





**Technical information**  
**Information technique**  
**Technische Auskunft**

**C02**

**Code Key**  
**Système de codification**  
**Kodifizierungs-System**

**C03**

**Applications**  
**Applications**  
**Anwendungen**

**C04**

**Top Clamping boring bars**  
...  
...

**C06**

**Dimple lock boring bars**  
...  
...

**C07**

**Double lock boring bars**  
...  
...

**C08**

**Lever lock boring bars**  
...  
...

**C10**

**Center screw boring bars**  
...  
...

**C15**

**Anti-Vibration tools**  
...  
...

**C25**

**Kits**  
**Ensembles**  
**Sätze**

**C30**

**Cutting data**  
**Conditions de coupe**  
**Schnittdaten**

**C33**

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

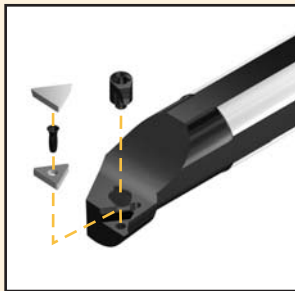
Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

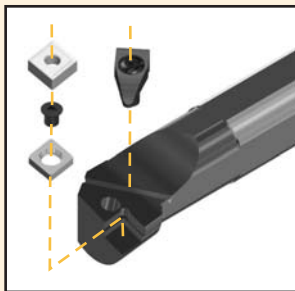


**(C) Top clamp**

The classic positive insert clamping system is designed to hold flat positive inserts, both with additional or sintered chipbreaker.

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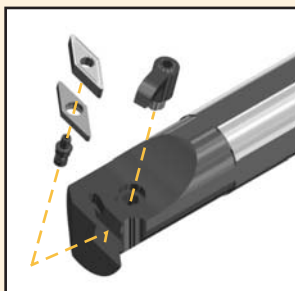


**(D) Dimple lock**

The "D" clamping system avoid insert movement during high feed or heavily interrupted machining, due to its accurate indexing that holds the insert securely clamped.

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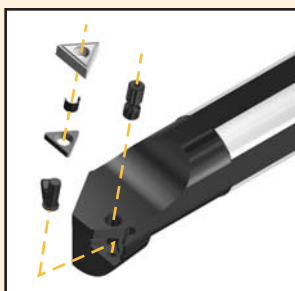


**(M-K) Double lock**

The double lock system offers good rigidity in negative inserts clamping, it is the first choice for center hole negative ceramic and cermet inserts.

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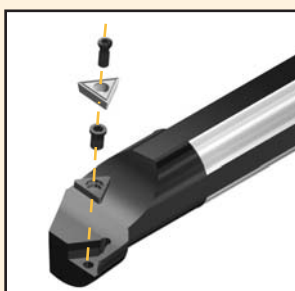


**(P) Lever lock**

The classic lever lock system allows a wide range of applications, it is the first choice for general purpose turning boring bars.

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**(S) Center screw**

Since the advent of the TORX screw it has been possible to hold with complete safety positive inserts with center hole. Our range covers all the screw fixing permutations.

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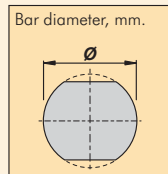
**S 25 T S D U C R 11 - EX**

1 2 3 4 5 6 7 8 9 10

**1**

Type of bar			
<b>A</b>	Steel shank with internal coolant.		
<b>H</b>	Anti-vibration shank (Heavy metal)		
<b>J</b>	Anti-vibration shank (heavy metal) with internal coolant		
<b>S</b>	Steel shank		

**2**

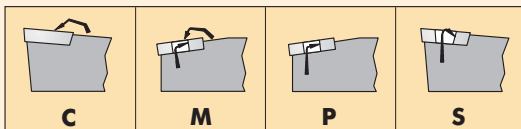


**3**

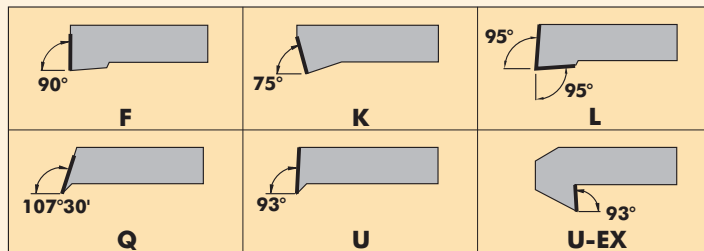
Bar length, mm.

<b>H</b>	100	<b>T</b>	300
<b>J</b>	110	<b>U</b>	350
<b>K</b>	125	<b>V</b>	400
<b>L</b>	140	<b>W</b>	450
<b>M</b>	150	<b>Y</b>	500
<b>Q</b>	180	<b>X</b>	Special
<b>R</b>	200		
<b>S</b>	250		

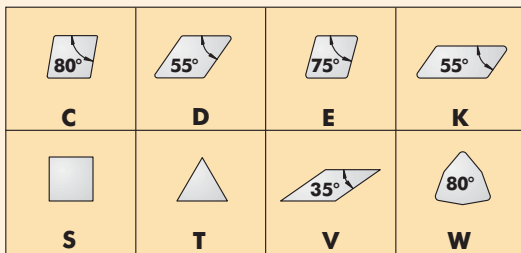
**4**



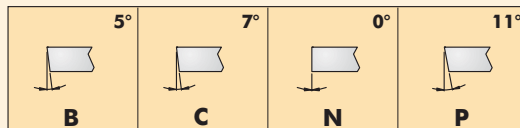
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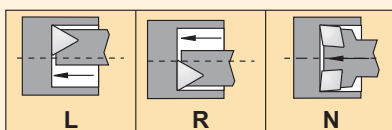
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**7**



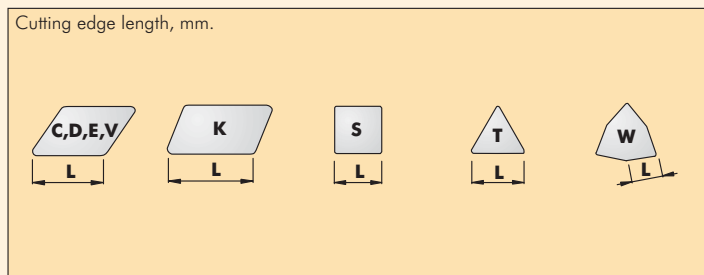
**8**



**10**

Manufacturer's option

**9**



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

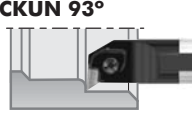
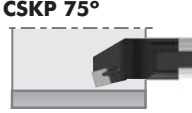
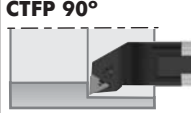
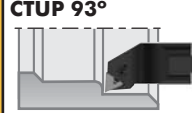
Solid carbide

Boring heads

Arbors & adaptors

Inserts

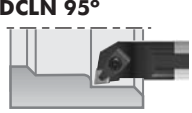
Top Clamping boring bars - ... - ...

<p><b>CKUN 93°</b></p>  <p>Page C.06 KNUX 1604..</p>	<p><b>CSPK 75°</b></p>  <p>Page C.06 SP.. 0903.. SP.. 1203.. SP.. 1904..</p>	<p><b>CTFP 90°</b></p>  <p>Page C.06 TP.. 0902.. TP.. 1103.. TP.. 1603.. TP.. 2204..</p>	<p><b>CTUP 93°</b></p>  <p>Page C.07 TP.. 0902.. TP.. 1103.. TP.. 1603.. TP.. 2204..</p>		
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Turning

Automatic lathes

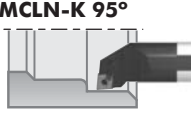
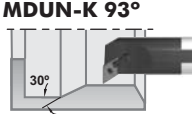
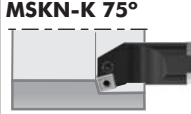
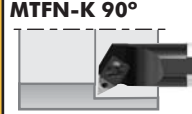
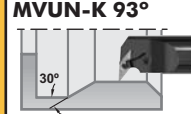
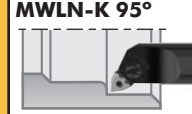
Dimple lock boring bars - ... - ...

<p><b>DCLN 95°</b></p>  <p>Page C.07 CN.. 1204..</p>	<p><b>DDUN 93°</b></p>  <p>Page C.07 CN.. 1506..</p>				
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Ceramic tools

Parting & grooving

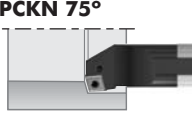
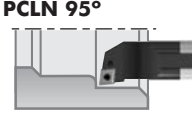
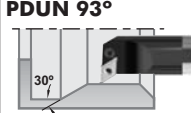
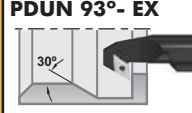
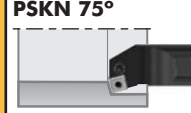
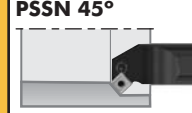
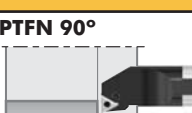

Double lock boring bars - ... - ...

<p><b>MCLN-K 95°</b></p>  <p>Page C.08 CN.. 1204..</p>	<p><b>MDUN-K 93°</b></p>  <p>Page C.08 DN.. 1506..</p>	<p><b>MSKN-K 75°</b></p>  <p>Page C.08 SNM.. 1204..</p>	<p><b>MTFN-K 90°</b></p>  <p>Page C.09 TNM.. 1604.. TNM.. 2204..</p>	<p><b>MVUN-K 93°</b></p>  <p>Page C.09 VN.. 1604..</p>	<p><b>MWLN-K 95°</b></p>  <p>Page C.09 WNM.. 0604.. WNM.. 0804..</p>
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Threading

Drills

Lever lock boring bars - ... - ...

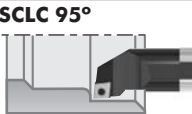
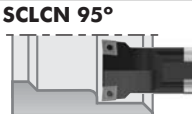
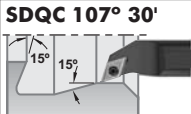
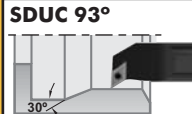
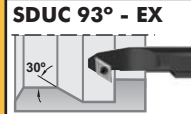
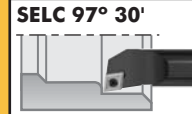
<p><b>PCKN 75°</b></p>  <p>Page C.10 CN.. 1204.. CN.. 1606.. CN.. 1906..</p>	<p><b>PCLN 95°</b></p>  <p>Page C.10 CN.. 0903.. CN.. 1204.. CN.. 1606.. CN.. 1906..</p>	<p><b>PDUN 93°</b></p>  <p>Page C.11 DN.. 1104.. DN.. 1506..</p>	<p><b>PDUN 93°- EX</b></p>  <p>Page C.11 DN.. 1506..</p>	<p><b>PSKN 75°</b></p>  <p>Page C.12 SNM.. 1204.. SNM.. 1906..</p>	<p><b>PSSN 45°</b></p>  <p>Page C.12 SNM.. 1204..</p>
<p><b>PTFN 90°</b></p>  <p>Page C.13 TNM.. 1604.. TNM.. 2204..</p>	<p><b>PWLN 95°</b></p>  <p>Page C.14 WNM.. 0604.. WNM.. 0804..</p>				

Brazed tools

Milling cutters

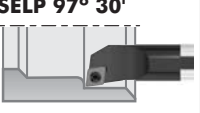
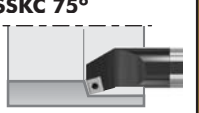
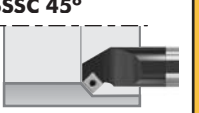
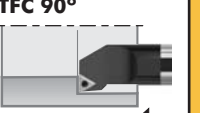
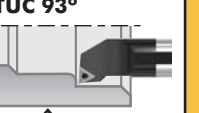
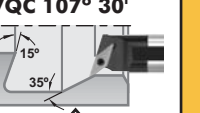
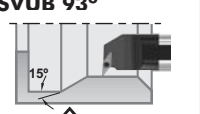
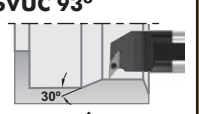
Solid carbide

Center screw boring bars - ... - ...


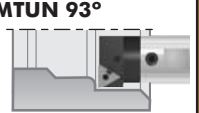
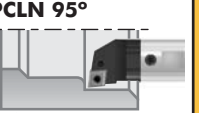
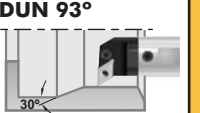
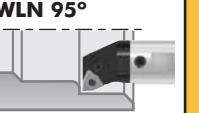
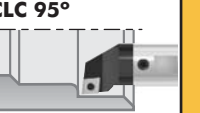
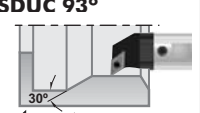
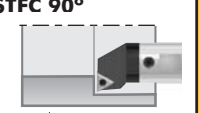
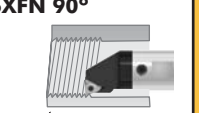
<p><b>SCLC 95°</b></p>  <p>Page C.15 CC.. 0602 CC.. 09T3.. CC.. 1204..</p>	<p><b>SCLCN 95°</b></p>  <p>Page C.17 CC.. 0602 CC.. 09T3.. CC.. 1204..</p>	<p><b>SDQC 107° 30'</b></p>  <p>Page C.17 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDUC 93°</b></p>  <p>Page C.18 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDUC 93° - EX</b></p>  <p>Page C.19 DC.. 0702.. DC.. 11T3..</p>	<p><b>SELC 97° 30'</b></p>  <p>Page C.20 ECMT.. 0602.. ECMT.. 0803..</p>
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Boring heads








Arbors & adaptors

<p><b>SELP 97° 30'</b></p>  <p>Page C.20 EPM.. 0402.. EPM.. 0803..</p>	<p><b>SSKC 75°</b></p>  <p>Page C.20 SC.. 09T3.. SC.. 1204..</p>	<p><b>SSSC 45°</b></p>  <p>Page C.21 SC.. 09T3..</p>	<p><b>STFC 90°</b></p>  <p>Page C.21 TC.. 0902.. TC.. 1102.. TC.. 16T3..</p>	<p><b>STUC 93°</b></p>  <p>Page C.22 TC.. 1102.. TC.. 16T3..</p>	<p><b>SVQC 107° 30'</b></p>  <p>Page C.23 VC.. 1103.. VC.. 1303.. VC.. 1604..</p>
<p><b>SVUB 93°</b></p>  <p>Page C.23 VBMT.. 1604..</p>	<p><b>SVUC 93°</b></p>  <p>Page C.24 VC.. 1103.. VC.. 1604..</p>				

Anti-vibration tools - ... - ...

<p><b>JX</b></p>  <p>Page C.25</p>	<p><b>MTUN 93°</b></p>  <p>Page C.26 TNM.. 1604.. TNM.. 2204..</p>	<p><b>PCLN 95°</b></p>  <p>Page C.26 CN.. 1204.. CN.. 1606..</p>	<p><b>PDUN 93°</b></p>  <p>Page C.26 DN.. 1506..</p>	<p><b>PWLN 95°</b></p>  <p>Page C.27 WNM.. 0804..</p>	<p><b>SCLC 95°</b></p>  <p>Page C.27 CC.. 09T3.. CC.. 1204..</p>
<p><b>SDUC 93°</b></p>  <p>Page C.27 DC.. 11T3..</p>	<p><b>STFC 90°</b></p>  <p>Page C.28 TC.. 16T3..</p>	<p><b>SXFN 90°</b></p>  <p>Page C.28 16 NR/L.. 22 NR/L..</p>			

Kits - Ensembles - Sätze

<p><b>KIT SCLC 95°</b></p>  <p>Page C.30 CC.. 0602..</p>	<p><b>KIT SDQC 107° 30'</b></p>  <p>Page C.30 CN.. 1506..</p>	<p><b>KIT SDUC 93°</b></p>  <p>Page C.30 DC.. 0702..</p>	<p><b>KIT STFC 90°</b></p>  <p>Page C.31 TC.. 1102..</p>	<p><b>KIT MT-12</b></p>  <p>Page C.32</p>	<p><b>KIT MT-16</b></p>  <p>Page C.32</p>
<p><b>KIT MT</b></p>  <p>Page C.32</p>					

- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

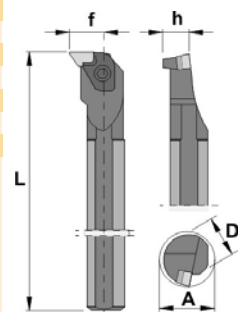


Inserts

**CKUN 93°**



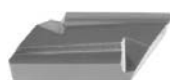
REF.	D	h	L	f	A	KNUX	
S25T CKUN L 16	25	11,5	300	20,5	37	1604..	237 169 504 495 421 - -
S32U CKUN L 16	32	15,0	350	22,0	39	1604..	237 169 504 495 422 246 403
S40V CKUN L 16	40	18,5	400	27,0	48	1604..	237 169 504 495 424 246 403
S50W CKUN L 16	50	23,5	450	35,0	61	1604..	237 169 504 495 424 246 403
S25T CKUN R 16	25	11,5	300	20,5	37	1604..	246 169 504 495 421 - -
S32U CKUN R 16	32	15,0	350	22,0	39	1604..	246 169 504 495 422 328 403
S40V CKUN R 16	40	18,5	400	27,0	48	1604..	246 169 504 495 424 328 403
S50W CKUN R 16	50	23,5	450	35,0	61	1604..	246 169 504 495 424 328 403



Turning

Automatic lathes

Ceramic tools



REF.	l	s	d
KNUX 1604..	16,00	4,76	9,52



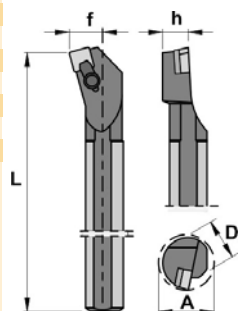
For more information see page: A.45

Parting & grooving

**CKSP 75°**



REF.	D	h	L	f	A	SP.	
S16R CSKP R/L 09	16	7,5	200	11	20	0903..	207 525 - -
S20S CSKP R/L 09	20	9,0	250	13	24	0903..	207 525 - -
S25T CSKP R/L 12	25	11,5	300	17	31	1203..	209 503 - -
S32U CSKP R/L 12	32	15,0	350	22	39	1203..	209 503 314 402
S40V CSKP R/L 12	40	18,5	400	27	48	1203..	229 503 314 402
S50W CSKP R/L 12	50	23,5	450	35	61	1203..	229 503 314 402
S50W CSKP R/L 19	50	23,5	450	35	61	1904..	231 504 320 403



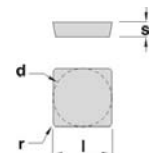
Threading

Drills

Cartridges



REF.	l	s	d
SP. 0903..	9,52	3,18	9,52
SP. 1203..	12,70	3,18	12,70
SP. 1904..	19,05	4,76	19,05



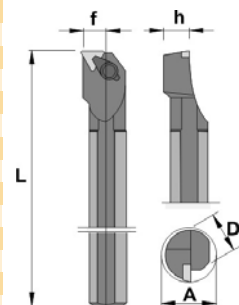
For more information see page: A.51

Brazed tools

**CTFP 90°**



REF.	D	h	L	f	A	TP.	
S10M CTFP R/L 09	10	4,5	150	7	13	0902..	200 545 - -
S12M CTFP R/L 09	12	5,5	150	9	16	0902..	200 545 - -
S12M CTFP R/L 11	12	5,5	150	9	16	1103..	234 525 - -
S16R CTFP R/L 11	16	7,5	200	11	20	1103..	207 525 - -
S20S CTFP R/L 11	20	9,0	250	13	24	1103..	207 525 - -
S16R CTFP R/L 16	16	7,5	200	11	20	1603..	210 503 - -
S20S CTFP R/L 16	20	9,0	250	13	24	1603..	210 503 - -
S25T CTFP R/L 16	25	11,5	300	17	31	1603..	209 503 - -
S32U CTFP R/L 16	32	15,0	350	22	39	1603..	229 503 317 402
S40V CTFP R/L 16	40	18,5	400	27	48	1603..	229 503 317 402
S50W CTFP R/L 16	50	23,5	450	35	61	1603..	229 503 317 402
S40V CTFP R/L 22	40	18,5	400	27	48	2204..	231 504 324 403
S50W CTFP R/L 22	50	23,5	450	35	61	2204..	231 504 324 403



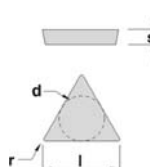
Milling cutters

Solid carbide

Boring heads



REF.	l	s	d
TP. 0902..	9,62	2,38	5,55
TP. 1103..	11,00	3,18	6,35
TP. 1603..	16,50	3,18	9,52
TP. 2204..	22,00	4,76	12,70



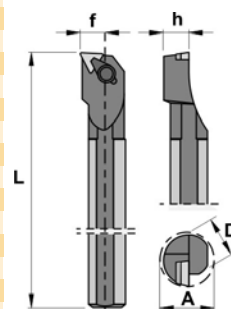
For more information see page: A.54,55

Arbors & adaptors

**CTUP 93°**



REF.	D	h	L	f	A	TP..				
S10M CTUP R/L 09	10	4,5	150	7	13	0902..	200	545	-	-
S12M CTUP R/L 09	12	5,5	150	9	16	0902..	200	545	-	-
S12M CTUP R/L 11	12	5,5	150	9	16	1103..	234	525	-	-
S16R CTUP R/L 11	16	7,5	200	11	20	1103..	207	525	-	-
S20S CTUP R/L 11	20	9,0	250	13	24	1103..	207	525	-	-
S16R CTUP R/L 16	16	7,5	200	11	20	1603..	210	503	-	-
S20S CTUP R/L 16	20	9,0	250	13	24	1603..	210	503	-	-
S25T CTUP R/L 16	25	11,5	300	17	31	1603..	209	503	-	-
S32U CTUP R/L 16	32	15,0	350	22	39	1603..	229	503	317	402
S40V CTUP R/L 16	40	18,5	400	27	48	1603..	229	503	317	402
S50W CTUP R/L 16	50	23,5	450	35	61	1603..	229	503	317	402
S40V CTUP R/L 22	40	18,5	400	27	48	2204..	231	504	324	403
S50W CTUP R/L 22	50	23,5	450	35	61	2204..	231	504	324	403



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

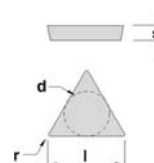
Solid carbide

Boring heads

Arbors & adaptors



REF.	l	s	d
TP. 0902..	9,52	2,38	5,55
TP. 1103..	11,00	3,18	6,35
TP. 1603..	16,50	3,18	9,52
TP. 2204..	22,00	4,76	12,70

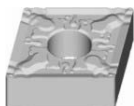
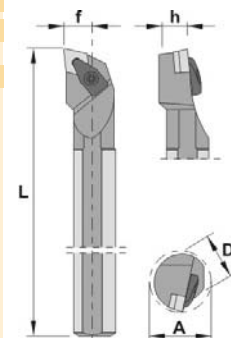


For more information see page: A.54,55

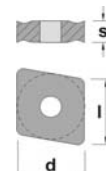
**DCLN 95°**



REF.	D	h	L	f	A	CN..						
S25T DCLN R/L 12	25	11,5	300	17	31	1204..	ICSN-432	193	242	487	495	504
S32U DCLN R/L 12	32	15,0	350	22	39	1204..	ICSN-432	471	242	487	495	504
S40V DCLN R/L 12	40	18,5	400	27	48	1204..	ICSN-432	470	242	487	495	504



REF.	l	s	d
CN.. 1204..	12,90	4,76	12,70

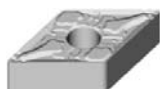
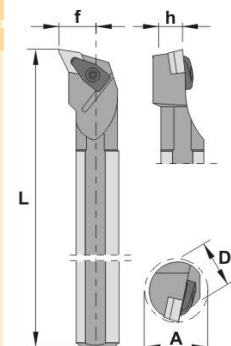


For more information see page: A.39,40

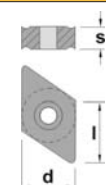
**DDUN 93°**



REF.	D	h	L	f	A	DN..						
S32U DDUN R/L 15	32	15,0	350	22	39	1506..	IDSN-432	471	242	487	495	504
S40V DDUN R/L 15	40	18,5	400	27	48	1506..	IDSN-432	470	242	487	495	504



REF.	l	s	d
DN.. 1506..	15,50	6,35	12,70



For more information see page: A.41,42,43



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

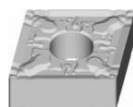
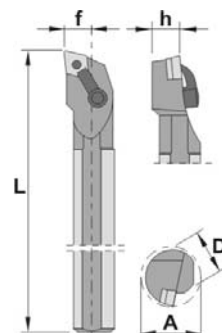
Boring heads

Arbors & adaptors

**MCLN-K 95°**



REF.	D	h	L	f	A	CN..						
<b>S25T MCLN R/L 12-K</b>	25	11,5	300	17	31	1204..	221	167	503	ICSN-432	443	525
<b>S23U MCLN R/L 12-K</b>	32	15,0	350	22	39	1204..	221	165	503	ICSN-432	446	525
<b>S40V MCLN R/L 12-K</b>	40	18,5	400	27	48	1204..	221	165	503	ICSN-432	446	525



REF.	l	s	d
<b>CN.. 1204..</b>	12,09	4,76	12,70

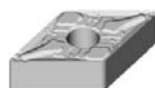
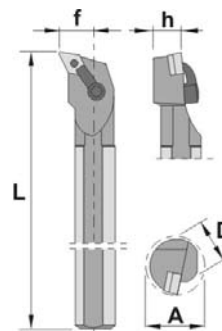


For more information see page: A.39,40

**MDUN-K 93°**



REF.	D	h	L	f	A	DN..						
<b>S25T MDUN R/L 15-K</b>	25	11,5	300	17	31	1506..	222	167	503	IDSN-432	443	525
<b>S23U MDUN R/L 15-K</b>	32	15,0	350	22	39	1506..	222	165	503	IDSN-432	456	525
<b>S40V MDUN R/L 15-K</b>	40	18,5	400	27	48	1506..	222	165	503	IDSN-432	456	525



REF.	l	s	d
<b>DN.. 1506..</b>	15,50	6,35	12,70

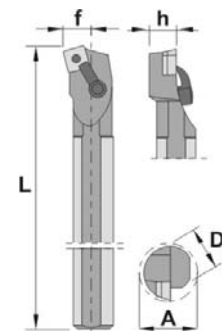


For more information see page: A.41,42,43

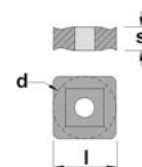
**MSKN-K 75°**



REF.	D	h	L	f	A	SN..						
<b>S32U MSKN R/L 12-K</b>	32	15,0	350	22	39	1204..	221	165	503	ISSN-432	446	525
<b>S40V MSKN R/L 12-K</b>	40	18,5	400	27	48	1204..	221	165	503	ISSN-432	446	525



REF.	l	s	d
<b>SN.. 1204..</b>	12,70	4,76	12,70

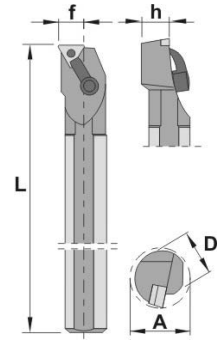


For more information see page: A.49,50

**MTFN-K 90°**



REF.	D	h	L	f	A	TN..						
<b>S25T MTFN R/L 16-K</b>	25	11,5	300	17	31	1604..	221	165	503	ITSN-322	434	502
<b>S23U MTFN R/L 16-K</b>	32	15,0	350	22	39	1604..	221	165	503	ITSN-322	434	502
<b>S40V MTFN R/L 16-K</b>	40	18,5	400	27	48	1604..	221	165	503	ITSN-322	434	502



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

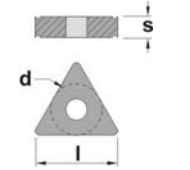
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

REF.	l	s	d
<b>TN.. 1604..</b>	16,50	4,76	9,52

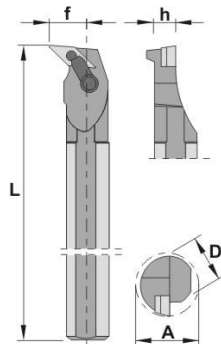


For more information see page: A.52,53,54

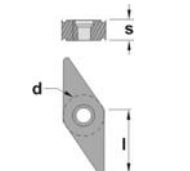
**MVUN-K 93°**



REF.	D	h	L	f	A	VN..						
<b>S25T MVUN R/L 16-K</b>	25	11,5	300	17	31	1604..	222	503	IVSN-322	167	434	502
<b>S23U MVUN R/L 16-K</b>	32	15,0	350	22	39	1604..	222	503	IVSN-322	165	434	502
<b>S40V MVUN R/L 16-K</b>	40	18,5	400	27	48	1604..	222	503	IVSN-322	165	434	502



REF.	l	s	d
<b>VN.. 1604..</b>	15,50	4,76	9,52

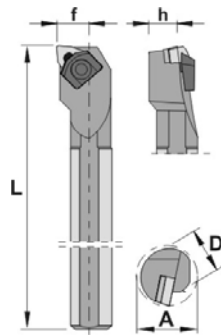


For more information see page: A.56

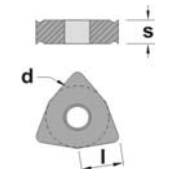
**MWLN-K 95°**



REF.	D	h	L	f	A	WN..					
<b>S25T MWLN R/L 08-K</b>	25	11,5	300	17	31	0804..	208	IWSN-432	457	525	494
<b>S32U MWLN R/L 08-K</b>	32	15,0	350	22	39	0804..	208	IWSN-432	461	525	494
<b>S40V MWLN R/L 08-K</b>	40	18,5	400	27	48	0804..	208	IWSN-432	461	525	494
<b>S50W MWLN R/L 08-K</b>	50	23,5	450	35	61	0804..	208	IWSN-432	461	525	494



REF.	l	s	d
<b>WN.. 0804..</b>	8,14	4,76	12,70



For more information see page: A.57,58

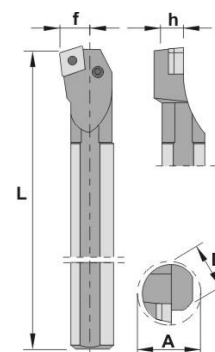


Inserts

**PCKN 75°**



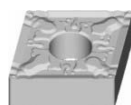
REF.	D	h	L	f	A	CN..	[Icons: Boring bar, Drill, Milling cutter, Tap, Reamer]					
<b>S25T PCKN R/L 12</b>	25	11,5	300	17	31	1204..	832	171	525	-	-	-
<b>S32U PCKN R/L 12</b>	32	15,0	350	22	39	1204..	842	173	503	302	412	002
<b>S40V PCKN R/L 12</b>	40	18,5	400	27	48	1204..	812	163	503	302	412	002
<b>S50W PCKN R/L 16</b>	50	23,5	450	35	61	1606..	816	170	503	366	415	005
<b>S50W PCKN R/L 19</b>	50	23,5	450	35	61	1906..	819	164	504	369	419	029



Turning

Automatic lathes

Ceramic tools



REF.	l	s	d
<b>CN.. 1204..</b>	12,90	4,76	12,70
<b>CN.. 1606..</b>	16,10	6,35	15,88
<b>CN.. 1906..</b>	19,30	6,35	19,05



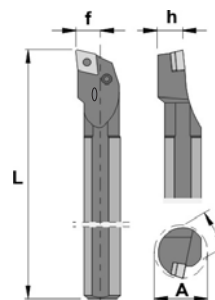
For more information see page: A.39,40

Parting & grooving

**A-PCLN 95°**



REF.	D	h	L	f	A	CN..	[Icons: Boring bar, Drill, Milling cutter, Tap, Reamer]					
<b>A16M PCLN R/L 09</b>	16	7,5	150	11	20	0903..	805	161	502	-	-	-
<b>A20Q PCLN R/L 09</b>	20	9,0	180	13	25	0903..	805	161	502	-	-	-
<b>A25R PCLN R/L 12</b>	25	11,5	200	17	31	1204..	832	171	525	-	-	-
<b>A32S PCLN R/L 12</b>	32	15,0	250	22	39	1204..	832	173	503	302	412	002
<b>A40T PCLN R/L 12</b>	40	18,5	300	27	48	1204..	832	163	503	302	412	002



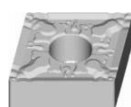
Threading

Drills



**Characteristics:**  
Boring bars with internal coolant.

Cartridges



REF.	l	s	d
<b>CN.. 0903..</b>	9,65	3,18	9,52
<b>CN.. 1204..</b>	12,90	4,76	12,70
<b>CN.. 1606..</b>	16,10	6,35	15,88
<b>CN.. 1906..</b>	19,30	6,35	19,05



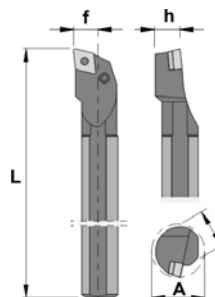
For more information see page: A.39,40

Brazed tools

**PCLN 95°**



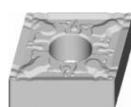
REF.	D	h	L	f	A	CN..	[Icons: Boring bar, Drill, Milling cutter, Tap, Reamer]					
<b>S16R PCLN R/L 09</b>	16	7,5	200	11	37	0903..	805	161	502	-	-	-
<b>S20S PCLN R/L 09</b>	20	9,0	250	13	39	0903..	805	161	502	-	-	-
<b>S25T PCLN R/L 09</b>	25	11,5	300	17	48	0903..	809	171	525	368	409	009
<b>S25T PCLN R/L 12</b>	25	11,5	300	17	61	1204..	832	171	525	-	-	-
<b>S32U PCLN R/L 12</b>	32	15,0	350	22	37	1204..	842	173	503	302	412	002
<b>S40V PCLN R/L 12</b>	40	18,5	400	27	39	1204..	812	163	503	302	412	002
<b>S50W PCLN R/L 16</b>	50	23,5	450	35	48	1606..	816	170	503	366	415	005
<b>S50W PCLN R/L 19</b>	50	23,5	450	35	61	1606..	839	180	504	369	429	029



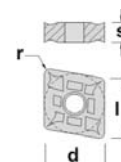
Milling cutters

Solid carbide

Boring heads



REF.	l	s	d
<b>CN.. 0903..</b>	9,65	3,18	9,52
<b>CN.. 1204..</b>	12,90	4,76	12,70
<b>CN.. 1606..</b>	16,10	6,35	15,88



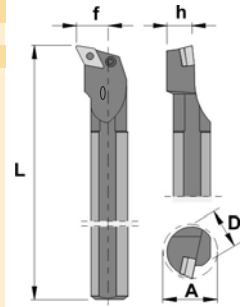
For more information see page: A.39,40

Arbors & adaptors

**A-PDUN 93°**



REF.	D	h	L	f	A	DN..	[Icons]					
<b>A25R PDUN R/L 11</b>	25	11,5	200	17	31	1104..	809	162	525	311	409	009
<b>A32S PDUN R/L 15</b>	32	15,0	250	22	39	1506..	845	173	503	305	412	002
<b>A40T PDUN R/L 15</b>	40	18,5	300	27	48	1506..	845	172	503	305	412	002



**Characteristics:**  
Boring bars with internal coolant.

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

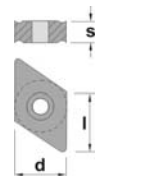
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

REF.	l	s	d
<b>DN.. 1104..</b>	11,60	4,76	9,52
<b>DN.. 1504..</b>	15,50	4,76	12,70
<b>DN.. 1506..</b>	15,50	6,35	12,70

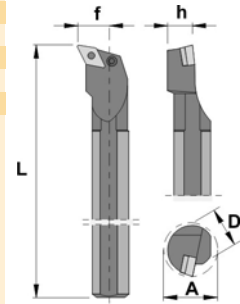


For more information see page: A.41,42,43

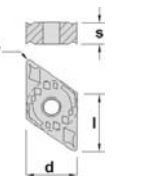
**PDUN 93°**



REF.	D	h	L	f	A	DN..	[Icons]					
<b>S25T PDUN R/L 11</b>	25	11,5	300	17	32	1104..	809	162	525	311	409	009
<b>S32U PDUN R/L 11</b>	32	15,0	350	22	40	1104..	809	162	525	311	409	009
<b>S32U PDUN R/L 15</b>	32	15,0	350	22	39	1506..	845	173	503	305	412	002
<b>S40V PDUN R/L 15</b>	40	18,0	400	27	48	1506..	845	172	503	305	412	002
<b>S50W PDUN R/L 15</b>	50	23,5	450	35	61	1506..	845	172	503	305	412	002



REF.	l	s	d
<b>DN.. 1104..</b>	11,60	4,76	9,52
<b>DN.. 1506..</b>	15,50	6,35	12,70

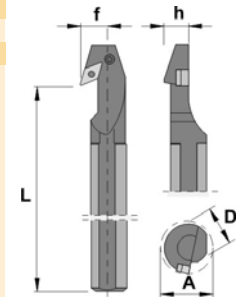


For more information see page: A.41,42,43

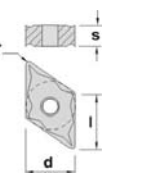
**PDUN 93°-EX**



REF.	D	h	L	f	A	DN..	[Icons]					
<b>S32U PDUN R/L 15-EX</b>	32	15,0	350	22	39	1506..	845	173	503	-	-	-
<b>S40V PDUN R/L 15-EX</b>	40	18,5	400	27	48	1506..	845	172	503	305	412	002
<b>S50W PDUN R/L 15-EX</b>	50	23,5	450	35	61	1506..	845	172	503	305	412	002



REF.	l	s	d
<b>DN.. 1506..</b>	15,50	6,35	12,70



For more information see page: A.41,42,43

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

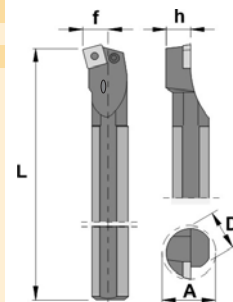
### A-PSKN 75°



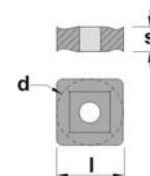
REF.	D	h	L	f	A	SN..									
<b>A25R PSKN R/L 12</b>	25	11,5	200	17	31	1204..	832	171	525	-	-	-			
<b>A32S PSKN R/L 12</b>	32	15,0	250	22	39	1204..	842	173	503	313	412	002			
<b>A40T PSKN R/L 12</b>	40	18,5	300	27	48	1204..	812	163	503	313	412	002			



**Characteristics:**  
Boring bars with internal coolant.



REF.	l	s	d
<b>SN.. 1204..</b>	12,70	4,76	12,70
<b>SN.. 1906..</b>	19,05	6,35	19,05

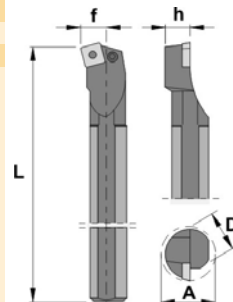


For more information see page: A.49,50

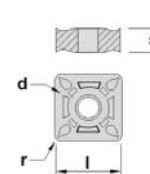
### PSKN 75°



REF.	D	h	L	f	A	SN..									
<b>S25T PSKN R/L 12</b>	25	11,5	300	17	31	1204..	832	171	525	-	-	-			
<b>S32U PSKN R/L 12</b>	32	15,0	350	22	39	1204..	842	173	503	313	412	002			
<b>S40V PSKN R/L 12</b>	40	18,5	400	27	48	1204..	812	163	503	313	412	002			
<b>S50W PSKN R/L 19</b>	50	23,5	450	35	61	1906..	839	164	504	359	429	029			



REF.	l	s	d
<b>SN.. 1204..</b>	12,70	4,76	12,70
<b>SN.. 1906..</b>	19,05	6,35	19,05



For more information see page: A.49,50

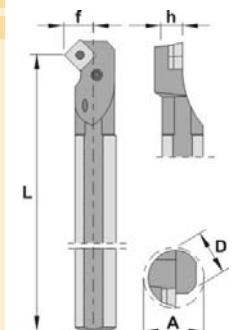
### A-PSSN 45°



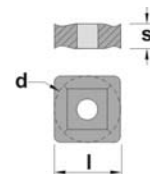
REF.	D	h	L	f	A	SN..									
<b>A25R PSSN R/L 12</b>	25	11,5	200	17	31	1204..	832	171	525	-	-	-			
<b>A32S PSSN R/L 12</b>	32	15,0	250	22	39	1204..	842	173	503	313	412	002			



**Characteristics:**  
Boring bars with internal coolant.



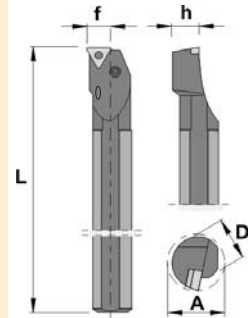
REF.	l	s	d
<b>SN.. 1204..</b>	12,70	4,76	12,70



For more information see page: A.49,50

**A-PTFN 90°**

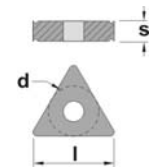
REF.	D	h	L	f	A	TN..						
<b>A25R PTFN R/L 16</b>	25	11,5	200	17	31	1604..	836	161	502	-	-	-
<b>A32S PTFN R/L 16</b>	32	15,0	250	22	39	1604..	809	162	525	336	409	009
<b>A40T PTFN R/L 22</b>	40	18,5	300	27	48	2204..	812	163	503	323	412	002



**Characteristics:**  
Boring bars with internal coolant.



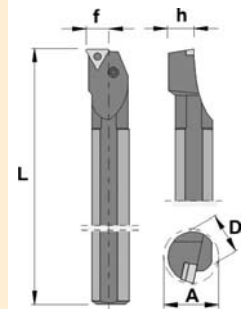
REF.	l	s	d
<b>TN.. 1604..</b>	16,50	4,76	9,52
<b>TN.. 2204..</b>	22,00	4,76	12,70



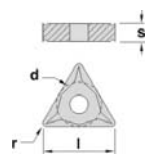
For more information see page: A.52,53,54

**PTFN 90°**

REF.	D	h	L	f	A	TN..						
<b>S25T PTFN R/L 16</b>	25	11,5	300	17	31	1604..	836	161	502	-	-	-
<b>S32U PTFN R/L 16</b>	32	15,0	350	22	39	1604..	809	162	525	336	409	009
<b>S40V PTFN R/L 22</b>	40	18,5	400	27	48	2204..	812	163	503	323	412	002
<b>S50W PTFN R/L 22</b>	50	23,5	450	35	61	2204..	812	163	503	323	412	002



REF.	l	s	d
<b>TN.. 1604..</b>	16,50	4,76	9,52
<b>TN.. 2204..</b>	22,00	4,76	12,70



For more information see page: A.52,53,54

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

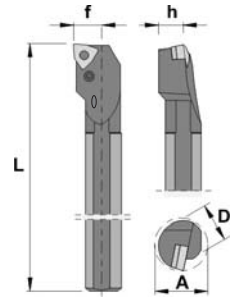
Boring heads

Arbors & adaptors

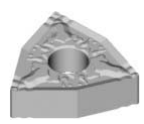
**A-PWLN 95°**



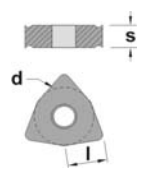
REF.	D	h	L	f	A	WN..	Icons: L, S, H, A, WN, P					
<b>A16M PWLN R/L 06</b>	16	7,5	150	11	20	0604..	836	161	502	-	-	-
<b>A20Q PWLN R/L 06</b>	20	9,0	180	13	27	0604..	836	161	502	-	-	-
<b>A25R PWLN R/L 06</b>	25	11,5	200	17	31	0604..	809	162	525	307	409	009
<b>A25R PWLN R/L 08</b>	25	11,5	200	17	31	0804..	842	173	503	-	-	002
<b>A32S PWLN R/L 06</b>	32	15,0	250	22	39	0604..	809	162	525	307	409	009
<b>A32S PWLN R/L 08</b>	32	15,0	250	22	39	0804..	812	163	503	308	412	002
<b>A40T PWLN R/L 08</b>	40	18,5	300	27	48	0804..	812	163	503	308	412	002



**Characteristics:**  
Boring bars with internal coolant.



REF.	l	s	d
<b>WN.. 0604..</b>	6,45	4,76	9,52
<b>WN.. 0804..</b>	8,14	4,76	12,70

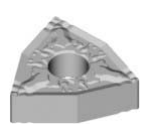
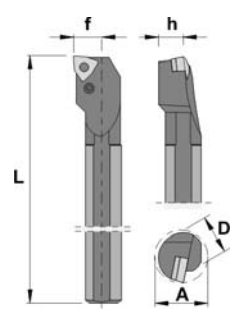


For more information see page: A.57,58

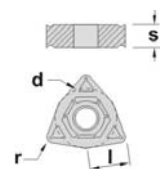
**PWLN 95°**



REF.	D	h	L	f	A	WN..	Icons: L, S, H, A, WN, P					
<b>S16R PWLN R/L 06</b>	16	7,5	200	11	20	0604..	836	161	502	-	-	-
<b>S20S PWLN R/L 06</b>	20	9,0	250	13	27	0604..	836	161	502	-	-	-
<b>S25T PWLN R/L 06</b>	25	11,5	300	17	31	0604..	809	162	525	307	409	009
<b>S25T PWLN R/L 08</b>	25	11,5	300	17	31	0804..	842	173	503	-	-	-
<b>S32U PWLN R/L 08</b>	32	15,0	350	22	39	0804..	812	163	503	308	412	002
<b>S40V PWLN R/L 08</b>	40	18,5	400	27	48	0804..	812	163	503	308	412	002



REF.	l	s	d
<b>WN.. 0604..</b>	6,45	4,76	9,52
<b>WN.. 0804..</b>	8,14	4,76	12,70

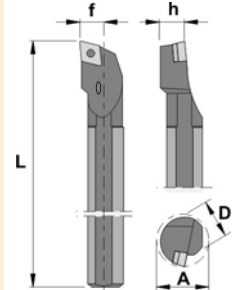


For more information see page: A.57,58

**A-SCLC 95°**



REF.	D	h	L	f	A	CC..				
A08F SCLC R/L 06	8	3,5	80	5	11	0602..	155	507	-	-
A10H SCLC R/L 06	10	4,5	100	7	13	0602..	155	507	-	-
A12K SCLC R/L 06	12	5,5	125	9	16	0602..	155	507	-	-
A16M SCLC R/L 09	16	7,5	150	11	20	09T3..	138	515	-	-
A20Q SCLC R/L 09	20	9,0	180	13	24	09T3..	138	515	-	-
A25R SCLC R/L 09	25	11,5	200	17	31	09T3..	138	515	-	-
A32S SCLC R/L 12	32	15,0	250	22	39	1204..	196	523	361	195
A40T SCLC R/L 12	40	18,5	300	27	48	1204..	196	523	361	195



**Characteristics:**  
Boring bars with internal coolant.

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

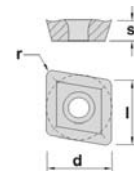
Solid carbide

Boring heads

Arbors & adaptors



REF.	l	s	d
CC.. 0602..	6,45	2,38	6,35
CC.. 09T3..	9,65	3,97	9,52
CC.. 1204..	12,90	4,76	12,70

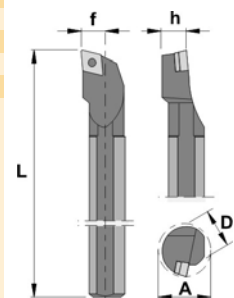


For more information see page: A.38

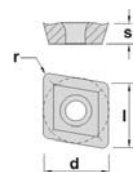
**SCLC 95°**



REF.	D	h	L	f	A	CC..				
S08K SCLC R/L 06	8	3,5	125	5	11	0602..	155	507	-	-
S10M SCLC R/L 06	10	4,5	150	7	13	0602..	155	507	-	-
S12M SCLC R/L 06	12	5,5	150	9	16	0602..	155	507	-	-
S12M SCLC R/L 09	12	5,5	150	9	16	09T3..	138	515	-	-
S16R SCLC R/L 09	16	7,5	200	11	20	09T3..	138	515	-	-
S20S SCLC R/L 09	20	9,0	250	13	24	09T3..	138	515	-	-
S25T SCLC R/L 09	25	11,5	300	17	31	09T3..	138	515	-	-
S20S SCLC R/L 12	20	9,0	250	13	24	1204..	150	520	-	-
S25T SCLC R/L 12	25	11,5	300	17	31	1204..	150	520	-	-
S32U SCLC R/L 12	32	15,0	350	22	39	1204..	196	523	361	195
S40V SCLC R/L 12	40	18,5	400	27	48	1204..	196	523	361	195
S50W SCLC R/L 12	50	23,5	450	35	61	1204..	196	523	361	195



REF.	l	s	d
CC.. 0602..	6,45	2,38	6,35
CC.. 09T3..	9,65	3,97	9,52
CC.. 1204..	12,90	4,76	12,70



For more information see page: A.38





Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

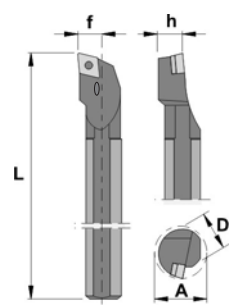
Boring heads

Arbors & adaptors

**H-SCLC 95°**



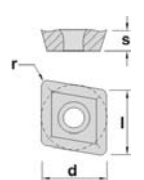
REF.	D	h	L	f	A	CC..		
H08K SCLC R/L 06	8	3,5	125	5	11	0602..	155	507
H10M SCLC R/L 06	10	4,5	150	7	13	0602..	155	507
H12M SCLC R/L 06	12	5,5	150	9	16	0602..	155	507
H16R SCLC R/L 09	16	7,5	200	11	20	09T3..	138	515



**Characteristics:**  
Boring bars with anti-vibration shank.



REF.	l	s	d
CC.. 0602..	6,45	2,38	6,35
CC.. 09T3..	9,65	3,97	9,52
CC.. 1204..	12,90	4,76	12,70

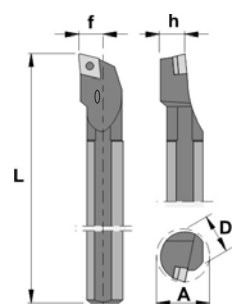


For more information see page: A.38

**J-SCLC 95°**



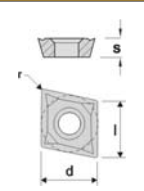
REF.	D	h	L	f	A	CC..		
J08K SCLC R/L 06	8	3,5	125	5	11	0602..	155	507
J10M SCLC R/L 06	10	4,5	150	7	13	0602..	155	507
J12M SCLC R/L 06	12	5,5	150	9	16	0602..	155	507
J16R SCLC R/L 09	16	7,5	200	11	20	09T3..	138	515



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



REF.	l	s	d
CC.. 09T3..	9,65	3,97	9,52
CC.. 1204..	12,90	4,76	12,70

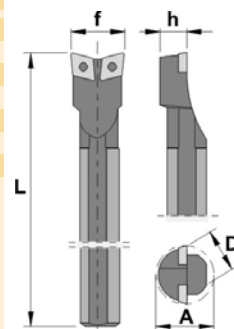


For more information see page: A.38

**SCLCN 95°**



REF.	D	h	L	f	A	CC..				
S12M SCLC N 06	12	5,5	150	18	20	0602..	155	507	-	-
S16R SCLC N 06	16	7,5	200	22	25	0602..	125	507	-	-
S20S SCLC N 06	20	9,0	250	26	30	0602..	125	507	-	-
S25T SCLC N 09	25	11,5	300	34	40	09T3..	138	515	-	-
S32U SCLC N 12	32	15,0	350	44	50	1204..	196	523	361	195
S40V SCLC N 12	40	18,5	400	54	60	1204..	196	523	361	195
S50W SCLC N 12	50	23,5	450	62	68	1204..	196	523	361	195



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

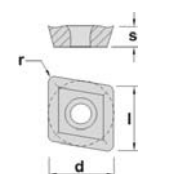
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

REF.	l	s	d
CC.. 0602..	6,45	2,38	6,35
CC.. 09T3..	9,65	3,97	9,52
CC.. 1204..	12,90	4,76	12,70

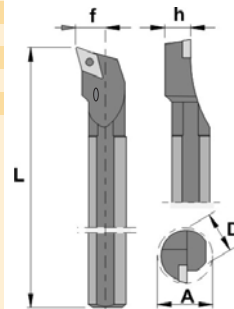


For more information see page: A.38

**A-SDQC 107° 30'**

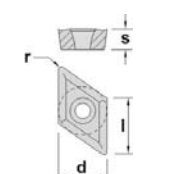


REF.	D	h	L	f	A	DC..				
A12K SDQC R/L 07	12	5,5	125	9	16	0702..	125	507	-	-
A16M SDQC R/L 07	16	7,5	150	11	20	0702..	125	507	-	-
A20Q SDQC R/L 11	20	9,0	180	13	24	11T3..	140	515	-	-
A25R SDQC R/L 11	25	11,5	200	17	31	11T3..	140	515	-	-
A32S SDQC R/L 11	32	15,0	250	22	39	11T3..	133	521	371	194
A40T SDQC R/L 11	40	18,5	300	27	48	11T3..	133	521	371	194



**Characteristics:**  
Boring bars with internal coolant.

REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52

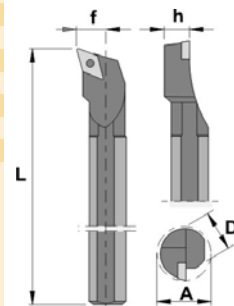


For more information see page: A.41

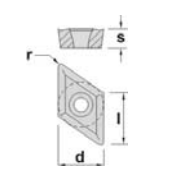
**SDQC 107° 30'**



REF.	D	h	L	f	A	DC..				
S10M SDQC R/L 07	10	4,5	150	7	13	0702..	155	507	-	-
S12M SDQC R/L 07	12	5,5	150	9	16	0702..	125	507	-	-
S16R SDQC R/L 07	16	7,5	200	11	20	0702..	125	507	-	-
S20S SDQC R/L 07	20	9,0	250	13	24	0702..	125	507	-	-
S20S SDQC R/L 11	20	9,0	250	13	24	11T3..	140	515	-	-
S25T SDQC R/L 11	25	11,5	300	17	31	11T3..	140	515	-	-
S32U SDQC R/L 11	32	15,0	350	22	39	11T3..	133	515	371	194
S40V SDQC R/L 11	40	18,5	400	27	48	11T3..	133	515	371	194



REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52



For more information see page: A.41

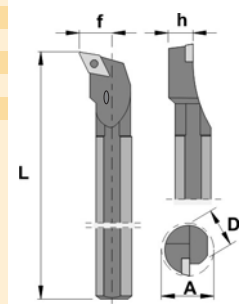


Inserts

**A-SDUC 93°**



REF.	D	h	L	f	A	DC..				
<b>A12K SDUC R/L 07</b>	12	5,5	125	9	16	0702..	125	507	-	-
<b>A16M SDUC R/L 07</b>	16	7,5	150	11	20	0702..	125	507	-	-
<b>A20Q SDUC R/L 11</b>	20	9,0	180	13	24	11T3..	140	515	-	-
<b>A25R SDUC R/L 11</b>	25	11,5	200	17	31	11T3..	140	515	-	-
<b>A32S SDUC R/L 11</b>	32	15,0	250	22	39	11T3..	133	521	371	194
<b>A40T SDUC R/L 11</b>	40	18,5	300	27	48	11T3..	133	521	371	194

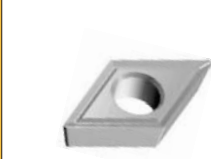


Turning

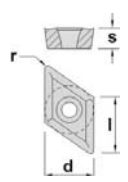
Automatic lathes

**Characteristics:**  
Boring bars with internal coolant.

Ceramic tools



REF.	l	s	d
<b>DC.. 0702..</b>	7,75	2,38	6,35
<b>DC.. 11T3..</b>	11,60	3,97	9,52



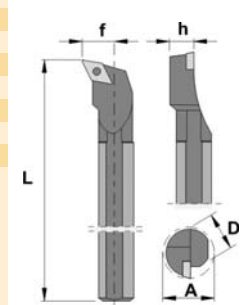
For more information see page: A.41

Parting & grooving

**SDUC 93°**



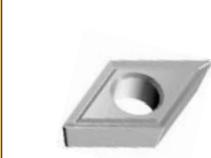
REF.	D	h	L	f	A	DC..				
<b>S10M SDUC R/L 07</b>	10	4,5	150	7	13	0702..	155	507	-	-
<b>S12M SDUC R/L 07</b>	12	5,5	150	9	16	0702..	125	507	-	-
<b>S16R SDUC R/L 07</b>	16	7,5	200	11	20	0702..	125	507	-	-
<b>S20S SDUC R/L 07</b>	20	9,0	250	13	24	0702..	125	507	-	-
<b>S20S SDUC R/L 11</b>	20	9,0	250	13	24	11T3..	140	515	-	-
<b>S25T SDUC R/L 11</b>	25	11,5	300	17	31	11T3..	140	515	-	-
<b>S32U SDUC R/L 11</b>	32	15,0	350	22	39	11T3..	133	521	371	194
<b>S40V SDUC R/L 11</b>	40	18,5	400	27	48	11T3..	133	521	371	194



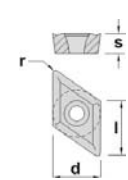
Threading

Drills

Cartridges



REF.	l	s	d
<b>DC.. 0702..</b>	7,75	2,38	6,35
<b>DC.. 11T3..</b>	11,60	3,97	9,52



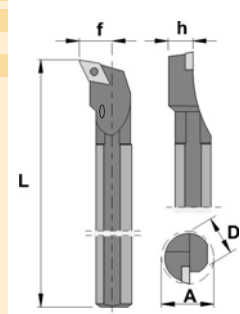
For more information see page: A.41

Brazed tools

**H-SDUC 93°**



REF.	D	h	L	f	A	DC..		
<b>H10M SDUC R/L 07</b>	10	4,5	150	7	13	0702..	155	507
<b>H12M SDUC R/L 07</b>	12	5,5	150	9	16	0702..	125	507
<b>H16R SDUC R/L 07</b>	16	7,5	200	11	20	0702..	125	507

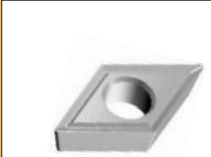


**Characteristics:**  
Boring bars with anti-vibration shank.

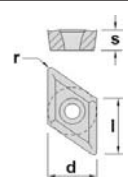
Milling cutters

Solid carbide

Boring heads





REF.	l	s	d
<b>DC.. 0702..</b>	7,75	2,38	6,35
<b>DC.. 11T3..</b>	11,60	3,97	9,52



For more information see page: A.41

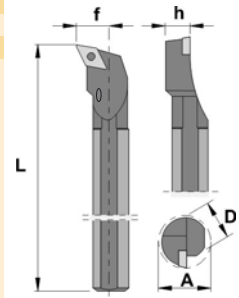
Arbors & adaptors

**J-SDUC 93°**

REF.	D	h	L	f	A	DC..		
J10M SDUC R/L 07	10	4,5	150	7	13	0702..	155	507
J12M SDUC R/L 07	12	5,5	150	9	16	0702..	125	507
J16R SDUC R/L 07	16	7,5	200	11	20	0702..	125	507



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

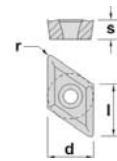
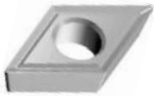
Milling cutters

Solid carbide

Boring heads



Arbors & adaptors

REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52



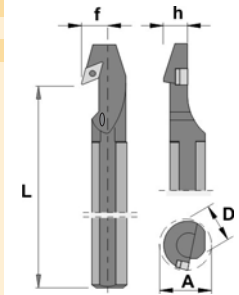
For more information see page: A.41

**A-SDUC 93°-EX**

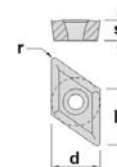
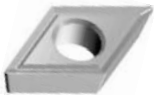
REF.	D	h	L	f	A	DC..		
A12K SDUC R/L 07-EX	12	5,5	125	9	16	0702..	125	507
A16M SDUC R/L 07-EX	16	7,5	150	11	20	0702..	125	507
A20Q SDUC R/L 11-EX	20	9,0	180	13	24	11T3..	138	515
A25R SDUC R/L 11-EX	25	11,5	200	17	31	11T3..	140	515



**Characteristics:**  
Boring bars with internal coolant.







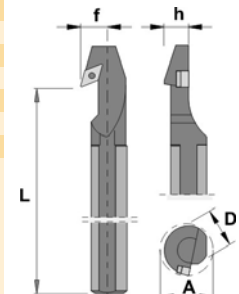
REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52



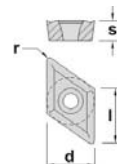
For more information see page: A.41

**SDUC 93°-EX**

REF.	D	h	L	f	A	DC..				
S12M SDUC R/L 07-EX	12	5,5	150	9	16	0702..	125	507	-	-
S16R SDUC R/L 07-EX	16	7,5	200	11	20	0702..	125	507	-	-
S20S SDUC R/L 07-EX	20	9,0	250	13	24	0702..	125	507	-	-
S20S SDUC R/L 11-EX	20	9,0	250	13	24	11T3..	140	515	-	-
S25T SDUC R/L 11-EX	25	11,5	300	17	31	11T3..	140	515	-	-
S32U SDUC R/L 11-EX	32	15,0	350	22	39	11T3..	133	521	371	194
S40V SDUC R/L 11-EX	40	18,5	400	27	48	11T3..	133	521	371	194



REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52



For more information see page: A.41

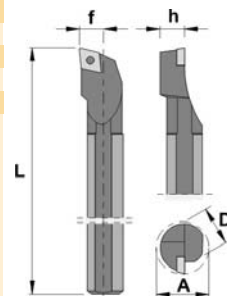


Inserts

**SELC 95°**



REF.	D	h	L	f	A	ECMT	
S08K SELC R/L 06	8	7	125	5	11	0602..	155 507
S10M SELC R/L 06	10	9	150	7	13	0602..	155 507
S12M SELC R/L 08	12	11	150	9	16	0803..	148 508
S16R SELC R/L 08	16	15	200	11	20	0803..	148 508
S20S SELC R/L 08	20	18	250	13	24	0803..	130 508



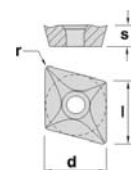
Turning

Automatic lathes

Ceramic tools



REF.	l	s	d
ECMT 060204	6,57	2,38	6,35
ECMT 080304	8,20	3,18	7,93



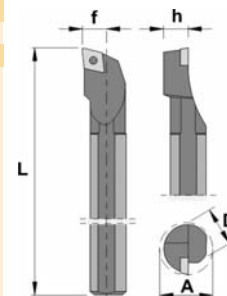
For more information see page: A.43

Parting & grooving

**SELP 95°**



REF.	D	h	L	f	A	EP.	
S08K SELP R/L 04	8	3,5	125	5	11	0402..	121 506
S10M SELP R/L 08	10	4,5	150	7	13	0803..	138 515
S12M SELP R/L 08	12	5,5	150	9	16	0803..	138 515
S16R SELP R/L 08	16	7,5	200	11	20	0803..	138 515



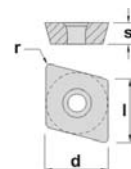
Threading

Drills

Cartridges



REF.	l	s	d
EP. 0402..	4,92	2,38	4,76
EP. 0803..	8,28	3,00	8,00



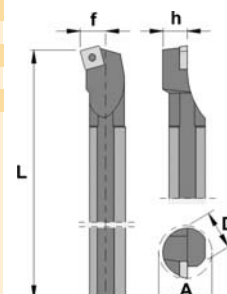
For more information see page: A.43,44

Brazed tools

**SSKC 75°**



REF.	D	h	L	f	A	SC..	
S16R SSKC R/L 09	16	7,5	200	11	20	09T3..	138 515 - -
S20S SSKC R/L 09	20	9,0	250	13	24	09T3..	140 515 - -
S25T SSKC R/L 09	25	11,5	300	17	31	09T3..	140 515 - -
S32U SSKC R/L 12	32	15,0	350	22	39	1204..	196 523 351 195
S40V SSKC R/L 12	40	18,5	400	27	48	1204..	196 523 351 195
S50W SSKC R/L 12	50	23,5	450	35	61	1204..	196 523 351 195



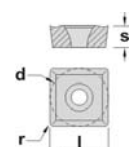
Milling cutters

Solid carbide

Boring heads



REF.	l	s	d
SC.. 09T3..	9,52	3,97	9,52
SC.. 1204..	12,70	4,76	12,70



For more information see page: A.47,48

Arbors & adaptors

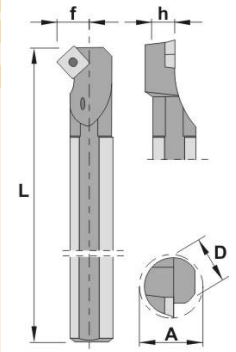
**A-SSSC 45°**



REF.	D	h	L	f	A	SC..		
A16M SSSC R/L 09	16	7,5	150	11	20	09T3..	138	515
A20Q SSSC R/L 09	20	9,0	180	13	24	09T3..	138	515
A25R SSSC R/L 09	25	11,5	200	17	31	09T3..	138	515



**Characteristics:**  
Boring bars with internal coolant.



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

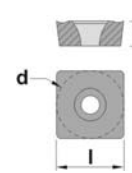
Solid carbide

Boring heads

Arbors & adaptors



REF.	l	s	d
SC.. 09T3..	9,52	3,97	9,52



For more information see page: A.47,48

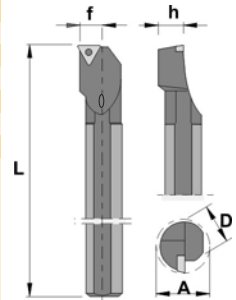
**A-STFC 90°**



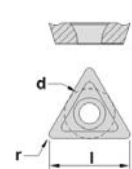
REF.	D	h	L	f	A	TC..				
A10H STFC R/L 09	10	4,5	100	7	13	0902..	122	506	-	-
A12K STFC R/L 11	12	5,5	125	9	16	1102..	125	507	-	-
A16M STFC R/L 11	16	7,5	150	11	20	1102..	125	507	-	-
A20Q STFC R/L 11	20	9,0	180	13	24	1102..	125	507	-	-
A25R STFC R/L 16	25	11,5	200	17	31	16T3..	140	515	-	-
A32S STFC R/L 16	32	15,0	250	22	39	16T3..	133	521	341	194
A40T STFC R/L 16	40	18,5	300	27	48	16T3..	133	521	341	194



**Characteristics:**  
Boring bars with internal coolant.



REF.	l	s	d
TC.. 0902..	9,62	2,38	5,55
TC.. 1102..	11,00	2,38	6,35
TC.. 16T3..	16,50	3,97	9,52



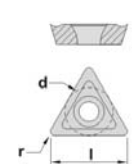
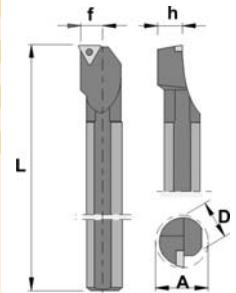
For more information see page: A.51,52

**STFC 90°**



REF.	D	h	L	f	A	TC..				
S10M STFC R/L 09	10	4,5	150	7	13	0902..	122	506	-	-
S12M STFC R/L 09	12	5,5	150	9	16	0902..	122	506	-	-
S12M STFC R/L 11	12	5,5	150	9	16	1102..	125	507	-	-
S16R STFC R/L 11	16	7,5	200	11	20	1102..	125	507	-	-
S20S STFC R/L 11	20	9,0	250	13	24	1102..	125	507	-	-
S25T STFC R/L 16	25	11,5	300	17	31	16T3..	140	515	-	-
S32U STFC R/L 16	32	15,0	350	22	39	16T3..	133	521	341	194
S40V STFC R/L 16	40	18,5	400	27	48	16T3..	133	521	341	194

REF.	l	s	d
TC.. 0902..	9,62	2,38	5,55
TC.. 1102..	11,00	2,38	6,35
TC.. 16T3..	16,50	3,97	9,52



For more information see page: A.51,52



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

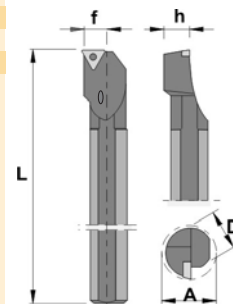
### H-STFC 90°



REF.	D	h	L	f	A	TC..		
<b>H10M STFC R/L 09</b>	10	4,5	150	7	13	0902..	122	506
<b>H12M STFC R/L 11</b>	12	5,5	150	9	16	1102..	125	507
<b>H16R STFC R/L 11</b>	16	7,5	200	11	20	1102..	138	515

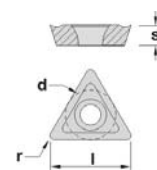


**Characteristics:**  
Boring bars with anti-vibration shank.



REF.	l	s	d
<b>TC.. 0902..</b>	9,62	2,38	5,55
<b>TC.. 1102..</b>	11,00	2,38	6,35
<b>TC.. 16T3..</b>	16,50	3,97	9,52

For more information see page: A.51,52



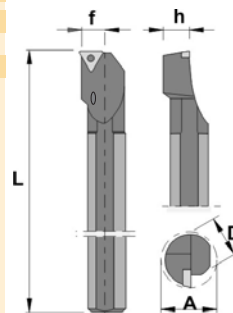
### J-STFC 93°



REF.	D	h	L	f	A	TC..		
<b>J10M SDUC R/L 07</b>	10	4,5	150	7	13	0902..	122	506
<b>J12M SDUC R/L 07</b>	12	5,5	150	9	16	1102..	125	507
<b>J16R SDUC R/L 07</b>	16	7,5	200	11	20	1102..	138	515

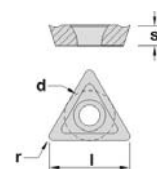


**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



REF.	l	s	d
<b>TC.. 0902..</b>	9,62	2,38	5,55
<b>TC.. 1102..</b>	11,00	2,38	6,35
<b>TC.. 16T3..</b>	16,50	3,97	9,52

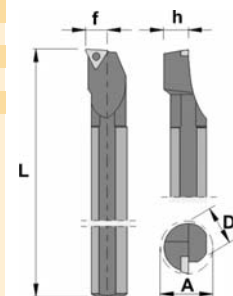
For more information see page: A.51,52



### STUC 93°

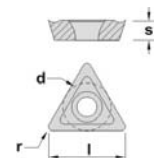


REF.	D	h	L	f	A	TC..				
<b>S12M STUC R/L 11</b>	12	5,5	150	9	16	1102..	125	507	-	-
<b>S16R STUC R/L 16</b>	16	7,5	200	11	20	16T3..	140	515	-	-
<b>S20S STUC R/L 16</b>	20	9,0	250	13	24	16T3..	140	515	-	-
<b>S25T STUC R/L 16</b>	25	11,5	300	17	31	16T3..	140	515	-	-
<b>S32U STUC R/L 16</b>	32	15,0	350	22	39	16T3..	133	521	341	194



REF.	l	s	d
<b>TC.. 1102..</b>	11,00	2,38	6,35
<b>TC.. 16T3..</b>	16,50	3,97	9,52

For more information see page: A.51,52



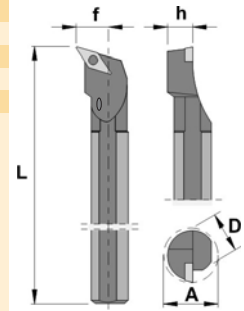
**A-SVQC 107° 30'**



REF.	D	h	L	f	A	VC..				
<b>A16M SVQC R/L 11</b>	16	7,5	150	11	20	1103..	125	507	-	-
<b>A20Q SVQC R/L 11</b>	20	9,0	180	13	24	1103..	125	507	-	-
<b>A25R SVQC R/L 16</b>	25	11,5	200	17	31	1604..	133	521	378	194
<b>A32S SVQC R/L 16</b>	32	15,0	250	22	39	1604..	133	521	378	194
<b>A40T SVQC R/L 16</b>	40	18,5	300	27	48	1604..	133	521	378	194



**Characteristics:**  
Boring bars with internal coolant.



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

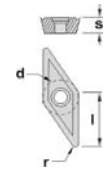
Solid carbide

Boring heads

Arbors & adaptors



REF.	l	s	d
<b>VC.. 1303..</b>	13,00	3,18	8,00
<b>VC.. 1604..</b>	16,50	4,76	9,52

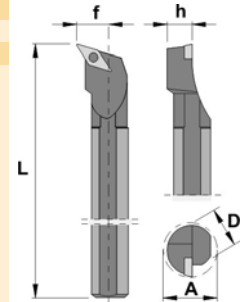


For more information see page: A.55,56

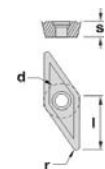
**SVQC 107° 30'**



REF.	D	h	L	f	A	VC..				
<b>S16R SVQC R/L 13</b>	16	7,5	200	13	20	1303..	130	508	-	-
<b>S20S SVQC R/L 13</b>	20	9,0	250	13	24	1303..	130	508	-	-
<b>S25T SVQC R/L 16</b>	25	11,5	300	17	31	1604..	140	515	-	-



REF.	l	s	d
<b>VC.. 1303..</b>	13,00	3,18	8,00
<b>VC.. 1604..</b>	16,50	4,76	9,52

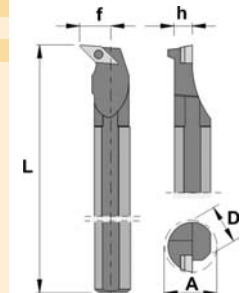


For more information see page: A.55,56

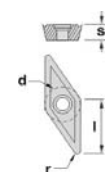
**SVUB 93°**



REF.	D	h	L	f	A	VBMT				
<b>S25T SVUB R/L 16</b>	25	11,5	300	17	31	1604..	140	515	-	-
<b>S32U SVUB R/L 16</b>	32	15,0	350	22	39	1604..	133	521	378	194
<b>S40V SVUB R/L 16</b>	40	18,5	400	27	48	1604..	133	521	378	194



REF.	l	s	d
<b>VBMT 160408</b>	16,50	4,76	9,52



For more information see page: A.55



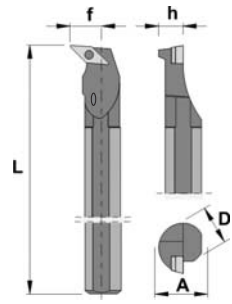


- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

**A-SVUC 93°**



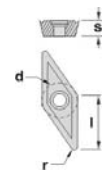
REF.	D	h	L	f	A	VC..				
<b>A16M SVUC R/L 11</b>	16	7,5	150	11	20	1103..	125	507	-	-
<b>A20Q SVUC R/L 11</b>	20	9,0	180	13	24	1103..	125	507	-	-
<b>A25R SVUC R/L 16</b>	25	11,5	200	17	31	1604..	133	521	378	194
<b>A32S SVUC R/L 16</b>	32	15,0	250	22	39	1604..	133	521	378	194
<b>A40T SVUC R/L 16</b>	40	18,5	300	27	48	1604..	133	521	378	194



**Characteristics:**  
Boring bars with internal coolant.



REF.	l	s	d
<b>VC.. 1604..</b>	16,50	4,76	9,52

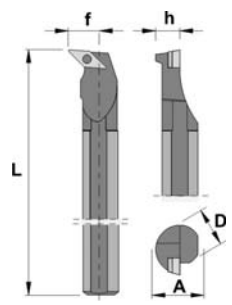


For more information see page: A.55,56

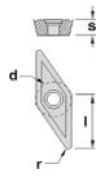
**SVUC 93°**



REF.	D	h	L	f	A	VC..				
<b>S25T SVUC R/L 16</b>	25	11,5	300	17	31	1604..	140	515	-	-
<b>S32U SVUC R/L 16</b>	32	15,0	350	22	39	1604..	133	521	378	194
<b>S40V SVUC R/L 16</b>	40	18,5	400	27	48	1604..	133	521	378	194

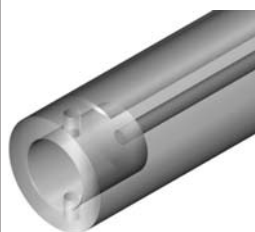


REF.	l	s	d
<b>VC.. 1604..</b>	16,50	4,76	9,52

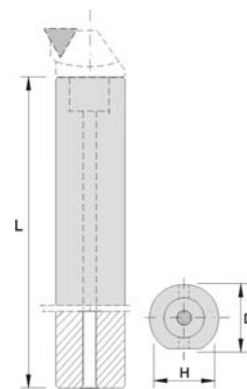


For more information see page: A.55,56

**JX**



REF.	D	L	H
J20X	20	225	19
J25X	25	270	24
J32X	32	320	31
J40X	40	370	38
J50X	50	510	48
J60X	60	610	58



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

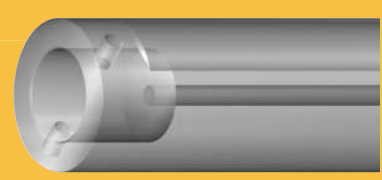
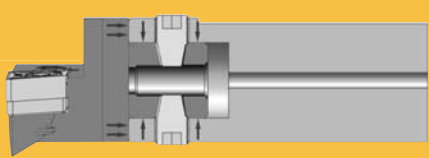
Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors



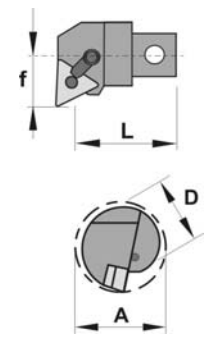


Inserts

**MTUN 93°**



REF.	D	L	f	A	TN..					
A32X MTUN R/L 16-K	32	30	22	40	1604..	221	503	336	165	434 502
A40X MTUN R/L 16-K	40	30	17	50	1604..	221	503	336	165	434 502
A50X MTUN R/L 16-K	50	30	35	63	1604..	221	503	336	165	434 502
A50X MTUN R/L 22	50	40	35	63	2204..	202	505	ITSN-433	484	461 -
A60X MTUN R/L 22	60	40	43	80	2204..	202	505	ITSN-433	484	461 -



Turning

Automatic lathes

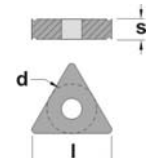


**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.

Ceramic tools



REF.	l	s	d
TN.. 1604..	16,50	4,76	9,52
TN.. 2204..	22,00	4,76	12,70



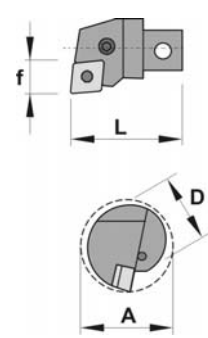
For more information see page: A.52,53,54

Parting & grooving

**PCLN 95°**



REF.	D	L	f	A	CN..					
A25X PCLN R/L 12	25	25	17	32	1204..	832	171	525	-	- -
A32X PCLN R/L 12	32	30	22	40	1204..	842	173	503	302	412 002
A40X PCLN R/L 12	40	30	27	50	1204..	812	163	503	302	412 002
A50X PCLN R/L 12	50	30	35	63	1204..	812	163	503	302	412 002
A60X PCLN R/L 12	60	40	43	80	1204..	812	163	503	302	412 002
A50X PCLN R/L 16	50	40	35	63	1606..	816	170	503	366	415 005
A60X PCLN R/L 16	60	40	43	80	1606..	816	170	503	366	415 005

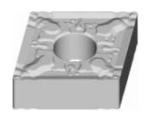


**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.

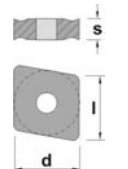
Threading

Drills

Cartridges



REF.	l	s	d
CN.. 1204..	12,90	4,76	12,70
CN.. 1606..	16,10	6,35	15,88



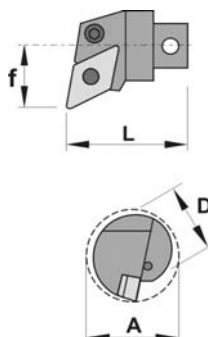
For more information see page: A.39,40

Brazed tools

**PDUN 93°**



REF.	D	L	f	A	DN..						
A32X PDUN R/L 15	32	30	22	40	1506..	845	173	503	305	412 002	IDSN-432
A40X PDUN R/L 15	40	30	27	50	1506..	845	172	503	305	412 002	IDSN-432
A50X PDUN R/L 15	50	40	35	63	1506..	845	172	503	305	412 002	IDSN-432
A60X PDUN R/L 15	60	40	43	80	1506..	845	172	503	305	412 002	IDSN-432

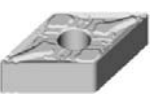


**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.

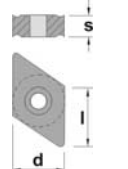
Milling cutters

Solid carbide

Boring heads



REF.	l	s	d
DN.. 1504..	15,50	4,76	12,70
DN.. 1506..	15,50	6,35	12,70



For more information see page: A.41,42,43

Arbors & adaptors

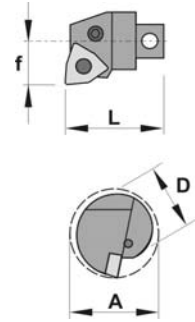
**PWLN 95°**



REF.	D	L	f	A	WN..	[Icons]					
A32X PWLN R/L 08	32	30	22	40	0804..	842	173	503	308	412	002
A40X PWLN R/L 08	40	30	27	50	0804..	812	163	503	308	412	002
A50X PWLN R/L 08	50	40	35	63	0804..	812	163	503	308	412	002
A60X PWLN R/L 08	60	40	43	80	0804..	812	163	503	308	412	002



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

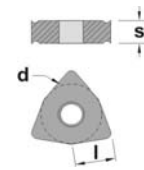
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

REF.	l	s	d
WN.. 0804..	8,14	4,76	12,70



For more information see page: A.57,58

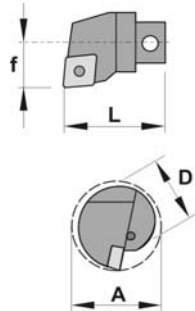
**SCLC 95°**



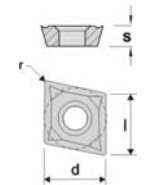
REF.	D	L	f	A	CC..	[Icons]			
A20X SCLC R/L 09	20	25	13	25	09T3..	138	515	-	-
A25X SCLC R/L 09	25	25	17	32	09T3..	138	515	-	-
A32X SCLC R/L 12	32	30	22	40	1204..	196	523	361	195
A40X SCLC R/L 12	40	30	27	50	1204..	196	523	361	195
A50X SCLC R/L 12	50	40	35	63	1204..	196	523	361	195
A60X SCLC R/L 12	60	40	43	80	1204..	196	523	361	195



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



REF.	l	s	d
CC.. 09T3..	9,65	3,97	9,52
CC.. 1204..	12,90	4,76	12,70



For more information see page: A.38

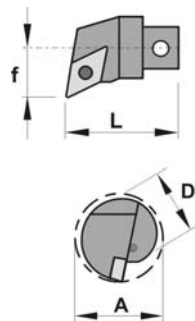
**SDUC 93°**



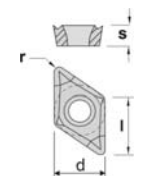
REF.	D	L	f	A	DC..	[Icons]			
A20X SDUC R/L 11	20	25	13	25	11T3..	140	515	-	-
A25X SDUC R/L 11	25	25	17	32	11T3..	140	515	-	-
A32X SDUC R/L 11	32	30	22	40	11T3..	133	521	371	194
A40X SDUC R/L 11	40	30	27	50	11T3..	133	521	371	194
A50X SDUC R/L 11	50	40	35	63	11T3..	133	521	371	194
A60X SDUC R/L 11	60	40	43	80	11T3..	133	521	371	194



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



REF.	l	s	d
DC.. 11T3..	11,60	3,97	9,52



For more information see page: A.41



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

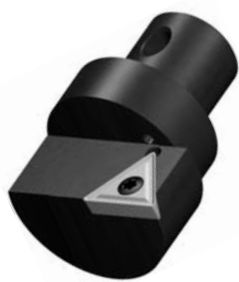
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

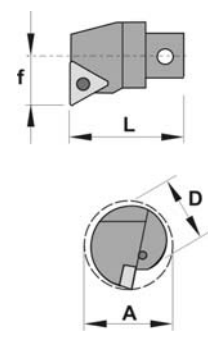
**STFC 90°**



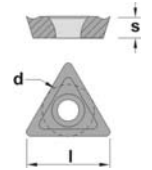
REF.	D	L	f	A	TC..				
<b>A20X STFC R/L 16</b>	20	25	13	25	16T3..	140	515	-	-
<b>A25X STFC R/L 16</b>	25	25	17	32	16T3..	140	515	-	-
<b>A32X STFC R/L 16</b>	32	30	22	40	16T3..	133	521	341	194
<b>A40X STFC R/L 16</b>	40	30	27	50	16T3..	133	521	341	194
<b>A50X STFC R/L 16</b>	50	40	35	63	16T3..	133	521	341	194
<b>A60X STFC R/L 16</b>	60	40	43	80	16T3..	133	521	341	194



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



REF.	l	s	d
<b>TC.. 16T3..</b>	16,50	3,97	9,52



For more information see page: A.51,52

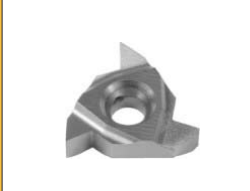
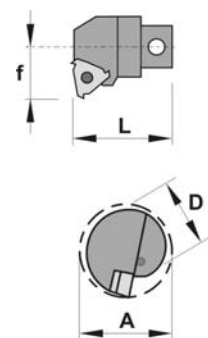
**SXFN 90°**



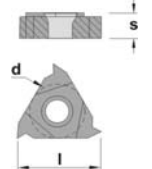
REF.	D	L	f	A	N R/L					
<b>A20X SXFN R/L 16</b>	20	25	13,4	18	16 NR/L..	SA3T	530	YE3	Y13	SY3
<b>A25X SXFN R/L 16</b>	25	25	16,3	22,6	16 NR/L..	SA3	530	YE3	Y13	SY3
<b>A32X SXFN R/L 16</b>	32	30	19,6	19,6	16 NR/L..	SA3	530	YE3	Y13	SY3
<b>A25X SXFN R/L 22</b>	25	25	17,2	32	22 NR/L..	SA4	520	-	-	-
<b>A32X SXFN R/L 22</b>	32	32	21,5	40	22 NR/L..	SA4	520	YE4	Y14	SY4
<b>A40X SXFN R/L 22</b>	40	32	25,8	50	22 NR/L..	SA4	520	YE4	Y14	SY4
<b>A50X SXFN R/L 22</b>	50	40	31,4	63	22 NR/L..	SA4	520	YE4	Y14	SY4
<b>A60X SXFN R/L 22</b>	60	40	36,4	80	22 NR/L..	SA4	520	YE4	Y14	SY4



**Characteristics:**  
Boring bars with internal coolant and anti-vibration shank.



REF.	l	s	d
<b>16 NR/L..</b>	16,50	3,18	9,52
<b>22 NR/L..</b>	22,00	4,76	12,70



For more information see page: A.60





Inserts

Turning

Automatic  
lathes

Ceramic  
tools

Parting &  
grooving

Threading

Drills

Cartridges

Brazed  
tools

Milling  
cutters

Solid  
carbide


Boring  
heads

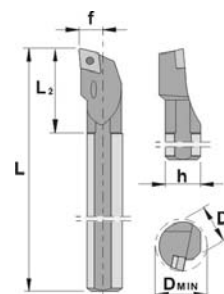
Arbors &  
adaptors

Inserts

**KIT SCLC 95°**



REF.	D	L	L <sub>2</sub>	f	D <sub>MIN</sub>	h	CC..	
<b>A0608H SCLC R/L 06</b>	8	100	25	4	8	7	0602..	155 507
<b>A0810J SCLC R/L 06</b>	10	110	32	6	12	9	0602..	155 507
<b>A1012K SCLC R/L 06</b>	12	125	38	7	14	11	0602..	125 507
<b>A1216M SCLC R/L 06</b>	16	150	50	9	18	15	0602..	125 507



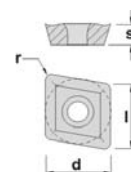
Turning

Automatic lathes

Ceramic tools



REF.	l	s	d
<b>CC.. 0602..</b>	6,45	2,38	6,35




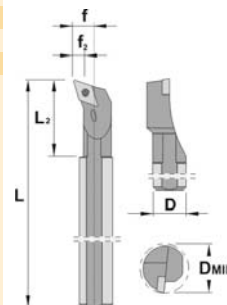
For more information see page: A.38

Parting & grooving

**KIT SDQC 107° 30'**



REF.	D	L	L <sub>2</sub>	f	f <sub>2</sub>	D <sub>MIN</sub>	DC..	
<b>A0810J SDQC R/L 07</b>	10	110	32	7	3	12,5	0702..	155 507
<b>A1012K SDQC R/L 07</b>	12	125	38	9	3	15,5	0702..	125 507
<b>A1216M SDQC R/L 07</b>	16	150	50	11	3	19,5	0702..	125 507



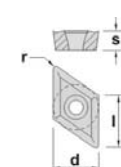
Threading

Drills

Cartridges



REF.	l	s	d
<b>DC.. 0702..</b>	9,52	2,38	6,35



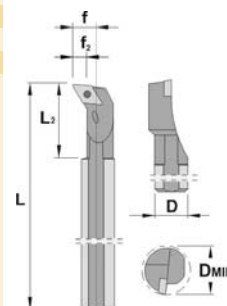
For more information see page: A.41

Brazed tools

**KIT SDUC 93°**



REF.	D	L	L <sub>2</sub>	f	f <sub>2</sub>	D <sub>MIN</sub>	DC..	
<b>A0810J SDUC R/L 07</b>	10	110	32	7	3	12,5	0702..	155 507
<b>A1012K SDUC R/L 07</b>	12	125	38	9	5	15,5	0702..	125 507
<b>A1216M SDUC R/L 07</b>	16	150	50	11	5	19,5	0702..	125 507



Milling cutters

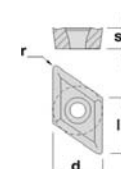
Solid carbide

Boring heads

Arbors & adaptors



REF.	l	s	d
<b>DC.. 0702..</b>	9,52	2,38	6,35

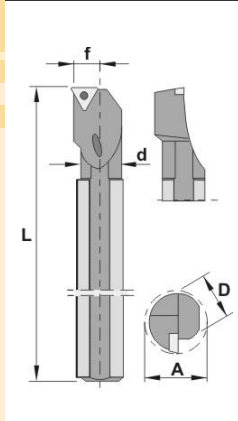


For more information see page: A.41

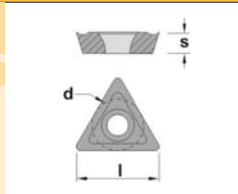
**KIT STFC 90°**



REF.	D	d	L	f	A	h	TC..		
<b>A0810J STFC R/L 11</b>	10	8	110	7	12,5	9	1102..	155	507
<b>A1012K STFC R/L 11</b>	12	10	125	9	15,5	11	1102..	125	507
<b>A1216M STFC R/L 11</b>	16	12	150	11	19,5	15	1102..	125	507



REF.	l	s	d
<b>TC.. 1102..</b>	11,00	2,38	6,35



For more information see page: A.51,52

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors





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**KIT MT-12**



REF.	L	d	e	d1		
00.30.12.04	100	12	2,35	2,5 - 4,2	157	525

REF.	L	d	B	r	DMIN
CTI 0402 AR	15	4	0,8	0,2	4,2
CTI 0402 BR	15	4	0,8	0,2	4,2
CTI 0400 CR	15	4	0,8	-	M5
CTI 0410 DR	15	4	1	-	4,2

**KIT MT-16**



REF.	L	d	e	d1		
00.30.16.06	120	16	2,8	8,2	156	503

REF.	L	d	B	r	DMIN
CTI 0602 AR	20	6	1,8	0,2	6,2
CTI 0602 BR	20	6	1,8	0,2	6,2
CTI 0600 CR	20	6	1,8	-	M8
CTI 0615 DR	20	6	1,5	-	6,2

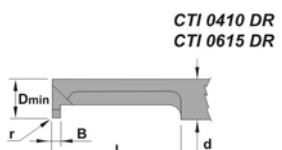
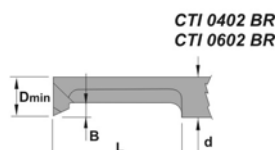
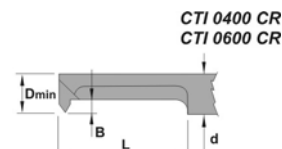
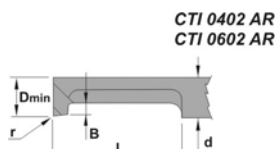
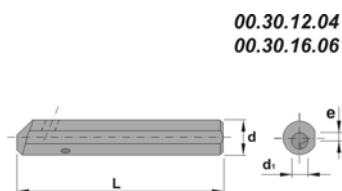
**KIT MT**



REF.	L	d	e	d1		
00.30.12.04	100	12	2,35	2,5 - 4,2	157	525
00.30.16.06	120	16	2,80	8,2	156	503

REF.	L	d	B	r	DMIN
CTI 0402 AR	15	4	0,8	0,2	4,2
CTI 0402 BR	15	4	0,8	0,2	4,2
CTI 0400 CR	15	4	0,8	-	M5
CTI 0410 DR	15	4	1	-	4,2
CTI 0602 AR	20	6	1,8	0,2	6,2
CTI 0602 BR	20	6	1,8	0,2	6,2
CTI 0600 CR	20	6	1,8	-	M8
CTI 0615 DR	20	6	1,5	-	6,2



## Nominal cutting speed and feed values for boring bars

Material <b>P</b>	HB	Condition	Cutting speed m/min.						Specific cutting force K <sub>c,0.4</sub>
			PM 25	PM 40	NC 25	TIN 16	TIN 22	TIN 32	
			0.3-0.6-1.2		0.1 - 0.3	0.1-0.4-0.8	0.1-0.4-0.8	0.2-0.5-1.2	
Unalloyed steel	125	C=0.15%	150 115 80		350 280	480 345 250	440 300 205	330 230 110	1900
	150	C=0.35%	145 105 70		270 230	440 315 230	400 275 190	300 210 150	2100
	200	C=0.60%	115 90 65		240 190	385 275 200	350 240 165	260 185 130	2250
Low alloyed steel	180	Annealed	90 70 45		300 260	380 265 195	320 220 170	200 140 100	2100
	275	Hardened	65 45 30		220 140	260 180 130	215 150 115	140 100 70	2600
	300	Hardened	60 40 25		230 180	240 165 120	200 135 105	125 90 60	2700
	350	Hardened	50 35 20		220 140	210 145 105	170 120 90	110 75 55	2850
High alloyed steel	200	Annealed	80 60 45		200 160	350 230 170	280 185 135	175 115 80	2600
	325	Hardened	40 25 20		200 160	170 110	120 80 60	85 55 40	3900
Stainless steel	200	Martensitic/Ferritic	110 95 75		270 130	295 240 190	275 210 165	225 180 145	2300
Steel castings	180	Unalloyed	60 50 35		300 260	260 185 145	230 160 120	135 105 75	2000
	200	Low alloyed	50 45 30		230 180	230 160 120	190 125 85	120 90 60	2500
	225	High alloyed	40 30 20		220 140	190 130 95	170 115 80	95 70 55	2700

Material <b>M</b>	HB	Condition	Cutting speed m/min.							Specific cutting force K <sub>c,0.4</sub>	
			PM 25	PM 40	NC 25	TIN 16	TIN 17	TIN 22	TIN 32		TIN 35
			0.1-0.3		0.1-0.3	0.1-0.4-0.8	0.1-0.3	0.2-0.4-0.6			0.2-0.4-0.6
Stainless steel annealed	180	Austenitic Ni > 8%, Cr 12-25%	205 170		240 200	180 150 120	600 100		190 160 130	190 160 130	2450
		Austenitic/Ferritic			160 130	180 150 120	400 100		190 160 100	190 160 130	
		Austenitic/Ferritic, Low S			160 130	180 150 120	400 100		140 110	160 130 100	
Heat resistant alloys	200	Annealed					50 20		40 20	40 20	3000
	280	Aged					50 20		35 15	35 15	3050
	250	Annealed					40 15		25 6	25 8	3500
	350	Aged					35 20		15 4	15 4	4150
	320	Cast					25 10		15 4	15 4	4150
Titanium alloys	400	Ti					140 80			80 130	1530
	950	Cast a, almost a and a+b					45 25			15 35	1675
	1050	Aged cast a+b					45 25			15 35	1690

Material <b>K</b>	HB	Condition	Cutting speed m/min.						Specific cutting force K <sub>c,0.4</sub>
			KM 15	TIN 17	NC 25	TIN 16	TIN 22	ZR 10	
			0.2-0.5-1.0		0.2-0.5-1.0	0.2-0.5	0.2-0.5-1.0		
Hardened steel	350	Hardened steel	27 16 10	180 150 110		175 145 100			4500
	250	Manganese steel 12%	65 40 16	120 90 60		120 85 50			3600
Malleable cast iron	130	Ferritic	105 75 45	250 180 100		225 150 90			1100
	230	Pearlitic	80 60 30	160 100 60		155 95 55			1100
Cast iron	180	Low tensile strength	135 95 60	180 120 80	300 200	165 110 70			1100
	260	High tensile strength	95 65 40	140 105 60	250 180	120 90 55			1500
Nodular SG iron	160	Ferritic	115 80 45	220 180 100	250 180				1100
	250	Pearlitic	80 50 30	150 100 50	180 120				1800
Chilled cast iron	400		17 11	17 11					3000
Aluminium alloys	60	Non heat treatable	1750 1280 800	1750 1280 800				1750 1280 800	500
	100	Heat treatable	510 370 250	510 370 250				510 370 250	800
Aluminium alloys (Cast)	75	Non heat treatable	460 285 175	460 285 175				460 285 175	750
	90	Heat treatable	300 180 110	300 180 110				300 180 110	900
Bronze - Brass alloys	110	Lead alloys, Pb > 1%	610 430 295	610 430 295				610 430 295	700
	90	Brass and bronze	310 250 195	310 250 195				310 250 195	750
	100	Inc. electrolytic copper	225 160 115	225 160 115				225 160 115	1750
Other materials		Hard plastics	380 240	380 240				380 240	
		Fibre	190 120	190 120				190 120	
		Hard rubber	225 160	225 160				225 160	

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