



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

**G02**

**External threading**  
**Porte-outils pour filetage extérieur**  
**Klemmhalter zum Gewindedrehen**

**G03**

**Internal threading**  
**Porte-outils pour filetage intérieur**  
**Bohrstangen zum Gewindedrehen**

**G06**

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

**G09**

**External threading - Porte-outils pour filetage extérieur - Klemmhalter zum Gewindedrehen**

Inserts

Turning

Automatic lathes

Ceramic tools

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

**Internal threading - Porte-outils pour filetage intérieur - Bohrstanzen zum Gewindedrehen**

Parting & grooving

Threading

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

Cartridges

Brazed tools

Milling cutters

Solid carbide

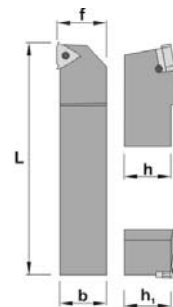
Boring heads

Arbors & adaptors

**SXAN 90°**



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



Inserts

Turning

Automatic lathes

Ceramic tools

Parting & grooving

Threading

Drills

Cartridges

Brazed tools

Milling cutters

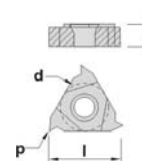
Solid carbide

Boring heads

Arbors & adaptors

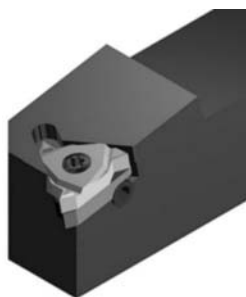


REF.	l	d
<b>08 ER/L..</b>	8,00	4,76
<b>11 ER/L..</b>	11,00	6,35
<b>16 ER/L..</b>	16,00	9,52
<b>22 ER/L..</b>	22,00	12,70

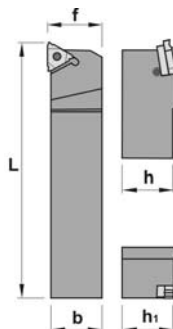


For more information see page: A.59

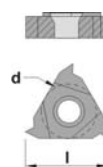
**STAN 90°**



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



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

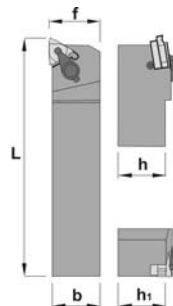


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**CTAN 90°**



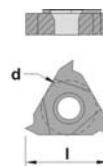
REF.	h-h1	b	L	f	ER/L					
<b>CTAN R/L 2020 K16</b>	20	20	128,6	20	16	216	515	YE3	YI3	SY3 SA3
<b>CTAN R/L 2525 M16</b>	25	25	153,6	25	16	216	515	YE3	YI3	SY3 SA3
<b>CTAN R/L 3232 P16</b>	32	32	173,6	32	16	216	515	YE3	YI3	SY3 SA3
<b>CTAN R/L 2525 M22</b>	25	25	155,7	25	22	214	515	YE4	YI4	SY4 SA4
<b>CTAN R/L 3232 P22</b>	32	32	175,7	32	22	214	515	YE4	YI4	SY4 SA4
<b>CTAN R/L 4040 R22</b>	40	40	205,7	40	22	214	515	YE4	YI4	SY4 SA4
<b>CTAN R/L 3232 P27</b>	32	32	176,7	32	27	217	552	YE5	YI5	SY5 SA5
<b>CTAN R/L 4040 R27</b>	40	40	206,6	40	27	217	552	YE5	YI5	SY5 SA5
<b>CTAN R/L 5050 S27</b>	50	50	256,6	50	27	217	552	YE5	YI5	SY5 SA5



Optional



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

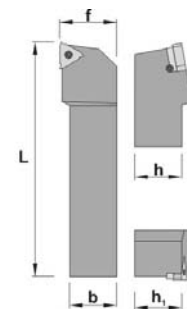


For more information see page: A.59



**SXGN 90°**

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



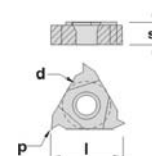
Inserts

Turning

Automatic lathes

Ceramic tools

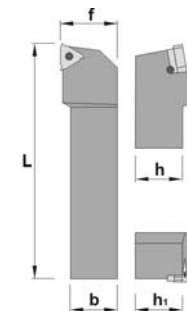
REF.	l	d
<b>16 ER/L..</b>	16,00	9,52
<b>22 ER/L..</b>	22,00	12,70



For more information see page: A.59

**STXN 90°**

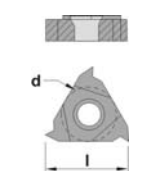
REF.	h-h1	b	L	f	ER/L					
<b>STXN R/L 1212 F16</b>	12	12	80	16	16	SA3	530	YE3	YI3	SY3
<b>STXN R/L 1616 H16</b>	16	16	100	20	16	SA3	530	YE3	YI3	SY3
<b>STXN R/L 2020 K16</b>	20	20	125	25	16	SA3	530	YE3	YI3	SY3
<b>STXN R/L 2525 M16</b>	25	25	150	25	16	SA3	530	YE3	YI3	SY3
<b>STXN R/L 3232 P16</b>	32	32	170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



Threading

Drills

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



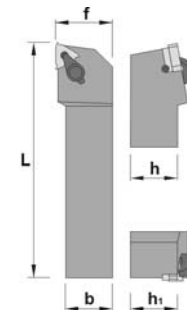
For more information see page: A.59

Cartridges

Brazed tools

**CTXN 90°**

REF.	h-h1	b	L	f	ER/L						
<b>CTXN R/L 1212 F16</b>	12	12	83,2	16	16	216	515	YE3	YI3	SY3	SA3
<b>CTXN R/L 1616 H16</b>	16	16	100,0	20	16	216	515	YE3	YI3	SY3	SA3
<b>CTXN R/L 2020 K16</b>	20	20	128,6	25	16	216	515	YE3	YI3	SY3	SA3
<b>CTXN R/L 2525 M16</b>	25	25	153,6	32	16	216	515	YE3	YI3	SY3	SA3
<b>CTXN R/L 3232 P16</b>	32	32	173,6	40	16	216	515	YE3	YI3	SY3	SA3
<b>CTXN R/L 2525 M22</b>	25	25	155,7	32	22	214	515	YE4	YI4	SY4	SA4
<b>CTXN R/L 3232 P22</b>	32	32	175,7	40	22	214	515	YE4	YI4	SY4	SA4
<b>CTXN R/L 4040 R22</b>	40	40	205,7	50	22	214	515	YE4	YI4	SY4	SA4
<b>CTXN R/L 2525 M27</b>	25	25	151,6	32	27	217	552	YE5	YI5	SY5	SA5
<b>CTXN R/L 3232 P27</b>	32	32	176,7	40	27	217	552	YE5	YI5	SY5	SA5
<b>CTXN R/L 4040 R27</b>	40	40	206,6	50	27	217	552	YE5	YI5	SY5	SA5
<b>CTXN R/L 5050 S27</b>	50	50	256,6	60	27	217	552	YE5	YI5	SY5	SA5



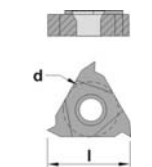
Milling cutters

Solid carbide

Boring heads

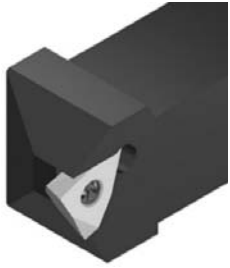
Arbors & adaptors

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

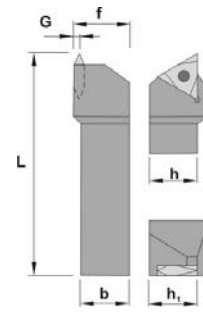


For more information see page: A.59

**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



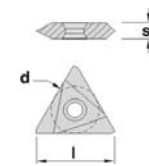
Inserts

Turning

Automatic lathes

Ceramic tools

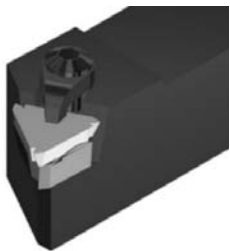
REF.	l	s	d
T..MC 1603..	16,50	3,18	9,52
T..MC 2204..	22,00	4,76	12,70
T..MC 2704..	27,00	4,76	15,80



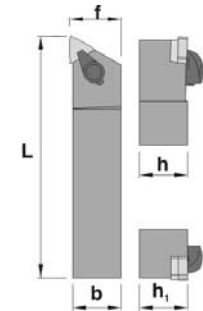
For more information see page: A.65

Parting & grooving

**CXAP 90°**



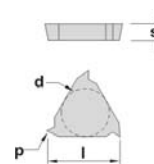
REF.	h-h1	b	L	f	R/L				
CXAP R/L 2016 K16	20	16	125	17	166-3..	229	503	318 R/L	403
CXAP R/L 2020 K16	20	20	125	21	166-3..	229	503	318 R/L	403
CXAP R/L 2525 M16	25	25	150	26	166-3..	229	503	318 R/L	403
CXAP R/L 3225 P16	32	25	170	26	166-3..	229	503	318 R/L	403
CXAP R/L 3232 P16	32	32	170	33	166-3..	229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



Threading

Drills

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

Cartridges

Brazed tools

Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

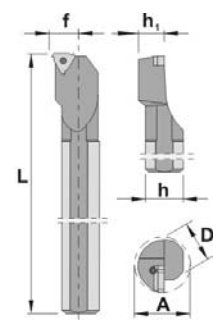


- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

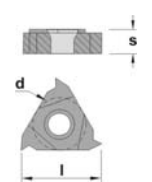
**SXFN 90°**



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



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

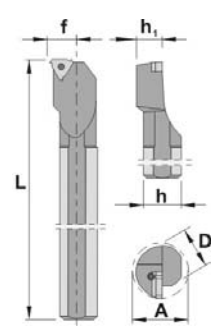


For more information see page: A.60

**H-SXFN 90°**



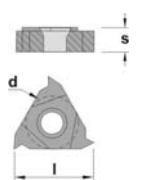
REF.	D	h	L	f	A	NR/L		
H10K SXFN R/L 11	10	4,5	125	7,3	13	11	125	507
H16M SXFN R/L 11	16	7,5	150	8,9	16	11	125	507
H16M SXFN R/L 16	16	7,5	200	11,5	20	16	137	530



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



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

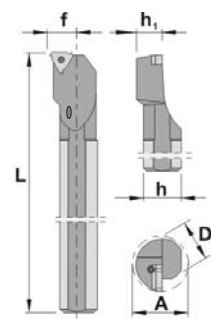


For more information see page: A.60

**J-SXFN 90°**



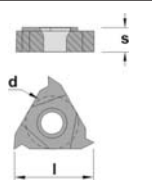
REF.	D	h	L	f	A	NR/L		
J10K SXFN R/L 11	10	4,5	125	7,3	13	11	125	507
J16M SXFN R/L 11	16	7,5	150	8,9	16	11	125	507
J16M SXFN R/L 16	16	7,5	150	11,5	20	16	137	530



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



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



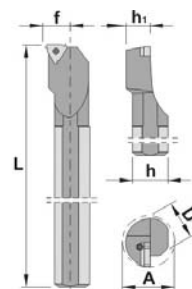
For more information see page: A.60



**STXN 90°**



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

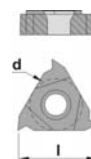
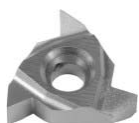
Milling cutters

Solid carbide

Boring heads

Arbors & adaptors

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

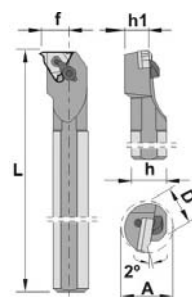


For more information see page: A.60

**CTXN 90°**

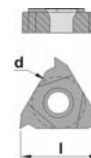


REF.	D	h	h1	L	f	A	NR/L	
<b>S20Q CTXN R/L 16</b>	20	18	9,0	180	13,0	18,0	16	216 515 YI3 YE3 SY3 SN3
<b>S25R CTXN R/L 16</b>	25	23	11,5	200	17,0	22,6	16	216 515 YI3 YE3 SY3 SA3
<b>S32S CTXN R/L 16</b>	32	30	15,0	250	22,0	29,0	16	216 515 YI3 YE3 SY3 SA3
<b>S40T CTXN R/L 16</b>	40	37	18,5	300	27,0	36,0	16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



Optional

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

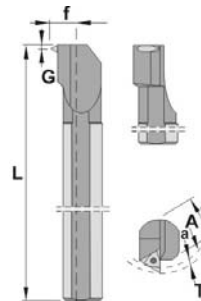


For more information see page: A.60

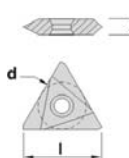
**STGN 90°**



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



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



For more information see page: A.65



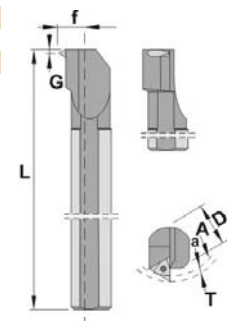


- Inserts
- Turning
- Automatic lathes
- Ceramic tools
- Parting & grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Milling cutters
- Solid carbide
- Boring heads
- Arbors & adaptors

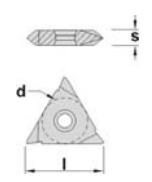
**STGP 90°**



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



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

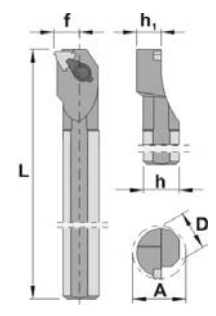


For more information see page: A.65

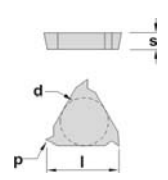
**CXFP 90°**



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



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



For more information see page: A.66

## Cutting data

Material	Cutting speed m/min. (Ft/min) Tool grade		
	PM25	KM15	TIN25
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
<b>Pitch error (on CNC machines)</b>	<ul style="list-style-type: none"> <li>★ Starting too close to workpiece</li> <li>★ Saddle speed towards chuck is excessive</li> </ul>	<ul style="list-style-type: none"> <li>☆ Start cycle further back from workpiece.</li> <li>☆ Reduce speed by 10% until correct.</li> </ul>
<b>Thread torn on one side only</b>	<ul style="list-style-type: none"> <li>★ Incorrect helix angle in toolholder.</li> </ul>	<ul style="list-style-type: none"> <li>☆ Check helix chart.</li> <li>☆ Reassemble with correct anvil.</li> <li>☆ Check centre height.</li> </ul>
<b>Thread torn on both sides</b>	<ul style="list-style-type: none"> <li>★ Running too slow.</li> <li>★ Built up edge.</li> </ul>	<ul style="list-style-type: none"> <li>☆ Increase cutting speed.</li> <li>☆ Check center height.</li> <li>☆ Use coated grade.</li> <li>☆ Compare thread speed with turning speed.</li> </ul>
<b>Long dangerous swarf</b>	<ul style="list-style-type: none"> <li>★ Incorrect chipbreaker geometry.</li> <li>★ Incorrect method of infeed.</li> </ul>	<ul style="list-style-type: none"> <li>☆ Use Canela (TD) chipbreaker.</li> <li>☆ Use different infeed method.</li> </ul>
<b>Vibration chatter marks on both flanks</b>	<ul style="list-style-type: none"> <li>★ Poor stability.</li> <li>★ Excessive overhang.</li> </ul>	<ul style="list-style-type: none"> <li>☆ Renew anvil to support insert.</li> <li>☆ Check tool clamping.</li> <li>☆ Check rigidity of setup.</li> </ul>
<b>Shallow threads Problem with gauging</b>	<ul style="list-style-type: none"> <li>★ Insert not cresting.</li> <li>★ Incorrect effective diameter.</li> </ul>	<ul style="list-style-type: none"> <li>☆ Check machined diameters.</li> <li>☆ Excessive tool wear or chipped on nose see remedies above.</li> </ul>

Inserts

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Automatic lathes

Ceramic tools

Parting &amp; grooving

Threading

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Milling cutters

Solid carbide

Boring heads

Arbors &amp; adaptors

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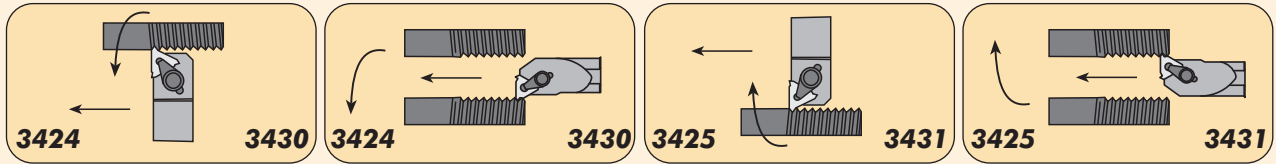
Arbors & adaptors

## Helix chart

Feed direction towards the chuck

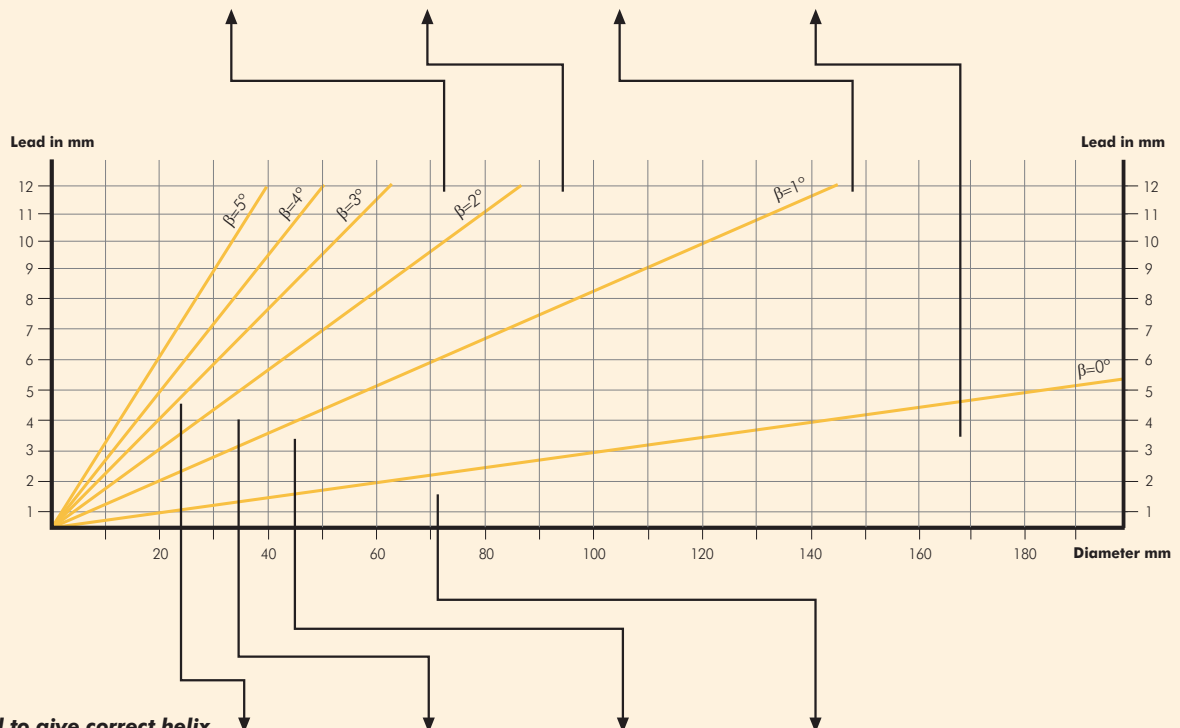
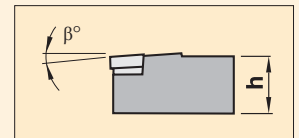
RH Thread - RH Tool

LH Thread - LH Tool



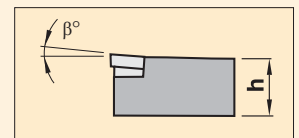
Anvil to give correct helix

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

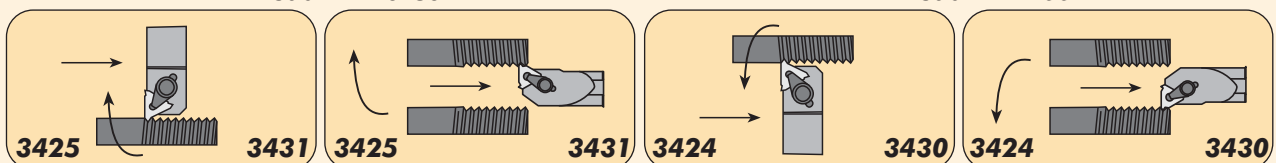
Medida da pastilha	-3°	-2°	-1°	0°
16R	3424-3	3424-2	3424-1	3424
16L	3425-3	3425-2	3425-1	3425
22R	3430-3	3430-2	3430-1	3430
22L	3431-3	3431-2	3431-1	3431



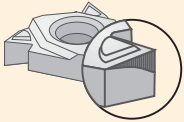

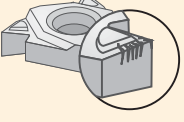
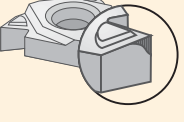
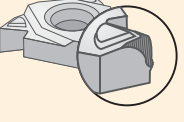
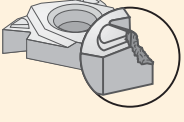
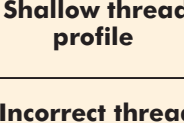
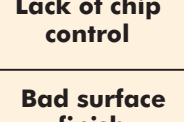

Feed direction away from the chuck

RH Thread - RH chuck

LH Thread - LH Tool



## Threading insert wear and tool life

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

Inserts

Turning

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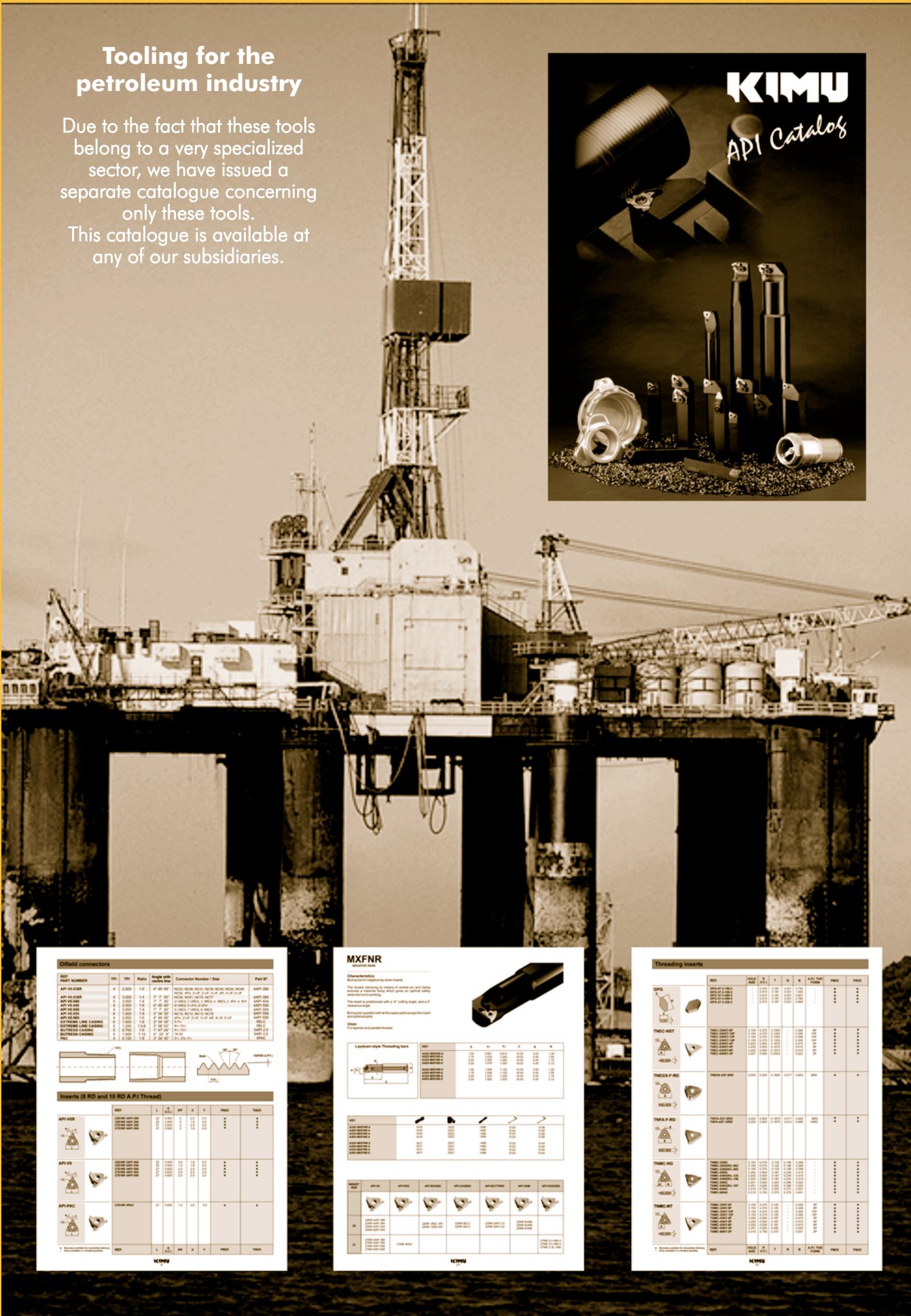
Solid carbide

Boring heads

Arbors & adaptors

### Tooling for the petroleum industry

Due to the fact that these tools belong to a very specialized sector, we have issued a separate catalogue concerning only these tools. This catalogue is available at any of our subsidiaries.



REF	PIST NUMBER	TPI	Rods	Angle with ROLLER BAR	Connector Number / Size	Part N°
API V8 5/8	A	2.000	1.8	12° 45'	8020	8020 5/8
API V8 3/4	A	2.000	1.8	12° 45'	8021	8021 3/4
API V8 1	A	2.000	1.8	12° 45'	8022	8022 1
API V8 1 1/4	A	2.000	1.8	12° 45'	8023	8023 1 1/4
API V8 1 1/2	A	2.000	1.8	12° 45'	8024	8024 1 1/2
API V8 1 3/4	A	2.000	1.8	12° 45'	8025	8025 1 3/4
API V8 2	A	2.000	1.8	12° 45'	8026	8026 2
EXTREME LINE CASING	E	1.500	1.8	12° 45'	8027	8027
EXTREME LINE CASING	E	1.700	1.8	12° 45'	8028	8028
EXTREME LINE CASING	E	1.900	1.8	12° 45'	8029	8029
BURRESS CASING	B	1.500	1.8	12° 45'	8030	8030
PAC	P	1.100	1.8	12° 45'	8031	8031

APIVER	REF	L	L1	SP	X	Y	PRDZ	THICK
APIVER	8032	1.100	1.100	0.8	0.8	1.2	0.5	0.2
	8033	1.100	1.100	0.8	0.8	1.2	0.5	0.2
	8034	1.100	1.100	0.8	0.8	1.2	0.5	0.2
APIV8	8035	1.100	1.100	0.8	0.8	1.2	0.5	0.2
	8036	1.100	1.100	0.8	0.8	1.2	0.5	0.2
	8037	1.100	1.100	0.8	0.8	1.2	0.5	0.2
APIPAC	8038	1.100	1.100	0.8	0.8	1.2	0.5	0.2
	8039	1.100	1.100	0.8	0.8	1.2	0.5	0.2
	8040	1.100	1.100	0.8	0.8	1.2	0.5	0.2

REF	M	N	AL	R	S	R1
8041	1.100	1.100	0.8	0.8	1.2	0.5
8042	1.100	1.100	0.8	0.8	1.2	0.5
8043	1.100	1.100	0.8	0.8	1.2	0.5
8044	1.100	1.100	0.8	0.8	1.2	0.5
8045	1.100	1.100	0.8	0.8	1.2	0.5
8046	1.100	1.100	0.8	0.8	1.2	0.5
8047	1.100	1.100	0.8	0.8	1.2	0.5

REF	M	N	AL	R	S	R1	PRDZ	THICK
8048	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8049	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8050	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8051	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8052	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8053	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8054	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8055	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8056	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8057	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8058	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8059	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8060	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8061	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8062	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8063	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8064	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8065	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8066	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8067	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8068	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2
8069	1.100	1.100	0.8	0.8	1.2	0.5	0.2	0.2



Inserts

Turning

Automatic  
lathes

Ceramic  
tools

Parting &  
grooving

Threading

Drills

Cartridges

Brazed  
tools

Milling  
cutters

Solid  
carbide

Boring  
heads

Arbors &  
adaptors