



Applications
Applications
Anwendungen

G02

External threading
Filetage extérieur
Außen-Gewindedrehen

G03

Internal threading
Filetage intérieur
Innen-Gewindedrehen

G06

Technical information
Information technique
Technische Auskunft

G09

External threading - Filetage extérieur - Außen-Gewindedrehen

Inserts

Turning

Automatic lathes

Ceramic tools

<p>SXAN 90°</p>  <p>08 ER/L.. 11 ER/L.. 16 ER/L.. 22 ER/L.. Page G.03</p>	<p>STAN 90°</p>  <p>16 ER/L.. 22 ER/L.. 27 ER/L.. Page G.03</p>	<p>CTAN 90°</p>  <p>16 ER/L.. 22 ER/L.. 27 ER/L.. Page G.03</p>	<p>SXGN 90°</p>  <p>Page G.04 R/L 166G-3.. R/L 166G-4..</p>	<p>STXN 90°</p>  <p>Page G.04 16 ER/L.. 22 ER/L.. 27 ER/L..</p>	<p>CTXN 90°</p>  <p>Page G.04 16 ER/L.. 22 ER/L.. 27 ER/L..</p>
<p>STCN 90°</p>  <p>Page G.05 TNMC 1603.. TNMC 1603.. TNMC 2204.. TNMC 2204..</p>	<p>CXAP 90°</p>  <p>Page G.05 R/L 166-3.. R/L 166-4..</p>				

Internal threading - Filetage intérieur - Innen-Gewindedrehen

Parting & grooving

Threading

<p>SXFN 90°</p>  <p>Page G.06 11 NR/L.. 22 NR/L..</p>	<p>STXN 90°</p>  <p>Page G.07 16 NR/L.. 22 NR/L.. 27 NR/L..</p>	<p>CTXN 90°</p>  <p>Page G.07 16 NR/L.. 22 NR/L.. 27 NR/L..</p>	<p>STGN 90°</p>  <p>Page G.07 TNMC 1603.. TNMC 2204..</p>	<p>STGP 90°</p>  <p>Page G.08 TPMC 1603.. TPMC 2204..</p>	<p>CXFP 90°</p>  <p>Page G.08 R/L 166-2.. R/L 166-3.. R/L 166-4..</p>
---	---	---	--	---	---

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

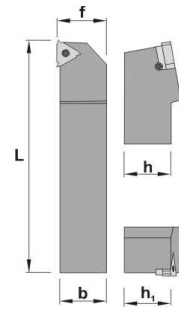
Boring heads

Arbors & adaptors

SXAN 90°



REF.	h-h1	b	L	f	ER/L					
SXAN R/L 0808 M08	8	8	150	8	08	125	507	-	-	-
SXAN R/L 1010 M08	10	10	150	10	08	125	507	-	-	-
SXAN R/L 1212 M11	12	12	150	12	11	125	507	-	-	-
SXAN R/L 1616 H16	16	16	100	16	16	133	515	436	435	203
SXAN R/L 1616 M16	16	16	150	16	16	133	515	436	435	203
SXAN R/L 2020 K16	20	20	125	20	16	133	515	436	435	203
SXAN R/L 2525 M16	25	25	150	25	16	133	515	436	435	203
SXAN R/L 3232 P16	32	32	170	32	16	133	515	436	435	203
SXAN R/L 2525 M22	25	25	150	25	22	141	515	343	346	204
SXAN R/L 3232 P22	32	32	170	32	22	141	515	343	346	204



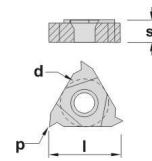
Inserts

Turning

Automatic lathes

Ceramic tools

REF.	l	d
08 ER/L..	8,00	4,76
11 ER/L..	11,00	6,35
16 ER/L..	16,00	9,52
22 ER/L..	22,00	12,70

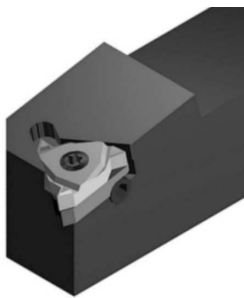


For more information see page: A.59

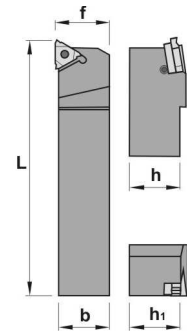
Parting & grooving

Threading

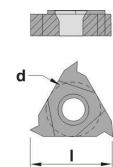
STAN 90°



REF.	h-h1	b	L	f	ER/L					
STAN R/L 1616 H16	16	16	100	16	16	SA3	530	YE3	YI3	SY3
STAN R/L 2020 K16	20	20	125	20	16	SA3	530	YE3	YI3	SY3
STAN R/L 2525 M16	25	25	150	25	16	SA3	530	YE3	YI3	SY3
STAN R/L 3232 P16	32	32	170	32	16	SA3	530	YE3	YI3	SY3
STAN R/L 2525 M22	25	25	150	25	22	SA4	520	YE4	YI4	SY4
STAN R/L 3232 P22	32	32	170	32	22	SA4	520	YE4	YI4	SY4
STAN R/L 4040 R22	40	40	200	40	22	SA4	520	YE4	YI4	SY4
STAN R/L 3232 P27	32	32	170	32	27	SA5	552	YE5	YI5	SY5
STAN R/L 4040 R27	40	40	200	40	27	SA5	552	YE5	YI5	SY5
STAN R/L 5050 S27	50	50	250	50	27	SA5	552	YE5	YI5	SY5



REF.	l	d
16 ER/L..	16,00	9,52
22 ER/L..	22,00	12,70
27 ER/L..	27,50	15,88

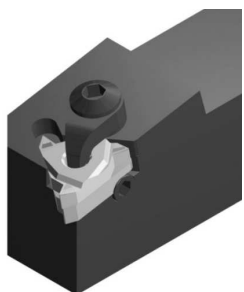


For more information see page: A.59

Cartridges

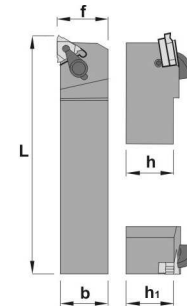
Brazed tools

CTAN 90°

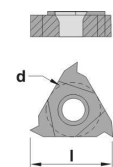


REF.	h-h1	b	L	f	ER/L						
CTAN R/L 2020 K16	20	20	125	20	16	216	515	YE3	YI3	SY3	SA3
CTAN R/L 2525 M16	25	25	150	25	16	216	515	YE3	YI3	SY3	SA3
CTAN R/L 3232 P16	32	32	170	32	16	216	515	YE3	YI3	SY3	SA3
CTAN R/L 2525 M22	25	25	150	25	22	214	515	YE4	YI4	SY4	SA4
CTAN R/L 3232 P22	32	32	170	32	22	214	515	YE4	YI4	SY4	SA4
CTAN R/L 4040 R22	40	40	200	40	22	214	515	YE4	YI4	SY4	SA4
CTAN R/L 3232 P27	32	32	170	32	27	217	552	YE5	YI5	SY5	SA5
CTAN R/L 4040 R27	40	40	200	40	27	217	552	YE5	YI5	SY5	SA5
CTAN R/L 5050 S27	50	50	250	50	27	217	552	YE5	YI5	SY5	SA5

Optional



REF.	l	d
16 ER/L..	16,00	9,52
22 ER/L..	22,00	12,70
27 ER/L..	27,50	15,88



For more information see page: A.59

Milling cutters

Solid carbide

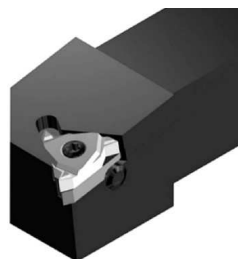
Boring heads

Arbors & adaptors

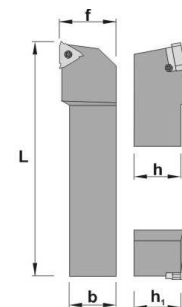


Inserts

SXGN 90°



REF.	h-h1	b	L	f	ER/L					
SXGN R/L 1212 F16	12	12	80	16	16	133	515	436	435	203
SXGN R/L 1616 H16	16	16	100	20	16	133	515	436	435	203
SXGN R/L 2020 K16	20	20	125	25	16	133	515	436	435	203
SXGN R/L 2525 M16	25	25	150	32	16	133	515	436	435	203
SXGN R/L 3232 P16	32	32	170	40	16	133	515	436	435	203
SXGN R/L 2525 M22	25	25	150	32	22	141	515	343	346	204
SXGN R/L 3232 P22	32	32	170	40	22	141	515	343	346	204



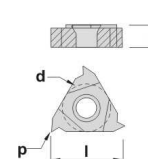
Turning

Automatic lathes

Ceramic tools



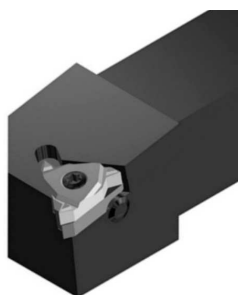
REF.	l	d
16 ER/L..	16,00	9,52
22 ER/L..	22,00	12,70



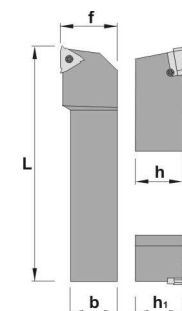
For more information see page: A.59

Parting & grooving

STXN 90°



REF.	h-h1	b	L	f	ER/L					
STXN R/L 1212 F16	12	12	80	16	16	SA3	530	YE3	YI3	SY3
STXN R/L 1616 H16	16	16	100	20	16	SA3	530	YE3	YI3	SY3
STXN R/L 2020 K16	20	20	125	25	16	SA3	530	YE3	YI3	SY3
STXN R/L 2525 M16	25	25	150	25	16	SA3	530	YE3	YI3	SY3
STXN R/L 3232 P16	32	32	170	40	16	SA3	530	YE3	YI3	SY3
STXN R/L 2525 M22	25	25	150	32	22	SA4	520	YE4	YI4	SY4
STXN R/L 3232 P22	32	32	170	40	22	SA4	520	YE4	YI4	SY4
STXN R/L 4040 R22	40	40	200	50	22	SA4	520	YE4	YI4	SY4
STXN R/L 2525 M27	25	25	150	32	27	SA5	552	YE5	YI5	SY5
STXN R/L 3232 P27	32	32	170	40	27	SA5	552	YE5	YI5	SY5
STXN R/L 4040 R27	40	40	200	50	27	SA5	552	YE5	YI5	SY5
STXN R/L 5050 S27	50	50	250	60	27	SA5	552	YE5	YI5	SY5



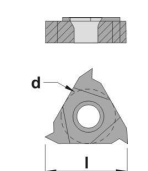
Threading

Drills

Cartridges



REF.	l	d
16 ER/L..	16,00	9,52
22 ER/L..	22,00	12,70
27 ER/L..	27,50	15,88



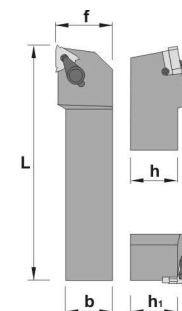
For more information see page: A.59

Brazed tools

CTXN 90°



REF.	h-h1	b	L	f	ER/L						
CTXN R/L 1212 F16	12	12	80	16	16	216	515	YE3	YI3	SY3	SA3
CTXN R/L 1616 H16	16	16	100	20	16	216	515	YE3	YI3	SY3	SA3
CTXN R/L 2020 K16	20	20	125	25	16	216	515	YE3	YI3	SY3	SA3
CTXN R/L 2525 M16	25	25	150	32	16	216	515	YE3	YI3	SY3	SA3
CTXN R/L 3232 P16	32	32	170	40	16	216	515	YE3	YI3	SY3	SA3
CTXN R/L 2525 M22	25	25	150	32	22	214	515	YE4	YI4	SY4	SA4
CTXN R/L 3232 P22	32	32	170	40	22	214	515	YE4	YI4	SY4	SA4
CTXN R/L 4040 R22	40	40	200	50	22	214	515	YE4	YI4	SY4	SA4
CTXN R/L 2525 M27	25	25	150	32	27	217	552	YE5	YI5	SY5	SA5
CTXN R/L 3232 P27	32	32	170	40	27	217	552	YE5	YI5	SY5	SA5
CTXN R/L 4040 R27	40	40	200	50	27	217	552	YE5	YI5	SY5	SA5
CTXN R/L 5050 S27	50	50	250	60	27	217	552	YE5	YI5	SY5	SA5



Optional

Milling cutters

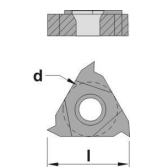
Solid carbide

Boring heads

Arbors & adaptors

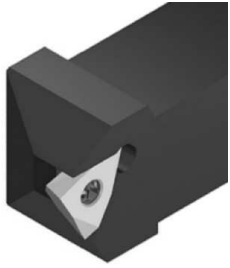


REF.	l	d
16 ER/L..	16,00	9,52
22 ER/L..	22,00	12,70
27 ER/L..	27,50	15,88

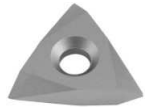
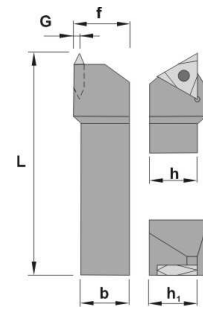


For more information see page: A.59

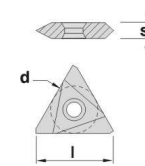
STCN 90°



REF.	h-h1	b	L	f	G	T..MC		
STCN R/L 1212 F16	12	12	80	16	1,59	1603..	198	502
STCN R/L 1616 H16	16	16	100	19	1,59	1603..	198	502
STCN R/L 2020 K16	20	20	125	22	1,59	1603..	198	502
STCN R/L 2525 M16	25	25	150	32	1,59	1603..	198	502
STCN R/L 3232 P16	32	32	170	38	1,59	1603..	198	502
STCN R/L 2020 K22	20	20	125	22	2,38	2204..	197	525
STCN R/L 2525 M22	25	25	150	32	2,38	2204..	197	525
STCN R/L 3225 P22	32	25	170	32	2,38	2204..	197	525
STCN R/L 3232 P22	32	32	170	38	2,38	2204..	197	525
STCN R/L 2525 M27	25	25	150	32	2,38	2704..	491	503
STCN R/L 3232 P27	32	32	170	38	2,38	2704..	491	503

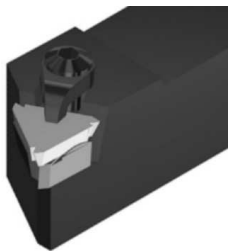


REF.	l	s	d
T..MC 1603..	16,50	3,18	9,52
T..MC 2204..	22,00	4,76	12,70
T..MC 2704..	27,00	4,76	15,80

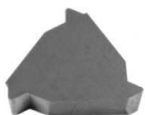
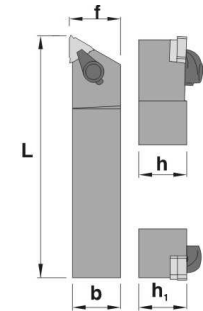


For more information see page: A.65

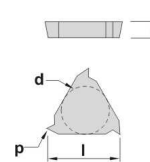
CXAP 90°



REF.	h-h1	b	L	f	R/L				
CXAP R/L 2016 K16	20	16	125	17	166-3..	229	503	318 R/L	403
CXAP R/L 2020 K16	20	20	125	21	166-3..	229	503	318 R/L	403
CXAP R/L 2525 M16	25	25	150	26	166-3..	229	503	318 R/L	403
CXAP R/L 3225 P16	32	25	170	26	166-3..	229	503	318 R/L	403
CXAP R/L 3232 P16	32	32	170	33	166-3..	229	503	318 R/L	403
CXAP R/L 2525 M22	25	25	150	26	166-4..	231	504	330 R/L	403
CXAP R/L 3225 P22	32	25	170	26	166-4..	231	504	330 R/L	403
CXAP R/L 3232 P22	32	32	170	33	166-4..	231	504	330 R/L	403



REF.	l	s	d
R/L 166G-3..	16,50	3,18	9,52
R/L 166G-4..	22,00	4,76	12,70



For more information see page: A.65,66

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

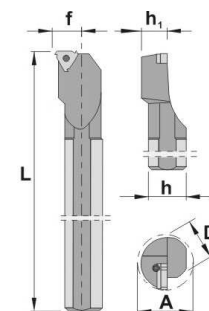


Inserts

SXFN 90°



REF.	D	h	L	f	A	NR/L					
S10K SXFN R/L 11	10	9	125	7,3	13	11	125	507	-	-	-
S16M SXFN R/L 11	16	15	150	8,9	16	11	125	507	-	-	-
S16M SXFN R/L 16	16	15	150	11,5	20	16	137	530	-	-	-
S20Q SXFN R/L 16	20	18	180	13,4	24	16	447	515	435	436	203
S25S SXFN R/L 16	25	23	250	16,3	29	16	131	515	435	436	203
S32T SXFN R/L 16	32	30	300	19,6	36	16	131	515	435	436	203
S40T SXFN R/L 16	40	37	300	23,8	44	16	131	515	435	436	203
S20Q SXFN R/L 22	20	18	180	15,6	27	22	141	515	-	-	-
S25S SXFN R/L 22	25	23	250	17,2	32	22	141	515	346	343	204
S32T SXFN R/L 22	32	30	300	21,5	39	22	141	515	346	343	204
S40T SXFN R/L 22	40	37	300	25,8	47	22	141	515	346	343	204



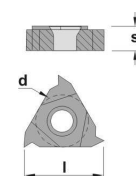
Turning

Automatic lathes

Ceramic tools



REF.	l	d
11 NR/L..	11,00	6,35
16 NR/L..	16,00	9,52
22 NR/L..	22,00	12,70



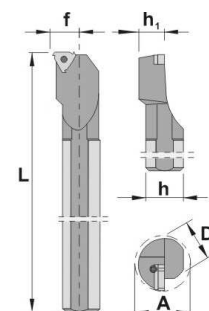
For more information see page: A.60

Parting & grooving

H-SXFN 90°



REF.	D	h	L	f	A	NR/L		
H10K SXFN R/L 11	10	4,5	125	7,3	13	11	125	507
H16M SXFN R/L 11	16	7,5	150	8,9	16	11	125	507
H16M SXFN R/L 16	16	7,5	200	11,5	20	16	137	530



Characteristics:
Boring bars with anti-vibration shank.

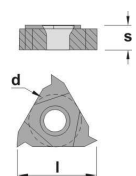
Threading

Drills

Cartridges



REF.	l	d
11 NR/L..	11,00	6,35
16 NR/L..	16,00	9,52



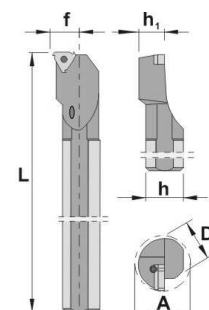
For more information see page: A.60

Brazed tools

J-SXFN 90°



REF.	D	h	L	f	A	NR/L		
J10K SXFN R/L 11	10	4,5	125	7,3	13	11	125	507
J16M SXFN R/L 11	16	7,5	150	8,9	16	11	125	507
J16M SXFN R/L 16	16	7,5	150	11,5	20	16	137	530



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

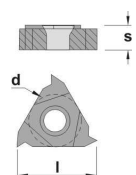
Milling cutters

Solid carbide

Boring heads



REF.	l	d
11 NR/L..	11,00	6,35
16 NR/L..	16,00	9,52



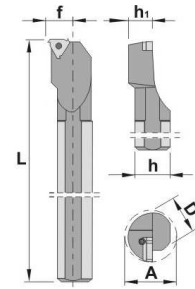
For more information see page: A.60

Arbors & adaptors

STXN 90°



REF.	D	h	h1	L	f	A	NR/L	
S16M STXN R/L 16	16	15	7,5	150	11,5	15,2	16	SN3 530 - - -
S20Q STXN R/L 16	20	18	9,0	180	13,4	18,0	16	SN3 530 YI3 YE3 SY3
S25R STXN R/L 16	25	23	11,5	200	16,3	22,6	16	SA3 530 YI3 YE3 SY3
S32S STXN R/L 16	32	30	15,0	250	19,6	29,0	16	SA3 530 YI3 YE3 SY3
S40T STXN R/L 16	40	37	18,5	300	23,8	36,0	16	SA3 530 YI3 YE3 SY3
S20Q STXN R/L 22	20	18	9,0	180	15,6	18,0	22	SN4 520 - - -
S25R STXN R/L 22	25	23	11,5	200	17,2	22,6	22	SA4 520 YI4 YE4 SY4
S32S STXN R/L 22	32	30	15,0	250	21,5	29,0	22	SA4 520 YI4 YE4 SY4
S40T STXN R/L 22	40	37	18,5	300	25,8	36,0	22	SA4 520 YI4 YE4 SY4
S32S STXN R/L 27	32	30	15,0	250	22,4	40,0	27	SA5 552 YI5 YE5 SY5
S40T STXN R/L 27	40	37	18,5	300	26,4	48,0	27	SA5 552 YI5 YE5 SY5
S50U STXN R/L 27	50	47	23,5	350	31,4	58,0	27	SA5 552 YI5 YE5 SY5
S60V STXN R/L 27	60	57	28,5	400	36,4	69,0	27	SA5 552 YI5 YE5 SY5



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

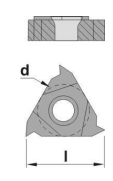
Solid carbide

Boring heads

Arbors & adaptors



REF.	l	d
16 NR/L..	16,00	9,52
22 NR/L..	22,00	12,70
27 NR/L..	27,00	15,87

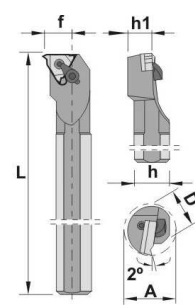


For more information see page: A.60

CTXN 90°



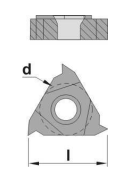
REF.	D	h	h1	L	f	A	NR/L	
S20Q CTXN R/L 16	20	18	9,0	180	13,0	18,0	16	216 515 YI3 YE3 SY3 SN3
S25R CTXN R/L 16	25	23	11,5	200	17,0	22,6	16	216 515 YI3 YE3 SY3 SA3
S32S CTXN R/L 16	32	30	15,0	250	22,0	29,0	16	216 515 YI3 YE3 SY3 SA3
S40T CTXN R/L 16	40	37	18,5	300	27,0	36,0	16	216 515 YI3 YE3 SY3 SA3
S25R CTXN R/L 22	25	23	11,5	200	17,0	22,6	22	214 515 YI4 YE4 SY4 SA4
S32S CTXN R/L 22	32	30	15,0	250	22,0	29,0	22	214 515 YI4 YE4 SY4 SA4
S40T CTXN R/L 22	40	37	18,5	300	27,0	36,0	22	214 515 YI4 YE4 SY4 SA4
S32S CTXN R/L 27	32	30	15,0	250	22,4	40,0	27	217 552 YI5 YE5 SY5 SA5
S40T CTXN R/L 27	40	37	18,5	300	26,4	48,0	27	217 552 YI5 YE5 SY5 SA5
S50U CTXN R/L 27	50	47	23,5	350	31,4	58,0	27	217 552 YI5 YE5 SY5 SA5
S60V CTXN R/L 27	60	58	29,0	400	36,4	69,0	27	217 552 YI5 YE5 SY5 SA5



Optional



REF.	l	d
16 NR/L..	16,00	9,52
22 NR/L..	22,00	12,70
27 NR/L..	27,00	15,87

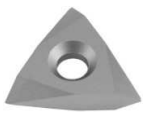
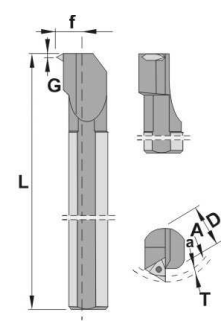


For more information see page: A.60

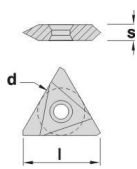
STGN 90°



REF.	D	L	f	A	α	T	G	TNMC	
S32U STGN R/L 16	32	350	21,0	50,4	45	2,7	1,59	1603..	198 502
S40V STGN R/L 16	40	400	25,0	60,4	55	2,7	1,59	1603..	193 502
S32U STGN R/L 22	32	350	21,0	78,2	70	4,1	2,38	2204..	197 525
S40V STGN R/L 22	40	400	25,0	78,2	70	4,1	2,38	2204..	197 525
S50W STGN R/L 22	50	450	36,5	78,2	70	4,1	2,38	2204..	197 525
S40V STGN R/L 27	40	400	25,0	60,4	55	6,0	3,18	2704..	491 503
S50W STGN R/L 27	50	450	36,5	78,2	70	6,0	3,18	2704..	491 503



REF.	l	s	d
TNMC 1603..	16,50	3,18	9,52
TNMC 2204..	22,00	4,76	12,70
TNMC 2704..	27,00	4,76	15,88



For more information see page: A.65

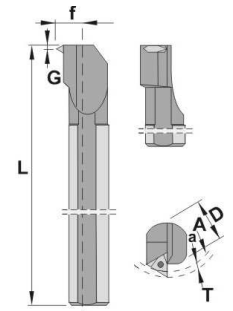


Inserts

STGP 90°



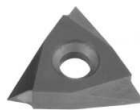
REF.	D	L	f	A	α	T	G	TPMC		
S25T STGP R/L 16	25	300	17,5	50,4	45	2,7	1,59	1603..	193	502
S32U STGP R/L 16	32	350	20,5	50,4	45	2,7	1,59	1603..	193	502
S40V STGP R/L 22	40	400	25,0	78,2	70	4,1	2,38	2204..	197	525
S50W STGP R/L 22	50	450	36,5	78,2	70	4,1	2,38	2204..	197	525



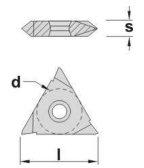
Turning

Automatic lathes

Ceramic tools



REF.	l	s	d
TPMC 1603..	16,50	3,18	9,52
TPMC 2204..	22,00	4,76	12,70



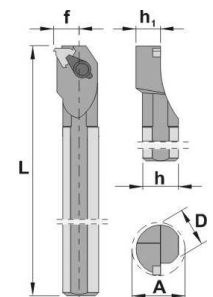
For more information see page: A.65

Parting & grooving

CXFP 90°



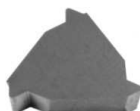
REF.	D	h-h1	L	f	A	R/L		
S16R CXFP R/L 11	16	7,5	200	11	20	166-2..	207	525
S20S CXFP R/L 11	20	9,0	250	13	24	166-2..	207	525
S20S CXFP R/L 16	20	9,0	250	13	24	166-3..	209	503
S25T CXFP R/L 16	25	11,5	300	17	31	166-3..	209	503
S32U CXFP R/L 16	32	15,0	350	22	39	166-3..	229	503
S40V CXFP R/L 22	40	18,5	400	27	38	166-4..	231	504



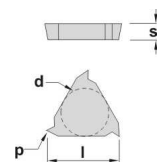
Threading

Drills

Cartridges



REF.	l	s	d
R/L 166L-2..	11,00	3,18	6,35
R/L 166L-3..	16,50	3,18	9,52
R/L 166L-4..	22,00	4,76	12,70



For more information see page: A.66

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

Cutting data

Material	Cutting speed m/min. (Ft/min) Tool grade		
	P25K	K15K	TIC25
Low and medium carbon steel	120-80 (390-260)		250-210 (820-690)
High carbon steel	110-70 (360-230)		210-150 (690-490)
Alloyed tool steel and heat-treatment steels	100-70 (360-230)		180-140 (590-460)
Stainless steels	100-70 (360-230)	90-70 (295-230)	140-110 (460-360)
Cast-iron HB 180-250		90-70 (295-230)	
Non-Ferrous metals		180-120 (590-390)	

N° of passes		
P mm	TPI	N° of passes
0,50	48,0	4 - 6
0,75	32,0	4 - 7
1,00	24,0	4 - 8
1,25	20,0	5 - 9
1,50	16,0	6 - 10
1,75	14,0	7 - 12
2,00	12,0	7 - 12
2,50	10,0	8 - 14
3,00	8,0	10 - 18
3,50	7,0	11 - 18
4,00	6,0	11 - 18
4,50	5,5	11 - 19
5,00	5,0	12 - 20
5,50	4,5	12 - 20
6,00	4,0	12 - 20
8,00	3,0	15 - 24

General recommendations :

- Threading speeds should normally be a minimum of 80% to 90% of turning speeds being used to machine the same component. (Assuming grades are compatible).
- Check helix angle and number of passes shown in charts before starting.
- Ensure centre height is correct.
- When there is a problem consult the following recommendations and change only one variable at time. This will help to be sure of the original problem.
- Do not use flank infeed on work hardening materials.

Component problems

	Problem	Cause and remedy
Pitch error (on CNC machines)	<ul style="list-style-type: none"> ★ Starting too close to workpiece ★ Saddle speed towards chuck is excessive 	<ul style="list-style-type: none"> ☆ Start cycle further back from workpiece. ☆ Reduce speed by 10% until correct.
Thread torn on one side only	<ul style="list-style-type: none"> ★ Incorrect helix angle in toolholder. 	<ul style="list-style-type: none"> ☆ Check helix chart. ☆ Reassemble with correct anvil. ☆ Check centre height.
Thread torn on both sides	<ul style="list-style-type: none"> ★ Running too slow. ★ Built up edge. 	<ul style="list-style-type: none"> ☆ Increase cutting speed. ☆ Check center height. ☆ Use coated grade. ☆ Compare thread speed with turning speed.
Long dangerous swarf	<ul style="list-style-type: none"> ★ Incorrect chipbreaker geometry. ★ Incorrect method of infeed. 	<ul style="list-style-type: none"> ☆ Use Kimu (TD) chipbreaker. ☆ Use different infeed method.
Vibration chatter marks on both flanks	<ul style="list-style-type: none"> ★ Poor stability. ★ Excessive overhang. 	<ul style="list-style-type: none"> ☆ Renew anvil to support insert. ☆ Check tool clamping. ☆ Reduce tool overhang. ☆ Check rigidity of setup.
Shallow threads Problem with gauging	<ul style="list-style-type: none"> ★ Insert not cresting. ★ Incorrect effective diameter. 	<ul style="list-style-type: none"> ☆ Check machined diameters. ☆ Excessive tool wear or chipped on nose see remedies above.

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazen 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

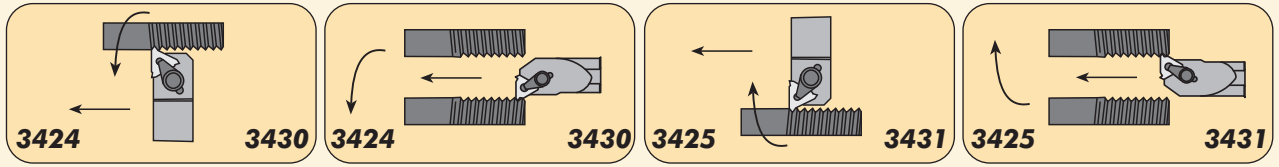
Arbors & adaptors

Helix chart

Feed direction towards the chuck

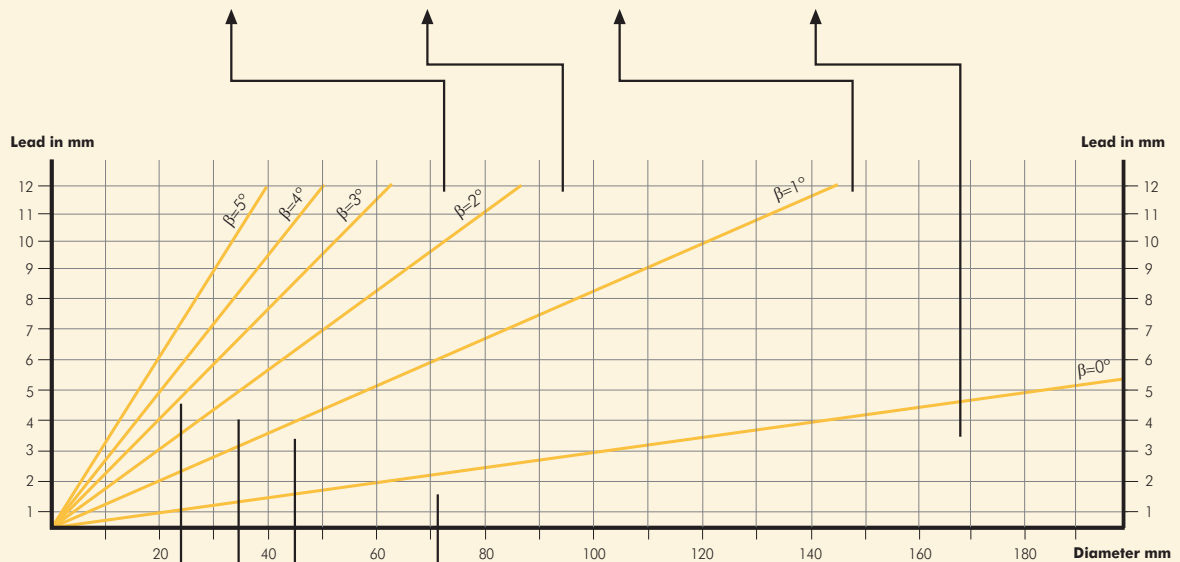
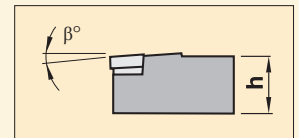
RH Thread - RH Tool

LH Thread - LH Tool



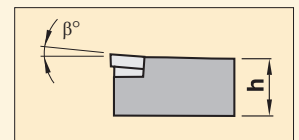
Anvil to give correct helix

Insert size	+3°	+2°	+1°	+0°
16R	3424+3	3424+2	3424+1	3424
16L	3425+3	3425+2	3425+1	3425
22R	3430+3	3430+2	3430+1	3430
22L	3431+3	3431+2	3431+1	3431



Anvil to give correct helix

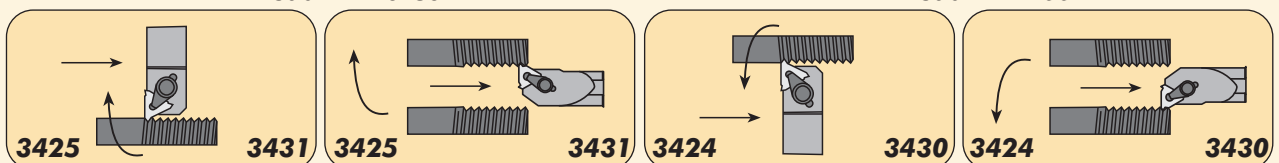
Insert size	-3°	-2°	-1°	0°
16R	3424-3	3424-2	3424-1	3424
16L	3425-3	3425-2	3425-1	3425
22R	3430-3	3430-2	3430-1	3430
22L	3431-3	3431-2	3431-1	3431



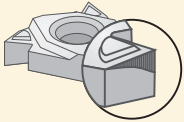

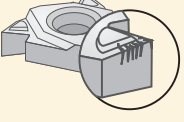
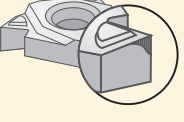
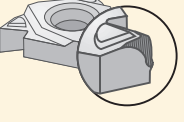
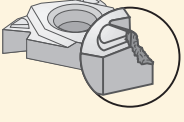
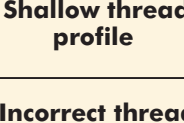
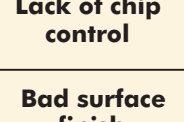

Feed direction away from the chuck

RH Thread - RH chuck

LH Thread - LH Tool



Threading insert wear and tool life

	Problem	Cause and Remedy
	<ul style="list-style-type: none"> ★ Cutting speed too high. ★ Lack of coolant. ★ Infeed per pass too small - too many passes ★ Incorrect grade. 	<ul style="list-style-type: none"> ☆ Reduce the cutting speed. ☆ Increase the coolant supply. ☆ Increase the depth of infeed for the smallest infeed depths - reduce the number of passes. ☆ Select a more wear resistant grade.
	<ul style="list-style-type: none"> ★ Instability of workholding and/or tool set-up. 	<ul style="list-style-type: none"> ☆ Check rigidity of operation. ☆ Select a tougher grade.
	<ul style="list-style-type: none"> ★ Intermittent coolant supply. 	<ul style="list-style-type: none"> ☆ Position coolant flow and/or increase coolant supply.
	<ul style="list-style-type: none"> ★ Incorrect method of infeed. ★ Incorrect angle of inclination. 	<ul style="list-style-type: none"> ☆ In case of flank infeed use modified flank infeed. Decrease infeed angle 3-5°. ☆ Correct the angle on inclination according to the diagram.
	<ul style="list-style-type: none"> ★ Infeed per pass too big - too few passes. ★ Lack of coolant. ★ Cutting speed too high. ★ Incorrect grade. ★ Excessive stock removal from crest. 	<ul style="list-style-type: none"> ☆ Decrease the depth of infeed for the biggest depths. - Increase the number of passes. ☆ Increase coolant supply. ☆ Reduce the cutting speed. ☆ Select a harder grade. ☆ Check the volume of the material above the crest.
	<ul style="list-style-type: none"> ★ Instability. ★ Lack of chip control. ★ Excessive plastic deformation. ★ Intermittent or inadequate coolant supply ★ Incorrect preparation of the operation 	<ul style="list-style-type: none"> ☆ Check rigidity of operation. ☆ Select a tougher grade. Select modified flank infeed. ☆ Machine with same infeed per pass. ☆ Direct coolant flow and/or increase coolant supply. ☆ Check dimension of blank.
	<ul style="list-style-type: none"> ★ Wrong centre height. ★ Insert not cresting. ★ Excessive tool wear. 	<ul style="list-style-type: none"> ☆ Adjust cutting edge height. ☆ Check dimension of blank. ☆ Change insert earlier.
	<ul style="list-style-type: none"> ★ Incorrect tool setting. 	<ul style="list-style-type: none"> ☆ Correct tool setting.
	<ul style="list-style-type: none"> ★ Incorrect depth of infeed per pass ★ Radial infeed. 	<ul style="list-style-type: none"> ☆ Adjust cutting edge height. ☆ Check dimension of blank. ☆ Change insert earlier.
	<ul style="list-style-type: none"> ★ Cutting speed too low. ★ Incorrect angle of inclination. ★ Flank infeed. 	<ul style="list-style-type: none"> ☆ Increase the cutting speed. ☆ Correct the angle of inclination according to diagram. ☆ Use modified flank infeed or radial infeed.

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

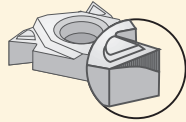
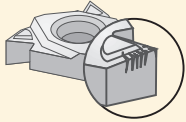
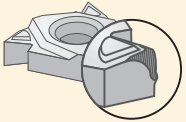
Milling cutters

Solid carbide

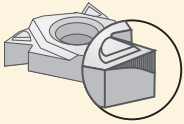
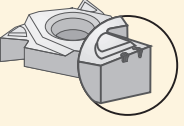
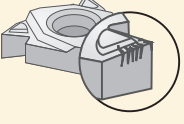
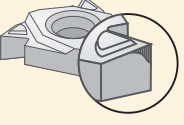
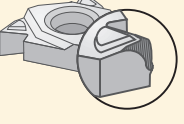
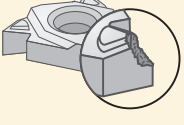
Boring heads

Arbors & adaptors

Usure et longueur de vie de la plaquette de filetage

	Problème	Causes et solutions
	Usure rapide en dépouille <ul style="list-style-type: none"> ★ Vitesse de coupe trop élevée. ★ Manque d'arrosage. ★ Pénétration par passe trop faible - trop de passes. ★ Nuance incorrecte. 	<ul style="list-style-type: none"> ☆ Réduire la vitesse de coupe. ☆ Augmenter le débit de l'arrosage. ☆ Augmenter la profondeur de la pénétration en diminuant le nombre de passes. ☆ Choisir une nuance plus résistante à l'usure.
	Ecaillage de l'arête <ul style="list-style-type: none"> ★ Rigidité insuffisante de la pièce à usiner et/ou de la machine. 	<ul style="list-style-type: none"> ☆ Contrôler la rigidité de l'opération. ☆ Choisir une nuance plus tenace.
	Fissuration thermique <ul style="list-style-type: none"> ★ Arrosage irrégulier. 	<ul style="list-style-type: none"> ☆ Contrôler le débit de l'arrosage et/ou l'appliquer de façon plus abondante.
	Usure en dépouille irrégulière <ul style="list-style-type: none"> ★ Méthode de pénétration pas correcte. ★ Angle d'inclinaison pas correcte. 	<ul style="list-style-type: none"> ☆ Dans le cas de pénétration oblique, utiliser une pénétration oblique modifiée, diminuer l'angle de plongée 3-5°. ☆ Corriger l'angle d'inclinaison d'accord avec le diagramme ci-joint.
	Déformation plastique excessive <ul style="list-style-type: none"> ★ Pénétration par passe trop forte - trop peu de passes. ★ Arrosage insuffisant. ★ Vitesse de coupe trop élevée. ★ Nuance incorrecte. ★ La pointe de la plaquette enlève trop de matériel. 	<ul style="list-style-type: none"> ☆ Diminuer la profondeur de pénétration en augmentant le nombre de passes. ☆ Augmenter le débit d'arrosage. ☆ Réduire la vitesse de coupe. ☆ Choisir une nuance plus dure. ☆ Contrôler le matériel sur la pointe.
	Rupture <ul style="list-style-type: none"> ★ Instabilité. ★ Manque de contrôle des copeaux. ★ Déformation plastique excessive. ★ Arrosage irrégulier ou insuffisant. ★ Préparation incorrecte de l'opération. 	<ul style="list-style-type: none"> ☆ Contrôler la rigidité de l'opération. ☆ Choisir une nuance plus dure. Utiliser une pénétration oblique modifiée. ☆ Usiner avec la même pénétration par passe. ☆ Contrôler le débit de l'arrosage et/ou augmenter l'arrosage. ☆ Contrôler les dimensions de la plaquette.
	Profil de filet superficiel <ul style="list-style-type: none"> ★ Hauteur de centre incorrecte. ★ La plaquette ne taille pas. ★ Usure excessive de l'arête. 	<ul style="list-style-type: none"> ☆ Régler la hauteur de centre de l'outil. ☆ Contrôler les dimensions de la plaquette. ☆ Changer la plaquette plus tôt.
	Profil de filet incorrect <ul style="list-style-type: none"> ★ Fixation de l'outil incorrecte. 	<ul style="list-style-type: none"> ☆ Régler la fixation de l'outil.
	Manque de contrôle des copeaux <ul style="list-style-type: none"> ★ Profondeur de pénétration par passe incorrecte. ★ Pénétration radiale. 	<ul style="list-style-type: none"> ☆ Ajuster la hauteur de l'arête de coupe. ☆ Contrôler les dimensions de la pièce. ☆ Changer la plaquette plus tôt.
	Mauvais état de surface <ul style="list-style-type: none"> ★ Vitesse de coupe insuffisante. ★ Angle d'inclinaison incorrect. ★ Pénétration oblique. 	<ul style="list-style-type: none"> ☆ Augmenter la vitesse de coupe. ☆ Corriger l'angle d'inclinaison selon le diagramme. ☆ Utiliser une pénétration oblique modifiée ou bien une pénétration radiale.

Verschleiß und Standzeit der Wendepatte zum Gewindedrehen

	Problem	Ursache und Maßnahmen
Schneller Freiflächenverschleiß 	<ul style="list-style-type: none"> ★ Zu hohe Schnittgeschwindigkeit. ★ Mangel an Kühlmittel. ★ Zustellungstiefe pro Durchgang zu niedrig – zu viele Durchgänge. ★ Nicht korrekte Plattensorte. 	<ul style="list-style-type: none"> ☆ Schnittgeschwindigkeit reduzieren. ☆ Kühlmittelzufuhr erhöhen. ☆ Für kleine Zustellungen, die Zustellungstiefe erhöhen - Anzahl Durchgänge reduzieren. ☆ Eine Sorte mit höherem Widerstand gegen Verschleißfestigkeit wählen.
Absplintern der Schneidkante 	<ul style="list-style-type: none"> ★ Instabilität des Werkstückes und/oder des Werkzeuges. 	<ul style="list-style-type: none"> ☆ Stabilität der Operation kontrollieren. ☆ Eine härtere Sorte wählen.
Kammerisse 	<ul style="list-style-type: none"> ★ Unterbrochene Kühlmittelzufuhr. 	<ul style="list-style-type: none"> ☆ Kühlmittel kontrollieren und/oder Zufuhr erhöhen.
Ungleichmäßiger Freiflächenverschleiß 	<ul style="list-style-type: none"> ★ Falsche Methode der Flankenstellung. ★ Falscher Neigungswinkel der Wendepatte. 	<ul style="list-style-type: none"> ☆ Zustellmethode ändern. Zustellwinkel 3-5° vermindern. ☆ Neigungswinkel gemäß Diagramm ändern.
Übermäßige plastische Verformung 	<ul style="list-style-type: none"> ★ Zustellungstiefe pro Durchgang zu groß - zu wenige Durchgänge. ★ Mangel an Kühlmittel. ★ Zu hohe Schnittgeschwindigkeit. ★ Nicht korrekte Plattensorte. ★ Zuviel Materialabnahme an der Wendepattenspitze. 	<ul style="list-style-type: none"> ☆ Zustellungstiefe reduzieren - Anzahl der Durchgänge erhöhen. ☆ Kühlmittelzufuhr erhöhen. ☆ Schnittgeschwindigkeit reduzieren. ☆ Eine härtere Sorte wählen. ☆ Materialmenge an der Wendepattenspitze kontrollieren.
Plattenbruch 	<ul style="list-style-type: none"> ★ Instabilität. ★ Unkontrollierte Späne. ★ Übermäßige plastische Verformung. ★ Unterbrochene oder ungeeignete Kühlmittelzufuhr. ★ Falsche Hartmetallsorte. 	<ul style="list-style-type: none"> ☆ Stabilität der Operation kontrollieren. ☆ Eine härtere Sorte wählen. Modifizierte Flankenstellung wählen. ☆ Bearbeiten mit derselben Zustellung per Steigung. ☆ Kühlmittelzufuhr kontrollieren und/oder Zufuhr erhöhen. ☆ Die Abmessung der Wendepatte kontrollieren.
Zu kleines Gewindeprofil	<ul style="list-style-type: none"> ★ Falsche Spitzenhöhe. ★ Plattenbruch. ★ Übermäßiger Verschleiß. 	<ul style="list-style-type: none"> ☆ Schneidkantenhöhe einstellen. ☆ Die Abmessung der Wendepatte kontrollieren. ☆ Wendepatte früher wechseln.
Mangelhaftes Gewindeprofil	<ul style="list-style-type: none"> ★ Falsche Werkzeug/Wendepattenkombination. 	<ul style="list-style-type: none"> ☆ Richtige Werkzeug/Wendepattenkombination wählen.
Schlechte Spankontrolle	<ul style="list-style-type: none"> ★ Falsche Tiefe der Zustellung per Steigung. ★ Radiale Zustellung. 	<ul style="list-style-type: none"> ☆ Schneidkantenhöhe einstellen. ☆ Die Abmessung der Wendepatte kontrollieren. ☆ Wendepatte früher wechseln.
Schlechte Oberflächengüte	<ul style="list-style-type: none"> ★ Zu niedrige Schnittgeschwindigkeit. ★ Nicht korrekter Neigungswinkel. ★ Flankenstellung. 	<ul style="list-style-type: none"> ☆ Schnittgeschwindigkeit erhöhen. ☆ Neigungswinkel gemäß Diagramm korrigieren. ☆ Modifizierte Flankenstellung oder radiale Zustellung verwenden.

Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors