego
C 44	Noże do toczenia zewnętrznego
C 56	Noże do toczenia wewnętrznego
C 62	Przecinaki listwowe XLCFN..



TOCZENIE – oznaczenie noży do toczenia zewnętrznego

P	C	L	N	R	25	25	M	19	
1	2	3	4	5	6	7	8	9	10



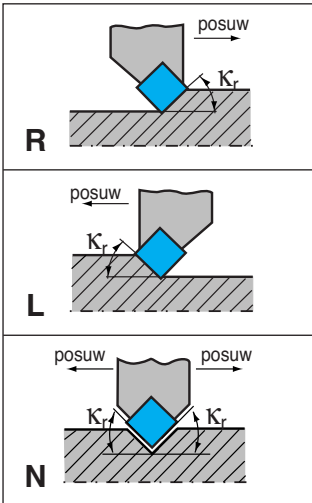
System mocowania 1

C 80°	D 55°
K 55°	R
S 90°	T 60°
V 35°	W 80°

Kształt płytki 2

B 75°	D 45°	E 60°	F 90°	G 90°	H 107°30'
J 93°	K 75°	L 95°	N 63°	Q 117°30'	R 75°
S 45°	T 60°	U 93°	V 72°30'	Y(X) 85°	Y(Z) 85°

Rodzaj noża 3



Kierunek skrawania 5

B 5°	C 7°
E 20°	N 0°
P 11°	O specjalny

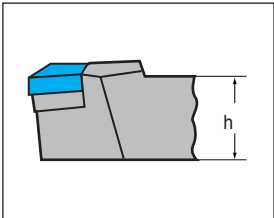
Kąt przyłożenia α_n 4

A = 32	M = 150
B = 40	N = 160
C = 50	P = 170
D = 60	Q = 180
E = 70	R = 200
F = 80	S = 250
G = 90	T = 300
H = 100	U = 350
J = 110	V = 400
K = 125	W = 450
L = 140	Y = 500
	X = Specjalna

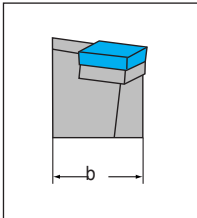
Długość noża 8

R	S	T
W	C, D	
K		

Długość boku płytki 9



Wysokość noża 6



Szerokość noża 7

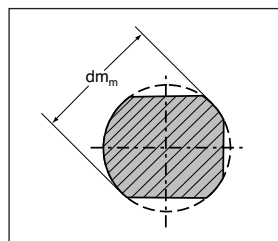


Informacja dodatkowa 10

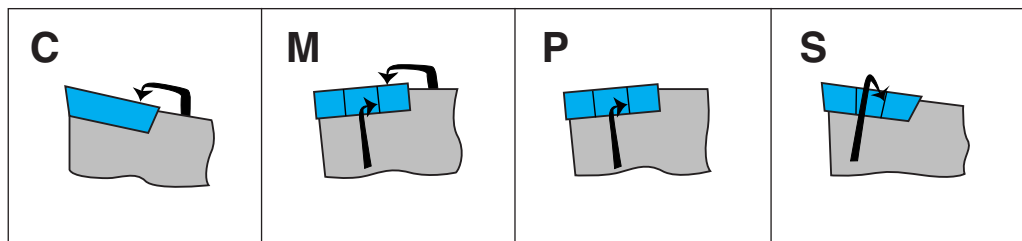
TOCZENIE – oznaczenie noży do toczenia wewnętrznego

S 32 U – P W L N R 08

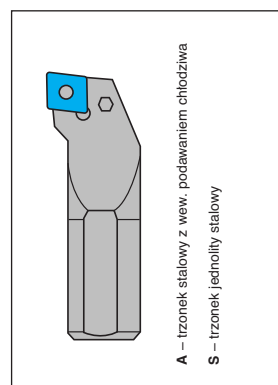
1 2 3 4 5 6 7 8 9 10



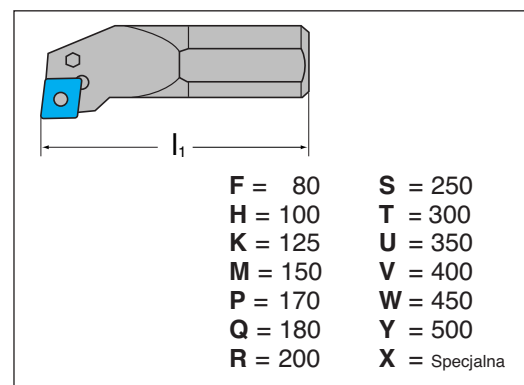
Średnica trzonu 2



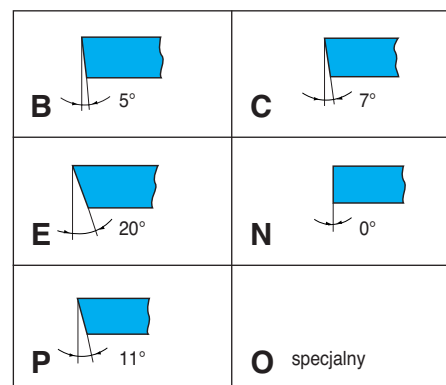
System mocowania 4



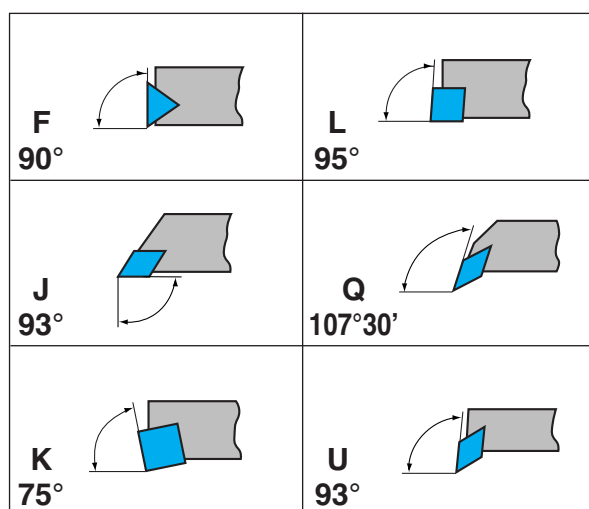
Wykonanie trzonu 1



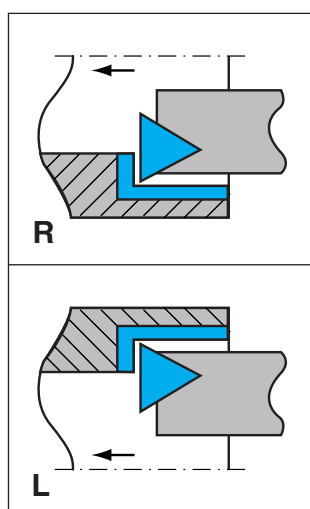
Długość noża 3



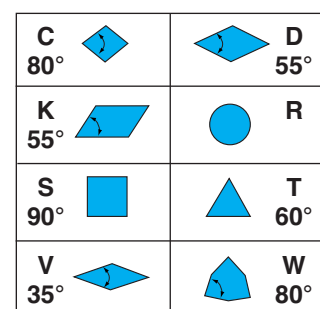
Kąt przyłożenia α_n 7



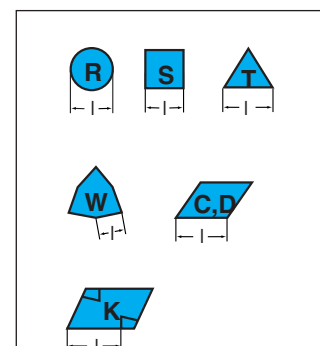
Rodzaj noża 6



Kierunek skrawania 8



Kształt płytki 5

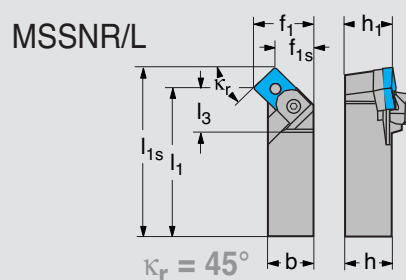


Długość boku płytki 9

Np.

W – mocowanie klinem
D – wymiar f_1 przedłużony o + 1,0 mm
E – wymiar f_1 przedłużony o + 2,0 mm

Informacja dodatkowa 10

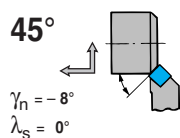


Zastosowanie

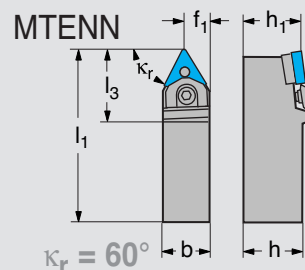
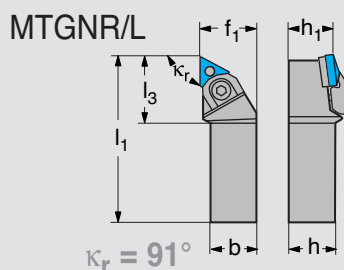
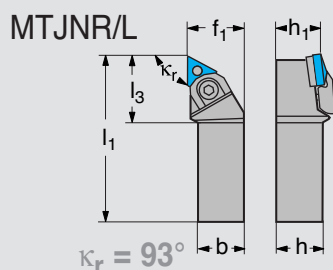


Oznaczenie

h (mm)	h ₁ (mm)	b (mm)	l ₁ (mm)	l ₃ (mm)	f ₁ (mm)	f _{1s} (mm)
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SNMA
SNMM
SNMG


12	MSSNR/L 2525M12	25	25	25	150	158,3	23	32	23,9
19	MSSNR/L 3232P19	32	32	32	170	182,5	31,3	40	27,8
25	MSSNR/L 4040S25	40	40	40	250	266	34	50	34,3

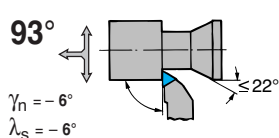


Zastosowanie

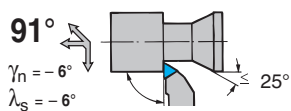


Oznaczenie

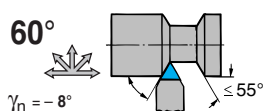
h (mm)	h ₁ (mm)	b (mm)	l ₁ (mm)	l ₃ (mm)	f ₁ (mm)
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TNMA
TNMM
TNMG


16	MTJNR/L 2020K16M1	20	20	20	125	30,8	25
	MTJNR/L 2525M16M1	25	25	25	150	30,8	32
	MTJNR/L 3225P16M1	32	32	25	170	30,8	32
22	MTJNR/L 2525M22M1	25	25	25	150	34,8	32
	MTJNR/L 3225P22M1	32	32	25	170	34,8	32



22	MTGNR/L 2525M22M1	25	25	25	150	34,8	32
	MTGNR/L 3225P22M1	32	32	25	170	34,8	32
	MTGNR/L 3232P22M1	32	32	32	170	34,8	40



22	MTENN 2525M22M1	25	25	25	150	35,7	13
	MTENN 3225P22M1	32	32	25	170	35,7	13
	MTENN 3232P22M1	32	32	32	170	35,7	16,5

 κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Klin



Pł. podporowa



Kołek



Śruba



Klucz

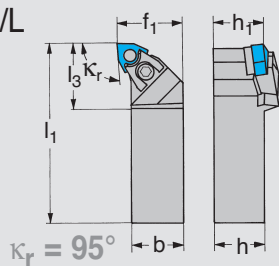


12	181.38-824-1	181.38-850	181.38-840	3212 010-255	174.1-864 (3,0)
19	181.38-825-1	181.38-851	181.38-841	3212 010-306	174.1-864 (3,0)
25	181.38-826-1	181.38-852	181.38-842	3212 100-357	3021 010-040 (4,0)
					3021 010-050 (5,0)
					3021 010-040 (4,0)



16	170.38-820-1	170.3-852	5313 021-02	3212 010-206	174.1-863 (2,5)
22	170.38-821-1	170.3-855	181.38-840	3212 010-255	174.1-864 (3,0)

MWLNr/L



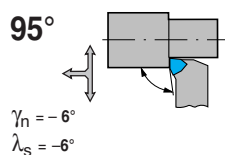
Zastosowanie



Oznaczenie

h (mm) h₁ (mm) b (mm) l₁ (mm) l₃ (mm) f₁ (mm)

95°



06

MWLNr/L 2020K06

20

20

20

125

26

25

08

MWLNr/L 2020K08

20

20

20

125

30

27

MWLNr/L 2525M08

25

25

25

150

35

32

MWLNr/L 3225P08

32

32

25

170

35

32

WNMA
WNMG



κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

C

Części zamienne



Docisk



Śruba



Pł. podporowa



Kolek



Klucz



06

5431125-011

5512-030-03

5322-331-06

5313022-01

170.3-860 (2,5)

08

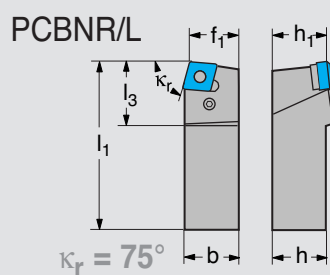
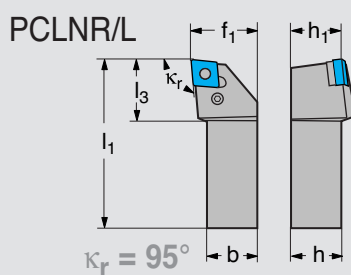
5431125-021

3212-010-255

5322-331-07

5313022-03

170.3-864 (1,98)
174.1-864 (3,0)

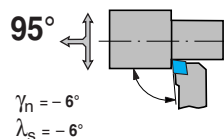


Zastosowanie



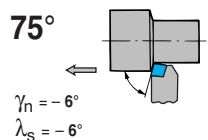
Oznaczenie

h (mm) h₁ (mm) b (mm) l₁ (mm) l₃ (mm) f₁ (mm)



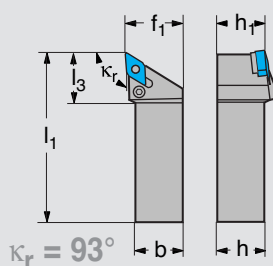
12	PCLNR/L 1616H12-M	16	16	16	100	26,1	20
	PCLNR/L 2020K12	20	20	20	125	29,4	25
	PCLNR/L 2525M12	25	25	25	150	30,0	32
	PCLNR/L 3225P12	32	32	25	170	30,0	32
19	PCLNR/L 2525M19	25	25	25	150	38,0	32
	PCLNR/L 3225P19	32	32	25	170	38,0	32
	PCLNR/L 3232P19	32	32	32	170	38,0	40
	PCLNR/L 4040S19	40	40	40	250	37,0	50

CNMA
CNMM
CNMG



12	PCBNR/L 2525M12	25	25	25	150	29,0	22
19	PCBNR/L 3232P19	32	32	32	170	37,9	27
	PCBNR/L 4040S19	40	40	40	250	37,2	35

PDJNR/L
R/L 171.35

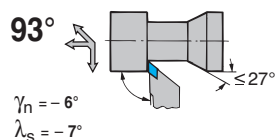


Zastosowanie



Oznaczenie

h (mm) h₁ (mm) b (mm) l₁ (mm) l₃ (mm) f₁ (mm)



15	PDJNR/L 2020K15	20	20	20	125	34,7	25
	PDJNR/L 2525M15	25	25	25	150	34,7	32
	PDJNR/L 3225P15	32	32	25	170	34,7	40
15	R/L 171.35-4025-15	40	40	25	200	38,0	28,7
	R/L 171.35-5032-15	50	50	32	225	38,0	35

DNMG



κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Dźwignia



Śruba



Pł. podporowa



Tuleja sprężysta



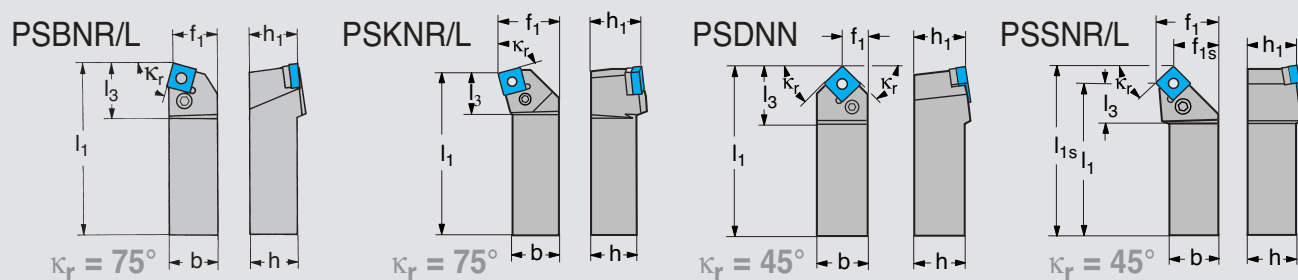
Klucz



12	174.3-848M	174.3-858	171.31-850M	174.3-861	174.1-864 (3,0)
dla ..-M	174.3-841M	174.3-821	–	–	171.1-864 (3,0)
19	174.3-842M	174.3-822M	171.31-851M	174.3-862	3021 010-040 (4,0)
12 dla ..-M12	174.3-841M	174.3-821	171.31-850M	174.3-861	174.1-864 (3,0)



15	174.3-847M	174.3-830	171.35-851M	174.3-861	174.1-864 (3,0)
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Zastosowanie

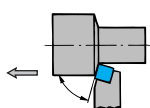


Oznaczenie

h (mm) h1 (mm) b (mm) l1 (mm) l3 (mm) f1 (mm) f1s (mm)

75°

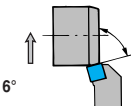
$\gamma_n = -6^\circ$
 $\lambda_s = -6^\circ$



09	PSBNR/L 1616K09	16	16	16	100	–	20,8	13	–
	PSBNR/L 2020K09	20	20	20	125	–	23,0	17	–
12	PSNR/L 1212F09	12	12	12	80	–	21,0	13	–
	PSBNR/L 2020K12	20	20	20	125	–	27,5	17	–
	PSBNR/L 2525M12	25	25	25	150	–	27,5	22	–
	PSBNR/L 3225P12	32	32	25	170	–	27,5	22	–
19	PSBNR/L 3232P19	32	32	32	170	–	39,2	27	–
	PSBNR/L 4040S19	40	40	40	250	–	41,5	35	–
25	PSBNR/L 4040S25	40	40	40	250	–	47,5	35	–
	PSBNR/L 5050T25	50	50	50	300	–	47,5	43	–

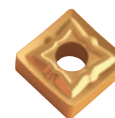
75°

$\gamma_n = -6^\circ$
 $\lambda_s = -6^\circ$



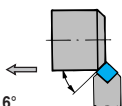
09	PSKNR/L 1616K09	16	16	16	100	–	16,5	20	–
	PSKNR/L 2020K09	20	20	20	125	–	17,4	25	–
12	PSKNR/L 2020K12	20	20	20	125	–	22,7	25	–
	PSKNR/L 2525M12	25	25	25	150	–	22,7	32	–
	PSKNR/L 3225P12	32	32	25	170	–	22,7	32	–
19	PSKNR/L 3232P19	32	32	32	170	–	37,5	40	–
	PSKNR/L 4040S19	40	40	40	250	–	32,9	50	–
25	PSKNR/L 5050T25	50	50	50	300	–	37,5	60	–

SNMA
SNMM
SNMG



45°

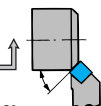
$\gamma_n = -6^\circ$
 $\lambda_s = -6^\circ$



09	PSDNN 1010E09	10	10	10	70	–	20,0	5,3	–
	PSDNN 1212E09	12	12	12	80	–	20,0	6,3	–
	PSDNN 1616H09	16	16	16	100	–	21,0	8,3	–
12	PSDNN 2020K12	20	20	20	125	–	27,6	10,3	–
	PSDNN 2525M12	25	25	25	150	–	27,6	12,8	–
	PSDNN 3225P12	32	32	25	170	–	27,6	12,8	–
19	PSDNN 3225P19	32	32	25	170	–	40,4	13,0	–
	PSDNN 3232P19	32	32	32	170	–	40,4	16,5	–
25	PSDNN 4040S25	40	40	40	250	–	48,8	21,0	–

45°

$\gamma_n = -8^\circ$
 $\lambda_s = 0^\circ$



09	PSSNR/L 1616H09	16	16	16	100	106,1	22,0	20	13,9
	PSSNR/L 2020K09	20	20	20	125	131,1	21,9	25	18,9
	PSSNR/L 2525M09	25	25	25	150	156,1	23,0	32	25,9
12	PSSNR/L 2020K12	20	20	20	125	133,3	29,3	25	17,0
	PSSNR/L 2525M12	25	25	25	150	158,3	29,3	32	24,0
	PSSNR/L 3225P12	32	32	25	170	178,3	29,3	32	24,0
15	PSSNR/L 2525M15	25	25	25	150	160,2	34,0	32	21,8
	PSSNR/L 3225P15	32	32	25	150	180,2	34,0	32	21,8
	PSSNR/L 3232P15	32	32	32	170	180,2	34,0	40	29,8
19	PSSNR/L 3232P19	32	32	32	170	182,5	41,3	40	27,9
	PSSNR/L 4040S19	40	40	40	250	262,5	41,5	50	37,9
25	PSSNR/L 4040S25	40	40	40	250	266	8,8	50	34,4

Części zamienne



Dźwignia



Śruba



Pł. podporowa



Tuleja sprężysta

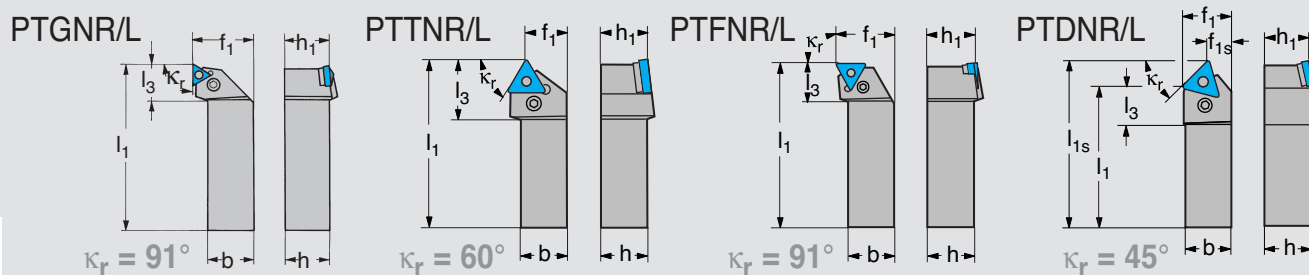


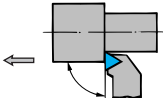
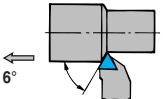
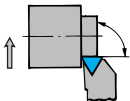
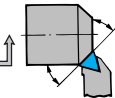
Klucz



09*	174.3-840-1	174.3-829	–	170.1-870 (1,98)
09	174.3-840M	174.3-820M	174.3-850M	170.1-860 (2,5)
12	174.3-841M	174.3-821	174.3-851M	174.1-864 (3,0)
19	174.3-842M	174.3-822M	174.3-852M	3021 010-040 (4,0)
25	174.3-844M	174.3-827	174.3-853M	3021 010-050 (5,0)

* tylko dla PSNR/L 1212F09



Zastosowanie		Oznaczenie	h (mm)	h ₁ (mm)	b (mm)	l ₁ (mm)	l _s (mm)	f ₁ (mm)		
91°  $\gamma_n = -6^\circ$ $\lambda_s = -6^\circ$	16	PTG NR/L 1616H16	16	16	16	100	20,2	20		
		PTG NR/L 2020K16	20	20	20	125	20,2	25		
		PTG NR/L 2525M16	25	25	25	150	22,2	32		
		PTG NR/L 3225P16	32	32	25	170	22,2	32		
	22	PTG NR/L 2525M22	25	25	25	150	28,7	32		
	PTG NR/L 3225P22	32	32	25	170	28,7	32			
	PTG NR/L 3232P22	32	32	32	170	28,7	40			
27		PTG NR/L 3232P27	32	32	32	170	35,2	40		
		PTG NR/L 4040S27	40	40	40	250	34	50		
60°  $\gamma_n = -6^\circ$ $\lambda_s = -6^\circ$	16	PTT NR/L 1616H16	16	16	16	100	23,4	13		
		PTT NR/L 2020K16	20	20	20	125	25,9	17		
	22	PTT NR/L 2525M22	25	25	25	150	31,9	22		
		PTT NR/L 3225P22	32	32	25	170	31,9	22		
91°  $\gamma_n = -6^\circ$ $\lambda_s = -6^\circ$	16	PTF NR/L 1616H16	16	16	16	100	19,7	20		
		PTF NR/L 2020K16	20	20	20	125	20,2	25		
		PTF NR/L 2525M16	25	25	25	150	20,2	32		
	22	PTF NR/L 2525M22	25	25	25	150	25,2	32		
		PTF NR/L 3225P22	32	32	25	170	25,2	32		
	PTF NR/L 3232P22	32	32	32	170	25,2	40			
27		PTF NR/L 3232P27	32	32	32	170	34,4	40		
		PTF NR/L 4040S27	40	40	40	250	33,2	50		
45°  $\gamma_n = -7^\circ$ $\lambda_s = 0^\circ$	22	PTD NR/L 2525M22	25	25,9	25	136	150	19,5	27	13

TNMA
TNMM
TNMG



κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Dźwignia



Śruba



Pł. podporowa



Tuleja sprężysta



Klucz



16
22
27

174.3-840M
174.3-841M
174.3-843M

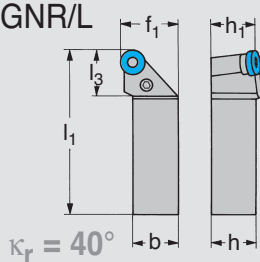
174.3-820M
174.3-821
174.3-825

179.3-850M
179.3-852M
179.3-854M

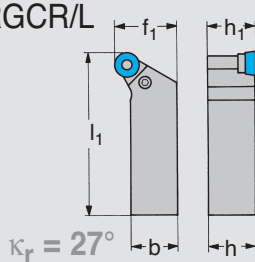
174.3-860
174.3-861
174.3-864

170.3-860 (2,5)
174.1-864 (3,0)
174.1-864 (3,0)

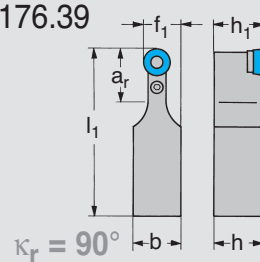
PRGNR/L



PRGCR/L



N 176.39



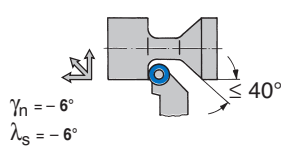
Zastosowanie



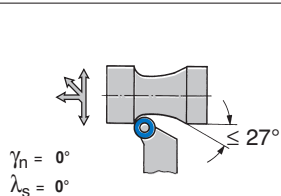
Oznaczenie

h (mm) h1 (mm) b (mm) l1 (mm) l3 (mm) ar (mm) f1 (mm)

RNMG

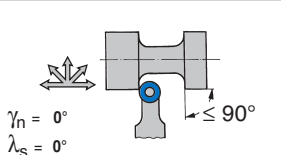


09	PRGNR/L 2020K09	20	20	20	125	20,8	–	25
12	PRGNR/L 2525M12	25	25	25	150	27,2	–	32
15	PRGNR/L 3225P15	32	32	25	170	33,2	–	32
19	PRGNR/L 3232P19	32	32	32	170	38,0	–	40
25	PRGNR/L 4040S25	40	40	40	250	41,9	–	50



10	PRGCR/L 2020K10	20	20	20	125	–	–	25
	PRGCR/L 2525M10	25	25	25	150	–	–	32
12	PRGCR/L 2020K12	20	20	20	125	–	–	25
	PRGCR/L 2525M12	25	25	25	150	–	–	32
	PRGCR/L 3225P12	32	32	25	170	–	–	32
20	PRGCR/L 3232P20	32	32	32	170	–	–	40
25	PRGCR/L 4040S25	40	40	40	250	–	–	50

RCMX



10	N 176.39-2020-10	20	20	20	150	–	25	15,0
12	N 176.39-2525-12	25	25	25	150	–	28	18,5
	N 176.39-3225-12	32	32	25	180	–	28	18,5
20	N 176.39-3232-20	32	32	32	180	–	40	26,0
25	N 176.39-4040-25	40	40	40	300	–	50	32,5

κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Dźwignia



Śruba



Pł. podporowa



Tuleja sprężysta

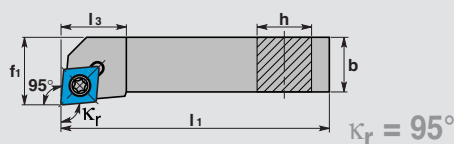


Klucz



09	174.3-840M	174.3-820M	176.3-850	174.3-863	170.3-860 (2,5)
12	174.3-841M	174.3-821	176.3-851M	174.3-861	174.1-864 (3,0)
15	174.3-843M	174.3-825	176.3-854M	174.3-864	174.1-864 (3,0)
19	174.3-842M	174.3-822M	176.3-852M	174.3-862	3021 010-040 (4,0)
25	174.3-844M	174.3-827	176.3-853M	174.3-865	3021 010-050 (5,0)
10	176.39-840	174.3-834	176.39-850	174.3-860	170.3-864 (1,98)
12	5432 005-01	174.3-820M	176.39-851	174.3-863	170.3-860 (2,5)
20	176.39-843	174.3-825	176.39-853	174.3-864	174.1-864 (3,0)
25	176.39-844	174.3-832	176.39-854	174.3-862	3021 010-040 (4,0)
10	176.39-840	174.3-834	176.39-850	174.3-860	170.3-864 (1,98)
12	5432 005-01	174.3-820M	176.39-851	174.3-863	170.3-860 (2,5)
20	176.39-843	174.3-825	176.39-853	174.3-864	174.1-864 (3,0)
25	176.39-844	174.3-832	176.39-854	174.3-862	3021 010-040 (4,0)

SCLCR/L

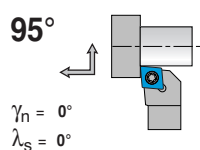


Zastosowanie



Oznaczenie

h (mm) b (mm) l_{1s} (mm) l₃ (mm) f₁ (mm)

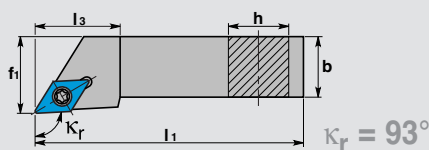


06	SCLCR/L 0808K06-S	8	8	125	8	8
	SCLCR/L 1010K06-S	10	10	125	10	10
	SCLCR/L 1212K06-S	12	12	125	12	12
	SCLCR/L 1616K06-S	16	16	125	16	16
09	SCLCR 1212F09-M	12	12	80	19,5	16
	SCLCR 1616H09	16	16	100	18	20
	SCLCR 2020K09	20	20	125	18	25
12	SCLCR 2020K12	20	20	125	25	25
	SCLCR 2525M12	25	25	150	25	32

CCMT



SDJCR/L

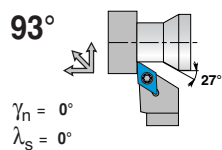


Zastosowanie



Oznaczenie

h (mm) b (mm) l₁ (mm) l₃ (mm) f₁ (mm)



07	SDJCR/L 1010E07	10	10	70	17	12
	SDJCR/L 1212F07	12	12	80	19	16
	SDJCR/L 1616H07	16	16	100	19	20
	SDJCR/L 2020K07	20	20	125	22	25
11	SDJCR/L 2020K11	20	20	125	24	25
	SDJCR/L 2525M11	25	25	150	28	32

DCMT



κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Klucz



06

09

dla -M

12

5513 020-03 (M2,5)

5513 020-01 (M3,5)

5513 020-10 (M3,5)

5513 020-18 (M4)

–

5322 232-01

–

5322 232-02

–

5512 090-01

–

5512 090-03

416.1-861 (T8)

5680 049-01 (T15/3,5)

5680 016-01 (T15/3,5)

5680 049-01 (15IP)



07

11

5513 020-03 (M2,5)

5513 020-01 (M3,5)

–

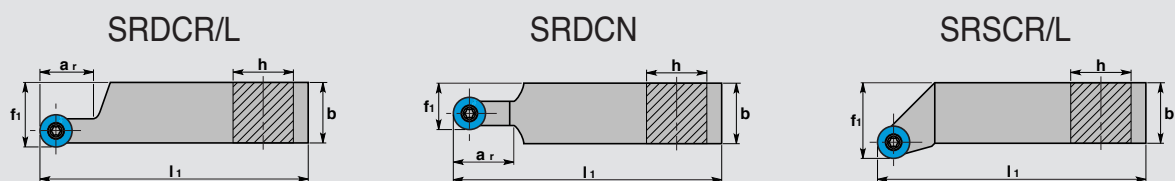
5322 263-01

–

–

5680 051-02 (7IP)

5680 049-01 (15IP)



Zastosowanie		Oznaczenie	h (mm)	b (mm)	l ₁ (mm)	a _r (mm)	f ₁ (mm)
 $\gamma_n = 0^\circ$ $\lambda_s = 0^\circ$	06	SRDCR/L 2020K06A	20	20	125	20	20,5
		SRDCR/L 3225P06A	32	25	170	20	25,5
	08	SRDCR/L 2020K08A	20	20	125	20	20,5
		SRDCR/L 2525M08A	25	25	150	20	25,5
		SRDCR/L 3225P08A	32	25	170	20	25,5
 $\gamma_n = 0^\circ$ $\lambda_s = 0^\circ$	06	SRDCN 1212F06	12	12	80	12	9
	08	SRDCN 1616H08	16	16	100	16	12
	10	SRDCN 2020K10A	20	20	125	25	15
		SRDCN 2525M10A	25	25	150	25	17,5
	12	SRDCN 2525M12A	25	25	150	28	18,5
		SRDCN 3225P12A	32	25	170	28	18,5
 $\gamma = 0^\circ$ $\lambda_s = 0^\circ$	06	SRSCR/L 3225P06	32	25	170	–	32
	08	SRSCR/L 3225P08	32	25	170	–	32
	10	SRSCR/L 2020K10	20	20	125	–	25
	12	SRSCR/L 2525M12	25	25	150	–	32
		SRSCR/L 3225P12	32	25	170	–	32

RCMT



C

κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.

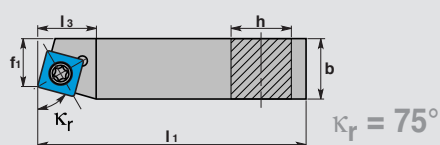


Klucz

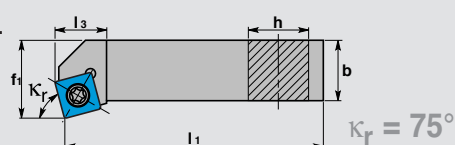


06	5513 020-05 (M2,2)	–	–	5680 051-02 (7IP)
08	5513 020-04 (M3)	–	–	5680 051-03 (9IP)
10	5513 020-10 (M3,5)	5322 110-01	5512 090-01	5680 016-01 (T15/3,5)
12	5513 020-01 (M3,5)	5322 110-02	5512 090-01	5680 016-01 (T15/3,5)

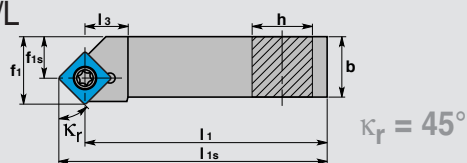
SSBCR/L



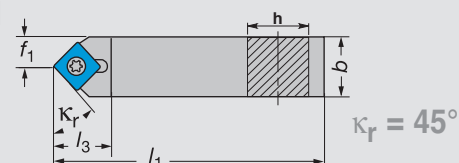
SSKCR/L



SSDCR/L



SSDCN



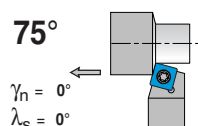
Zastosowanie



Oznaczenie

h (mm) b (mm) l1 (mm) l3 (mm) f1 (mm) l1s (mm) f1s (mm)

75°



09

SSBCR/L 1616H09

16

16

100

15,5

13

–

–

12

SSBCR/L 2020K12
SSBCR/L 2525M12

20

20

125

21

17

–

–

25

25

150

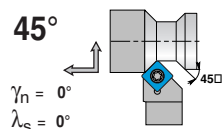
24

22

–

–

45°



09

SSDCR/L 1616H09

16

16

93,9

9,4

17

100

10,9

12

SSDCR/L 2020K09
SSDCR/L 2020K12
SSDCR/L 2525M12

20

20

118,9

12,9

22

125

15,9

20

20

116,7

15,7

22

125

13,7

25

25

141,7

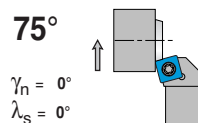
15,7

27

150

18,7

75°



09

SSKCR/L 1616H09

16

16

100

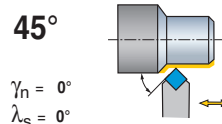
10,8

20

–

–

45°



09

SSDCN 1212F09-M
SSDCN 1616H09

12

12

80

15,5

6

–

–

16

16

100

15,5

8

–

–

κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

SCMT



Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Tuleja pł. podporowej



Klucz



09*

5513 020-10 (M3,5)

–

–

–

5680 049-01 (15IP)

09

5513 020-01 (M3,5)

5322 420-01

5512 090-01

–

5680 049-01 (15IP)

12

5513 020-18 (M4x0,5)

5322 420-02

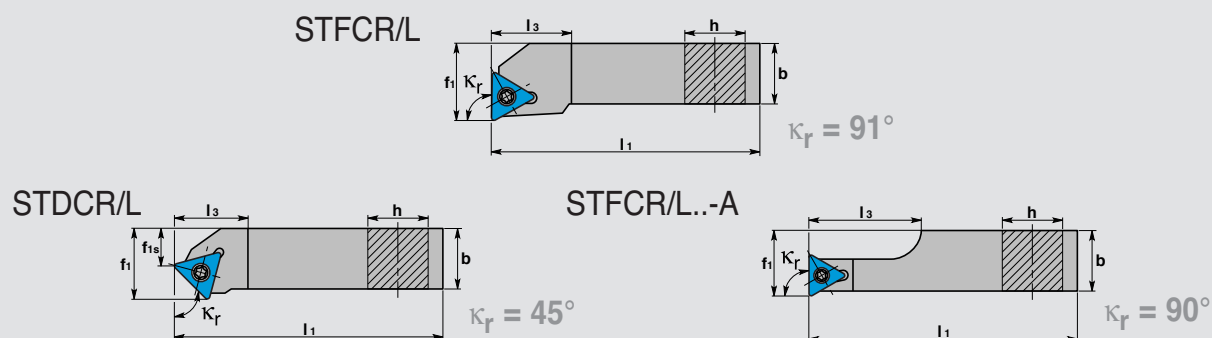
5512 090-03

–

5680 049-01 (3,5)

5680 049-02 (15IP)

5680 049-02 (4,0)



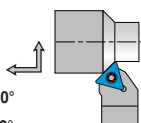
Zastosowanie



Oznaczenie

h (mm)	b (mm)	l1 (mm)	l3 (mm)	f1 (mm)	f1s (mm)
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45°

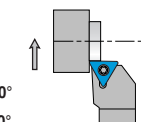
 $\gamma_n = 0^\circ$
 $\lambda_s = 0^\circ$


11

STDCR/L 1212F11
STDCR/L 1616H11

12	12	80	17,4	13	6
16	16	100	17,4	17	10

91°

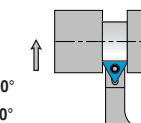
 $\gamma_n = 0^\circ$
 $\lambda_s = 0^\circ$


11

STFCR/L 1212F11
STFCR/L 1616H11
16 STFCR/L 1616H16
STFCR/L 2020K16
STFCR/L 2525M16

12	12	80	16	16	–
16	16	100	16	20	–
16	16	100	22	20	–
20	20	125	22	25	–
25	25	150	24	32	–

90°

 $\gamma_n = 0^\circ$
 $\lambda_s = 0^\circ$


11

STFCR/L 2020K11-A

20	20	125	37	20,8	–
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TCMT



C

 κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Klucz


11
16

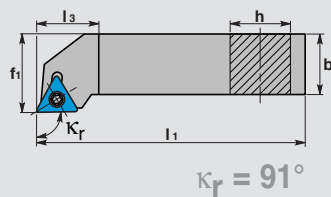
5513 020-03 (M2,5)
5513 020-01 (M3,5)

–
5322 320-01

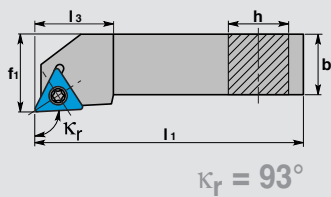
–
5512 090-01

5680 051-02 (7IP)
5680 049-01 (15IP)
5680 049-01 (3,5)

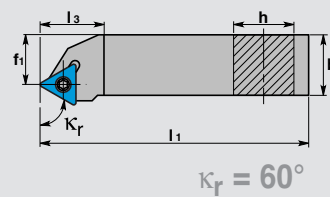
STGCR/L



STJCR



STTCR/L



Zastosowanie

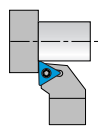


Oznaczenie

h (mm) b (mm) l1 (mm) l3 (mm) f1 (mm)

91°

$\gamma_n = 0^\circ$
 $\lambda_s = 0^\circ$



11

STGCR/L 1212F11

12 12 80 16,3 16

STGCR/L 1616H11

16 16 100 16,3 20

16

STGCR/L 1616H16

16 16 100 25 20

STGCR/L 2020K16

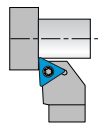
20 20 125 26 25

STGCR/L 2525M16

25 25 150 27 32

93°

$\gamma_n = 0^\circ$
 $\lambda_s = 0^\circ$



11

STJCR 1010K11-S

10 10 125 16 10

STJCR 1212K11-S

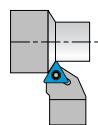
12 12 125 16 12

STJCR 1616K11-S

16 16 125 16 16

60°

$\gamma_n = 0^\circ$
 $\lambda_s = 0^\circ$



11

STTCR/L 1616H11

16 16 100 16,4 13

16

STTCR/L 1616H16

16 16 100 25 13

STTCR/L 2020K16

20 20 125 25 17

STTCR/L 2525M16

25 25 150 25 22

TCMT



κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Tuleja pł. podporowej



Klucz



11

5513 020-03 (M2,5)

–

–

5680 051-02 (7IP)

16

5513 020-01 (M3,5)

5322 320-01

5512 090-01

5680 049-01 (15IP)

5680 049-01 (3,5)

16

dla STJCR

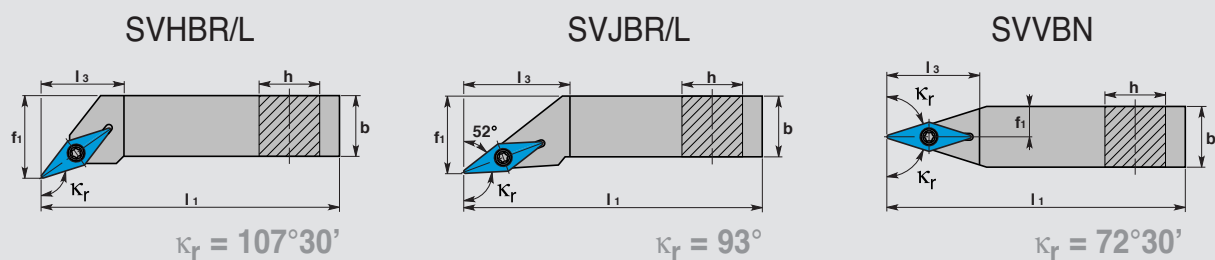
5513 020-49 (M4)

179.3-850M

–

174.3-860

5680 016-01 (T15/3,5)

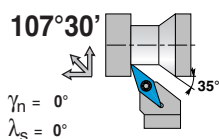


Zastosowanie



Oznaczenie

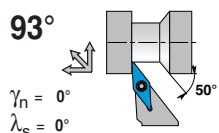
h (mm)	b (mm)	l1 (mm)	l3 (mm)	f1 (mm)
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107°30'


16

SVHBR/L 2020K16
SVHBR/L 2525M16
SVHBR/L 3225P16

20	20	125	31,5	25
25	25	150	31,5	32
32	25	170	31,5	32

93°


11

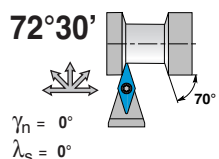
SVJBR/L 1212F11
SVJBR/L 1616H11
SVJBR/L 2020K11
SVJBR/L 2525M11

12	12	80	27	16
16	16	100	27	20
20	20	125	27	25
25	25	150	27	32

16

SVJBR/L 2020K16
SVJBR/L 2525M16
SVJBR/L 3225P16

20	20	125	31,5	25
25	25	150	31,5	32
32	25	170	31,5	32

72°30'


11

SVVBN 1212F11
SVVBN 1616H11
SVVBN 2020K11
SVVBN 2525M11

12	12	80	27	6,3
16	16	100	27	8,3
20	20	125	27	10,3
25	25	150	39,9	12,8

16

SVVBN 2020K16
SVVBN 2525M16
SVVBN 3225P16

20	20	125	31,5	10,6
25	25	150	31,5	13,1
32	25	170	31,5	13,1

VBMT



C

 κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Klucz


11
16

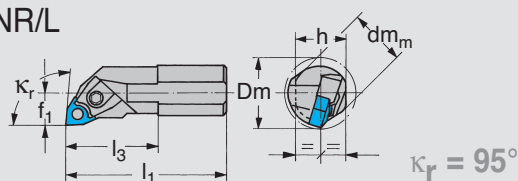
5513 020-03 (M2,5)
5513 020-01 (M3,5)

–
5322 270-01

–
5512 090-01

5680 051-02 (7IP)
5680 049-01 (15IP)
5680 049-01 (3,5)

A..-MWLNR/L

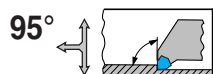


Zastosowanie



Oznaczenie

dm_m (mm)	h (mm)	l_1 (mm)	l_3 (mm)	f_1 (mm)	D_{mmin} (mm)	λ_s (°)
----------------	-------------	---------------	---------------	---------------	--------------------	--------------------



$\gamma_n = -6^\circ$
 $\lambda_s = \dots$

06

A20S-MWLNR/L 06

20

18

250

32,3

13

25

-14°

08

A25T-MWLNR/L 08

25

23

300

31,7

17

32

-12°

A32U-MWLNR/L 06

32

30

350

40,0

22

40

-14°

A25T-MWLNR/L 08

25

23

300

39,9

17

32

-14°

A32U-MWLNR/L 08

32

30

350

40,0

22

40

-14°

A40V-MWLNR/L 08

40

37

400

56,0

27

50

-12°

A50W-MWLNR/L 08

50

47

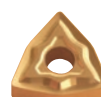
450

60,0

35

63

-10°

WNMA
WNMG


κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Docisk



Śruba



Pł. podporowa



Kolek



Klucz

06

dla A20S

5431 125-011

–

–

5313 022-02

170.3-860 (2,5)

dla A25T

5431 125-011

5512 030-03

5322 331-11

5313 022-01

170.3-864 (1,98)

dla A32U

5431 125-011

–

5322 331-06

5313 022-02

170.3-860 (2,5)

08

dla A25T

5431 125-021

–

5322 331-09

5313 022-03

174.1-864 (3,0)

dla A40V

5431 125-021

5512 030-04

5322 331-07

5313 022-03

174.1-864 (3,0)

dla A50W

5431 125-021

5512 030-04

5322 331-07

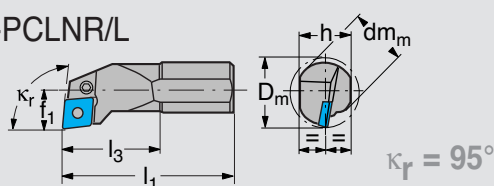
5313 022-03

174.1-863 (2,5)

174.1-864 (3,0)

174.1-863 (2,5)

A..-PCLNR/L



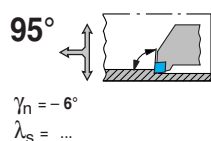
Zastosowanie



Oznaczenie

dm (mm) h (mm) l1 (mm) l3 (mm) f1 (mm) Dmmin (mm) λs (°)

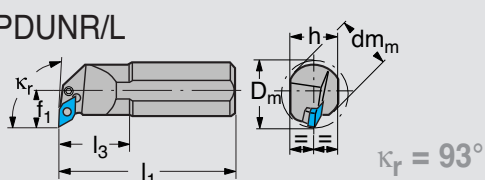
CNMA
CNMM
CNMG



12	A25T-PCLNR/L 12	25	23	300	37	17	32	-13°
	A32T-PCLNR/L 12	32	30	300	40	22	40	-11°
	A40T-PCLNR/L 12	40	37	300	56	27	50	-10°
19	A50U-PCLNR/L 19	50	47	350	63	35	63	-11°



A..-PDUNR/L



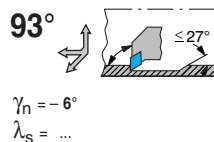
Zastosowanie



Oznaczenie

dm (mm) h (mm) l1 (mm) l3 (mm) f1 (mm) Dmmin (mm) λs (°)

DNMG



15	A40T-PDUNR/L 15	40	37	300	56	27	50	-11°
	A50U-PDUNR/L 15	50	47	350	63	35	63	-10°



κr – kąt przystawienia, γn – kąt natarcia, λs – kąt pochylenia

Części zamienne



Dźwignia



Śruba



Pł. podporowa



Tuleja sprężysta



Klucz

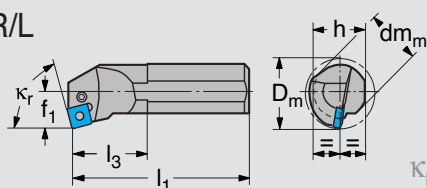


12	dla S25T	438.3-832M	174.3-832M	–	–	174.1-863 (2,5)
	dla S32U	174.3-848M	174.3-858	171.31-850M	174.3-861	174.1-864 (3,0)
	dla S40V	174.3-841M	174.3-821	171.31-850M	174.3-861	174.1-864 (3,0)
19		174.3-849M	174.3-822M	171.31-851M	174.3-868	3021 010-040 (4,0)



15		174.3-847M	174.3-830	171.35-850M		174.1-864 (3,0)
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A..-PSKNR/L



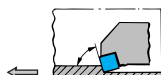
Zastosowanie



Oznaczenie

dm_m (mm) h (mm) l_1 (mm) l_3 (mm) f_1 (mm) D_{mmin} (mm) λ_s (°)

75°



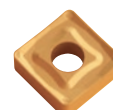
$\gamma_n = -6^\circ$
 $\lambda_s = \dots$

12

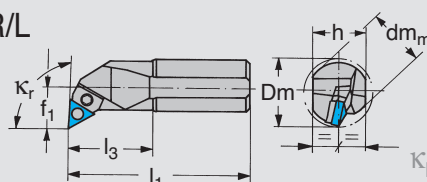
A25T-PSKNR/L 12
A32T-PSKNR/L 12
A40T-PSKNR/L 12

25	23	300	36,8	17	32	-11°
32	30	300	37,8	22	40	-10°
40	37	300	49,8	27	50	-10°

SNMA
SNMM
SNMG



A..-PTFNR/L



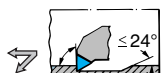
Zastosowanie



Oznaczenie

dm_m (mm) h (mm) l_1 (mm) l_3 (mm) f_1 (mm) D_{mmin} (mm) λ_s (°)

91°



$\gamma_n = -6^\circ$
 $\lambda_s = \dots$

16

A25T-PTFNR/L 16-W
S32U-PTFNR/L 16-W
S40V-PTFNR/L 16-W
S50W-PTFNR/L 16-W

25	23	300	36,8	17	32	-13°
32	30	350	45	22	40	-12°
40	37	400	49,5	27	50	-11°
50	47	450	56	35	63	-10°

22

S40V-PTFNR/L 22W
S50W-PTFNR/L 22W

40	37	400	58,9	27	50	-11°
50	47	450	65,9	35	63	-10°

TNMA
TNMM
TNMG



κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Dźwignia



Śruba



Pł. podporowa



Tuleja sprężysta



Kolek



Klucz



12

dla S25T
dla S32U
dla S40V

438.3-832M
174.3-848M
174.3-841M

174.3-832M
174.3-858
174.3-821

–
174.3-851M
174.3-851M

–
174.3-861
174.3-861

–174.3-863 (2,5)
–174.1-864 (3,0)
–174.1-864 (3,0)



16

dla S25T

170.38-823-2

5512 031-01

–

–

5313 021-01

174.1-864 (3,0)
5680 051-03 (9IP)

dla S32U, S40V

170.38-823-1

5512 031-01

170.3-852

–

5313 021-02

174.1-864 (3,0)
5680 051-03 (9IP)

dla S50W

170.38-823-1

3212 100-206

170.3-852

–

5313 021-02

174.1-864 (3,0)
174.1-870 (1,98)

22

170.38-824-1

5512 031-02

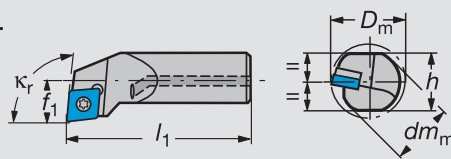
170.3-855

–

5313 021-03

3021 010-040 (4,0)
5680 049-02 (15IP)

A..-SCLCR/L

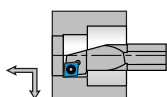

 $\kappa_r = 95^\circ$

Zastosowanie



Oznaczenie

 dm_m l_1 h f_1 D_{mmin}
(mm) (mm) (mm) (mm) (mm)

 95°
 $\gamma_n = 0^\circ$
 $\lambda_s = -5^\circ$


06

A08H-SCLCR/L 06

08

100

7

5

10

10

A10K-SCLCR/L 06

10

125

9

6

12

12

A12M-SCLCR/L 06

12

150

11

9

16

16

A16R-SCLCR/L 06

16

200

15

11

20

09

A16R-SCLCR 09

16

200

15

11

20

20

A20S-SCLCR/L 09

20

250

18

13

25

25

A25T-SCLCR/L 09

25

300

23

17

32

12

A25T-SCLCR/L 12

25

300

23

17

32

32

A32T-SCLCR/L 12

32

300

30

22

40

40

A40T-SCLCR/L 12

40

300

37

23

50

CCMT


 κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

C

Części zamienne



Docisk R



Docisk L



Śruba



Pł. podporowa



Sprężyna



Sprężyna i kołęk



Klucz



16

170.5-825

170.5-824

170.5-865

170.5-851

170.5-848

170.5-841

3021 010-040 (4,0)



06

09

09

12

12

dla 16-20

dla 25

dla 25

dla 32-40


Śruba
Screw

Pł. podporowa
Shim

Śruba
Screw

Klucz
Key

5513 020-03

5513 020-09

5513 020-10

5513 020-17

5513 020-18

–

–

–

–

5322 232-02

–

–

–

–

5512 090-03

5680 051-02 (7IP)

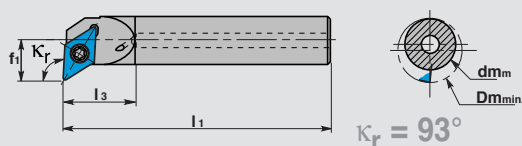
5680 049-01 (15IP)

5680 049-01 (15IP)

5680 049-02 (15IP)

5680 049-02 (15IP)

A..SDUCR/L



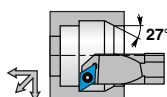
Zastosowanie



Oznaczenie

dm _m (mm)	l ₁ (mm)	l ₃ (mm)	h (mm)	f ₁ (mm)	D _{mmin} (mm)	λ _s (°)	γ _n (°)
-------------------------	------------------------	------------------------	-----------	------------------------	---------------------------	-----------------------	-----------------------

93°



07

A10K-SDUCR/L 07

10

125

19,8

9

7

13

-9°

0°

11

A12M-SDUCR/L 07

12

150

22

11

9

16

-6,5°

0°

11

A16R-SDUCR/L 07

16

200

27

15

11

20

-4°

0°

11

A20S-SDUCR/L 11

20

250

30,4

18

13

25

-5,5°

0°

11

A25T-SDUCR/L 11

25

300

46

23

17

32

-3°

0°

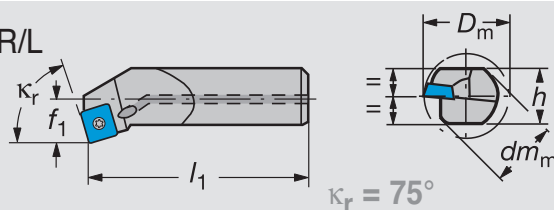
γ_n = ...
λ_s = ...

κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

DCMT



A..SSKCR/L



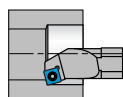
Zastosowanie



Oznaczenie

dm _m (mm)	l ₁ (mm)	h (mm)	f ₁ (mm)	D _{mmin} (mm)	λ _s (°)
-------------------------	------------------------	-----------	------------------------	---------------------------	-----------------------

75°



09

A16R-SSKCR/L 09

16

200

15

11

20

-8°

09

A20S-SSKCR/L 09

20

250

18

13

25

-6°

12

A25T-SSKCR/L 12

25

300

23

17

32

-4,5°

12

A32T-SSKCR/L 12

32

300

30

22

40

-9°

γ_n = 0°
λ_s = ...

κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

SCMT



Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Klucz



07

11

dla 20
dla 25

5513 020-03

5513 020-09

5513 020-10

–

–

–

–

–

–

5680 051-02 (7IP)

5680 049-01 (15IP)

5680 049-01 (15IP)



09

12

dla 25
dla 32

5513 020-09

5513 020-17

5513 020-18

–

–

5522 420-02

–

–

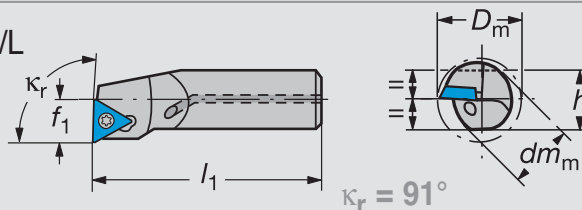
5512 090-03

5680 049-01 (15IP)

5680 049-02 (15IP)

5680 049-02 (15IP)

A..STFCR/L


 $\kappa_r = 91^\circ$

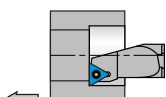
Zastosowanie



Oznaczenie

$d_{m\max}$ (mm)	l_1 (mm)	h (mm)	f_1 (mm)	$D_{m\min}$ (mm)	λ_s (°)
---------------------	---------------	-------------	---------------	---------------------	--------------------

91°


 $\gamma_n = 0^\circ$
 $\lambda_s = \dots$

11

A12M-STFCR/L 11-B1

12

150

11

9

16

-8°

16

A16R-STFCR/L 11-B1

16

200

15

11

20

-5°

A20S-STFCR/L 11-B1

20

250

18

13

25

-3°

16

A25T-STFCR/L 16

25

300

23

17

32

-3°

A32T-STFCR/L 16

32

300

30

22

32

-7°

A40T-STFCR/L 16

40

300

37

27

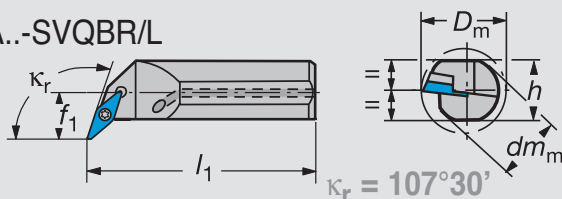
32

-4,5°

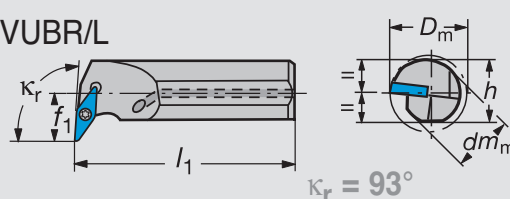
TCMT



A..SVQBR/L


 $\kappa_r = 107^\circ 30'$

A..SVUBR/L


 $\kappa_r = 93^\circ$

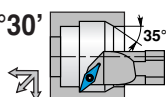
Zastosowanie



Oznaczenie

$d_{m\max}$ (mm)	l_1 (mm)	h (mm)	f_1 (mm)	$D_{m\min}$ (mm)	λ_s (°)
---------------------	---------------	-------------	---------------	---------------------	--------------------

107°30'


 $\gamma_n = 0^\circ$
 $\lambda_s = \dots$

11

A16R-SVQBR/L 11-EB1

16

200

15

13

22

-7°

16

A20S-SVQBR/L 11-EB1

20

250

18

15

27

-6°

A25T-SVQBR/L 11-DB1

25

300

23

18

33

-4°

16

A25T-SVQBR/L 16-D

25

300

23

18

33

-6°

A32U-SVQBR/L 16

32

350

30

22

40

-8°

A40V-SVQBR/L 16

40

400

37

27

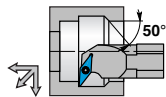
50

-8°

VBMT



93°


 $\gamma_n = 0^\circ$
 $\lambda_s = \dots$

11

A16R-SVUBR/L 11-EB1

16

200

15

13

22

-7°

16

A20S-SVUBR/L 11-EB1

20

250

18

15

27

-5°

A25T-SVUBR/L 11-DB1

25

300

23

18

33

-4°

16

A25T-SVUBR/L 16-D

25

300

23

18

33

-6,5°

A32T-SVUBR/L 16

32

300

30

22

40

-6°

A40T-SVUBR/L 16

40

300

37

27

50

-3,5°

 κ_r – kąt przystawienia, γ_n – kąt natarcia, λ_s – kąt pochylenia

Części zamienne



Śruba



Pł. podporowa



Śruba pł. podpor.



Klucz



11

16

dla 25
dla 32-40

5513 020-03

5513 020-10

5513 020-01

5322 320-01

5512 090-01

5680 051-02 (7IP)

5680 049-01 (15IP)

5680 049-01 (15IP)



11

16

dla 25
dla 32-40

5513 020-03

5513 020-10

5513 020-01

–

–

5322 270-01

–

–

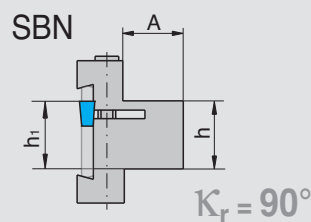
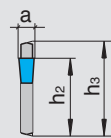
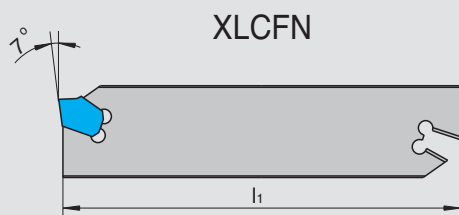
5512 090-01

5680 051-02 (7IP)

5680 049-01 (15IP)

5680 049-01 (15IP)

TOCZENIE – przecinaki listwowe XLCFN..



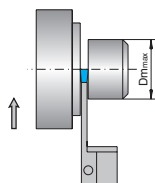
Zastosowanie



Listwa

h₃
(mm) l₁
(mm) h₂
(mm) D_{mmax}
(mm) a
(mm)

90°



2

XLCFN 1902G22
XLCFN 2602J22-FX
XLCFN 3202M22-FX

19 90 15,7 30 2,2
26 110 21,4 40 2,2
32 150 25,0 40 2,2

3

XLCFN 2603J31-FX
XLCFN 3203M31-FX

26 110 21,4 75 3,1
32 150 25,0 100 3,1

4

XLCFN 2604J41-FX
XLCFN 3204M41-FX

26 110 21,4 75 4,1
32 150 25,0 100 4,1

5

XLCFN 3205M51-FX

32 150 25,0 100 5,1

LFMX



Imak blokowy

h=h₁
(mm) A
(mm)

2

SBN 1616-19

16 16

2, 3, 4

SBN 2019-26

20 19

2, 3, 4, 5

SBN 2019-32

20 19

2, 3, 4, 5

SBN 2520-32

25 20

2, 3, 4, 5

SBN 3228-32

32 28

K_r – kąt przystawienia

Części zamienne



Płytki

Listwa

Imak blokowy



Klucz płytki



Śruba



Klucz

2	LFMX 2R	XLCFN 1902G22	SBN 1616-19	150.19-130	M520	KI 04
		XLCFN 2602J22-FX	SBN 2019-26	150.19-130	M630	KI 05
		XLCFN 3202M22-FX	SBN 2019-32	150.19-130	M630	KI 05
			SBN 2520-32	150.19-130	M630	KI 05
3	LFMX 3N	XLCFN 2603J31-FX	SBN 3228-32	150.19-130	M630	KI 05
		XLCFN 3203M31-FX	SBN 2019-26	150.19-130	M630	KI 05
			SBN 2019-32	150.19-130	M630	KI 05
			SBN 2520-32	150.19-130	M630	KI 05
4	LFMX 4N	XLCFN 2604J41-FX	SBN 3228-32	150.19-130	M630	KI 05
		XLCFN 3204M41-FX	SBN 2019-26	150.19-130	M630	KI 05
			SBN 2019-32	150.19-130	M630	KI 05
			SBN 2520-32	150.19-130	M630	KI 05
5	LFMX 5N	XLCFN 3205M51-FX	SBN 3228-32	150.19-130	M630	KI 05
			SBN 2019-32	150.19-130	M630	KI 05
			SBN 2520-32	150.19-130	M630	KI 05
			SBN 3228-32	150.19-130	M630	KI 05