New products for machining technicians

NEW Inserts and holders for Mini 06 and 08

New grade CCN2520: Specialist for corrosion resistant and high-temperature-resistant material machining
Expansion of the existing CCN1525 variety

36–41

NEW Exchangeable head system

Use our standard thread turning inserts with the new exchangeable head system that you can find in Chapter 9 Turning Tools on pages 189–196.

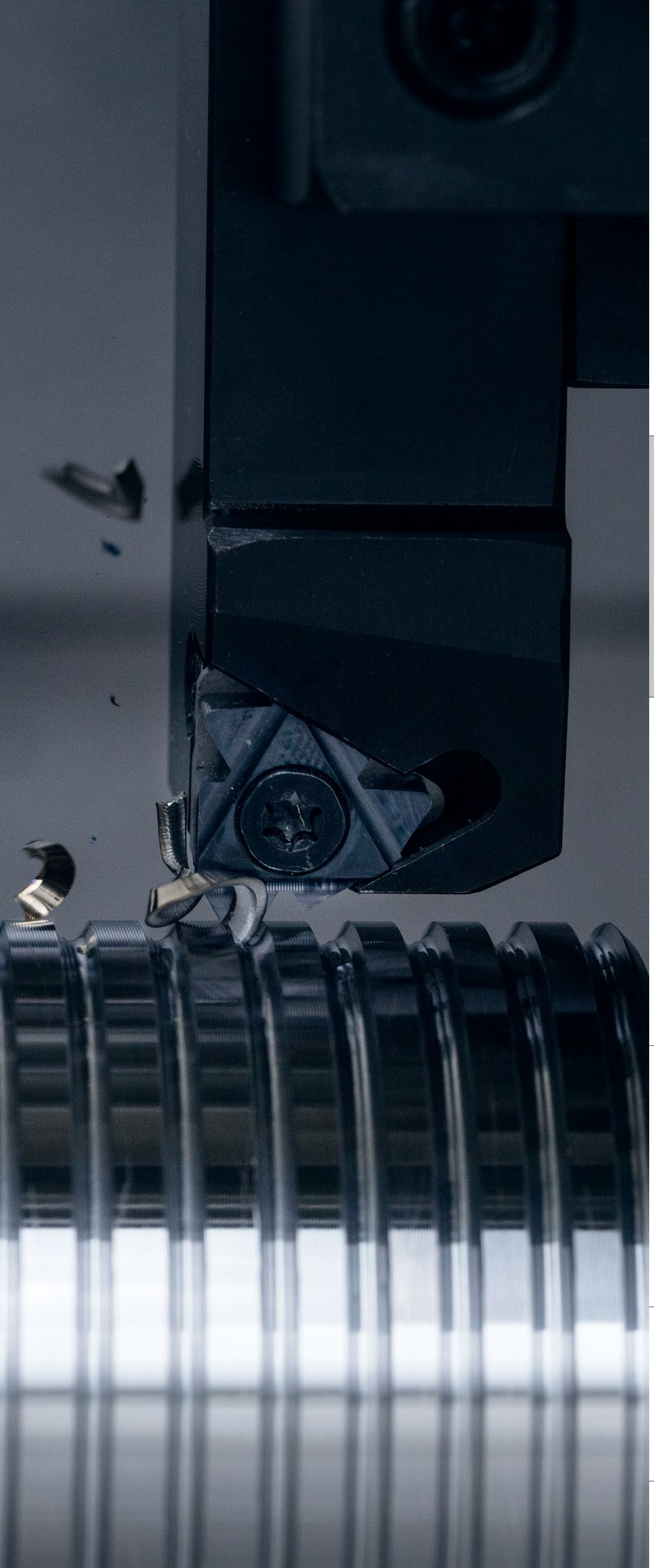


Table of contents

WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Toolfinder

TC threading system (external thread)

M	BSW
Full profile Partial profile	Full profile Partial profile

→ **Chapter 11 – Grooving tools**

TC threading system (internal thread)

M	BSW
Full profile Partial profile	Full profile Partial profile

→ **Chapter 11 – Grooving tools**

MiniCut

M	G	Tr
Full profile Partial profile	Partial profile	Partial profile

→ **Chapter 12 – Miniature turning tools**

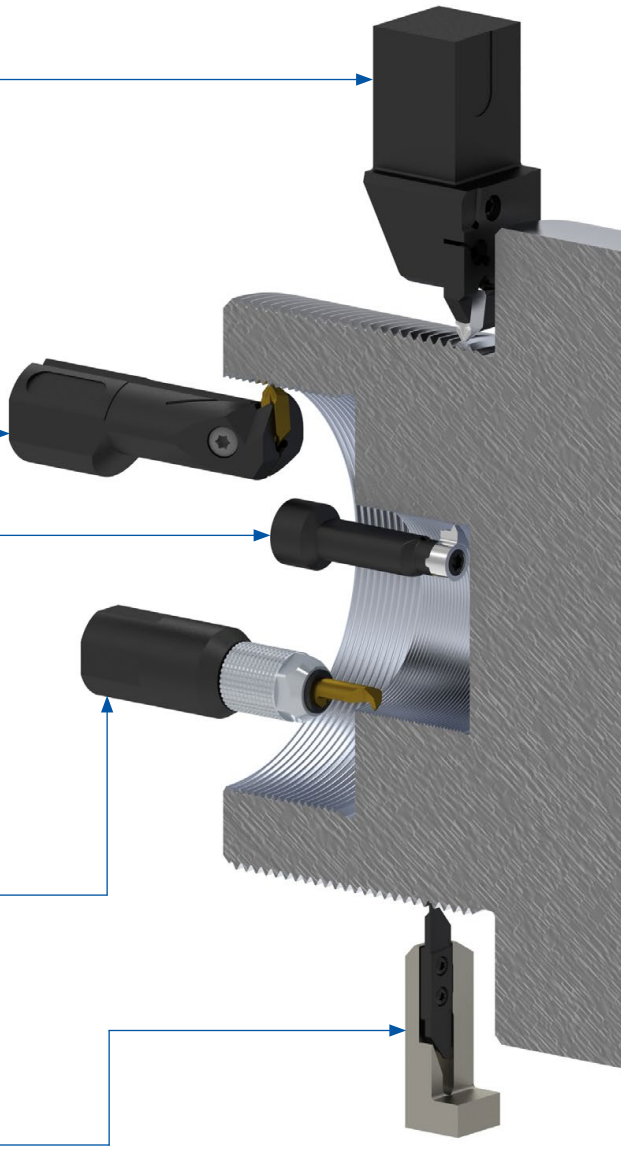
UltraMini

M	MF	G	Tr
Full profile Partial profile	Full profile Partial profile	Partial profile	Partial profile

→ **Chapter 12 – Miniature turning tools**

VertiClamp

→ **Sliding head tooling catalogue**



Symbol explanation

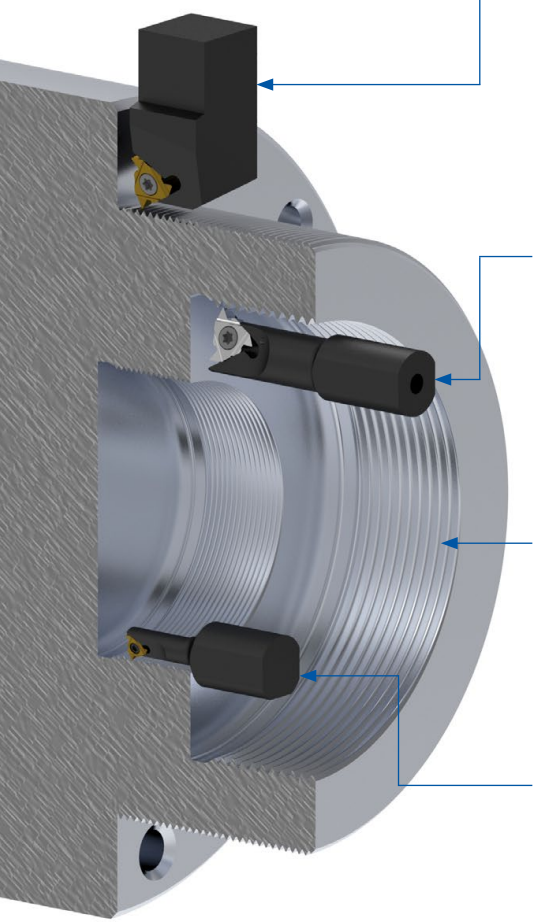
Flank angle

30°	Flank angle 30° (Trapezoidal thread)
30°	Flank angle 30° (Round thread)
55°	Flank angle 55°
60°	Flank angle 60°
80°	Flank angle 80° (Conduit thread)

TP / TPI = Pitch
NT = Number of flutes
● = **Main Application**
○ = Extended application

Thread

M	ISO metric coarse thread DIN 13
MF	ISO Metric fine thread DIN 13
MJ	Metric thread for the aerospace industry DIN ISO 5855
BSW	British Whitworth thread BS 84
UN	American unified thread BS 1580 (ASME B 1.1)
UNC	American unified thread (coarse) BS 1580 (ASME B 1.1)
UNF	American unified thread (fine) BS 1580 (ASME B 1.1)
UNEF	American unified thread (extra fine) BS 1580 (ASME B 1.1)
NPT	American pipe thread ANSI/ASME B 1.20.3
Tr	Trapezoidal thread DIN 103
Rd	Round Thread DIN 405
Pg	Conduit Threads DIN 40430



Standard external thread turning

Full profile

M	MJ	BSW	UN	UNC	UNF	UNEF	NPT	Tr	Rd	Pg
4+5	9	11+12	15+16	15+16	15+16	15+16	19	21	23	25

Partial profile

60°	55°
27	29

Multi-cutting edge

M
8

suitable holder

31+32

Standard internal thread turning

Full profile

M	MJ	BSW	UN	UNC	UNF	UNEF	NPT	Tr	Rd	Pg
6+7	10	13+14	17+18	17+18	17+18	17+18	20	22	24	26

Partial profile

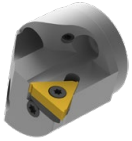
60°	55°
28	30

suitable holder

33–35

Standard internal threading with our new exchangeable head system

→ **Chapter 9 – Turning Tools**



Mini 06

Full profile

M	BSW
36	36

Partial profile

60°	55°
37	37

Mini 08

Full profile

M
38

Partial profile

60°	55°
38+39	39+40

suitable holder

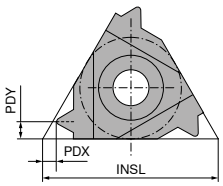
41

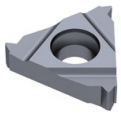
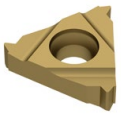
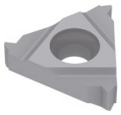
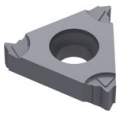
Information on the different thread profiles can be found on → **Page 49.**

Right hand external thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

M | MF | 60°



CCN20	CWN1525	HCN2525	CWK20	CCN7525
				

Designation	TP mm	INSL mm	PDX mm	PDY mm	ER 71 220 ...	ER 71 220 ...	ER 71 220 ...	ER 71 220 ...	ER 71 220 ...
11 ER 0,35	0,35	11	0,8	0,4	**204**			**604**	
11 ER 0,4	0,40	11	0,7	0,4	**206**			**606**	
11 ER 0,45	0,45	11	0,7	0,4	**208**			**608**	
11 ER 0,5	0,50	11	0,6	0,6	**209**			**609**	
11 ER 0,6	0,60	11	0,6	0,6	**210**			**610**	
11 ER 0,7	0,70	11	0,6	0,6	**211**			**611**	
11 ER 0,75	0,75	11	0,6	0,6	**212**			**612**	
11 ER 0,8	0,80	11	0,6	0,6	**213**			**613**	
11 ER 1,0	1,00	11	0,7	0,7	**214**			**614**	
11 ER 1,25	1,25	11	0,8	0,9	**216**			**616**	
11 ER 1,5	1,50	11	0,8	1,0	**218**			**618**	
11 ER 1,75	1,75	11	0,8	1,1	**220**			**620**	
16 ER 0,35	0,35	16	0,8	0,4	**234**		**734**	**634**	
16 ER 0,4	0,40	16	0,7	0,4	**236**		**736**	**636**	
16 ER 0,45	0,45	16	0,7	0,4	**238**			**638**	
16 ER 0,5	0,50	16	0,6	0,6	**240**	**140**	**740**	**640**	**940**
16 ER 0,7	0,70	16	0,6	0,6	**241**	**141**	**741**	**641**	
16 ER 0,75	0,75	16	0,6	0,6	**242**	**142**	**742**	**642**	**942**
16 ER 0,8	0,80	16	0,6	0,6	**243**	**143**	**743**	**643**	**943**
16 ER 1,0	1,00	16	0,7	0,7	**244**	**144**	**744**	**644**	**944**
16 ER 1,25	1,25	16	0,8	0,9	**246**	**146**	**746**	**646**	**946**
16 ER 1,5	1,50	16	0,8	1,0	**248**	**148**	**748**	**648**	**948**
16 ER 1,75	1,75	16	0,9	1,2	**250**	**150**	**750**	**650**	
16 ER 2,0	2,00	16	1,0	1,3	**252**	**152**	**752**	**652**	**952**
16 ER 2,5	2,50	16	1,1	1,5	**254**	**154**	**754**	**654**	**954**
16 ER 3,0	3,00	16	1,2	1,6	**256**	**156**	**756**	**656**	**956**
22 ER 3,5	3,50	22	1,6	2,3	**270**	**170**	**770**	**670**	
22 ER 4,0	4,00	22	1,6	2,3	**272**	**172**	**772**	**672**	
22 ER 4,5	4,50	22	1,7	2,4	**274**	**174**	**774**	**674**	
22 ER 5,0	5,00	22	1,7	2,5	**276**	**176**	**776**	**676**	
22 ER 5,5	5,50	22	1,7	2,6		**178**			
22 ER 5,5	5,50	22	1,9	2,7	**278**			**678**	
22 EN 5,5	5,50	22	2,3	11,0	**282** [1]			**682** [1]	
22 ER 6,0	6,00	22	1,9	2,7		**180**	**780**		
22 ER 6,0	6,00	22	2,0	2,9	**280**			**680**	
22 EN 6,0	6,00	22	2,6	11,0	**284** [1]			**684** [1]	

P	●	●	○			●
M	●	○	●	○		●
K	●	●	○	●		●
N		●	○	●		
S	○		○	○		●
H	○		○			○
O		○				

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

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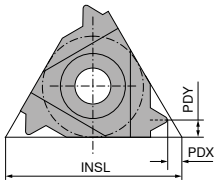
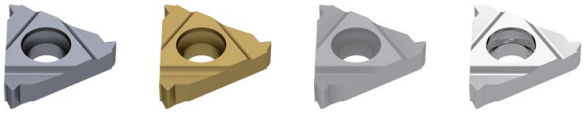
Left hand external thread turning insert

▲ Full profile

M | MF | 60°



CCN20 | CWN1525 | HCN2525 | CWK20



Designation	TP mm	INSL mm	PDX mm	PDY mm	EL 71 222 ...		EL 71 222 ...		EL 71 222 ...		EL 71 222 ...	
11 EL 0,35	0,35	11	0,8	0,4	**204**							**604**
11 EL 0,4	0,40	11	0,7	0,4	**206**							**606**
11 EL 0,45	0,45	11	0,7	0,4	**208**							**608**
11 EL 0,5	0,50	11	0,6	0,6	**209**							**609**
11 EL 0,6	0,60	11	0,6	0,6	**210**							**610**
11 EL 0,7	0,70	11	0,6	0,6	**211**							**611**
11 EL 0,75	0,75	11	0,6	0,6	**212**							**612**
11 EL 0,8	0,80	11	0,6	0,6	**213**							**613**
11 EL 1,0	1,00	11	0,7	0,7	**214**							**614**
11 EL 1,25	1,25	11	0,8	0,9	**216**							**616**
11 EL 1,5	1,50	11	0,8	1,0	**218**							**618**
11 EL 1,75	1,75	11	0,8	1,1	**220**							**620**
16 EL 0,35	0,35	16	0,8	0,4	**234**							**634**
16 EL 0,4	0,40	16	0,7	0,4	**236**							**636**
16 EL 0,45	0,45	16	0,7	0,4	**238**							**638**
16 EL 0,5	0,50	16	0,6	0,6	**240**							**640**
16 EL 0,7	0,70	16	0,6	0,6	**241**							**641**
16 EL 0,75	0,75	16	0,6	0,6	**242**							**642**
16 EL 0,8	0,80	16	0,6	0,6	**243**							**643**
16 EL 1,0	1,00	16	0,7	0,7	**244**		**144**		**744**			**644**
16 EL 1,25	1,25	16	0,8	0,9	**246**		**146**					**646**
16 EL 1,5	1,50	16	0,8	1,0	**248**		**148**		**748**			**648**
16 EL 1,75	1,75	16	0,9	1,2	**250**				**750**			**650**
16 EL 2,0	2,00	16	1,0	1,3	**252**		**152**					**652**
16 EL 2,5	2,50	16	1,1	1,5	**254**							**654**
16 EL 3,0	3,00	16	1,2	1,6	**256**		**156**					**656**
22 EL 3,5	3,50	22	1,6	2,3	**270**							**670**
22 EL 4,0	4,00	22	1,6	2,3	**272**							**672**
22 EL 4,5	4,50	22	1,7	2,4	**274**							**674**
22 EL 5,0	5,00	22	1,7	2,5	**276**							**676**
22 EL 5,5	5,50	22	1,9	2,7	**278**							**678**
22 EL 6,0	6,00	22	2,0	2,9	**280**							**680**
P					●		●		○			
M					●		○		●		○	
K					●		●		○		●	
N							●		○		●	
S					○				○		○	
H					○				○			
O							○					

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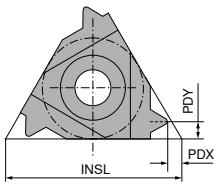
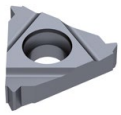
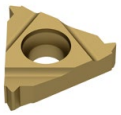
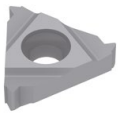
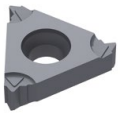
8

Right hand internal thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

M | MF | 60°



CCN20	CWN1525	HCN2525	CWK20	CCN7525
				

Designation	TP mm	INSL mm	PDX mm	PDY mm	IR 71 224 ...	IR 71 224 ...	IR 71 224 ...	IR 71 224 ...	IR 71 224 ...
11 IR 0,35	0,35	11	0,8	0,3	**204**			**604**	
11 IR 0,4	0,40	11	0,8	0,4	**206**			**606**	
11 IR 0,45	0,45	11	0,8	0,4	**208**			**608**	
11 IR 0,5	0,50	11	0,6	0,6	**210**			**610**	
11 IR 0,7	0,70	11	0,6	0,6	**211**			**611**	
11 IR 0,75	0,75	11	0,6	0,6	**212**			**612**	**912**
11 IR 0,8	0,80	11	0,6	0,6	**213**		**713**	**613**	
11 IR 1,0	1,00	11	0,6	0,6					**914**
11 IR 1,0	1,00	11	0,6	0,7	**214**	**114**	**714**	**614**	
11 IR 1,25	1,25	11	0,8	0,9	**216**			**616**	
11 IR 1,5	1,50	11	0,8	0,9					**918**
11 IR 1,5	1,50	11	0,8	1,0	**218**	**118**	**718**	**618**	
11 IR 1,75	1,75	11	0,9	1,1	**220**			**620**	
11 IR 2,0	2,00	11	0,8	0,9		**122**	**722**		
11 IR 2,0	2,00	11	0,9	1,1	**222**			**622**	
11 IR 2,5	2,50	11	0,8	1,2		**124**	**724**		
11 IR 2,5	2,50	11	0,9	1,1	**224**			**624**	
16 IR 0,35	0,35	16	0,8	0,4	**234**			**634**	
16 IR 0,4	0,40	16	0,7	0,4	**236**			**636**	
16 IR 0,45	0,45	16	0,7	0,4	**238**			**638**	
16 IR 0,5	0,50	16	0,6	0,6	**240**			**640**	
16 IR 0,7	0,70	16	0,6	0,6	**241**			**641**	
16 IR 0,75	0,75	16	0,6	0,6	**242**	**142**	**742**	**642**	
16 IR 0,8	0,80	16	0,6	0,6	**243**			**643**	
16 IR 1,0	1,00	16	0,6	0,7		**144**	**744**		**944**
16 IR 1,0	1,00	16	0,7	0,7	**244**			**644**	
16 IR 1,25	1,25	16	0,8	0,9	**246**		**746**	**646**	**946**
16 IR 1,5	1,50	16	0,8	1,0	**248**	**148**	**748**	**648**	**948**
16 IR 1,75	1,75	16	0,9	1,2	**250**		**750**	**650**	
16 IR 2,0	2,00	16	1,0	1,3	**252**	**152**	**752**	**652**	**952**
16 IR 2,5	2,50	16	1,1	1,5	**254**	**154**	**754**	**654**	**954**
16 IR 3,0	3,00	16	1,1	1,5	**256**	**156**	**756**	**656**	**956**
22 IR 3,5	3,50	22	1,6	2,3	**270**	**170**	**770**	**670**	
22 IR 4,0	4,00	22	1,6	2,3	**272**	**172**	**772**	**672**	
22 IR 4,5	4,50	22	1,6	2,4		**174**	**774**		
22 IR 4,5	4,50	22	1,7	2,4	**274**			**674**	
22 IR 5,0	5,00	22	1,6	2,3		**176**			
22 IR 5,0	5,00	22	1,7	2,5	**276**			**676**	
22 IR 5,5	5,50	22	1,6	2,3		**178**			
22 IR 5,5	5,50	22	1,9	2,7	**278**			**678**	
22 IN 5,5	5,50	22	2,3	11,0	**282** [1]			**682** [1]	
22 IR 6,0	6,00	22	1,6	2,4		**180**			
22 IR 6,0	6,00	22	2,0	2,9	**280**			**680**	
22 IN 6,0	6,00	22	2,6	11,0	**284** [1]			**684** [1]	

P					●	●	○		●
M					●	○	●	○	●
K					●	●	○	●	●
N						●	○	●	
S					○		○	○	●
H					○		○		○
O						○			

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

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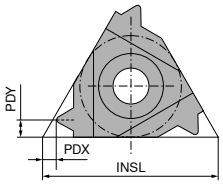
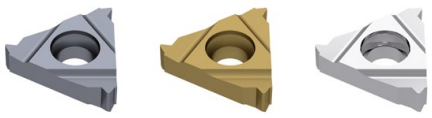
Left hand internal thread turning insert

▲ Full profile

M | MF | 60°

CCN20 | CWN1525 | CWK20





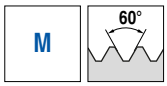
Designation	TP mm	INSL mm	PDX mm	PDY mm	IL 71 226 ...	IL 71 226 ...	IL 71 226 ...
11 IL 0,35	0,35	11	0,8	0,3	**204**		**604**
11 IL 0,4	0,40	11	0,8	0,4	**206**		**606**
11 IL 0,45	0,45	11	0,8	0,4	**208**		**608**
11 IL 0,5	0,50	11	0,6	0,6	**210**		**610**
11 IL 0,7	0,70	11	0,6	0,6	**211**		**611**
11 IL 0,75	0,75	11	0,6	0,6	**212**		**612**
11 IL 0,8	0,80	11	0,6	0,6	**213**		**613**
11 IL 1,0	1,00	11	0,6	0,7	**214**		**614**
11 IL 1,25	1,25	11	0,8	0,9	**216**		**616**
11 IL 1,5	1,50	11	0,8	1,0	**218**		**618**
11 IL 1,75	1,75	11	0,9	1,1	**220**		**620**
11 IL 2,0	2,00	11	0,9	1,1	**222**		**622**
11 IL 2,5	2,50	11	0,9	1,1	**224**		**624**
16 IL 0,35	0,35	16	0,8	0,4	**234**		**634**
16 IL 0,4	0,40	16	0,7	0,4	**236**		**636**
16 IL 0,45	0,45	16	0,7	0,4	**238**		**638**
16 IL 0,5	0,50	16	0,6	0,6	**240**		**640**
16 IL 0,7	0,70	16	0,6	0,6	**241**		**641**
16 IL 0,75	0,75	16	0,6	0,6	**242**		**642**
16 IL 0,8	0,80	16	0,6	0,6	**243**		**643**
16 IL 1,0	1,00	16	0,6	0,7		**144**	
16 IL 1,0	1,00	16	0,7	0,7	**244**		**644**
16 IL 1,25	1,25	16	0,8	0,9	**246**		**646**
16 IL 1,5	1,50	16	0,8	1,0	**248**	**148**	**648**
16 IL 1,75	1,75	16	0,9	1,2	**250**		**650**
16 IL 2,0	2,00	16	1,0	1,3	**252**	**152**	**652**
16 IL 2,5	2,50	16	1,1	1,5	**254**		**654**
16 IL 3,0	3,00	16	1,2	1,6	**256**		**656**
22 IL 3,5	3,50	22	1,6	2,3	**270**		**670**
22 IL 4,0	4,00	22	1,6	2,3	**272**		**672**
22 IL 4,5	4,50	22	1,7	2,4	**274**		**674**
22 IL 5,0	5,00	22	1,7	2,5	**276**		**676**
22 IL 5,5	5,50	22	1,9	2,7	**278**		**678**
22 IL 6,0	6,00	22	2,0	2,9	**280**		**680**
P					●	●	
M					●	○	○
K					●	●	●
N						●	●
S					○		○
H					○		
O						○	

→ v_c Page 45

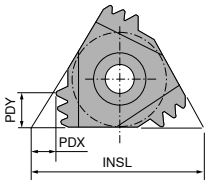
8

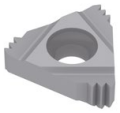
Right hand external thread turning insert

▲ Multi edge insert



HCN2525





Designation	TP mm	INSL mm	PDX mm	PDY mm	NT	ER 71 221 ...
16 ER 1,0 3M	1,0	16	1,7	2,5	3	**700**
16 ER 1,5 2M	1,5	16	1,5	2,3	2	**702**

P	○
M	●
K	○
N	○
S	○
H	○
O	

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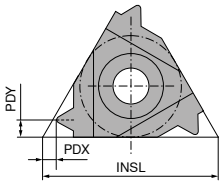
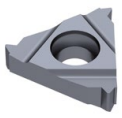
Right hand external thread turning insert

▲ Full profile

MJ 60°





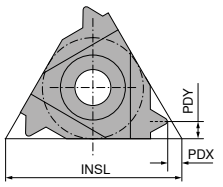
Designation	TP mm	INSL mm	PDX mm	PDY mm	ER 71 286 ...		ER 71 286 ...	
11 ER 1,0	1,00	11	0,7	0,8	**214**		**614**	
11 ER 1,25	1,25	11	0,8	0,9	**216**		**616**	
11 ER 1,5	1,50	11	0,8	1,0	**218**		**618**	
11 ER 2,0	2,00	11	0,9	1,0	**222**		**622**	
16 ER 1,0	1,00	16	0,7	0,8	**244**		**644**	
16 ER 1,25	1,25	16	0,8	0,9	**246**		**646**	
16 ER 1,5	1,50	16	0,8	1,0	**248**		**648**	
16 ER 2,0	2,00	16	1,0	1,3	**252**		**652**	
P					●			
M					●		○	
K					●		●	
N							●	
S					○		○	
H					○			
O								

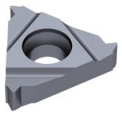
→ v_c Page 45

Left hand external thread turning insert

▲ Full profile

MJ 60°





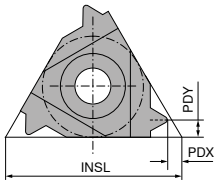
Designation	TP mm	INSL mm	PDX mm	PDY mm	EL 71 287 ...		EL 71 287 ...	
11 EL 1,0	1,00	11	0,7	0,8	**214**		**614**	
11 EL 1,25	1,25	11	0,8	0,9	**216**		**616**	
11 EL 1,5	1,50	11	0,8	1,0	**218**		**618**	
11 EL 2,0	2,00	11	0,9	1,0	**222**		**622**	
16 EL 1,0	1,00	16	0,7	0,8	**244**		**644**	
16 EL 1,25	1,25	16	0,8	0,9	**246**		**646**	
16 EL 1,5	1,50	16	0,8	1,0	**248**		**648**	
16 EL 2,0	2,00	16	1,0	1,3	**252**		**652**	
P					●			
M					●		○	
K					●		●	
N							●	
S					○		○	
H					○			
O								

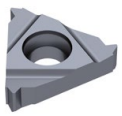
→ v_c Page 45

8

Right hand internal thread turning insert

▲ Full profile



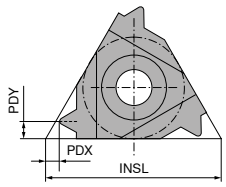


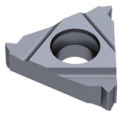
Designation	TP mm	INSL mm	PDX mm	PDY mm	IR 71 284 ...	IR 71 284 ...
11 IR 1,0	1,00	11	0,7	0,8	**214**	**614**
11 IR 1,25	1,25	11	0,8	0,9	**216**	**616**
11 IR 1,5	1,50	11	0,8	1,0	**218**	**618**
11 IR 2,0	2,00	11	0,9	1,0	**222**	**622**
16 IR 1,0	1,00	16	0,7	0,8	**244**	**644**
16 IR 1,25	1,25	16	0,8	0,9	**246**	**646**
16 IR 1,5	1,50	16	0,8	1,0	**248**	**648**
16 IR 2,0	2,00	16	1,0	1,3	**252**	**652**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Left hand internal thread turning insert

▲ Full profile





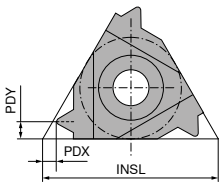
Designation	TP mm	INSL mm	PDX mm	PDY mm	IL 71 285 ...	IL 71 285 ...
11 IL 1,0	1,00	11	0,7	0,8	**214**	**614**
11 IL 1,25	1,25	11	0,8	0,9	**216**	**616**
11 IL 1,5	1,50	11	0,8	1,0	**218**	**618**
11 IL 2,0	2,00	11	0,9	1,0	**222**	**622**
16 IL 1,0	1,00	16	0,7	0,8	**244**	**644**
16 IL 1,25	1,25	16	0,8	0,9	**246**	**646**
16 IL 1,5	1,50	16	0,8	1,0	**248**	**648**
16 IL 2,0	2,00	16	1,0	1,3	**252**	**652**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

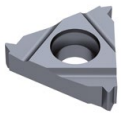
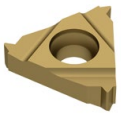
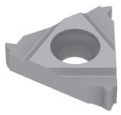
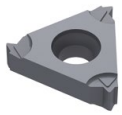
→ v_c Page 45

Right hand external thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

BSW



CCN20	CWN1525	HCN2525	CWK20	CCN7525
				

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 228 ...	ER 71 228 ...	ER 71 228 ...	ER 71 228 ...	ER 71 228 ...
11 ER 72	72,0	11	0,7	0,4	202			602	
11 ER 60	60,0	11	0,7	0,4	204			604	
11 ER 56	56,0	11	0,7	0,4	206			606	
11 ER 48	48,0	11	0,6	0,6	208			608	
11 ER 40	40,0	11	0,6	0,6	210			610	
11 ER 36	36,0	11	0,6	0,6	212			612	
11 ER 32	32,0	11	0,6	0,6	214			614	
11 ER 28	28,0	11	0,6	0,7	216			616	
11 ER 26	26,0	11	0,7	0,8	218			618	
11 ER 24	24,0	11	0,7	0,8	220			620	
11 ER 22	22,0	11	0,8	0,9	222			622	
11 ER 20	20,0	11	0,8	0,9	224			624	
11 ER 19	19,0	11	0,8	1,0	226			626	
11 ER 18	18,0	11	0,8	1,0	228			628	
11 ER 16	16,0	11	0,9	1,1	230			630	
11 ER 14	14,0	11	0,9	1,1	232			632	
16 ER 40	40,0	16	0,6	0,6	240			640	
16 ER 36	36,0	16	0,6	0,6	242			642	
16 ER 32	32,0	16	0,6	0,6	244			644	
16 ER 28	28,0	16	0,6	0,7	246	146	746	646	
16 ER 26	26,0	16	0,7	0,7			748		
16 ER 26	26,0	16	0,7	0,8	248			648	
16 ER 24	24,0	16	0,7	0,8	250			650	
16 ER 22	22,0	16	0,8	0,9	252			652	
16 ER 20	20,0	16	0,8	0,9	254		754	654	
16 ER 19	19,0	16	0,8	1,0	256	156	756	656	956
16 ER 18	18,0	16	0,8	1,0	258			658	
16 ER 16	16,0	16	0,9	1,1	260	160	760	660	
16 ER 14	14,0	16	1,0	1,2	262	162	762	662	962
16 ER 12	12,0	16	1,1	1,4	264	164	764	664	
16 ER 11	11,0	16	1,1	1,5	266	166	766	666	966
16 ER 10	10,0	16	1,1	1,5	268			668	
16 ER 9	9,0	16	1,2	1,7	270			670	
16 ER 8	8,0	16	1,2	1,5	272			672	
22 ER 7	7,0	22	1,6	2,3	280			680	
22 ER 6	6,0	22	1,6	2,3	282			682	
22 ER 5	5,0	22	1,7	2,4	284			684	
22 EN 4,5	4,5	22	2,3	11,0	290 [1]			690 [1]	
22 EN 4	4,0	22	1,8	11,0	292 [1]			692 [1]	

P	●	●	○		●
M	●	○	●	○	●
K	●	●	○	●	●
N		●	○	●	
S	○		○	○	●
H	○		○		○
O		○			

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

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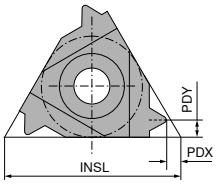
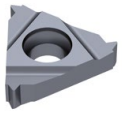
8

Left hand external thread turning insert

▲ Full profile



CCN20



CWK20

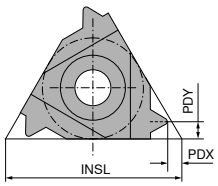
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	EL 71 229 ...		EL 71 229 ...	
11 EL 72	72	11	0,7	0,4		**202**		**602**
11 EL 60	60	11	0,7	0,4		**204**		**604**
11 EL 56	56	11	0,7	0,4		**206**		**606**
11 EL 48	48	11	0,6	0,6		**208**		**608**
11 EL 40	40	11	0,6	0,6		**210**		**610**
11 EL 36	36	11	0,6	0,6		**212**		**612**
11 EL 32	32	11	0,6	0,6		**214**		**614**
11 EL 28	28	11	0,6	0,7		**216**		**616**
11 EL 26	26	11	0,7	0,8		**218**		**618**
11 EL 24	24	11	0,7	0,8		**220**		**620**
11 EL 22	22	11	0,8	0,9		**222**		**622**
11 EL 20	20	11	0,8	0,9		**224**		**624**
11 EL 19	19	11	0,8	1,0		**226**		**626**
11 EL 18	18	11	0,8	1,0		**228**		**628**
11 EL 16	16	11	0,9	1,1		**230**		**630**
11 EL 14	14	11	0,9	1,1		**232**		**632**
16 EL 40	40	16	0,6	0,6		**240**		**640**
16 EL 36	36	16	0,6	0,6		**242**		**642**
16 EL 32	32	16	0,6	0,6		**244**		**644**
16 EL 28	28	16	0,6	0,7		**246**		**646**
16 EL 26	26	16	0,7	0,8		**248**		**648**
16 EL 24	24	16	0,7	0,8		**250**		**650**
16 EL 22	22	16	0,8	0,9		**252**		**652**
16 EL 20	20	16	0,8	0,9		**254**		**654**
16 EL 19	19	16	0,8	1,0		**256**		**656**
16 EL 18	18	16	0,8	1,0		**258**		**658**
16 EL 16	16	16	0,9	1,1		**260**		**660**
16 EL 14	14	16	1,0	1,2		**262**		**662**
16 EL 12	12	16	1,1	1,4		**264**		**664**
16 EL 11	11	16	1,1	1,5		**266**		**666**
16 EL 10	10	16	1,1	1,5		**268**		**668**
16 EL 9	9	16	1,2	1,7		**270**		**670**
16 EL 8	8	16	1,2	1,5		**272**		**672**
22 EL 7	7	22	1,6	2,3		**280**		**680**
22 EL 6	6	22	1,6	2,3		**282**		**682**
22 EL 5	5	22	1,7	2,4		**284**		**684**
P						●		
M						●		○
K						●		●
N								●
S						○		○
H						○		
O								

→ v_c Page 45

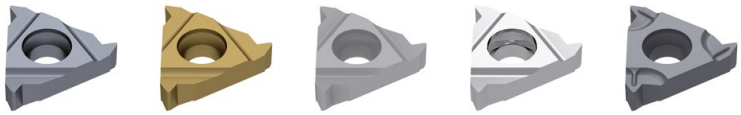
Right hand internal thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

BSW



CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525



Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 230 ...	IR 71 230 ...	IR 71 230 ...	IR 71 230 ...	IR 71 230 ...
11 IR 48	48	11	0,6	0,6	**206**			**606**	
11 IR 40	40	11	0,6	0,6	**208**			**608**	
11 IR 36	36	11	0,6	0,6	**210**			**610**	
11 IR 32	32	11	0,6	0,6	**212**			**612**	
11 IR 28	28	11	0,6	0,7	**214**			**614**	
11 IR 26	26	11	0,7	0,8	**216**			**616**	
11 IR 24	24	11	0,7	0,8	**218**			**618**	
11 IR 22	22	11	0,8	0,9	**220**			**620**	
11 IR 20	20	11	0,8	0,9	**222**			**622**	
11 IR 19	19	11	0,8	0,9					**924**
11 IR 19	19	11	0,8	1,0	**224**	**124**	**724**	**624**	
11 IR 18	18	11	0,8	1,0	**226**			**626**	
11 IR 16	16	11	0,9	1,1	**228**			**628**	
11 IR 14	14	11	0,8	0,9					**930**
11 IR 14	14	11	0,9	1,1	**230**	**130**	**730**	**630**	
16 IR 40	40	16	0,6	0,6	**240**			**640**	
16 IR 36	36	16	0,6	0,6	**242**			**642**	
16 IR 32	32	16	0,6	0,6	**244**			**644**	
16 IR 28	28	16	0,6	0,7	**246**			**646**	
16 IR 26	26	16	0,7	0,8	**248**			**648**	
16 IR 24	24	16	0,7	0,8	**250**			**650**	
16 IR 22	22	16	0,8	0,9	**252**			**652**	
16 IR 20	20	16	0,8	0,9	**254**			**654**	
16 IR 19	19	16	0,8	1,0	**256**			**656**	
16 IR 18	18	16	0,8	1,0	**258**			**658**	
16 IR 16	16	16	0,9	1,1	**260**		**760**	**660**	
16 IR 14	14	16	1,0	1,2	**262**	**162**	**762**	**662**	**962**
16 IR 12	12	16	1,1	1,4	**264**			**664**	
16 IR 11	11	16	1,1	1,5	**266**	**166**	**766**	**666**	**966**
16 IR 10	10	16	1,1	1,5	**268**			**668**	
16 IR 9	9	16	1,2	1,7	**270**			**670**	
16 IR 8	8	16	1,2	1,5	**272**			**672**	
22 IR 7	7	22	1,6	2,3	**280**			**680**	
22 IR 6	6	22	1,6	2,3	**282**			**682**	
22 IR 5	5	22	1,7	2,4	**284**			**684**	
P					●	●	○		●
M					●	○	●	○	●
K					●	●	○	●	●
N						●	○	●	
S					○		○	○	●
H					○		○		○
O						○			

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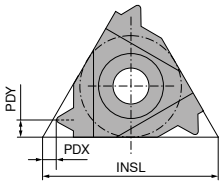
8

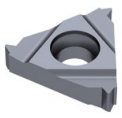
Left hand internal thread turning insert

▲ Full profile

BSW



CCN20



CWK20

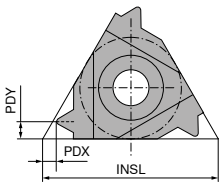
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 231 ...	IL 71 231 ...
11 IL 48	48	11	0,6	0,6	**206**	**606**
11 IL 40	40	11	0,6	0,6	**208**	**608**
11 IL 36	36	11	0,6	0,6	**210**	**610**
11 IL 32	32	11	0,6	0,6	**212**	**612**
11 IL 28	28	11	0,6	0,7	**214**	**614**
11 IL 26	26	11	0,7	0,8	**216**	**616**
11 IL 24	24	11	0,7	0,8	**218**	**618**
11 IL 22	22	11	0,8	0,9	**220**	**620**
11 IL 20	20	11	0,8	0,9	**222**	**622**
11 IL 19	19	11	0,8	1,0	**224**	**624**
11 IL 18	18	11	0,8	1,0	**226**	**626**
11 IL 16	16	11	0,9	1,1	**228**	**628**
11 IL 14	14	11	0,9	1,1	**230**	**630**
16 IL 40	40	16	0,6	0,6	**240**	**640**
16 IL 36	36	16	0,6	0,6	**242**	**642**
16 IL 32	32	16	0,6	0,6	**244**	**644**
16 IL 28	28	16	0,6	0,7	**246**	**646**
16 IL 26	26	16	0,7	0,8	**248**	**648**
16 IL 24	24	16	0,7	0,8	**250**	**650**
16 IL 22	22	16	0,8	0,9	**252**	**652**
16 IL 20	20	16	0,8	0,9	**254**	**654**
16 IL 19	19	16	0,8	1,0	**256**	**656**
16 IL 18	18	16	0,8	1,0	**258**	**658**
16 IL 16	16	16	0,9	1,1	**260**	**660**
16 IL 14	14	16	1,0	1,2	**262**	**662**
16 IL 12	12	16	1,1	1,4	**264**	**664**
16 IL 11	11	16	1,1	1,5	**266**	**666**
16 IL 10	10	16	1,1	1,5	**268**	**668**
16 IL 9	9	16	1,2	1,7	**270**	**670**
16 IL 8	8	16	1,2	1,5	**272**	**672**
22 IL 7	7	22	1,6	2,3	**280**	**680**
22 IL 6	6	22	1,6	2,3	**282**	**682**
22 IL 5	5	22	1,7	2,4	**284**	**684**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

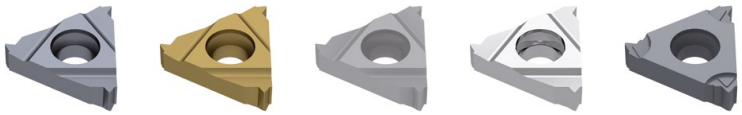
Right hand external thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

UN | UNC | UNF | UNEF | 60°



CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525



Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 264 ...	ER 71 264 ...	ER 71 264 ...	ER 71 264 ...	ER 71 264 ...
11 ER 72	72,0	11	0,8	0,4	202			602	
11 ER 64	64,0	11	0,8	0,4	204			604	
11 ER 56	56,0	11	0,7	0,4	206			606	
11 ER 48	48,0	11	0,6	0,6	208			608	
11 ER 44	44,0	11	0,6	0,6	210			610	
11 ER 40	40,0	11	0,6	0,6	212			612	
11 ER 36	36,0	11	0,6	0,6	214			614	
11 ER 32	32,0	11	0,6	0,6	216			616	
11 ER 28	28,0	11	0,6	0,7	218			618	
11 ER 27	27,0	11	0,7	0,8	220			620	
11 ER 24	24,0	11	0,7	0,8	222			622	
11 ER 20	20,0	11	0,8	0,9	224			624	
11 ER 18	18,0	11	0,8	1,0	226			626	
11 ER 16	16,0	11	0,9	1,1	228			628	
11 ER 14	14,0	11	0,9	1,1	230			630	
16 ER 72	72,0	16	0,8	0,4	232			632	
16 ER 64	64,0	16	0,8	0,4	234			634	
16 ER 56	56,0	16	0,7	0,4	236			636	
16 ER 48	48,0	16	0,6	0,6	238			638	
16 ER 44	44,0	16	0,6	0,6	240			640	
16 ER 40	40,0	16	0,6	0,6	242			642	
16 ER 36	36,0	16	0,6	0,6	244			644	
16 ER 32	32,0	16	0,6	0,6	246		746	646	
16 ER 28	28,0	16	0,6	0,7	248		748	648	
16 ER 27	27,0	16	0,7	0,8	250			650	
16 ER 24	24,0	16	0,7	0,8	252	152	752	652	
16 ER 20	20,0	16	0,8	0,9	254	154	754	654	954
16 ER 18	18,0	16	0,8	1,0	256	156	756	656	
16 ER 16	16,0	16	0,9	1,1	258	158	758	658	958
16 ER 14	14,0	16	1,0	1,2	260	160	760	660	
16 ER 13	13,0	16	1,0	1,3	262			662	
16 ER 12	12,0	16	1,1	1,4	264	164	764	664	
16 ER 11,5	11,5	16	1,1	1,5	266			666	
16 ER 11	11,0	16	1,1	1,5	268	168		668	
16 ER 10	10,0	16	1,1	1,5	270			670	
16 ER 9	9,0	16	1,2	1,7	272			672	
16 ER 8	8,0	16	1,1	1,1					974
16 ER 8	8,0	16	1,1	1,5		174			
16 ER 8	8,0	16	1,2	1,6	274			674	
22 ER 7	7,0	22	1,6	2,3	276			676	
22 ER 6	6,0	22	1,6	2,3	278			678	
22 ER 5	5,0	22	1,7	2,5	280			680	
22 EN 4,5	4,5	22	2,0	11,0	282 [1]			682 [1]	
22 EN 4	4,0	22	2,0	11,0	284 [1]			684 [1]	

P	●	●	○		●
M	●	○	●	○	●
K	●	●	○	●	●
N		●	○	●	
S	○		○	○	●
H	○		○		○
O		○			

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

→ v_c Page 45

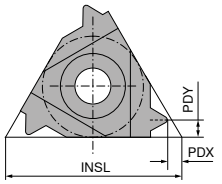
8

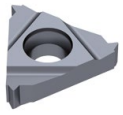
Left hand external thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20 | CWK20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	EL 71 266 ...		EL 71 266 ...	
11 EL 72	72,0	11	0,8	0,4		202		602
11 EL 64	64,0	11	0,8	0,4		204		604
11 EL 56	56,0	11	0,7	0,4		206		606
11 EL 48	48,0	11	0,6	0,6		208		608
11 EL 44	44,0	11	0,6	0,6		210		610
11 EL 40	40,0	11	0,6	0,6		212		612
11 EL 36	36,0	11	0,6	0,6		214		614
11 EL 32	32,0	11	0,6	0,6		216		616
11 EL 28	28,0	11	0,6	0,7		218		618
11 EL 27	27,0	11	0,7	0,8		220		620
11 EL 24	24,0	11	0,7	0,8		222		622
11 EL 20	20,0	11	0,8	0,9		224		624
11 EL 18	18,0	11	0,8	1,0		226		626
11 EL 16	16,0	11	0,9	1,1		228		628
11 EL 14	14,0	11	0,9	1,1		230		630
16 EL 72	72,0	16	0,8	0,4		232		632
16 EL 64	64,0	16	0,8	0,4		234		634
16 EL 56	56,0	16	0,7	0,4		236		636
16 EL 48	48,0	16	0,6	0,6		238		638
16 EL 44	44,0	16	0,6	0,6		240		640
16 EL 40	40,0	16	0,6	0,6		242		642
16 EL 36	36,0	16	0,6	0,6		244		644
16 EL 32	32,0	16	0,6	0,6		246		646
16 EL 28	28,0	16	0,6	0,7		248		648
16 EL 27	27,0	16	0,7	0,8		250		650
16 EL 24	24,0	16	0,7	0,8		252		652
16 EL 20	20,0	16	0,8	0,9		254		654
16 EL 18	18,0	16	0,8	1,0		256		656
16 EL 16	16,0	16	0,9	1,1		258		658
16 EL 14	14,0	16	1,0	1,2		260		660
16 EL 13	13,0	16	1,0	1,3		262		662
16 EL 12	12,0	16	1,1	1,4		264		664
16 EL 11,5	11,5	16	1,1	1,5		266		666
16 EL 11	11,0	16	1,1	1,5		268		668
16 EL 10	10,0	16	1,1	1,5		270		670
16 EL 9	9,0	16	1,2	1,7		272		672
16 EL 8	8,0	16	1,2	1,6		274		674
22 EL 7	7,0	22	1,6	2,3		276		676
22 EL 6	6,0	22	1,6	2,3		278		678
22 EL 5	5,0	22	1,7	2,5		280		680

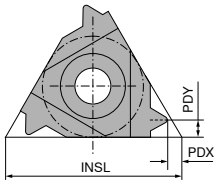
P	●	
M	●	○
K	●	●
N		●
S	○	○
H	○	
O		

→ v_c Page 45

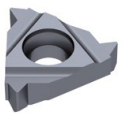
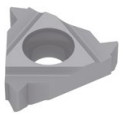
Right hand internal thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°



CCN20 | HCN2525 | CWK20


Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 268 ...	IR 71 268 ...	IR 71 268 ...
11 IR 72	72,0	11	0,8	0,3	**202**		**602**
11 IR 64	64,0	11	0,8	0,4	**204**		**604**
11 IR 56	56,0	11	0,7	0,4	**206**		**606**
11 IR 48	48,0	11	0,6	0,6	**208**		**608**
11 IR 44	44,0	11	0,6	0,6	**210**		**610**
11 IR 40	40,0	11	0,6	0,6	**212**		**612**
11 IR 36	36,0	11	0,6	0,6	**214**		**614**
11 IR 32	32,0	11	0,6	0,6	**216**		**616**
11 IR 28	28,0	11	0,6	0,7	**218**		**618**
11 IR 27	27,0	11	0,7	0,8	**220**		**620**
11 IR 24	24,0	11	0,7	0,8	**222**		**622**
11 IR 20	20,0	11	0,8	0,9	**224**		**624**
11 IR 18	18,0	11	0,8	1,0	**226**		**626**
11 IR 16	16,0	11	0,9	1,1	**228**		**628**
11 IR 14	14,0	11	1,0	1,1	**230**		**630**
16 IR 72	72,0	16	0,8	0,3	**232**		**632**
16 IR 64	64,0	16	0,8	0,4	**234**		**634**
16 IR 56	56,0	16	0,7	0,4	**236**		**636**
16 IR 48	48,0	16	0,6	0,6	**238**		**638**
16 IR 44	44,0	16	0,6	0,6	**240**		**640**
16 IR 40	40,0	16	0,6	0,6	**242**		**642**
16 IR 36	36,0	16	0,6	0,6	**244**		**644**
16 IR 32	32,0	16	0,6	0,6	**246**		**646**
16 IR 28	28,0	16	0,6	0,7	**248**		**648**
16 IR 27	27,0	16	0,7	0,8	**250**		**650**
16 IR 24	24,0	16	0,7	0,8	**252**		**652**
16 IR 20	20,0	16	0,8	0,9	**254**		**654**
16 IR 18	18,0	16	0,8	1,0	**256**		**656**
16 IR 16	16,0	16	0,9	1,1	**258**		**658**
16 IR 14	14,0	16	1,0	1,2	**260**	**760**	**660**
16 IR 13	13,0	16	1,0	1,3	**262**		**662**
16 IR 12	12,0	16	1,1	1,4	**264**	**764**	**664**
16 IR 11,5	11,5	16	1,1	1,5	**266**		**666**
16 IR 11	11,0	16	1,1	1,5	**268**		**668**
16 IR 10	10,0	16	1,1	1,5	**270**		**670**
16 IR 9	9,0	16	1,2	1,7	**272**		**672**
16 IR 8	8,0	16	1,2	1,6	**274**		**674**
16 IR 8	8,0	16	1,1	1,5		**774**	
22 IR 7	7,0	22	1,6	2,3	**276**	**776**	**676**
22 IR 6	6,0	22	1,6	2,3	**278**		**678**
22 IR 5	5,0	22	1,7	2,5	**280**		**680**
22 IN 4,5	4,5	22	2,0	11,0	**282** 1)		**682** 1)
22 IN 4	4,0	22	2,0	11,0	**284** 1)		**684** 1)

P	●	○	
M	●	●	○
K	●	○	●
N		○	●
S	○	○	○
H	○	○	
O			

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

→ v_c Page 45

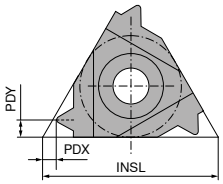
8

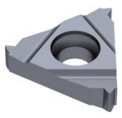
Left hand internal thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20 | CWK20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 270 ...		IL 71 270 ...	
11 IL 72	72,0	11	0,8	0,3		202		602
11 IL 64	64,0	11	0,8	0,4		204		604
11 IL 56	56,0	11	0,7	0,4		206		606
11 IL 48	48,0	11	0,6	0,6		208		608
11 IL 44	44,0	11	0,6	0,6		210		610
11 IL 40	40,0	11	0,6	0,6		212		612
11 IL 36	36,0	11	0,6	0,6		214		614
11 IL 32	32,0	11	0,6	0,6		216		616
11 IL 28	28,0	11	0,6	0,7		218		618
11 IL 27	27,0	11	0,7	0,8		220		620
11 IL 24	24,0	11	0,7	0,8		222		622
11 IL 20	20,0	11	0,8	0,9		224		624
11 IL 18	18,0	11	0,8	1,0		226		626
11 IL 16	16,0	11	0,9	1,1		228		628
11 IL 14	14,0	11	0,9	1,1		230		630
16 IL 72	72,0	16	0,8	0,3		232		632
16 IL 64	64,0	16	0,8	0,4		234		634
16 IL 56	56,0	16	0,7	0,4		236		636
16 IL 48	48,0	16	0,6	0,6		238		638
16 IL 44	44,0	16	0,6	0,6		240		640
16 IL 40	40,0	16	0,6	0,6		242		642
16 IL 36	36,0	16	0,6	0,6		244		644
16 IL 32	32,0	16	0,6	0,6		246		646
16 IL 28	28,0	16	0,6	0,7		248		648
16 IL 27	27,0	16	0,7	0,8		250		650
16 IL 24	24,0	16	0,7	0,8		252		652
16 IL 20	20,0	16	0,8	0,9		254		654
16 IL 18	18,0	16	0,8	1,0		256		656
16 IL 16	16,0	16	0,9	1,1		258		658
16 IL 14	14,0	16	1,0	1,2		260		660
16 IL 13	13,0	16	1,0	1,3		262		662
16 IL 12	12,0	16	1,1	1,4		264		664
16 IL 11,5	11,5	16	1,1	1,5		266		666
16 IL 11	11,0	16	1,1	1,5		268		668
16 IL 10	10,0	16	1,1	1,5		270		670
16 IL 9	9,0	16	1,2	1,7		272		672
16 IL 8	8,0	16	1,2	1,6		274		674
22 IL 7	7,0	22	1,6	2,3		276		676
22 IL 6	6,0	22	1,6	2,3		278		678
22 IL 5	5,0	22	1,7	2,5		280		680

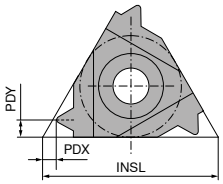
P	●	
M	●	○
K	●	●
N		●
S	○	○
H	○	
O		

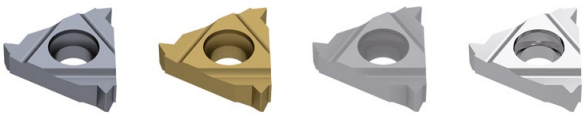
→ v_c Page 45

Right hand external thread turning insert

▲ Full profile

NPT 60°





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	CCN20 ER 71 256 ...	CWN1525 ER 71 256 ...	HCN2525 ER 71 256 ...	CWK20 ER 71 256 ...
16 ER 27	27,0	16	0,7	0,8	**240**			**640**
16 ER 18	18,0	16	0,8	1,0	**242**		**742**	**642**
16 ER 14	14,0	16	0,9	1,2	**244**	**144**	**744**	**644**
16 ER 11,5	11,5	16	1,1	1,5	**246**	**146**	**746**	**646**
16 ER 8	8,0	16	1,3	1,8	**248**			**648**
P					●	●	○	
M					●	○	●	○
K					●	●	○	●
N						●	○	●
S					○		○	○
H					○		○	
O						○		

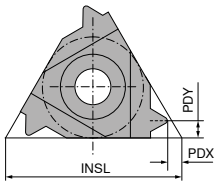
→ v_c Page 45

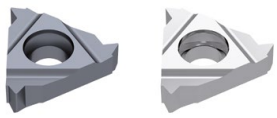
8

Left hand external thread turning insert

▲ Full profile

NPT 60°





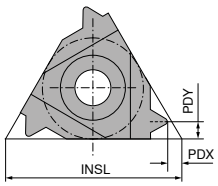
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	CCN20 EL 71 258 ...	CWK20 EL 71 258 ...
16 EL 27	27,0	16	0,7	0,8	**240**	**640**
16 EL 18	18,0	16	0,8	1,0	**242**	**642**
16 EL 14	14,0	16	0,9	1,2	**244**	**644**
16 EL 11,5	11,5	16	1,1	1,5	**246**	**646**
16 EL 8	8,0	16	1,3	1,8	**248**	**648**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Right hand internal thread turning insert

▲ Full profile
▲ CCN7525 grade with sintered chip breaker for universal application

NPT 60°



CCN20 | CWK20 | CCN7525

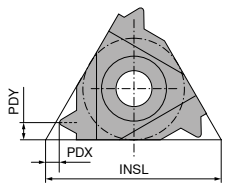
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 260 ...	IR 71 260 ...	IR 71 260 ...
11 IR 27	27,0	11	0,7	0,8	**210**	**610**	
11 IR 18	18,0	11	0,8	1,0	**212**	**612**	
11 IR 14	14,0	11	0,9	1,1	**214**	**614**	
16 IR 27	27,0	16	0,7	0,8	**240**	**640**	
16 IR 18	18,0	16	0,8	1,0	**242**	**642**	
16 IR 14	14,0	16	0,9	1,2	**244**	**644**	**944**
16 IR 11,5	11,5	16	1,1	1,5	**246**	**646**	**946**
16 IR 8	8,0	16	1,3	1,8	**248**	**648**	
P					●		●
M					●	○	●
K					●	●	●
N						●	
S					○	○	●
H					○		○
O							

→ v_c Page 45

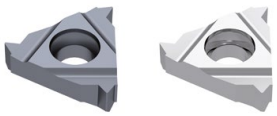
Left hand internal thread turning insert

▲ Full profile

NPT 60°



CCN20 | CWK20



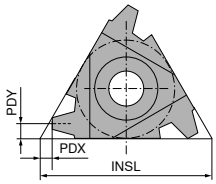
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 262 ...	IL 71 262 ...
11 IL 27	27,0	11	0,7	0,8	**210**	**610**
11 IL 18	18,0	11	0,8	1,0	**212**	**612**
11 IL 14	14,0	11	0,9	1,1	**214**	**614**
16 IL 27	27,0	16	0,7	0,8	**240**	**640**
16 IL 18	18,0	16	0,8	1,0	**242**	**642**
16 IL 14	14,0	16	0,9	1,2	**244**	**644**
16 IL 11,5	11,5	16	1,1	1,5	**246**	**646**
16 IL 8	8,0	16	1,3	1,8	**248**	**648**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

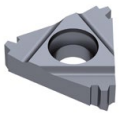
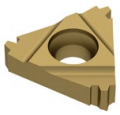
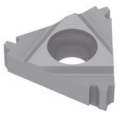
→ v_c Page 45

Right hand external thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr | 30°



	CCN20	CWN1525	HCN2525	CWK20
				
	ER	ER	ER	ER
	71 232 ...	71 232 ...	71 232 ...	71 232 ...

Designation	TP mm	INSL mm	PDX mm	PDY mm				
16 ER 1,5	1,5	16	1,0	1,1	**240**			**640**
16 ER 2,0	2,0	16	1,1	1,3	**242**			**642**
16 ER 2,0	2,0	16	1,0	1,3		**142**	**742**	
16 ER 3,0	3,0	16	1,3	1,5	**244**	**144**		**644**
22 ER 4,0	4,0	22	1,7	1,9	**270**			**670**
22 ER 4,0	4,0	22	1,8	1,9		**170**	**770**	
22 ER 5,0	5,0	22	2,0	2,4		**172**		
22 ER 5,0	5,0	22	2,1	2,5	**272**			**672**
22 ER 6,0	6,0	22	2,3	2,7	**274**			**674**
22 EN 6,0	6,0	22	2,0	11,0	**276** [1]			**676** [1]
22 EN 7,0	7,0	22	2,3	11,0	**278** [1]			**678** [1]

P	●	●	○	
M	●	○	●	○
K	●	●	○	●
N		●	○	●
S	○		○	○
H	○		○	
O		○		

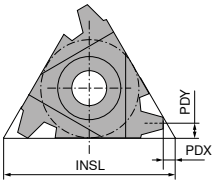
1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

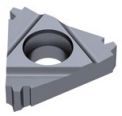
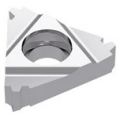
→ v_c Page 45

Left hand external thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr | 30°



	CCN20	CWK20
		
	EL	EL
	71 234 ...	71 234 ...

Designation	TP mm	INSL mm	PDX mm	PDY mm		
16 EL 1,5	1,5	16	1,0	1,1	**240**	**640**
16 EL 2,0	2,0	16	1,1	1,3	**242**	**642**
16 EL 3,0	3,0	16	1,3	1,5	**244**	**644**
22 EL 4,0	4,0	22	1,7	1,9	**270**	**670**
22 EL 5,0	5,0	22	2,1	2,5	**272**	**672**
22 EL 6,0	6,0	22	2,3	2,7	**274**	**674**

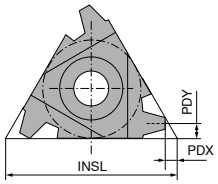
P	●	
M	●	○
K	●	●
N		●
S	○	○
H	○	
O		

→ v_c Page 45

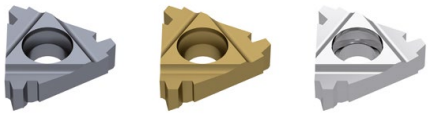
Right hand internal thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr 30°



CCN20 CWN1525 CWK20



Designation	TP mm	INSL mm	PDX mm	PDY mm	IR 71 236 ...	IR 71 236 ...	IR 71 236 ...
11 IR 1,5	1,5	11	0,815	0,9	**210**		**610**
16 IR 1,5	1,5	16	1,000	1,1	**240**		**640**
16 IR 2,0	2,0	16	1,100	1,3	**242**		**642**
16 IR 3,0	3,0	16	1,300	1,5	**244**	**144**	**644**
22 IR 4,0	4,0	22	1,800	1,9		**170**	
22 IR 4,0	4,0	22	1,700	1,9	**270**		**670**
22 IR 5,0	5,0	22	2,000	2,4		**172**	
22 IR 5,0	5,0	22	2,100	2,5	**272**		**672**
22 IR 6,0	6,0	22	2,300	2,7	**274**		**674**
22 IN 6,0	6,0	22	2,000	11,0	**276** 1)		**676** 1)
22 IN 7,0	7,0	22	2,300	11,0	**278** 1)		**678** 1)
P					●	●	
M					●	○	○
K					●	●	●
N						●	●
S					○		○
H					○		
O						○	

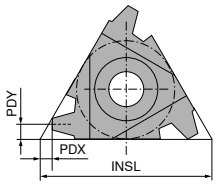
1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

→ v_c Page 45

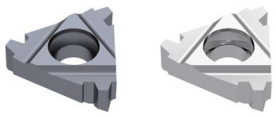
Left hand internal thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr 30°



CCN20 CWK20

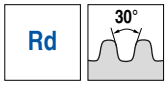


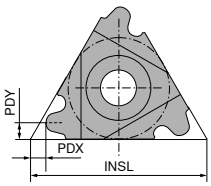
Designation	TP mm	INSL mm	PDX mm	PDY mm	IL 71 238 ...	IL 71 238 ...
11 IL 1,5	1,5	11	0,8	0,9	**210**	**610**
16 IL 1,5	1,5	16	1,0	1,1	**240**	**640**
16 IL 2,0	2,0	16	1,1	1,3	**242**	**642**
16 IL 3,0	3,0	16	1,3	1,5	**244**	**644**
22 IL 4,0	4,0	22	1,7	1,9	**270**	**670**
22 IL 5,0	5,0	22	2,1	2,5	**272**	**672**
22 IL 6,0	6,0	22	2,3	2,7	**274**	**674**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

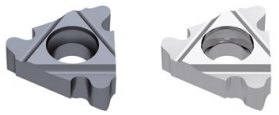
Right hand external thread turning insert

▲ Full profile
▲ Round thread DIN 405





CCN20 | CWK20

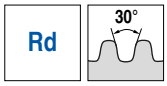


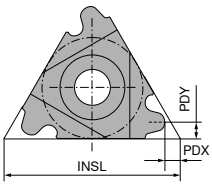
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 248 ...	ER 71 248 ...
16 ER 10	10	16	1,1	1,2	**240**	**640**
16 ER 8	8	16	1,4	1,3	**242**	**642**
16 ER 6	6	16	1,5	1,7	**246**	**646**
22 ER 6	6	22	1,5	1,7	**270**	**670**
22 ER 4	4	22	2,2	2,3	**272**	**672**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Left hand external thread turning insert

▲ Full profile
▲ Round thread DIN 405





CCN20 | CWK20

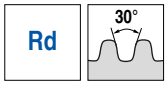
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	EL 71 250 ...	EL 71 250 ...
16 EL 10	10	16	1,1	1,2	**240**	**640**
16 EL 8	8	16	1,4	1,3	**242**	**642**
16 EL 6	6	16	1,5	1,7	**246**	**646**
22 EL 6	6	22	1,5	1,7	**270**	**670**
22 EL 4	4	22	2,2	2,3	**272**	**672**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

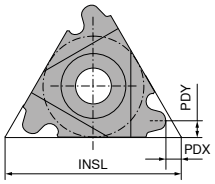
→ v_c Page 45

8

Right hand internal thread turning insert

▲ Full profile
▲ Round thread DIN 405





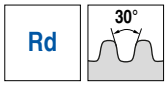
CCN20 | CWK20

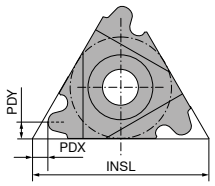
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 252 ...	IR 71 252 ...
16 IR 10	10	16	1,1	1,2	**240**	**640**
16 IR 8	8	16	1,4	1,4	**242**	**642**
16 IR 6	6	16	1,4	1,5	**246**	**646**
22 IR 6	6	22	1,5	1,7	**270**	**670**
22 IR 4	4	22	2,2	2,3	**272**	**672**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

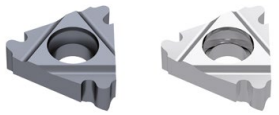
Left hand internal thread turning insert

▲ Full profile
▲ Round thread DIN 405





CCN20 | CWK20



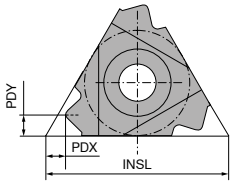
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 254 ...	IL 71 254 ...
16 IL 10	10	16	1,1	1,2	**240**	**640**
16 IL 8	8	16	1,4	1,4	**242**	**642**
16 IL 6	6	16	1,4	1,5	**246**	**646**
22 IL 6	6	22	1,5	1,7	**270**	**670**
22 IL 4	4	22	2,2	2,3	**272**	**672**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

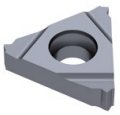
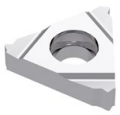
→ v_c Page 45

Right hand external thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°



	CCN20	CWK20
		
	ER	ER
	71 240 ...	71 240 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm		
16 ER 20	20	16	0,8	0,8	**240**	**640**
16 ER 18	18	16	0,8	0,9	**242**	**642**
16 ER 16	16	16	0,8	1,0	**244**	**644**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

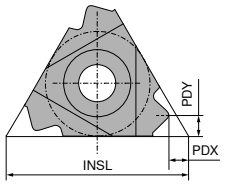
→ v_c Page 45

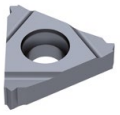
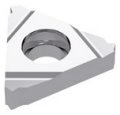
8

Left hand external thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°



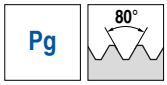
	CCN20	CWK20
		
	EL	EL
	71 242 ...	71 242 ...

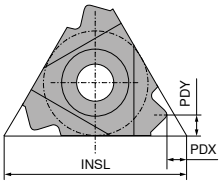
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm		
16 EL 20	20	16	0,8	0,8	**240**	**640**
16 EL 18	18	16	0,8	0,9	**242**	**642**
16 EL 16	16	16	0,8	1,0	**244**	**644**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

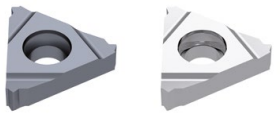
Right hand internal thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430





CCN20 CWK20

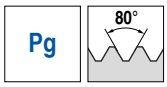


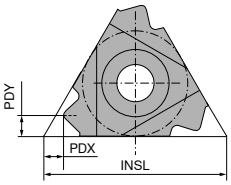
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 244 ...	IR 71 244 ...
11 IR 18	18	11	0,8	0,9	**238**	**638**
16 IR 18	18	16	0,8	0,9	**242**	**642**
16 IR 16	16	16	0,8	1,0	**244**	**644**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

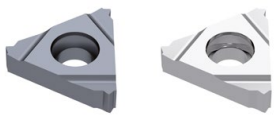
Left hand internal thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430





CCN20 CWK20

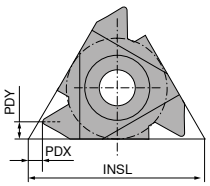


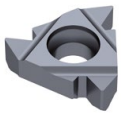
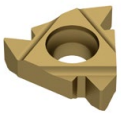
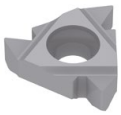
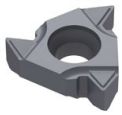
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 246 ...	IL 71 246 ...
11 IL 18	18	11	0,8	0,9	**238**	**638**
16 IL 18	18	16	0,8	0,9	**242**	**642**
16 IL 16	16	16	0,8	1,0	**244**	**644**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Right hand external thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application



	CCN20	CWN1525	HCN2525	CWK20	CCN7525
					
	ER 71 206 ...	ER 71 206 ...	ER 71 206 ...	ER 71 206 ...	ER 71 206 ...

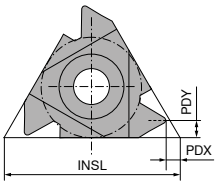
Designation	TP mm	INSL mm	PDX mm	PDY mm									
16 ER A60	0,5 - 1,5	16	0,8	0,9	**240**		**140**		**740**		**640**		**940**
16 ER G60	1,75 - 3	16	1,2	1,7	**242**		**142**		**742**		**642**		**942**
16 ER AG60	0,5 - 3	16	1,2	1,7	**244**		**144**		**744**		**644**		**944**
22 ER N60	3,5 - 5	22	1,7	2,5	**270**		**170**				**670**		
22 EN U60	5,5 - 8	22	0,9	11,0	**272** [1]						**672** [1]		
P					●		●		○				●
M					●		○		●		○		●
K					●		●		○		●		●
N							●		○		●		
S					○				○		○		●
H					○				○				○
O							○						

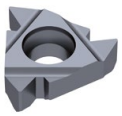
1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

→ v_c Page 45

Left hand external thread turning insert

▲ Partial profile



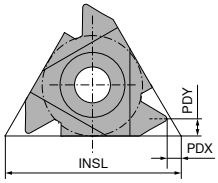
	CCN20	CWK20
		
	EL 71 208 ...	EL 71 208 ...

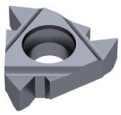
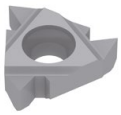
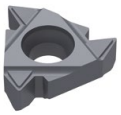
Designation	TP mm	INSL mm	PDX mm	PDY mm		
16 EL A60	0,5 - 1,5	16	0,8	0,9	**240**	**640**
16 EL G60	1,75 - 3	16	1,2	1,7	**242**	**642**
16 EL AG60	0,5 - 3	16	1,2	1,7	**244**	**644**
22 EL N60	3,5 - 5	22	1,7	2,5	**270**	**670**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Right hand internal thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application



	CCN20	CWN1525	HCN2525	CWK20	CCN7525
					
	IR	IR	IR	IR	IR
	71 210 ...	71 210 ...	71 210 ...	71 210 ...	71 210 ...

Designation	TP mm	INSL mm	PDX mm	PDY mm								
11 IR A60	0,5 - 1,5	11	0,8	0,9	**210**		**110**				**610**		
16 IR A60	0,5 - 1,5	16	0,8	0,9	**240**		**140**				**640**		
16 IR G60	1,75 - 3	16	1,2	1,7	**242**		**142**				**642**		
16 IR AG60	0,5 - 3	16	1,2	1,7	**244**		**144**		**744**		**644**		**944**
22 IR N60	3,5 - 5	22	1,7	2,5	**270**		**170**				**670**		
22 IN U60	5,5 - 8	22	0,9	11,0	**272** [1]						**672** [1]		
P					●		●		○				●
M					●		○		●		○		●
K					●		●		○		●		●
N							●		○		●		
S					○				○		○		●
H					○				○				○
O							○						

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

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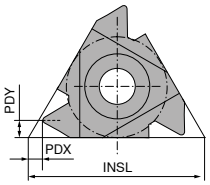
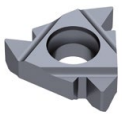
Left hand internal thread turning insert

▲ Partial profile



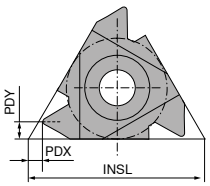
	CCN20	CWK20
		
	IL	IL
	71 212 ...	71 212 ...

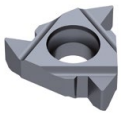
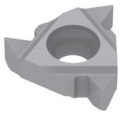
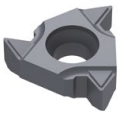
Designation	TP mm	INSL mm	PDX mm	PDY mm		
11 IL A60	0,5 - 1,5	11	0,8	0,9	**210**	**610**
16 IL A60	0,5 - 1,5	16	0,8	0,9	**240**	**640**
16 IL G60	1,75 - 3	16	1,2	1,7	**242**	**642**
16 IL AG60	0,5 - 3	16	1,2	1,7	**244**	**644**
22 IL N60	3,5 - 5	22	1,7	2,5	**270**	**670**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Right hand external thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application



					CCN20	CWN1525	HCN2525	CWK20	CCN7525
									
					ER	ER	ER	ER	ER
					71 200 ...	71 200 ...	71 200 ...	71 200 ...	71 200 ...
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm					
16 ER A55	48 - 16	16	0,8	0,9	**240**	**140**	**740**	**640**	**940**
16 ER AG55	48 - 8	16	1,2	1,7	**244**	**144**	**744**	**644**	**944**
16 ER G55	14 - 8	16	1,2	1,7	**242**	**142**	**742**	**642**	**942**
22 ER N55	7 - 5	22	1,7	2,5	**270**	**170**	**770**	**670**	
22 EN U55	4,5 - 3,25	22	0,9	11,0	**272** [1]			**672** [1]	
P					●	●	○		●
M					●	○	●	○	●
K					●	●	○	●	●
N						●	○	●	
S					○		○	○	●
H					○		○		○
O						○			

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

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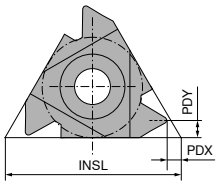
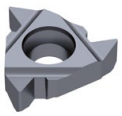
Left hand external thread turning insert

▲ Partial profile



					CCN20	CWK20
						
					EL	EL
					71 202 ...	71 202 ...
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm		
16 EL A55	48 - 16	16	0,8	0,9	**240**	**640**
16 EL AG55	48 - 8	16	1,2	1,7	**244**	**644**
16 EL G55	14 - 8	16	1,2	1,7	**242**	**642**
22 EL N55	7 - 5	22	1,7	2,5	**270**	**670**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

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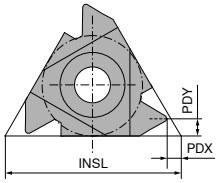
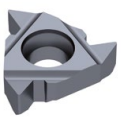
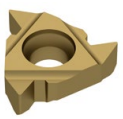
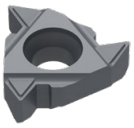
Right hand internal thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application



CCN20 | CWN1525 | CWK20 | CCN7525



Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 204 ...	IR 71 204 ...	IR 71 204 ...	IR 71 204 ...
11 IR A55	48 - 16	11	0,8	0,9	**210**		**610**	
16 IR A55	48 - 16	16	0,8	0,9	**240**		**640**	
16 IR AG55	48 - 8	16	1,2	1,7	**244**		**644**	
16 IR G55	14 - 8	16	1,2	1,7	**242**	**142**	**642**	**942**
22 IR N55	7 - 5	22	1,7	2,5	**270**		**670**	
22 IN U55	4,5 - 3,25	22	0,9	11,0	**272** 1)		**672** 1)	
P					●	●		●
M					●	○	○	●
K					●	●	●	●
N						●	●	
S					○		○	●
H					○			○
O						○		

1) Neutral version (N) – for right and left hand thread applications. Neutral toolholder marked (U) is required.

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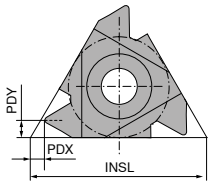
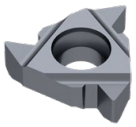
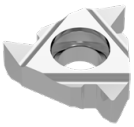
Left hand internal thread turning insert

▲ Partial profile



CCN20 | CWK20

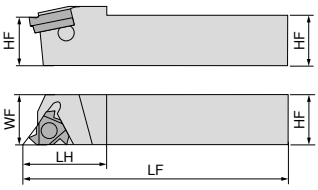



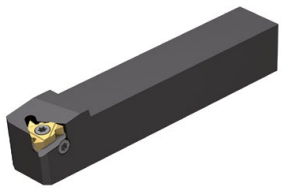
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 203 ...	IL 71 203 ...
11 IL A55	48 - 16	11	0,8	0,9	**210**	**610**
16 IL A55	48 - 16	16	0,8	0,9	**240**	**640**
16 IL AG55	48 - 8	16	1,2	1,7	**244**	**644**
16 IL G55	14 - 8	16	1,2	1,7	**242**	**642**
22 IL N55	7 - 5	22	1,7	2,5	**270**	**670**
P					●	
M					●	○
K					●	●
N						●
S					○	○
H					○	
O						

→ v_c Page 45

Standard External Thread Turning Holder

▲ Tool Holder with Approach Angle ß = 1,5°





Illustrations show right-hand versions

Designation	HF mm	WF mm	LF mm	LH mm	Insert	torque moment Nm	Left-hand 71 281 ...	Right-hand 71 280 ...
SE R/L 08 08 H11	8	11	100	16	11 ..	1,3	**908** [2]	**908** [2]
SE R/L 10 10 H11	10	12	100	18	11 ..	1,3	**910** [2]	**910** [2]
SE R/L 12 12 K11	12	12	125	20	11 ..	1,3	**912** [2]	**912** [2]
SE R/L 12 12 F16	12	16	80	22	16 ..	3,5	**012**	**012**
SE R/L 16 16 H16	16	16	100	25	16 ..	3,5	**016**	**016**
SE R/L 20 20 K16	20	20	125	30	16 ..	3,5	**020**	**020**
SE R/L 25 25 M16	25	25	150	30	16 ..	3,5	**025**	**025**
SE R/L 32 32 P16	32	32	170	30	16 ..	3,5	**032**	**032**
SE R/L 25 25 M22	25	25	150	32	22 ..	10	**125**	**125**
SE R 32 32 P22	32	32	170	34	22 ..	10		**132**
SE R 32 32 P22U	32	21	170	32	22 .N	10		**232** [1]

1) Neutral insert indicated by marking (N)
2) without shim

8


Multi tooth shim


Shim


Screw-U

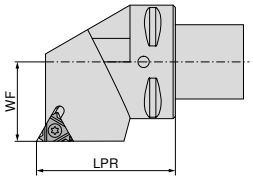
Key D


Clamping screw

Spare parts for Article no.										
			71 950 ...			71 950 ...		71 950 ...	80 950 ...		71 950 ...	
71 280 908 / 71 281 908									T08	**110**		**230**
71 280 910 / 71 281 910									T08	**110**		**230**
71 280 912 / 71 281 912									T08	**110**		**230**
71 280 012	ER 16 / IL 16		**101**	ER 16 / IL 16		**121**		**234**	T10	**112**		**231**
71 281 012	EL 16 / IR 16		**108**	EL 16 / IR 16		**129**		**234**	T10	**112**		**231**
71 280 016	ER 16 / IL 16		**101**	ER 16 / IL 16		**121**		**234**	T10	**112**		**231**
71 281 016	EL 16 / IR 16		**108**	EL 16 / IR 16		**129**		**234**	T10	**112**		**231**
71 280 020	ER 16 / IL 16		**101**	ER 16 / IL 16		**121**		**234**	T10	**112**		**231**
71 281 020	EL 16 / IR 16		**108**	EL 16 / IR 16		**129**		**234**	T10	**112**		**231**
71 280 025	ER 16 / IL 16		**101**	ER 16 / IL 16		**121**		**234**	T10	**112**		**231**
71 281 025	EL 16 / IR 16		**108**	EL 16 / IR 16		**129**		**234**	T10	**112**		**231**
71 280 032	ER 16 / IL 16		**101**	ER 16 / IL 16		**121**		**234**	T10	**112**		**231**
71 281 032	EL 16 / IR 16		**108**	EL 16 / IR 16		**129**		**234**	T10	**112**		**231**
71 280 125	ER 22 / IL 22		**110**	ER 22 / IL 22		**137**		**235**	T20	**114**		**232**
71 281 125	EL 22 / IR 22		**115**	EL 22 / IR 22		**145**		**235**	T20	**114**		**232**
71 280 132				ER 22 / IL 22		**137**		**235**	T20	**114**		**232**
71 280 232				ER 22U / IL 22U		**153**		**235**	T20	**114**		**232**

Shims for correction of helix angle see page → **Page 42.**

External threading holder



Illustrations show right-hand versions

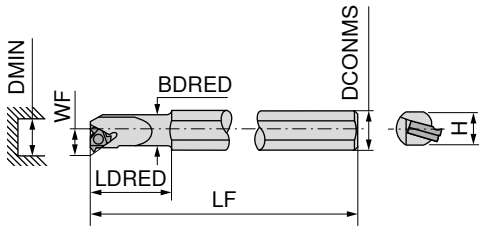
ISO designation	Adapter	LPR mm	WF mm	Insert	torque moment Nm	Left-hand 84 191 ...	Right-hand 84 190 ...
PSC40 SE R/L 27050-16.IK	PSC 40	50	27	16 ..	3,5	**412**	**412**
PSC40 SE R/L 27050-22.IK	PSC 40	50	27	22 ..	10	**422**	**422**
PSC50 SE R/L 35060-16.IK	PSC 50	60	35	16 ..	3,5	**512**	**512**
PSC50 SE R/L 35060-22.IK	PSC 50	60	35	22 ..	10	**522**	**522**
PSC63 SE R/L 45065-16.IK	PSC 63	65	45	16 ..	3,5	**612**	**612**
PSC63 SE R/L 45065-22.IK	PSC 63	65	45	22 ..	10	**622**	**622**
PSC80 SE R/L 55080-22.IK	PSC 80	80	55	22 ..	10	**822**	**822**

Spare parts for Article no.	Multi tooth shim 71 950 ...		Shim 71 950 ...		Screw-U 71 950 ...		Key D 80 950 ...		Clamping screw 71 950 ...	
84 190 412	ER 16 / IL 16	**101**	ER 16 / IL 16	**121**		**234**	T10	**112**		**231**
84 191 412	EL 16 / IR 16	**108**	EL 16 / IR 16	**129**		**234**	T10	**112**		**231**
84 190 422	ER 22 / IL 22	**110**	ER 22 / IL 22	**137**		**235**	T20	**114**		**232**
84 191 422	EL 22 / IR 22	**115**	EL 22 / IR 22	**145**		**235**	T20	**114**		**232**
84 190 512	ER 16 / IL 16	**101**	ER 16 / IL 16	**121**		**234**	T10	**112**		**231**
84 191 512	EL 16 / IR 16	**108**	EL 16 / IR 16	**129**		**234**	T10	**112**		**231**
84 190 522	ER 22 / IL 22	**110**	ER 22 / IL 22	**137**		**235**	T20	**114**		**232**
84 191 522	EL 22 / IR 22	**115**	EL 22 / IR 22	**145**		**235**	T20	**114**		**232**
84 190 612	ER 16 / IL 16	**101**	ER 16 / IL 16	**121**		**234**	T10	**112**		**231**
84 191 612	EL 16 / IR 16	**108**	EL 16 / IR 16	**129**		**234**	T10	**112**		**231**
84 190 622	ER 22 / IL 22	**110**	ER 22 / IL 22	**137**		**235**	T20	**114**		**232**
84 191 622	EL 22 / IR 22	**115**	EL 22 / IR 22	**145**		**235**	T20	**114**		**232**
84 190 822	ER 22 / IL 22	**110**	ER 22 / IL 22	**137**		**235**	T20	**114**		**232**
84 191 822	EL 22 / IR 22	**115**	EL 22 / IR 22	**145**		**235**	T20	**114**		**232**

Shims for correction of helix angle see page → **Page 42.**

Standard Internal Thread Turning Holder

▲ Tool Holder with Approach Angle ß = 1,5°



Illustrations show right-hand versions

Designation	H mm	LF mm	LDRED mm	DCONMS mm	BDRED mm	WF mm	DMIN mm	Insert	torque moment Nm	Left-hand 71 283 ...	Right-hand 71 282 ...
SI R 0010 H11	9,0	100	25	10	9,5	7,4	12	11 ..	1,3		011 [1]
SI R/L 0010 K11	14,0	125	25	16	10,0	7,4	12	11 ..	1,3	010 [1]	010 [1]
SI R 0013 L11	14,0	140	32	16	12,0	8,9	15	11 ..	1,3		013 [1]
SI R/L 0013 M16	14,0	150	32	16	13,0	10,2	16	16 ..	3,5	015 [1]	015 [1]
SI R/L 0016 P16	18,0	170	40	20	15,0	11,7	19	16 ..	3,5	016 [1]	016 [1]
SI R/L 0020 P16	18,0	170	40	20	19,5	13,7	24	16 ..	3,5	020	020
SI R 0025 R16	22,6	200	40	25	24,5	16,2	29	16 ..	3,5		026
SI R/L 0032 S16	28,8	250	50	32	31,5	19,7	36	16 ..	3,5	032	032
SI R 0040 T16	36,0	300	50	40	39,5	23,7	44	16 ..	3,5		040
SI R 0020 P22	18,0	170	40	20	19,5	15,6	24	22 ..	10		120 [1]
SI R/L 0025 R22	22,6	200	40	25	24,5	18,1	29	22 ..	10	126	126
SI R 0032 S22	28,8	250	50	32	31,5	21,6	38	22 ..	10		132
SI R 0040 T22	36,0	300	60	40	39,5	25,6	46	22 ..	10		140
SI R 0032 S22U	28,8	250	60	32	31,5	24,4	38	22 .N	10		133 [2]

1) without shim

2) Neutral insert indicated by marking (N)


Multi tooth shim


Shim

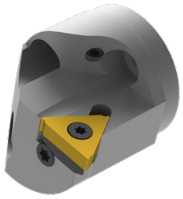

Screw-U

Key D


Clamping screw

Spare parts for Article no.		71 950 ...		71 950 ...		71 950 ...		80 950 ...		71 950 ...
71 282 011							T08	110		230
71 282 010 / 71 283 010							T08	110		230
71 282 013							T08	110		230
71 282 015 / 71 283 015							T10	112		236
71 282 016 / 71 283 016							T10	112		236
71 282 020	EL 16 / IR 16	108	EL 16 / IR 16	129		234	T10	112		231
71 283 020	ER 16 / IL 16	101	ER 16 / IL 16	121		234	T10	112		231
71 282 026	EL 16 / IR 16	108	EL 16 / IR 16	129		234	T10	112		231
71 282 032	EL 16 / IR 16	108	EL 16 / IR 16	129		234	T10	112		231
71 283 032	ER 16 / IL 16	101	ER 16 / IL 16	121		234	T10	112		231
71 282 040	EL 16 / IR 16	108	EL 16 / IR 16	129		234	T10	112		231
71 282 120						234	T20	114		237
71 282 126	EL 22 / IR 22	115	EL 22 / IR 22	145		235	T20	114		232
71 283 126	ER 22 / IL 22	110	ER 22 / IL 22	137		235	T20	114		232
71 282 132	EL 22 / IR 22	115	EL 22 / IR 22	145		235	T20	114		232
71 282 140	EL 22 / IR 22	115	EL 22 / IR 22	145		235	T20	114		232
71 282 133			AL 22U / IR 22U	161		235				232

Shims for correction of helix angle see page → **Page 42.**



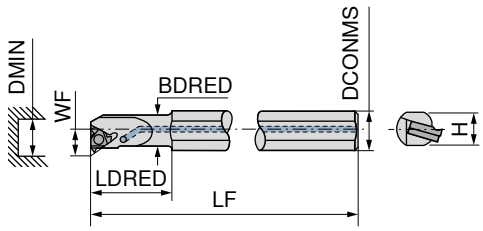
Have you seen our new exchangeable head system?

Use our standard thread turning inserts with the new exchangeable head system.

Further information and products can be found in the → **Chapter 9 – Turning Tools**

Standard Internal Thread Turning Holder with thro' coolant

▲ Tool Holder with Approach Angle ß = 1,5°



Illustrations show right-hand versions

Designation	H mm	LF mm	LDRED mm	DCONMS mm	BDRED mm	WF mm	DMIN mm	Insert	torque moment Nm	Left-hand 71 283 ...	Right-hand 71 282 ...
SI R 0010 M11CB	9,0	150	25	10	9,5	7,4	12	11 ..	1,3		510 2)
SI R 0012 P11CB	11,0	170	30	12	11,5	8,4	15	11 ..	1,3		512 2)
SI R/L 0010 K11B	14,0	125	25	16	10,0	7,4	12	11 ..	1,3	310	310
SI R/L 0013 M16B	14,0	150	32	16	13,0	10,2	16	16 ..	3,5	315	315
SI R 0016 P16B	18,0	170	40	20	16,0	11,7	19	16 ..	3,5		316
SI R 0020 P16B	18,0	170	40	20	19,5	13,7	24	16 ..	3,5		320 1)
SI R/L 0032 S16B	28,8	250	50	32	31,5	19,7	36	16 ..	3,5	332 1)	332 1)

1) with shim seat
2) Carbide version


Multi tooth shim


Shim

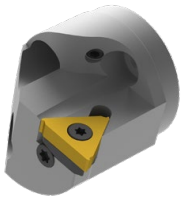

Screw-U


Key D


Clamping screw

Spare parts for Article no.										
		71 950 ...			71 950 ...		71 950 ...		80 950 ...	71 950 ...
71 282 510								T08	110	230
71 282 512								T08	110	230
71 282 310 / 71 283 310								T08	110	230
71 282 315 / 71 283 315								T10	112	236
71 282 316								T10	112	236
71 282 320	EL 16 / IR 16	108	EL 16 / IR 16	129		234		T10	112	231
71 282 332	EL 16 / IR 16	108	EL 16 / IR 16	129		234		T10	112	231
71 283 332	ER 16 / IL 16	101	ER 16 / IL 16	121		234		T10	112	231

Shims for correction of helix angle see page → **Page 42.**

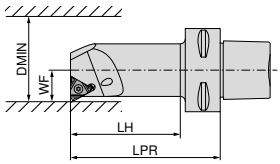


Have you seen our new exchangeable head system?

Use our standard thread turning inserts with the new exchangeable head system.

Further information and products can be found in the → **Chapter 9 – Turning Tools**

Internal threading holder



Illustrations show right-hand versions

ISO designation	Adapter	WF mm	LPR mm	LH mm	DMIN mm	Insert	torque moment Nm	Left-hand 84 197 ...	Right-hand 84 196 ...
PSC40 SI R/L 12060-16.IK	PSC 40	12	60	37	20	16 ..	3,5	410	410
PSC40 SI R/L 14060-16.IK	PSC 40	14	60	38	25	16 ..	3,5	412	412
PSC40 SI R/L 17070-16.IK	PSC 40	17	70	48	32	16 ..	3,5	414	414
PSC40 SI R/L 22090-16.IK	PSC 40	22	90	69	40	16 ..	3,5	416	416
PSC40 SI R/L 27080-16.IK	PSC 40	27	80	60	50	16 ..	3,5	418	418
PSC40 SI R/L 15065-22.IK	PSC 40	15	65	42	25	22 ..	10	420	420
PSC40 SI R/L 19070-22.IK	PSC 40	19	70	48	32	22 ..	10	422	422
PSC40 SI R/L 22090-22.IK	PSC 40	22	90	69	40	22 ..	10	424	424
PSC40 SI R/L 27080-22.IK	PSC 40	27	80	60	50	22 ..	10	426	426
PSC50 SI R/L 12060-16.IK	PSC 50	12	60	35	20	16 ..	3,5	510	510
PSC50 SI R/L 14060-16.IK	PSC 50	14	60	36	25	16 ..	3,5	512	512
PSC50 SI R/L 17070-16.IK	PSC 50	17	70	47	32	16 ..	3,5	514	514
PSC50 SI R/L 22090-16.IK	PSC 50	22	90	68	40	16 ..	3,5	516	516
PSC50 SI R/L 27105-16.IK	PSC 50	27	105	84	50	16 ..	3,5	518	518
PSC50 SI R/L 15065-22.IK	PSC 50	15	65	41	25	22 ..	10	520	520
PSC50 SI R/L 19070-22.IK	PSC 50	19	70	47	32	22 ..	10	522	522
PSC50 SI R/L 22090-22.IK	PSC 50	22	90	68	40	22 ..	10	524	524
PSC50 SI R/L 27105-22.IK	PSC 50	27	105	84	50	22 ..	10	526	526
PSC63 SI R/L 14070-16.IK	PSC 63	14	70	42	25	16 ..	3,5	610	610
PSC63 SI R/L 17075-16.IK	PSC 63	17	75	48	32	16 ..	3,5	612	612
PSC63 SI R/L 22090-16.IK	PSC 63	22	90	64	40	16 ..	3,5	614	614
PSC63 SI R/L 27105-16.IK	PSC 63	27	105	80	50	16 ..	3,5	616	616
PSC63 SI R/L 19075-22.IK	PSC 63	19	75	48	32	22 ..	10	620	620
PSC63 SI R/L 22090-22.IK	PSC 63	22	90	64	40	22 ..	10	622	622
PSC63 SI R/L 27105-22.IK	PSC 63	27	105	80	50	22 ..	10	624	624


Multi tooth shim


Shim

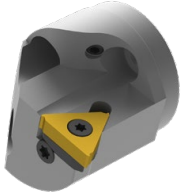

Screw-U


Key D


Clamping screw

Spare parts Insert	R/L/N		71 950 ...		71 950 ...		71 950 ...		80 950 ...		71 950 ...
16 ..	Right-hand	EL 16 / IR 16	108	EL 16 / IR 16	129	234	T10	112		231
16 ..	Left-hand	ER 16 / IL 16	101	ER 16 / IL 16	121	234	T10	112		231
22 ..	Left-hand	ER 22 / IL 22	110	ER 22 / IL 22	137	235	T20	114		232
22 ..	Right-hand	EL 22 / IR 22	115	EL 22 / IR 22	145	235	T20	114		232

Shims for correction of helix angle see page → **Page 42.**



Have you seen our new exchangeable head system?

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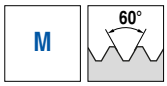
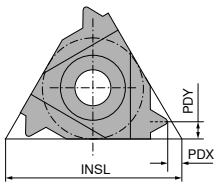
Further information and products can be found in the → **Chapter 9 – Turning Tools**

8

Right hand internal thread turning insert – Mini size 06

▲ Full profile
▲ Thread production from diameter 6 mm





NEW

CCN1525 | CCN2520

Designation	TP mm	PDX mm	PDY mm	INSL mm	IR 71 271 ...	IR 71 224 ...
06 IR 0,5	0,50	0,9	0,5	6	**110**	**35700**
06 IR 0,75	0,75	0,8	0,5	6	**112**	**36100**
06 IR 1,0	1,00	0,7	0,6	6	**114**	**36500**
06 IR 1,25	1,25	0,6	0,6	6	**116**	**36700**
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

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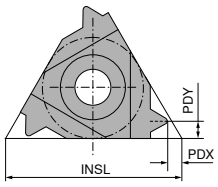
Right hand internal thread turning insert – Mini size 06

▲ Full profile
▲ Thread production from diameter 6 mm



NEW

CCN1525

NEW

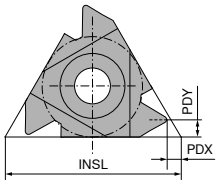
CCN2520

Designation	TPI 1/"	PDX mm	PDY mm	INSL mm	IR 71 230 ...	IR 71 230 ...
06 IR 26	26	0,7	0,6	6	**13500**	**33500**
06 IR 22	22	0,6	0,6	6	**13100**	**33100**
06 IR 20	20	0,6	0,7	6	**12900**	**32900**
06 IR 18	18	0,6	0,7	6	**12500**	**32500**
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

→ v_c Page 45

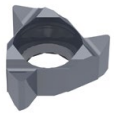
Right hand internal thread turning insert – Mini size 06

▲ Partial profile
▲ Thread production from diameter 6 mm



NEW

CCN1525 | CCN2520



Designation	TP mm	INSL mm	PDX mm	PDY mm	IR 71 274 ... 210	IR 71 272 ... 30000
06 IR A60	0,5 - 1,25	6	0,6	0,6		
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

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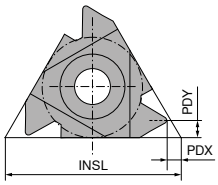
8

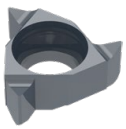
Right hand internal thread turning insert – Mini size 06

▲ Partial profile
▲ Thread production from diameter 6 mm



NEW

CCN1525 | CCN2520



Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 272 ... 10100	IR 71 272 ... 30100
06 IR A55	48 - 20	6	0,5	0,6		
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

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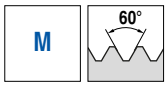
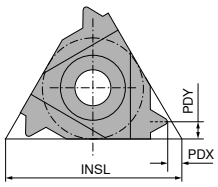
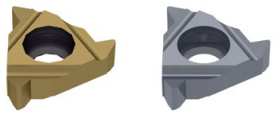
Right hand internal thread turning insert – Mini size 08

▲ Full profile
▲ Thread production from diameter 8 mm





NEW CCN1525 NEW CCN2520



Designation	TP mm	PDX mm	PDY mm	INSL mm	IR 71 224 ...	IR 71 224 ...
08 IR 0,5	0,50	0,6	0,5	8	**14300**	**34300**
08 IR 0,75	0,75	0,6	0,5	8	**13700**	**33700**
08 IR 1,0	1,00	0,6	0,6	8	**13300**	**33300**
08 IR 1,25	1,25	0,6	0,7	8	**13100**	**33100**
08 IR 1,5	1,50	0,6	0,7	8	**12900**	**32900**
08 IR 1,75	1,75	0,6	0,8	8	**12700**	**32700**
08 IN 2,0	2,00	0,9	4,0	8	**12500** [1)]	**32500** [1)]
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

1) Neutral version (N)

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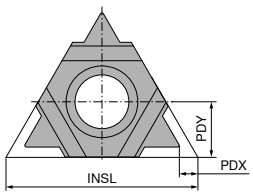
Right hand internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



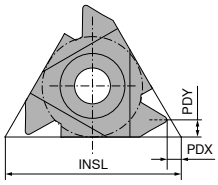
NEW CCN1525 NEW CCN2520

Designation	TP mm	INSL mm	PDX mm	PDY mm	IN 71 273 ...	IN 71 273 ...
08 IN M60	1,75 - 2,0	8	0,8	4	**10800**	**30800**
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

→ v_c Page 45

Right hand internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



NEW CCN1525 NEW CCN2520

Designation	TP mm	PDX mm	PDY mm	INSL mm	IR 71 272 ...	IR 71 272 ...
08 IR A60	0,5 - 1,25	0,6	0,6	8	**10600**	
08 IR A60	0,5 - 1,5	0,6	0,7	8		**30600**
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

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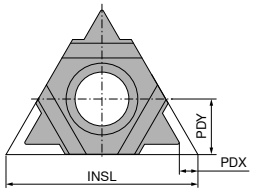
8

Right hand internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



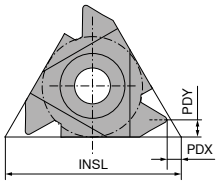
NEW CCN1525 NEW CCN2520

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IN 71 273 ...	IN 71 273 ...
08 IN M55	14 - 11	8	0,9	4	**10900**	
						30900
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

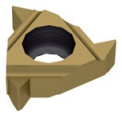
→ v_c Page 45

Right hand internal thread turning insert – Mini size 08

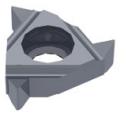
- Partial profile
- Thread production from diameter 8 mm



NEW CCN1525



NEW CCN2520



Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 272 ... 10700	IR 71 272 ... 30700
08 IR A55	48 - 16	8	0,6	0,7		
P					●	○
M					●	●
K					●	○
N					○	
S						●
H						○
O					○	

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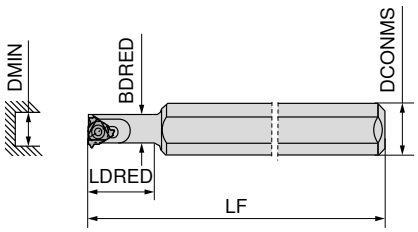
Right Hand Internal Thread Holder – Mini size 06



NEW
Right-hand
71 282 ...

Designation	LF mm	LDRED mm	DCONMS mm	BDRED mm	DMIN mm	Insert	torque moment Nm	
SI R 0005 H06	100	12	12	5,1	6	06 ..	0,6	**00500**
SI R 0005 H06 C	100	26	6	5,1	6	06 ..	0,6	**10500**[1]

1) Solid Carbide Shank with Thro' Coolant

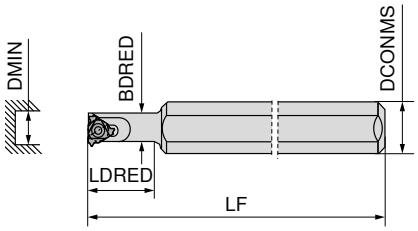

Key D
80 950 ...


Clamping screw
71 950 ...

Spare parts for Article no.			
71 282 00500	T06	**108**	**23800**
71 282 10500	T06	**108**	**23800**

8

Right Hand Internal Thread Holder – Mini size 08



NEW
Right-hand
71 282 ...

Designation	LF mm	LDRED mm	DCONMS mm	BDRED mm	DMIN mm	Insert	torque moment Nm	
SI R 0007 K08	125	18	16	6,6	7,8	08 ..	0,6	**00700**
SI R 0007 K08C	125	30	8	6,6	7,8	08 ..	0,6	**10700**[2]
SI R 0007 K08U	125	31	16	7,3	9,0	08 .N	0,6	**00800**[1]

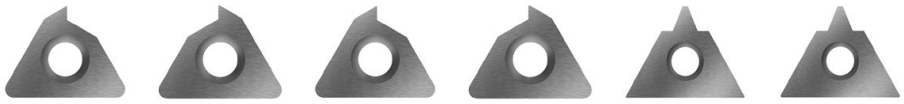
1) Neutral insert indicated by marking (N)
2) Solid Carbide Shank with Thro' Coolant

Key D
80 950 ...


Clamping screw
71 950 ...

Spare parts for Article no.			
71 282 00700	T06	**108**	**23900**
71 282 10700	T06	**108**	**23900**
71 282 00800	T06	**108**	**23900**

Shims for Standard Threading Inserts



Pitch-angle β	AE 16 ER 16 / IL 16 71 950 ...	AI 16 EL 16 / IR 16 71 950 ...	AE 22 ER 22 / IL 22 71 950 ...	AI 22 EL 22 / IR 22 71 950 ...	AE 22 U ER 22 / IL 22 71 950 ...	AI 22 U EL 22 / IR 22 71 950 ...
+ 4,5°	118	126	134	142	150 [1]	158 [1]
+ 3,5°	119	127	135	143	151 [1]	159 [1]
+ 2,5°	120	128	136	144	152 [1]	160 [1]
+ 1,5°	121	129	137	145	153 [1]	161 [1]
+ 0,5°	122	130	138	146	154 [1]	162 [1]
0°	123	131	139	147		
- 0,5°	124	132	140	148	156 [1]	164 [1]
- 1,5°	125	133	141	149	157 [1]	165 [1]

1) Neutral version for tool holder identified by (U).

Shims for Multi-Tooth Threading Inserts

Pitch-angle β	AE 16 M ER 16 / IL 16 71 950 ...	AI 16 M EL 16 / IR 16 71 950 ...	AE 22 M ER 22 / IL 22 71 950 ...	AI 22 M EL 22 / IR 22 71 950 ...
+ 1,5°	101	108	110	115

Pitch angle

Important Information about Standard Shims

- the pitch angle should be determined through calculation or by using the chart below.
- the standard threading holder is supplied with a 1.5 ° inclined insert seat and a shim without angular correction.
  Hence the Tool holders are delivered with an angle of inclination β of 1.5 °.

Without the appropriate correction of the helix angle, the following may occur

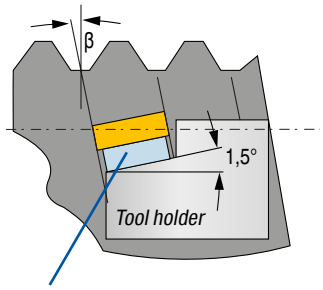
- the profile will be distorted.
- insufficient clearance angle.
- the tool life of the insert is greatly reduced.

Method 1: Calculation

Calculating the helix angle β:

$$\beta = \frac{20 \times TP}{DMIN}$$

20 = constant
β = Helix angle (°)
TP = Pitch (mm)
DMIN = Nominal diameter (mm)



Example calculation

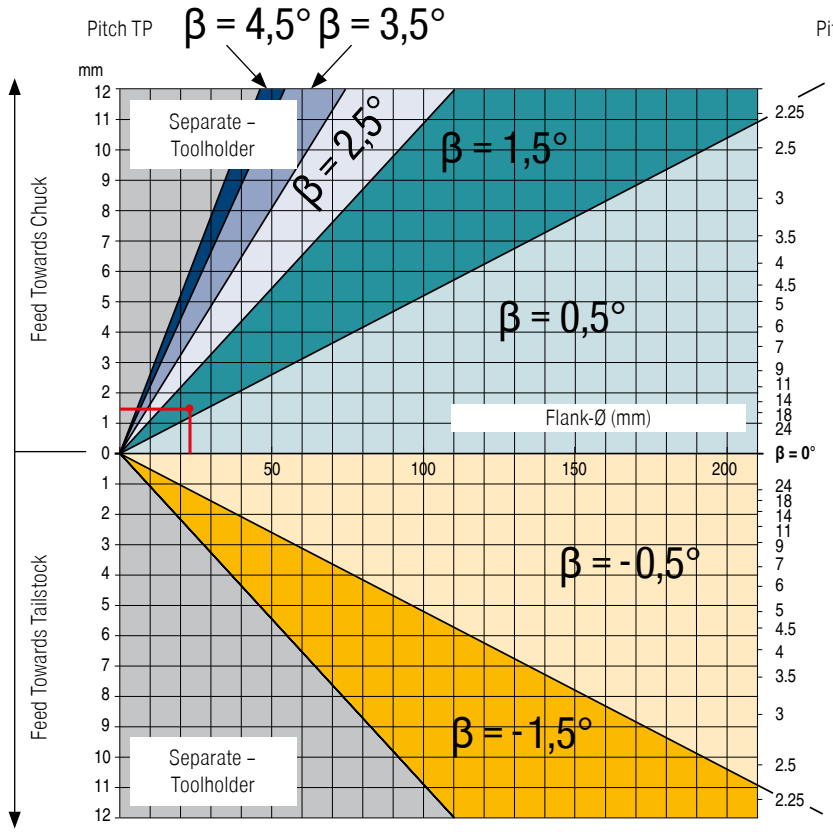
External thread M24 x 1.5
Feed towards chuck
DMIN = Nominal Ø: M24 = 24 mm
TP = Pitch: 1.5 mm

$$\beta = \frac{20 \times 1{,}5 \text{ mm}}{24 \text{ mm}}$$

β = 1,25°

Method 2: Diagram

From the flank Ø in the diagram, a line is drawn vertically upwards until it intersects with the line of the pitch of the thread to be produced. In the color-coded region in which it is now, a horizontal line to the edge of the chart indicates the appropriate factor.



calculated pitch angle β value	Shim
0,0°–0,99°	0,5°
1,0°–1,99°	1,5°
2,0°–2,99°	2,5°
3,0°–3,99°	3,5°
4,0°–4,99°	4,5°
0,0°–(-0,99°)	-0,5°
-1,0°–(-1,99°)	-1,5°

8

Material examples for cutting data tables

	Material sub-group	Index	Composition / Structure / Heat treatment		Tensile strength N/mm²* / HB / HRC	Material number	Material designation	Material number	Material designation
P	Unalloyed steel	P.1.1	< 0,15 % C	Annealed	420 N/mm² / 125 HB	1.0401	C15	1.1141	Ck15
		P.1.2	< 0,45 % C	Annealed	640 N/mm² / 190 HB	1.1191	C45E	1.0718	9SMnPb28
		P.1.3		Tempered	840 N/mm² / 250 HB	1.1191	C45E	1.0535	C55
		P.1.4	< 0,75 % C	Annealed	910 N/mm² / 270 HB	1.1223	C60R	1.0535	C55
		P.1.5		Tempered	1010 N/mm² / 300 HB	1.1223	C60R	1.0727	45S20
	Low-alloy steel	P.2.1		Annealed	610 N/mm² / 180 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.2		Tempered	930 N/mm² / 275 HB	1.7131	16MnCr5	1.6587	17CrNiMo6
		P.2.3		Tempered	1010 N/mm² / 300 HB	1.7225	42CrMo4	1.3505	100Cr6
		P.2.4		Tempered	1200 N/mm² / 375 HB	1.7225	42CrMo4	1.3505	100Cr6
	High-alloy steel and high-alloy tool steel	P.3.1		Annealed	680 N/mm² / 200 HB	1.4021	X20Cr13	1.4034	X46Cr13
		P.3.2		Hardened and tempered	1100 N/mm² / 300 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
		P.3.3		Hardened and tempered	1300 N/mm² / 400 HB	1.2343	X38CrMoV5-1	1.4034	X46Cr13
	Stainless steel	P.4.1	Ferritic / martensitic	Annealed	680 N/mm² / 200 HB	1.4016	X6Cr17	1.2316	X36CrMo16
		P.4.2	Martensitic	Tempered	1010 N/mm² / 300 HB	1.4112	X90CrMoV18	1.2316	X36CrMo16
M	Stainless steel	M.1.1	Austenitic / austenitic-ferritic	Quenched	610 N/mm² / 180 HB	1.4301	X5CrNi18-10	1.4571	X6CrNiMoTi17-12-2
		M.2.1	Austenitic	Tempered	300 HB	1.4841	X15CrNiSi25-21	1.4539	X1NiCrMoCu25-20-5
		M.3.1	Austenitic / ferritic (Duplex)		780 N/mm² / 230 HB	1.4462	X2CrNiMoN22-5-3	1.4501	X2CrNiMoCuWN25-7-4
K	Grey cast iron	K.1.1	Pearlitic / ferritic		350 N/mm² / 180 HB	0.6010	GG-10	0.6025	GG-25
		K.1.2	Pearlitic (martensitic)		500 N/mm² / 260 HB	0.6030	GG-30	0.6045	GG-45
	Spherulitic graphite cast iron	K.2.1	Ferritic		540 N/mm² / 160 HB	0.7040	GGG-40	0.7060	GGG-60
		K.2.2	Pearlitic		845 N/mm² / 250 HB	0.7070	GGG-70	0.7080	GGG-80
	Malleable iron	K.3.1	Ferritic		440 N/mm² / 130 HB	0.8035	GTW-35-04	0.8045	GTW-45
		K.3.2	Pearlitic		780 N/mm² / 230 HB	0.8165	GTS-65-02	0.8170	GTS-70-02
N	Aluminium wrought alloy	N.1.1	Non-hardenable		60 HB	3.0255	Al99,5	3.3315	AlMg1
		N.1.2	Hardenable	Age-hardened	340 N/mm² / 100 HB	3.1355	AlCuMg2	3.2315	AlMgSi1
	Cast aluminium alloy	N.2.1	≤ 12 % Si, non-hardenable		250 N/mm² / 75 HB	3.2581	G-AlSi12	3.2163	G-AlSi9Cu3
		N.2.2	≤ 12 % Si, hardenable	Age-hardened	300 N/mm² / 90 HB	3.2134	G-AlSi5Cu1Mg	3.2373	G-AlSi9Mg
		N.2.3	> 12 % Si, non-hardenable		440 N/mm² / 130 HB		G-AlSi17Cu4Mg		G-AlSi18CuNiMg
	Copper and copper alloys (bronze/brass)	N.3.1	Free-machining alloys, PB > 1 %		375 N/mm² / 110 HB	2.0380	CuZn39Pb2 (Ms58)	2.0410	CuZn44Pb2
		N.3.2	CuZn, CuSnZn		300 N/mm² / 90 HB	2.0331	CuZn15	2.4070	CuZn28Sn1As
		N.3.3	CuSn, lead-free copper and electrolytic copper		340 N/mm² / 100 HB	2.0060	E-Cu57	2.0590	CuZn40Fe
	Magnesium alloys	N.4.1	Magnesium and magnesium alloys		70 HB	3.5612	MgAl6Zn	3.5312	MgAl3Zn
S	Heat-resistant alloys	S.1.1	Fe - basis	Annealed	680 N/mm² / 200 HB	1.4864	X12NiCrSi 36-16	1.4865	G-X40NiCrSi38-18
		S.1.2		Age-hardened	950 N/mm² / 280 HB	1.4980	X6NiCrTiMoVB25-15-2	1.4876	X10NiCrAlTi32-20
		S.2.1	Ni or Co basis	Annealed	840 N/mm² / 250 HB	2.4631	NiCr20TiAl (Nimonic80A)	3.4856	NiCr22Mo9Nb
		S.2.2		Age-hardened	1180 N/mm² / 350 HB	2.4668	NiCr19Nb5Mo3 (Inconel 718)	2.4955	NiFe25Cr20NbTi
		S.2.3		Cast	1080 N/mm² / 320 HB	2.4765	CoCr20W15Ni	1.3401	G-X120Mn12
	Titanium alloys	S.3.1	Pure titanium		400 N/mm²	3.7025	Ti99,8	3.7034	Ti99,7
		S.3.2	Alpha + beta alloys	Age-hardened	1050 N/mm² / 320 HB	3.7165	TiAl6V4	Ti-6246	Ti-6Al-2Sn-4Zr-6Mo
		S.3.3	Beta alloys		1400 N/mm² / 410 HB	Ti555.3	Ti-5Al-5V-5Mo-3Cr	R56410	Ti-10V-2Fe-3Al
H	Hardened steel	H.1.1		Hardened and tempered	46–55 HRC				
		H.1.2		Hardened and tempered	56–60 HRC				
		H.1.3		Hardened and tempered	61–65 HRC				
		H.1.4		Hardened and tempered	66–70 HRC				
	Chilled iron	H.2.1		Cast	400 HB				
	Hardened cast iron	H.3.1		Hardened and tempered	55 HRC				
O	Non-metal materials	O.1.1	Plastics, duroplastic		≤ 150 N/mm²				
		O.1.2	Plastics, thermoplastic		≤ 100 N/mm²				
		O.2.1	Aramid fibre-reinforced		≤ 1000 N/mm²				
		O.2.2	Glass/carbon-fibre reinforced		≤ 1000 N/mm²				
		O.3.1	Graphite						

*** Tensile strength**

Cutting data standard values

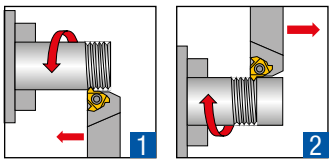
	Mini CCN1525	Mini CCN2520	CWN1525	HCN2525	CCN7525	CCN20	CWK20
Index	v_c in m/min						
P.1.1	**80**	120	**120**	120	**120**	**120**	
P.1.2	**80**	120	**120**	120	**120**	**120**	
P.1.3	**80**	120	**120**	120	**120**	**120**	
P.1.4	**80**	80	**80**	90	**80**	**80**	
P.1.5	**70**	80	**80**	90	**80**	**80**	
P.2.1	**50**	80	**80**	90	**80**	**80**	
P.2.2	**50**	80	**80**	90	**80**	**80**	
P.2.3	**50**	80	**80**	90	**80**	**80**	
P.2.4	**50**	80	**80**	90	**80**	**80**	
P.3.1	**50**	50	**60**	70	**50**	**50**	
P.3.2	**50**	50	**60**	70	**50**	**50**	
P.3.3	**50**	50	**60**	70	**50**	**50**	
P.4.1	**50**	50	**60**	70	**50**	**50**	
P.4.2	**50**	50	**60**	70	**50**	**50**	
M.1.1	**40**	**90**	60	**110**	**90**	**60**	40
M.2.1	**40**	**90**	60	**110**	**90**	**60**	40
M.3.1	**40**	**90**	60	**110**	**90**	**60**	40
K.1.1	**60**	120	**90**	140	**120**	**120**	**80**
K.1.2	**60**	120	**90**	140	**120**	**120**	**80**
K.2.1	**60**	100	**80**	120	**100**	**100**	**70**
K.2.2	**60**	100	**80**	120	**100**	**100**	**70**
K.3.1	**50**	100	**80**	110	**100**	**100**	**70**
K.3.2	**50**	100	**80**	110	**100**	**100**	**70**
N.1.1	500		**600**	700			**150**
N.1.2	300		**600**	700			**150**
N.2.1	120		**250**	280			**120**
N.2.2	120		**250**	280			**120**
N.2.3	120		**250**	280			**120**
N.3.1	110		**150**	190			**100**
N.3.2	150		**150**	190			**100**
N.3.3	150		**150**	190			**100**
N.4.1	300		**300**	220			**150**
S.1.1		**25**		20	**25**	20	20
S.1.2		**25**		20	**25**	20	20
S.2.1		**25**		20	**25**	20	20
S.2.2		**25**		20	**25**	20	20
S.2.3		**25**		20	**25**	20	20
S.3.1		**35**		30	**35**	30	30
S.3.2		**35**		30	**35**	30	30
S.3.3		**35**		30	**35**	30	30
H.1.1		35		30	35	30	
H.1.2		35		30	35	30	
H.1.3		35		30	35	30	
H.1.4		35		30	35	30	
H.2.1		25		20	25	20	
H.3.1		25		20	25	20	
O.1.1	150		200				
O.1.2	150		200				
O.2.1	150		200				
O.2.2	150		200				
O.3.1	150		200				

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

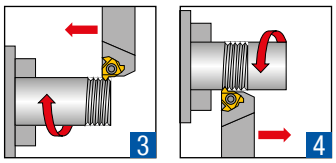
8

Thread turning methods

External right-hand thread

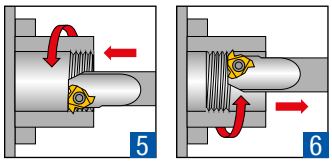


External left-hand thread

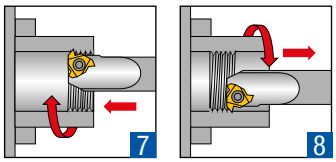


The machining examples 2, 4, 6 and 8 require negative shims!
These shims can be found on → **Page 42.**

Internal right-hand thread

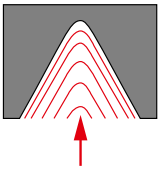


Internal left-hand thread



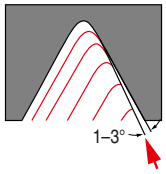
Thread infeed methods

Radial Infeed



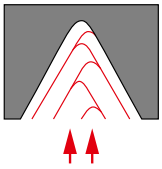
- for pitches less than 1.5mm
- for short chipping materials
- for machining hardened materials
- simple and quick method

Flank infeed



- for pitches larger than 1.5mm
- with radial penetration the effective cutting edge length is too large, which may lead to chattering
- with trapezoidal and ACME threads, chip flow on three sides can be problematic

Alternating infeed



- with large pitches
- for long chipping materials
- uniform wear of the cutting edges
- complicated programming process

Recommended number of cuts and cutting depths

Standard Threading Inserts

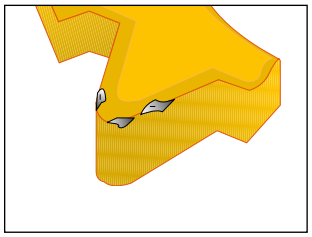
Pitch (TP/TPI)	mm	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,50	3,00	3,50	4,00	4,50	5,00	5,50	6,00	8,00
	TPI	48	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4	3
Number of passes		4–6	4–7	4–8	5–9	6–10	7–12	7–12	8–14	9–16	10–18	11–18	11–19	12–20	12–20	12–20	15–24
Number of passes	**(CCN7525)**	3–4	3–4	3–5	4–6	5–6	6–8	6–8	8–10								
Number of passes	**Mini Inserts**	6–9	6–11	6–12	8–14	9–15	11–18	11–18									

Multi edge thread turning insert

Standard	Insert	Insert size		Pitch (TP)	Number of flutes (NT)	Designation	Passes	Cutting depth per pass		
		IC	L mm					1	2	3
ISO external	M	3/8"	16	1,0 mm	3	3 ER 1.0 ISO 3M	2	0,38	0,25	
ISO external	M	3/8"	16	1,5 mm	2	3 ER 1.5 ISO 2M	3	0,42	0,30	0,20

Troubleshooting

Edge chipping



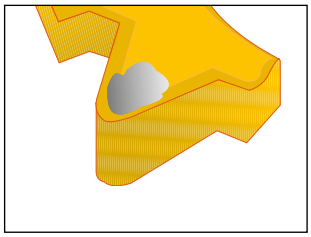
Cause

- Common in stainless materials
- Incorrect grade

Remedy

- Minimize tool overhang length
- Check that the insert is clamped
- Minimize vibration
- Use a tougher grade

Cratering



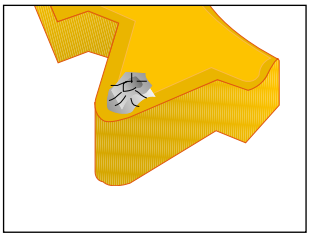
Cause

- Common in stainless materials
- Cutting speed too high
- Incorrect grade

Remedy

- Apply coolant
- Reduce depth of cut
- Use a harder grade

Built-up edge



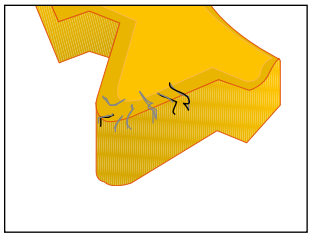
Cause

- Cutting speed too low
- Incorrect grade

Remedy

- Apply coolant
- Increase cutting speed
- Use a tougher grade

Thermal cracking



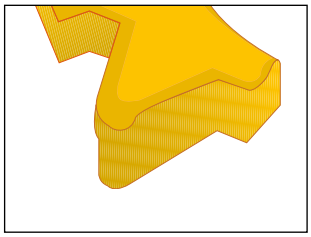
Cause

- Insufficient coolant
- Cutting speed too high
- Incorrect grade

Remedy

- Apply coolant
- Reduce cutting speed
- Use a tougher grade

Plastic deformation



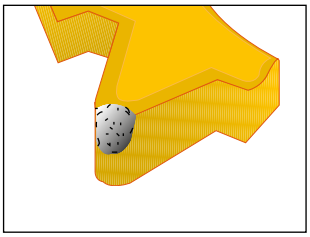
Cause

- Infeed too large
- Insufficient coolant
- Cutting speed too high
- Incorrect grade

Remedy

- Apply coolant
- Reduce depth of cut
- Reduce cutting speed
- Use a harder grade

Breakage



Cause

- Infeed too large
- Insufficient coolant
- Plastic deformation
- Instability
- Helix angle not appropriate
- Incorrect grade

Remedy

- Reduce depth of cut
- Check machine and tool stability
- Reduce cutting speed
- Check helix angle
- Use a tougher grade

8

Designation Key

Inserts

16	E	R	AG 60	
Insert size	Insert	Cutting design	Pitch (TP/TPI)	Number of flutes (NT)

Insert size

L	I.C.
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"

Insert

E	External
I	Internal

Cutting design

R	Right-hand
L	Left-hand
N	neutral

Pitch (TP/TPI)

Full profile

mm	G/Z
0,35	72–4

Partial profile

	mm	G/Z
A	0,5–1,5	48–16
AG	0,5–3,0	48–8
M	1,7–2,0	14–11
G	1,75–3,0	14–8
N	3,5–5,0	7–5
U	5,5–8,0	4,5–3,5

Flank angle
55°
60°

Number of flutes (NT)

2M	Multi-tooth insert with 2 teeth
3M	Multi-tooth insert with 3 teeth

Example

16 ER AG 60
ER16 right hand - external insert with a pitch of 0.5-3.0 mm

Tool holder

SE	R	1212	F	16	
Tool holder	Cutting design	Shank cross-section	Overall length	Insert size	Properties

Tool holder

SE	External
SI	Internal

Cutting design

R	Right-hand
L	Left-hand

Shank cross-section

Example	
External holder square shank	1212 = 12 mm x 12 mm
Internal boring bar	0020 = 20 mm Diameter

Overall length

	mm
F	80
H	100
K	125
L	140
M	150
P	170
R	200
S	250
T	300

Insert size

L	I.C.
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"

Properties

B	with thro' coolant
C	with carbide shank
U	neutral holder

Example

SE R 1212 F 16
Right hand holder with 12 x 12 mm square shank, overall length of 80 mm, only suitable for an ER16 threading insert

Grade description

Universal

CCN7525
- Carbide, TiAlN-coated
- ISO | **P25** | **M25** | **K25** | **S25** | H25
- The universal carbide grade with sintered chip breaker for medium to high cutting speeds

CCN2520
- Carbide, TiAlN-coated
- ISO | P25 | **M25** | K25 | **S25** | H25
- The coated carbide grade for the machining of stainless steels at medium to high cutting speeds

CCN1525
- Carbide, TiN-coated
- ISO | **P25** | **M25** | **K25** | N25 | O25
- The coated carbide grade for machining steels and stainless steels at low cutting speeds

Non ferrous metals

CWK20
- Carbide, uncoated
- ISO | M10 | **K10** | **N10** | S10
- The wear-resistant carbide grade for machining aluminium and other non-ferrous metals

Steel

CCN20
- Carbide, TiAlN-coated
- ISO | **P20** | **M20** | **K20** | S20 | H20
- The all-round carbide grade for machining steels at low cutting speeds

CWN1525
- Carbide, TiN-coated
- ISO | **P25** | M25 | **K25** | **N25** | O25
- The universal carbide grade for machining steels and non-ferrous metals at low cutting speeds

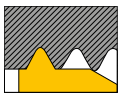
Stainless steel

HCN2525
- Carbide, TiAlN-coated
- ISO | P25 | **M25** | K25 | N25 | S25 | H25
- The coated carbide grade for machining stainless steels at high cutting speeds
- Also suitable for exotic materials

8

Profile Type Description

Full profile



- Thread diameter must not be turned to final thread size
- a minimum infeed of 0.07 mm is necessary
- Insert can only be used only for a specific pitch

Advantages:
- High-quality thread
- No burr formation
- No rework
- In part longer service life

Partial profile

- Core diameter must be premachined to the finished size
- A minimum infeed of 0.07 mm is required

Advantages:
- One threading insert can be used to machine several pitches
- Threading insert can be used for any application
- Reduced stock requirements

Multi-Tooth Thread Turning Insert

- Thread diameter must not be turned to final thread size
- a minimum infeed of 0.07 mm is necessary
- Insert can only be used only for a specific pitch

Advantages:
- Fewer passes required
- Thread production in less time

Attention:
- Check there is sufficient thread run-out

Mini Thread Turning Insert

- From a min. core hole diameter of Ø 6 mm or Ø 8 mm

Advantages:
- Special cutting materials for low cutting speeds
- 3 cutting edges for miniature applications