



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

**D02**

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

**D03**

**Microturn**

.....  
.....

**D04**

**Center screw toolholders**

.....  
.....

**D08**

**Other applications**  
**Autres applications**  
**Andere Anwendungen**

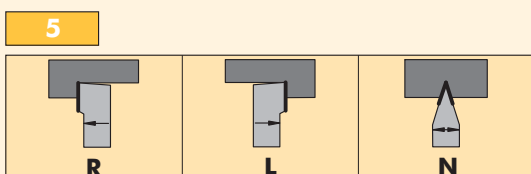
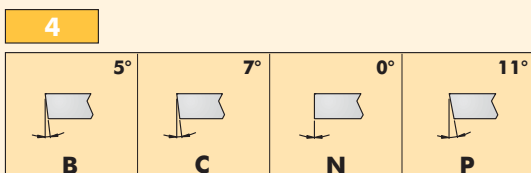
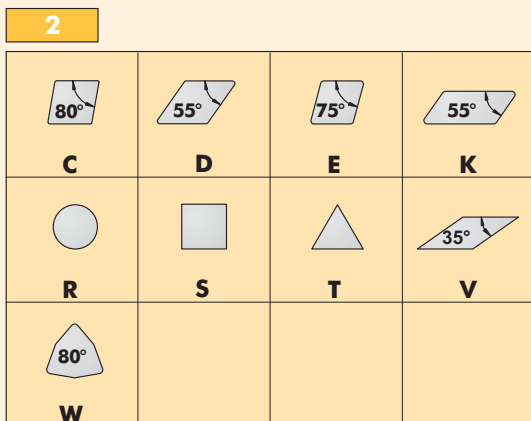
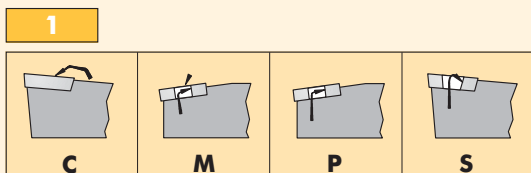
**D11**

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

**D12**

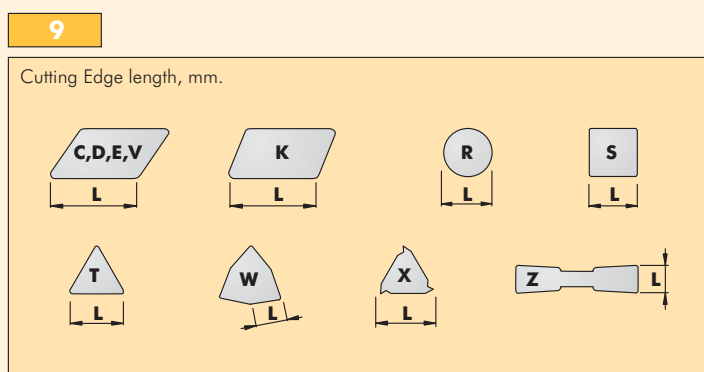
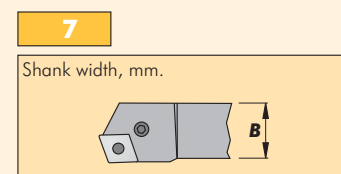
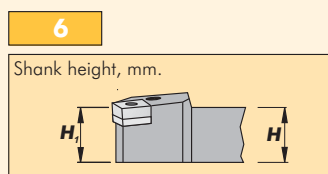
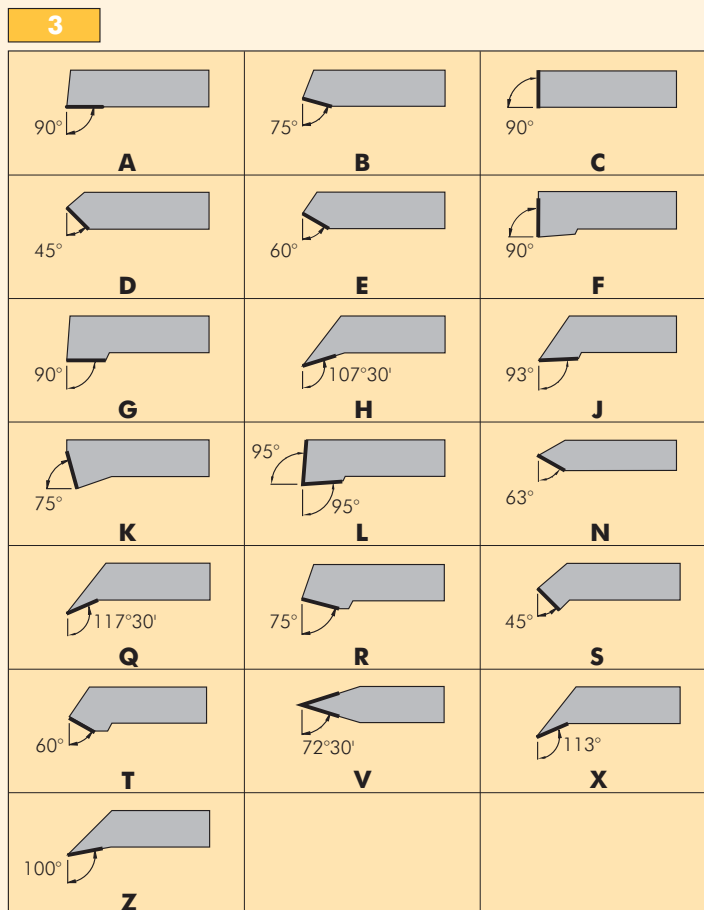
- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

<b>S</b>	<b>C</b>	<b>A</b>	<b>C</b>	<b>R</b>	<b>12</b>	<b>12</b>	<b>M</b>	<b>09</b>
1	2	3	4	5	6	7	8	9






**8**

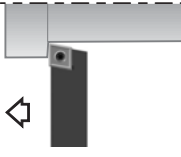
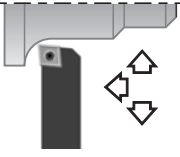
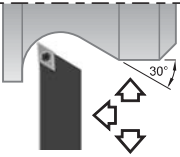
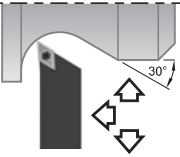
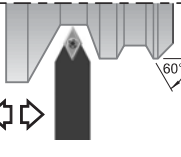
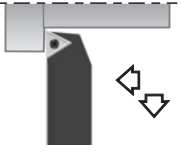
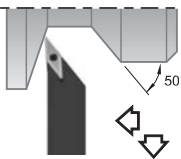
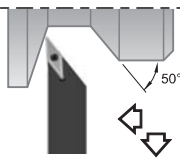
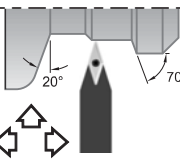
Tool length, mm. 	<b>D</b>	60	<b>P</b>	170
	<b>E</b>	70	<b>R</b>	200
	<b>F</b>	80	<b>S</b>	250
	<b>H</b>	100	<b>T</b>	300
	<b>K</b>	125	<b>U</b>	350
	<b>L</b>	140	<b>V</b>	400
	<b>M</b>	150	<b>X</b>	Special



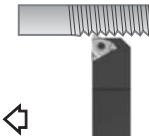
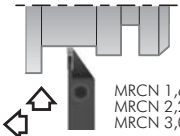
Microturn - ... - ...

<p><b>STHE</b></p>  <p>Page D.04</p>	<p><b>MT</b></p>  <p>Page D.06</p>	<p>608.00 611.00 614.00 616.00</p>  <p>Page D.07</p>			
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Center screw toolholders - ... - ...

<p><b>SCAC 90°</b></p>  <p>Page D.08 CC.. 0602.. CC.. 09T3..</p>	<p><b>SCLC 95°</b></p>  <p>Page D.08 CC.. 0602.. CC.. 09T3..</p>	<p><b>SDAC 90°</b></p>  <p>Page D.08 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDJC 93°</b></p>  <p>Page D.09 DC.. 0702.. DC.. 11T3..</p>	<p><b>SDNC 63°</b></p>  <p>Page D.09 DC.. 0702.. DC.. 11T3..</p>	<p><b>STJC 93°</b></p>  <p>Page D.09 TC.. 1102..</p>
<p><b>SVAC 90°</b></p>  <p>Page D.10 VC.. 1103.. VC.. 1604..</p>	<p><b>SVJC 93°</b></p>  <p>Page D.10 VC.. 1103.. VC.. 1604..</p>	<p><b>SVVC 72° 30'</b></p>  <p>Page D.10 VC.. 1103..</p>			

Other applications - Autres applications - Schnittdaten

<p><b>SXAN 90°</b></p>  <p>Threading Page D.11 08 ER/L.. 11 ER/L.. 16 ER/L..</p>	<p><b>CZCB</b></p>  <p>MRCN 1,6 MRCN 2,2 MRCN 3,0 Parting and grooving Page D.11</p>				
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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

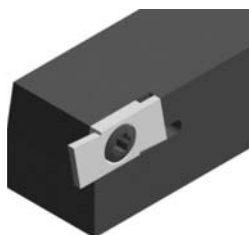
Milling cutters



Solid carbide

Boring heads

Arbors & adaptors

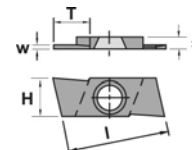
**STHE**



REF.	h	h1	B	L	f	Gl..		
<b>STHER/L0808M07</b>	8	8	8	150	8	Gl..	130	508
<b>STHER/L1010M07</b>	10	10	10	150	10	Gl..	130	508
<b>STHER/L1212M07</b>	12	12	12	150	12	Gl..	130	508
<b>STHER/L1616M07</b>	16	16	16	150	16	Gl..	130	508



REF.	l	s	H
<b>Gl..</b>	17,00	2,00	7,00



For more information see page: A.72



**KIT STHE**

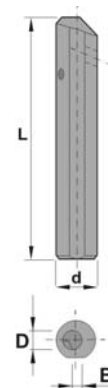
REF.	Holder	Inserts										
<b>KIT STHER08</b>	STHER0808M07	GISG09R	GISG11R	GISG13R	GISG16R	GISG185R	GIGP20RN	GIGW55R	GIGW60R	GIST3R	GISC3R	
<b>KIT STHEL08</b>	STHEL0808M07	GISG09L	GISG11L	GISG13L	GISG16L	GISG185L	GIGP20LN	GIGW55L	GIGW60L	GIST3L	GISC3L	
<b>KIT STHER10</b>	STHER1010M07	GISG09R	GISG11R	GISG13R	GISG16R	GISG185R	GIGP20RN	GIGW55R	GIGW60R	GIST3R	GISC3R	
<b>KIT STHEL10</b>	STHEL1010M07	GISG09L	GISG11L	GISG13L	GISG16L	GISG185L	GIGP20LN	GIGW55L	GIGW60L	GIST3L	GISC3L	
<b>KIT STHER12</b>	STHER1212M07	GISG09R	GISG11R	GISG13R	GISG16R	GISG185R	GIGP20RN	GIGW55R	GIGW60R	GIST3R	GISC3R	
<b>KIT STHEL12</b>	STHEL1212M07	GISG09L	GISG11L	GISG13L	GISG16L	GISG185L	GIGP20LN	GIGW55L	GIGW60L	GIST3L	GISC3L	
<b>KIT STHER16</b>	STHER1616M07	GISG09R	GISG11R	GISG13R	GISG16R	GISG185R	GIGP20RN	GIGW55R	GIGW60R	GIST3R	GISC3R	
<b>KIT STHEL16</b>	STHEL1616M07	GISG09L	GISG11L	GISG13L	GISG16L	GISG185L	GIGP20LN	GIGW55L	GIGW60L	GIST3L	GISC3L	



**00.30**



REF.	L	d	B	D	CTI		
<b>00.30.12.04</b>	100	12	2,35	2,5 / 4,2	04..	157	525
<b>00.30.16.06</b>	120	16	2,80	8,2	06..	156	503



Inserts

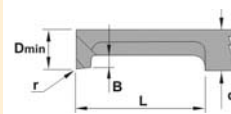
Turning

Automatic lathes

**AR**



REF.	L	d	B	Dmin	r
<b>CTI 0402 AR</b>	15	4	0,8	4,2	0,2
<b>CTI 0602 AR</b>	20	6	1,8	6,2	0,2



Turning tool

Ceramic tools

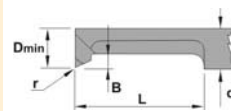
Parting & grooving

Threading

**BR**



REF.	L	d	B	Dmin	r
<b>CTI 0402 BR</b>	15	4	0,8	4,2	0,2
<b>CTI 0602 BR</b>	20	6	1,8	6,2	0,2



Copying tool

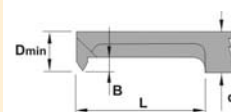
Drills

Cartridges

**CR**



REF.	L	d	B	Dmin	r
<b>CTI 0400 CR</b>	15	4	0,8	M5	-
<b>CTI 0600 CR</b>	20	6	1,8	M8	-



Threading tool

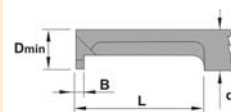
Brazed tools

Milling cutters

**DR**



REF.	L	d	B	Dmin	r
<b>CTI 0410 DR</b>	15	4	1,0	4,2	-
<b>CTI 0615 DR</b>	20	6	1,8	6,2	-



Grooving tool

Solid carbide



Boring heads

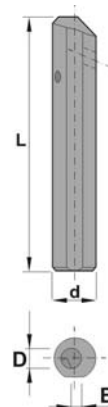
Arbors & adaptors

Inserts

**KIT MT12**



REF.	L	d	B	D	r		
<b>00.30.12.04</b>	100	12	2,35	2,5 / 4,2	-	157	525
<b>CTI 0402 AR</b>	15	4	0,8	4,2	0,2		
<b>CTI 0402 BR</b>	15	4	0,8	4,2	0,2		
<b>CTI 0404 CR</b>	15	4	0,8	M5	-		
<b>CTI 0410 DR</b>	15	4	1,0	4,2	-		



Turning



Automatic lathes

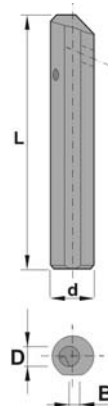
Ceramic tools

Parting & grooving

**KIT MT16**



REF.	L	d	B	D	r		
<b>00.30.16.06</b>	120	16	2,8	8,2	-	156	503
<b>CTI 0602 AR</b>	20	6	1,8	6,2	0,2		
<b>CTI 0602 BR</b>	20	6	1,8	6,2	0,2		
<b>CTI 0600 CR</b>	20	6	1,8	M8	-		
<b>CTI 0615 DR</b>	20	6	1,8	6,2	-		



Threading



Drills

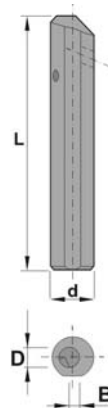
Cartridges

Brazed tools

**KIT MT**



REF.	L	d	B	D	r		
<b>00.30.12.04</b>	100	12	2,35	2,5 / 4,2	-	157	525
<b>00.30.16.06</b>	120	16	2,80	8,2	-	156	503
<b>CTI 0402 AR</b>	15	4	0,8	4,2	0,2		
<b>CTI 0602 AR</b>	20	6	1,8	6,2	0,2		
<b>CTI 0402 BR</b>	15	4	0,8	4,2	0,2		
<b>CTI 0602 BR</b>	20	6	1,8	6,2	0,2		
<b>CTI 0400 CR</b>	15	4	0,8	M5	-		
<b>CTI 0600 CR</b>	20	6	1,8	M8	-		
<b>CTI 0410 DR</b>	15	4	1,0	4,2	-		
<b>CTI 0615 DR</b>	20	6	1,8	6,2	-		



Milling cutters



Solid carbide

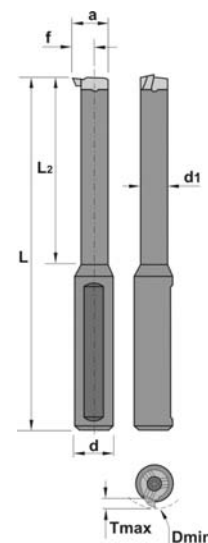
Boring heads

Arbors & adaptors

608.00  
611.00  
614.00  
616.00



REF.	Dmin	d	d1	L	L2	$\alpha$	f	Tmax	R/LS..		
608.0012.2 HM	8	12	6	90	30	7,8	4,8	1,0	R/LS08	706	508
611.0012.2 HM	11	12	8	110	42	10,7	6,7	2,3	R/LS11	735	530
614.0012.2 HM	14	12	-	110	45	13,8	9,0	4,0	R/LS14	734	515
616.0012.2 HM	16	12	11	130	56	15,7	10,2	4,3	R/LS16	745	520



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

**KIT 608...616**

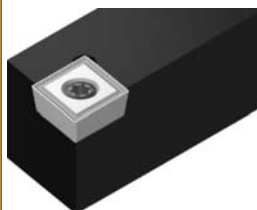
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<b>KIT 6080012</b>	608.0012.2 HM	RS008.0090	RS008.0110	RS008.0130	RS008.0160	RS08.0815.01
<b>KIT 6110012</b>	611.0012.2 HM	RS011.0090	RS011.0110	RS011.0130	RS011.0160	RS11.0815.01
<b>KIT 6140012</b>	614.0012.2 HM	RS014.0090	RS014.0110	RS014.0130	RS014.0160	RS14.0815.01
<b>KIT 6160012</b>	616.0012.2 HM	RS016.0090	RS016.0110	RS016.0130	RS016.0160	RS16.0815.01



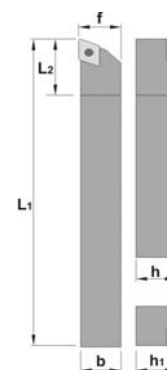


Inserts

**SCAC 90°**



REF.	h=h1	b	L1	L2	f	CC..		
SCAC R/L 0808 M06	8	8	150	8	8	0602..	125	507
SCAC R/L 1010 M06	10	10	150	10	10	0602..	125	507
SCAC R/L 1212 M06	12	12	150	12	12	0602..	125	507
SCAC R/L 1616 M06	16	16	150	16	16	0602..	125	507
SCAC R/L 1212 M09	12	12	150	12	12	09T3..	140	515
SCAC R/L 1616 M09	16	16	150	16	16	09T3..	140	515



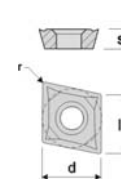
Turning

Automatic lathes

Ceramic tools



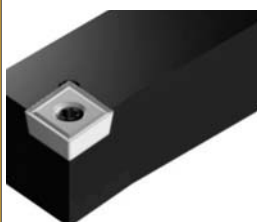
REF.	l	s	d
CC.. 0602..	6,45	2,38	6,35
CC.. 09T3..	9,65	3,97	9,52



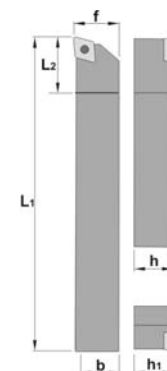
For more information see page: A.38

Parting & grooving

**SCLC 95°**



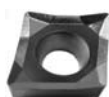
REF.	h=h1	b	L1	L2	f	CC..		
SCLC R/L 0808 M06	8	8	150	8	8	0602..	125	507
SCLC R/L 1010 M06	10	10	150	10	10	0602..	125	507
SCLC R/L 1212 M06	12	12	150	12	12	0602..	125	507
SCLC R/L 1616 M06	16	16	150	16	16	0602..	125	507
SCLC R/L 1212 M09	12	12	150	12	12	09T3..	140	515
SCLC R/L 1616 M09	16	16	150	16	16	09T3..	140	515



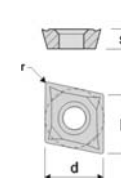
Threading

Drills

Cartridges



REF.	l	s	d
CC.. 0602..	6,45	2,38	6,35
CC.. 09T3..	9,65	3,97	9,52



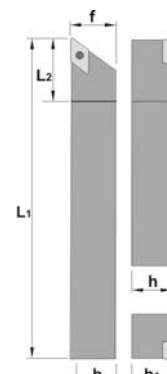
For more information see page: A.38

Brazed tools

**SDAC 90°**



REF.	h=h1	b	L1	L2	f	DC..		
SDAC R/L 0808 M07	8	8	150	12,7	8	0702..	125	507
SDAC R/L 1010 M07	10	10	150	15,0	10	0702..	125	507
SDAC R/L 1212 M07	12	12	150	15,0	12	0702..	125	507
SDAC R/L 1616 M07	16	16	150	16,0	16	0702..	125	507
SDAC R/L 1212 M11	12	12	150	18,0	12	11T3..	140	515
SDAC R/L 1616 M11	16	16	150	20,0	16	11T3..	140	515



Milling cutters

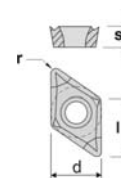
Solid carbide

Boring heads

Arbors & adaptors

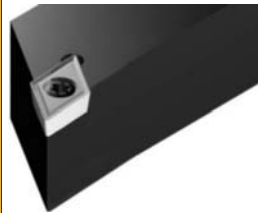


REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52

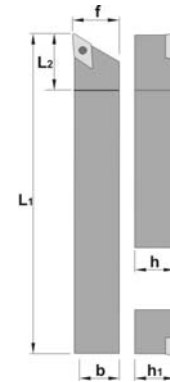


For more information see page: A.41

**SDJC 93°**



REF.	h=h1	b	L1	L2	f	DC..		
SDJC R/L 0808 M07	8	8	150	8	8	0702..	125	507
SDJC R/L 1010 M07	10	10	150	10	10	0702..	125	507
SDJC R/L 1212 M07	12	12	150	12	12	0702..	125	507
SDJC R/L 1616 M07	16	16	150	16	16	0702..	125	507
SDJC R/L 1212 M11	12	12	150	12	12	11T3..	140	515
SDJC R/L 1616 M11	16	16	150	16	16	11T3..	140	515



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

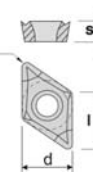
Solid carbide

Boring heads

Arbors & adaptors



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

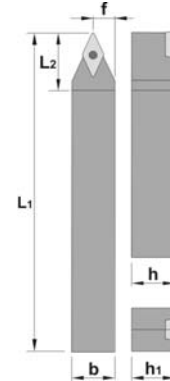


For more information see page: A.41

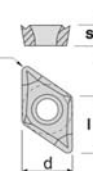
**SDNC 63°**



REF.	h=h1	b	L1	L2	f	DC..		
SDNC N 1010 M07	10	10	150	15	5,2	0702..	125	507
SDNC N 1212 M11	12	12	150	21	6,2	11T3..	140	515
SDNC N 1616 M11	16	16	150	21	8,6	11T3..	140	515

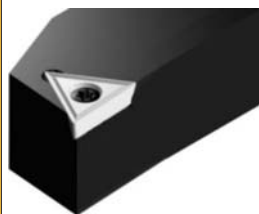


REF.	l	s	d
DC.. 0702..	7,75	2,38	6,35
DC.. 11T3..	11,60	3,97	9,52

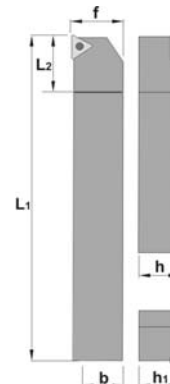


For more information see page: A.41

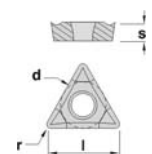
**STJC 93°**



REF.	h=h1	b	L1	L2	f	TC..		
STJC R/L 1010 M11	10	10	150	16	10	1102..	125	507
STJC R/L 1212 M11	12	12	150	16	12	1102..	125	507
STJC R/L 1616 M11	16	16	150	16	16	1102..	125	507



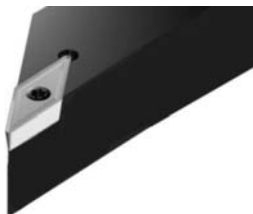
REF.	l	s	d
TC.. 1102..	11,00	2,38	6,35



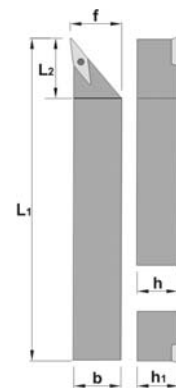
For more information see page: A.51,52

Inserts

**SVAC 90°**



REF.	h=h1	b	L1	L2	f	VC..		
SVAC R/L 0808 M11	8	8	150	26	8	1103..	125	507
SVAC R/L 1010 M11	10	10	150	26	10	1103..	125	507
SVAC R/L 1212 M11	12	12	150	26	12	1103..	125	507
SVAC R/L 1616 M11	16	16	150	26	16	1103..	125	507
SVAC R/L 1212 M16	12	12	150	40	12	1604..	140	515
SVAC R/L 1616 M16	16	16	150	40	16	1604..	140	515



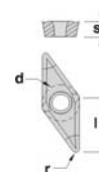
Turning

Automatic lathes

Ceramic tools



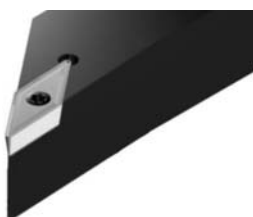
REF.	l	s	d
VC.. 1103..	11,00	3,18	6,35
VC.. 1604..	16,50	4,76	9,52



For more information see page: A.55,56

Parting & grooving

**SVJC 93°**



REF.	h=h1	b	L1	L2	f	VC..		
SVJC R/L 0808 M11	8	8	150	26	8	1103..	125	507
SVJC R/L 1010 M11	10	10	150	26	10	1103..	125	507
SVJC R/L 1212 M11	12	12	150	26	12	1103..	125	507
SVJC R/L 1616 M11	16	16	150	26	16	1103..	125	507
SVJC R/L 1212 M16	12	12	150	40	12	1604..	140	515
SVJC R/L 1616 M16	16	16	150	40	16	1604..	140	515



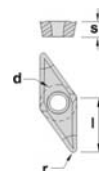
Threading

Drills

Cartridges



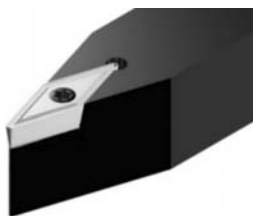
REF.	l	s	d
VC.. 1103..	11,00	3,18	6,35
VC.. 1604..	16,50	4,76	9,52



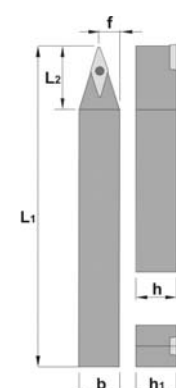
For more information see page: A.55,56

Brazed tools

**SVVC 72° 30'**



REF.	h=h1	b	L1	L2	f	VC..		
SVVC N 0808 M11	8	8	150	21	4,3	1103..	125	507
SVVC N 1010 M11	10	10	150	21	5,3	1103..	125	507
SVVC N 1212 M11	12	12	150	21	6,3	1103..	125	507
SVVC N 1616 M11	16	16	150	21	8,3	1103..	125	507



Milling cutters

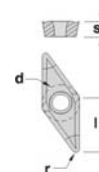
Solid carbide

Boring heads

Arbors & adaptors

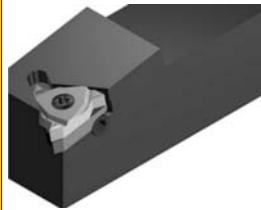


REF.	l	s	d
VC.. 1103..	11,00	3,18	6,35

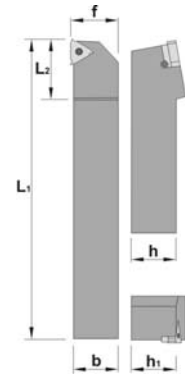


For more information see page: A.55,56

**SXAN 90°**



REF.	h=h1	b	L1	L2	f	ER/L..	
<b>SXAN R/L 0808 M08</b>	8	8	150	20	8	08	125 507 - - -
<b>SXAN R/L 1010 M08</b>	10	10	150	20	10	08	125 507 - - -
<b>SXAN R/L 1212 M11</b>	12	12	150	20	12	11	125 507 - - -
<b>SXAN R/L 1616 M16</b>	16	16	150	20	16	16	133 515 436 435 203

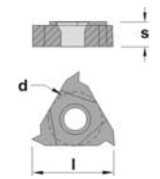


Inserts

Turning

Automatic lathes

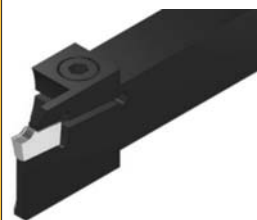
REF.	l	d
<b>08 ER/L..</b>	8,00	4,76
<b>11 ER/L..</b>	11,00	6,35
<b>16 ER/L..</b>	16,50	9,52



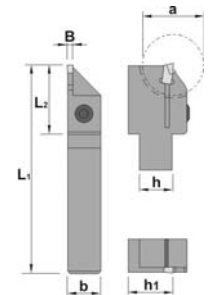
For more information see page: A.59

Ceramic tools

**CZCB**



REF.	h	b	L1	L2	h1	B	α	MRCN	
<b>CZCB R/L 1010 J01</b>	10	10	110	25	21	1,6	22	1,6	107 504
<b>CZCB R/L 1010 J02</b>	10	10	110	25	21	2,2	22	2,2	107 504
<b>CZCB R/L 1212 J01</b>	12	12	110	25	21	1,6	22	1,6	107 504
<b>CZCB R/L 1212 J02</b>	12	12	110	25	21	2,2	22	2,2	107 504
<b>CZCB R/L 1612 J02</b>	16	12	110	29	21	2,2	32	2,2	199 505
<b>CZCB R/L 1612 J03</b>	16	12	110	29	21	3,0	32	3,0	199 505
<b>CZCB R/L 2016 K03</b>	20	16	125	35	30	3,0	42	3,0	109 505
<b>CZCB R/L 2016 K04</b>	20	16	125	35	30	4,0	42	4,0	109 505
<b>CZCB R/L 2016 K05</b>	20	16	125	35	30	5,0	42	5,0	109 505
<b>CZCB R/L 2016 K06</b>	20	16	125	35	30	6,0	42	6,0	109 505
<b>CZCB R/L 2520 M03</b>	25	20	150	50	30	3,0	80	3,0	109 505
<b>CZCB R/L 2520 M04</b>	25	20	150	50	30	4,0	80	4,0	109 505
<b>CZCB R/L 2520 M05</b>	25	20	150	50	30	5,0	80	5,0	109 505
<b>CZCB R/L 2520 M06</b>	25	20	150	50	30	6,0	80	6,0	109 505

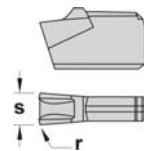


Parting & grooving

Threading

Drills

REF.	s	r
<b>MRCN 1,6</b>	1,6	0,15
<b>MRCN 2,2</b>	2,2	0,20
<b>MRCN 3,0</b>	3,0	0,20
<b>MRCN 4,0</b>	4,0	0,20
<b>MRCN 5,0</b>	5,0	0,30
<b>MRCN 6,0</b>	6,0	0,40



For more information see page: A.67

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

Inserts

Turning

## Nominal cutting speed and feed values for automatic lathes

Material	P	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		
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	

Automatic lathes

Ceramic tools

Parting & grooving

Material	M	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% Austenitic/Ferritic Austenitic/Ferritic, Low S	205 170		240 200	180 150 120	600 100		190 160 130	190 160 130	2450												
												160 130	180 150 120	400 100	190 160 100	190 160 130							
																	160 130	180 150 120	400 100	140 110	160 130 100		
Heat resistant alloys	200 280 250 350 320	Annealed Aged Annealed Aged Cast					50 20		40 20	40 20	3000												
												3050	3500	4150	4150								
																35 15	35 15	25 8	25 8				
																				40 15	40 15	15 4	15 4
25 10	25 10	15 4	15 4																				
				Titanium alloys	400 950 1050	Ti Cast a, almost a and a+b Aged cast a+b					140 80		80 130	15 35	1530								
1675	1690																						
		45 25	45 25													15 35	15 35						

Threading

Drills

Cartridges

Material	K	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		
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		

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors



Inserts

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