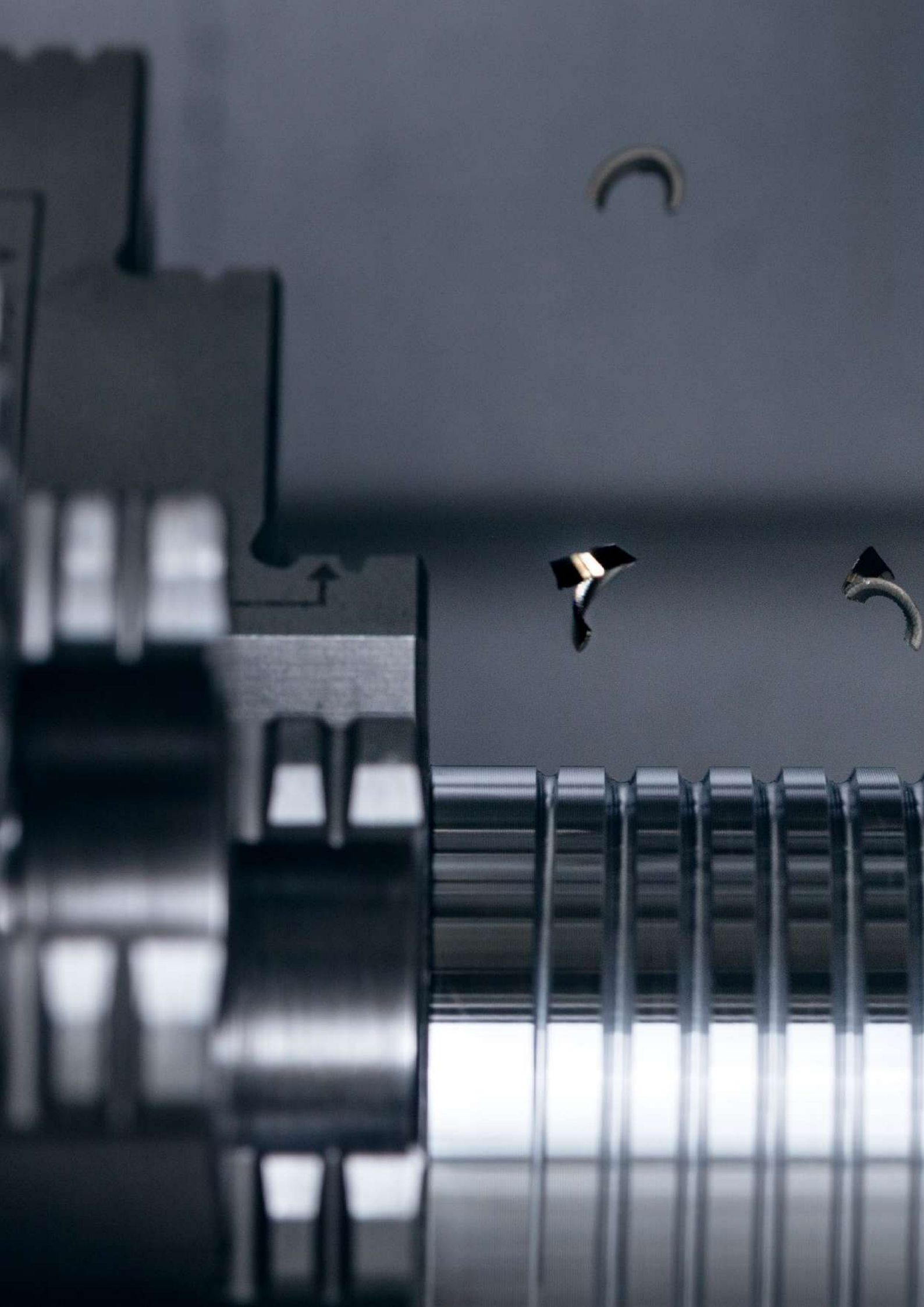


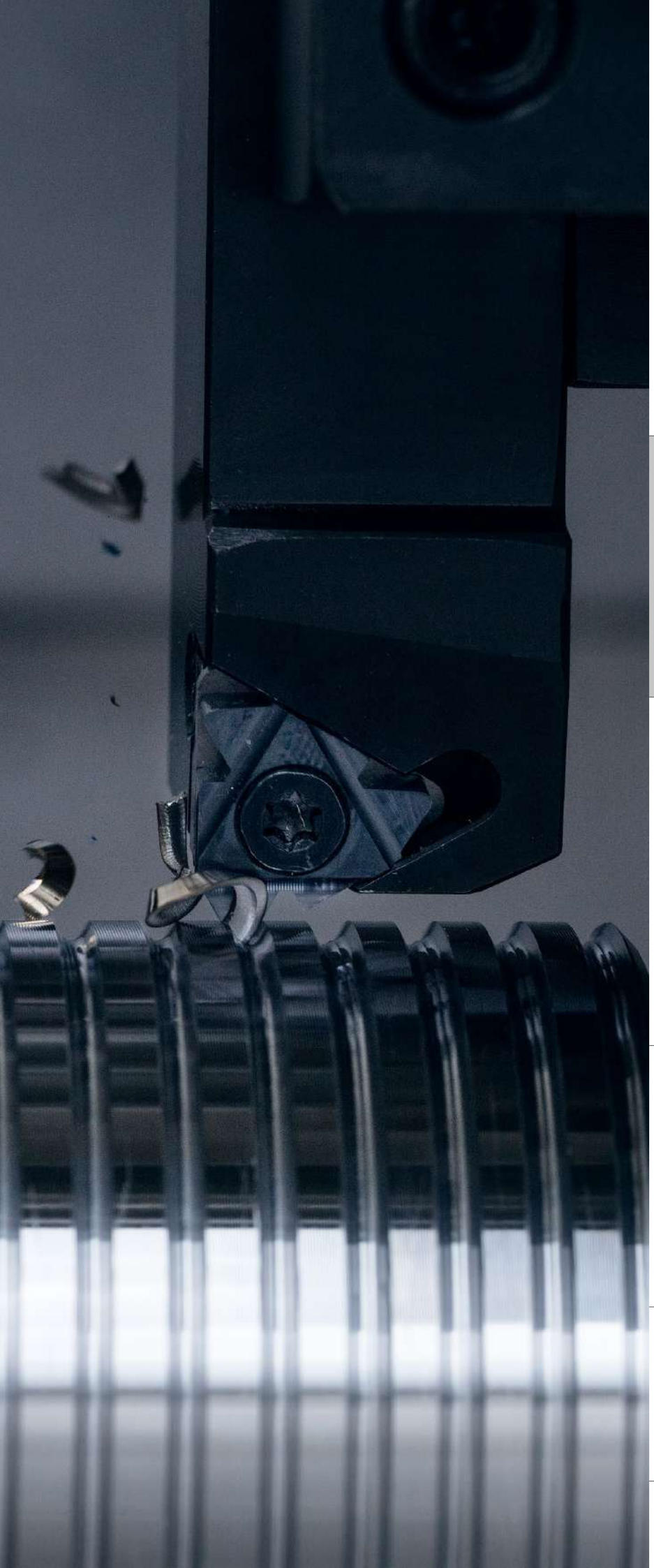


Table of contents

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**

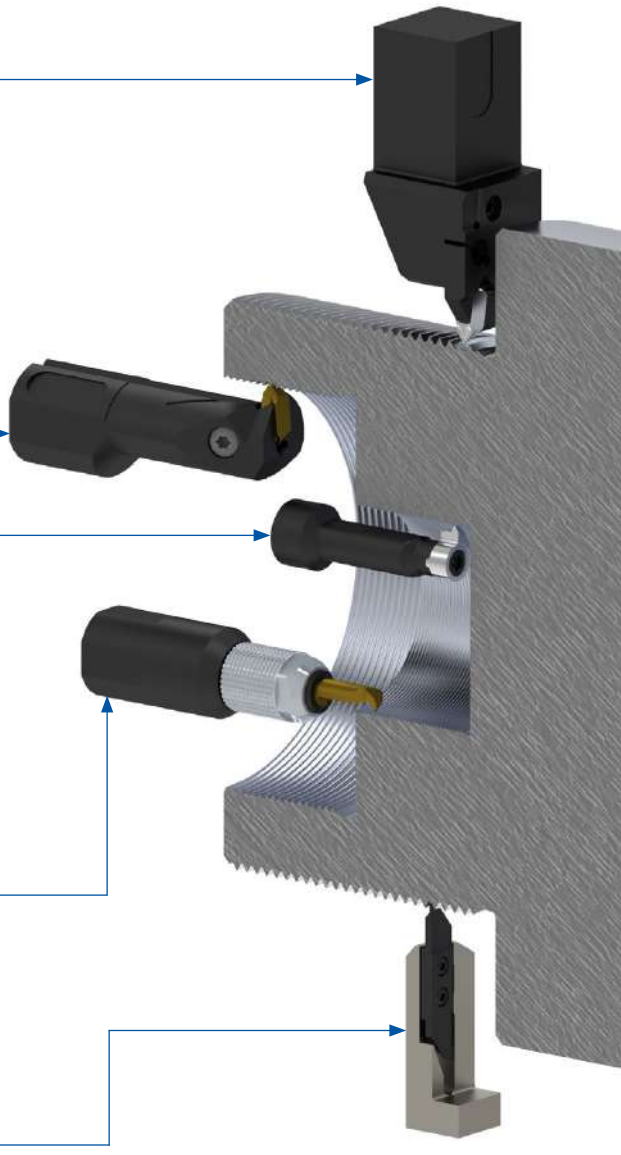
UltraMini

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

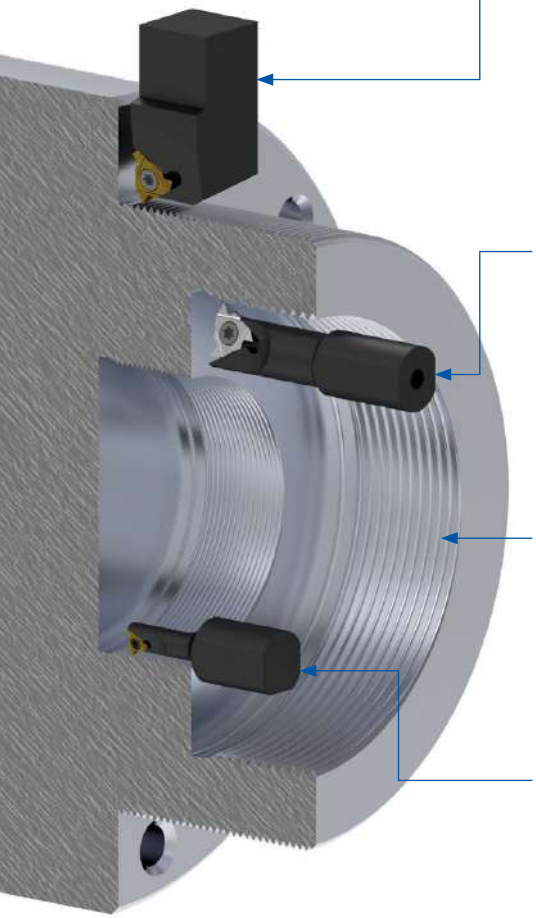
Flank angle

- 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
- **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	BSW	UN	UNC	UNF	UNEF	NPT	Tr	Rd	Pg
6+7	11+12	15+16	15+16	15+16	15+16	19	21	24	26

Partial profile

60°	55°
28	30

Multi-cutting edge

M
10

Suitable holders can be found on → page 32+33

Standard internal thread turning

Full profile

M	BSW	UN	UNC	UNF	UNEF	NPT	Tr	Rd	Pg
8+9	13+14	17+18	17+18	17+18	17+18	20	22	25	27

Partial profile

60°	55°
29	31

Suitable holders can be found on → page 34–36

Standard internal threading with our new exchangeable head system

→ Chapter 9 – Turning Tools

Mini 06

Full profile

M	BSW
37	37

Partial profile

60°	55°
38	38

Mini 08

Full profile

M
39

Partial profile

60°	55°
39+40	40+41

Suitable holders can be found on → page 42

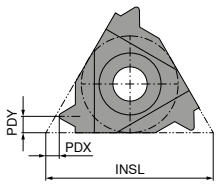
Information on the different thread profiles can be found on → **Page 51.**

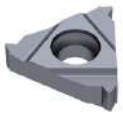
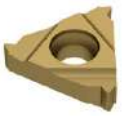
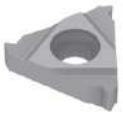
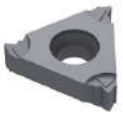
8

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 ... £ X3		ER 71 220 ... £ X3		ER 71 220 ... £ X3		ER 71 220 ... £ Y1		ER 71 220 ... £ X3	
11 ER 0,35	0.35	11	0.8	0.4	29.39	**204**								
11 ER 0,4	0.40	11	0.7	0.4	29.39	**206**								
11 ER 0,45	0.45	11	0.7	0.4	29.39	**208**								
11 ER 0,5	0.50	11	0.6	0.6	29.39	**209**								
11 ER 0,6	0.60	11	0.6	0.6	29.39	**210**								
11 ER 0,7	0.70	11	0.6	0.6	29.39	**211**								
11 ER 0,75	0.75	11	0.6	0.6	29.39	**212**								
11 ER 0,8	0.80	11	0.6	0.6	29.39	**213**								
11 ER 1,0	1.00	11	0.7	0.7	29.39	**214**								
11 ER 1,25	1.25	11	0.8	0.9	29.39	**216**								
11 ER 1,5	1.50	11	0.8	1.0	29.39	**218**								
11 ER 1,75	1.75	11	0.8	1.1	29.39	**220**								
16 ER 0,35	0.35	16	0.8	0.4	30.41	**234**			27.70	**734**	22.26	**634**		
16 ER 0,4	0.40	16	0.7	0.4	30.41	**236**			27.70	**736**	22.26	**636**		
16 ER 0,45	0.45	16	0.7	0.4	30.41	**238**					22.26	**638**		
16 ER 0,5	0.50	16	0.6	0.6	30.41	**240**	19.02	**140**	21.58	**740**	22.26	**640**	21.58	**940**
16 ER 0,7	0.70	16	0.6	0.6	30.41	**241**	21.05	**141**	22.28	**741**	22.26	**641**		
16 ER 0,75	0.75	16	0.6	0.6	30.41	**242**	19.76	**142**	21.58	**742**	22.26	**642**	21.58	**942**
16 ER 0,8	0.80	16	0.6	0.6	30.41	**243**	19.76	**143**	21.58	**743**	22.26	**643**	21.58	**943**
16 ER 1,0	1.00	16	0.7	0.7	30.41	**244**	18.45	**144**	21.05	**744**	21.65	**644**	21.05	**944**
16 ER 1,25	1.25	16	0.8	0.9	30.41	**246**	18.45	**146**	21.05	**746**	22.26	**646**	21.05	**946**
16 ER 1,5	1.50	16	0.8	1.0	30.41	**248**	18.45	**148**	21.05	**748**	21.65	**648**	21.05	**948**
16 ER 1,75	1.75	16	0.9	1.2	30.41	**250**	18.45	**150**	21.05	**750**	22.26	**650**		
16 ER 2,0	2.00	16	1.0	1.3	30.41	**252**	18.45	**152**	21.05	**752**	22.26	**652**	21.05	**952**
16 ER 2,5	2.50	16	1.1	1.5	30.41	**254**	18.45	**154**	21.05	**754**	22.26	**654**	21.05	**954**
16 ER 3,0	3.00	16	1.2	1.6	30.41	**256**	18.45	**156**	21.05	**756**	22.26	**656**	21.05	**956**
22 ER 3,5	3.50	22	1.6	2.3	42.01	**270**	28.80	**170**	31.69	**770**				
22 ER 4,0	4.00	22	1.6	2.3	42.01	**272**	30.04	**172**	33.41	**772**				
22 ER 4,5	4.50	22	1.7	2.4	42.01	**274**	32.41	**174**	35.29	**774**				
22 ER 5,0	5.00	22	1.7	2.5	42.01	**276**	32.41	**176**	35.29	**776**				
22 ER 5,5	5.50	22	1.7	2.6			32.41	**178**						
22 ER 5,5	5.50	22	1.9	2.7	42.01	**278**								
22 EN 5,5	5.50	22	2.3	11.0	42.01	**282** [1]								
22 ER 6,0	6.00	22	1.9	2.7			32.41	**180**	35.29	**780**				
22 ER 6,0	6.00	22	2.0	2.9	42.01	**280**								
22 EN 6,0	6.00	22	2.6	11.0	42.01	**284** [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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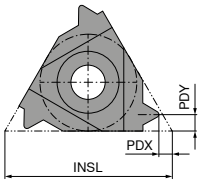
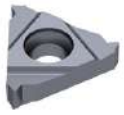
Left hand external thread turning insert

▲ Full profile

M | MF | 60°

CCN20 | CWN1525





Designation	TP mm	INSL mm	PDX mm	PDY mm	EL 71 222 ... £ X3		EL 71 222 ... £ X3	
11 EL 0,35	0.35	11	0.8	0.4	29.39	**204**		
11 EL 0,4	0.40	11	0.7	0.4	29.39	**206**		
11 EL 0,45	0.45	11	0.7	0.4	29.39	**208**		
11 EL 0,5	0.50	11	0.6	0.6	29.39	**209**		
11 EL 0,6	0.60	11	0.6	0.6	29.39	**210**		
11 EL 0,7	0.70	11	0.6	0.6	29.39	**211**		
11 EL 0,75	0.75	11	0.6	0.6	29.39	**212**		
11 EL 0,8	0.80	11	0.6	0.6	29.39	**213**		
11 EL 1,0	1.00	11	0.7	0.7	29.39	**214**		
11 EL 1,25	1.25	11	0.8	0.9	29.39	**216**		
11 EL 1,5	1.50	11	0.8	1.0	29.39	**218**		
11 EL 1,75	1.75	11	0.8	1.1	29.39	**220**		
16 EL 0,35	0.35	16	0.8	0.4	30.41	**234**		
16 EL 0,4	0.40	16	0.7	0.4	30.41	**236**		
16 EL 0,45	0.45	16	0.7	0.4	30.41	**238**		
16 EL 0,5	0.50	16	0.6	0.6	30.41	**240**		
16 EL 0,7	0.70	16	0.6	0.6	30.41	**241**		
16 EL 0,75	0.75	16	0.6	0.6	30.41	**242**		
16 EL 0,8	0.80	16	0.6	0.6	30.41	**243**		
16 EL 1,0	1.00	16	0.7	0.7	30.41	**244**	19.75	**144**
16 EL 1,25	1.25	16	0.8	0.9	30.41	**246**	21.00	**146**
16 EL 1,5	1.50	16	0.8	1.0	30.41	**248**	19.75	**148**
16 EL 1,75	1.75	16	0.9	1.2	30.41	**250**		
16 EL 2,0	2.00	16	1.0	1.3	30.41	**252**	21.00	**152**
16 EL 2,5	2.50	16	1.1	1.5	30.41	**254**		
16 EL 3,0	3.00	16	1.2	1.6	30.41	**256**	27.12	**156**
22 EL 3,5	3.50	22	1.6	2.3	42.01	**270**		
22 EL 4,0	4.00	22	1.6	2.3	42.01	**272**		
22 EL 4,5	4.50	22	1.7	2.4	42.01	**274**		
22 EL 5,0	5.00	22	1.7	2.5	42.01	**276**		
22 EL 5,5	5.50	22	1.9	2.7	42.01	**278**		
22 EL 6,0	6.00	22	2.0	2.9	42.01	**280**		

P	●	●
M	●	○
K	●	●
N		●
S	○	
H	○	
O		○

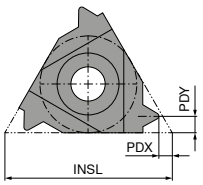
→ v_c Page 45

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 ... £ X3		IR 71 224 ... £ X3		IR 71 224 ... £ X3		IR 71 224 ... £ Y1		IR 71 224 ... £ X3	
11 IR 0,35	0.35	11	0.8	0.3	30.41	**204**								
11 IR 0,4	0.40	11	0.8	0.4	30.41	**206**								
11 IR 0,45	0.45	11	0.8	0.4	30.41	**208**								
11 IR 0,5	0.50	11	0.6	0.6	30.41	**210**								
11 IR 0,7	0.70	11	0.6	0.6	30.41	**211**								
11 IR 0,75	0.75	11	0.6	0.6	30.41	**212**							25.85	**912**
11 IR 0,8	0.80	11	0.6	0.6	30.41	**213**			31.57	**713**				
11 IR 1,0	1.00	11	0.6	0.6									21.05	**914**
11 IR 1,0	1.00	11	0.6	0.7	30.41	**214**	18.45	**114**	21.05	**714**				
11 IR 1,25	1.25	11	0.8	0.9	30.41	**216**								
11 IR 1,5	1.50	11	0.8	0.9									21.05	**918**
11 IR 1,5	1.50	11	0.8	1.0	30.41	**218**	18.45	**118**	21.05	**718**				
11 IR 1,75	1.75	11	0.9	1.1	30.41	**220**								
11 IR 2,0	2.00	11	0.8	0.9			18.45	**122**	21.05	**722**				
11 IR 2,0	2.00	11	0.9	1.1	30.41	**222**								
11 IR 2,5	2.50	11	0.8	1.2			21.00	**124**	22.82	**724**				
11 IR 2,5	2.50	11	0.9	1.1	30.41	**224**								
16 IR 0,35	0.35	16	0.8	0.4	30.41	**234**					22.26	**634**		
16 IR 0,4	0.40	16	0.7	0.4	30.41	**236**					22.26	**636**		
16 IR 0,45	0.45	16	0.7	0.4	30.41	**238**					22.26	**638**		
16 IR 0,5	0.50	16	0.6	0.6	30.41	**240**					22.26	**640**		
16 IR 0,7	0.70	16	0.6	0.6	30.41	**241**					22.26	**641**		
16 IR 0,75	0.75	16	0.6	0.6	30.41	**242**	23.18	**142**	25.85	**742**	22.26	**642**		
16 IR 0,8	0.80	16	0.6	0.6	30.41	**243**					22.26	**643**		
16 IR 1,0	1.00	16	0.6	0.7			18.45	**144**	21.05	**744**			21.05	**944**
16 IR 1,0	1.00	16	0.7	0.7	30.41	**244**					21.65	**644**		
16 IR 1,25	1.25	16	0.8	0.9	30.41	**246**			22.15	**746**	22.26	**646**	22.15	**946**
16 IR 1,5	1.50	16	0.8	1.0	30.41	**248**	18.45	**148**	21.05	**748**	21.65	**648**	21.05	**948**
16 IR 1,75	1.75	16	0.9	1.2	30.41	**250**			25.85	**750**	22.26	**650**		
16 IR 2,0	2.00	16	1.0	1.3	30.41	**252**	18.45	**152**	21.05	**752**	22.26	**652**	21.05	**952**
16 IR 2,5	2.50	16	1.1	1.5	30.41	**254**	18.45	**154**	21.05	**754**	22.26	**654**	21.05	**954**
16 IR 3,0	3.00	16	1.1	1.5	30.41	**256**	18.45	**156**	21.05	**756**	22.26	**656**	21.05	**956**
22 IR 3,5	3.50	22	1.6	2.3	42.01	**270**	30.04	**170**	33.41	**770**				
22 IR 4,0	4.00	22	1.6	2.3	42.01	**272**	30.04	**172**	33.41	**772**				
22 IR 4,5	4.50	22	1.6	2.4			32.41	**174**	35.29	**774**				
22 IR 4,5	4.50	22	1.7	2.4	42.01	**274**								
22 IR 5,0	5.00	22	1.6	2.3			32.41	**176**						
22 IR 5,0	5.00	22	1.7	2.5	42.01	**276**								
22 IR 5,5	5.50	22	1.6	2.3			36.54	**178**						
22 IR 5,5	5.50	22	1.9	2.7	42.01	**278**								
22 IN 5,5	5.50	22	2.3	11.0	42.01	**282** [1]								
22 IR 6,0	6.00	22	1.6	2.4			32.41	**180**						
22 IR 6,0	6.00	22	2.0	2.9	42.01	**280**								
22 IN 6,0	6.00	22	2.6	11.0	42.01	**284** [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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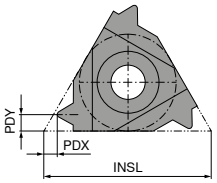
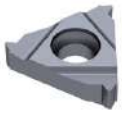
Left hand internal thread turning insert

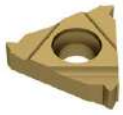
▲ Full profile

M | MF | 60°

CCN20 | CWN1525







Designation	TP mm	INSL mm	PDX mm	PDY mm	IL 71 226 ... £ X3		IL 71 226 ... £ X3	
11 IL 0,35	0.35	11	0.8	0.3	30.41	**204**		
11 IL 0,4	0.40	11	0.8	0.4	30.41	**206**		
11 IL 0,45	0.45	11	0.8	0.4	30.41	**208**		
11 IL 0,5	0.50	11	0.6	0.6	30.41	**210**		
11 IL 0,7	0.70	11	0.6	0.6	30.41	**211**		
11 IL 0,75	0.75	11	0.6	0.6	30.41	**212**		
11 IL 0,8	0.80	11	0.6	0.6	30.41	**213**		
11 IL 1,0	1.00	11	0.6	0.7	30.41	**214**		
11 IL 1,25	1.25	11	0.8	0.9	30.41	**216**		
11 IL 1,5	1.50	11	0.8	1.0	30.41	**218**		
11 IL 1,75	1.75	11	0.9	1.1	30.41	**220**		
11 IL 2,0	2.00	11	0.9	1.1	30.41	**222**		
11 IL 2,5	2.50	11	0.9	1.1	30.41	**224**		
16 IL 0,35	0.35	16	0.8	0.4	30.41	**234**		
16 IL 0,4	0.40	16	0.7	0.4	30.41	**236**		
16 IL 0,45	0.45	16	0.7	0.4	30.41	**238**		
16 IL 0,5	0.50	16	0.6	0.6	30.41	**240**		
16 IL 0,7	0.70	16	0.6	0.6	30.41	**241**		
16 IL 0,75	0.75	16	0.6	0.6	30.41	**242**		
16 IL 0,8	0.80	16	0.6	0.6	30.41	**243**		
16 IL 1,0	1.00	16	0.6	0.7			27.12	**144**
16 IL 1,0	1.00	16	0.7	0.7	30.41	**244**		
16 IL 1,25	1.25	16	0.8	0.9	30.41	**246**		
16 IL 1,5	1.50	16	0.8	1.0	30.41	**248**	23.35	**148**
16 IL 1,75	1.75	16	0.9	1.2	30.41	**250**		
16 IL 2,0	2.00	16	1.0	1.3	30.41	**252**	21.00	**152**
16 IL 2,5	2.50	16	1.1	1.5	30.41	**254**		
16 IL 3,0	3.00	16	1.2	1.6	30.41	**256**		
22 IL 3,5	3.50	22	1.6	2.3	42.01	**270**		
22 IL 4,0	4.00	22	1.6	2.3	42.01	**272**		
22 IL 4,5	4.50	22	1.7	2.4	42.01	**274**		
22 IL 5,0	5.00	22	1.7	2.5	42.01	**276**		
22 IL 5,5	5.50	22	1.9	2.7	42.01	**278**		
22 IL 6,0	6.00	22	2.0	2.9	42.01	**280**		

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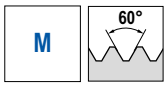
→ v_c Page 45

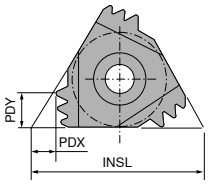
8

Right hand external thread turning insert

▲ Multi edge insert



HCN2525



Designation	TP mm	INSL mm	PDX mm	PDY mm	NT	ER 71 221 ... £ X3	
16 ER 1,0 3M	1.0	16	1.7	2.5	3	44.51	**700**
16 ER 1,5 2M	1.5	16	1.5	2.3	2	43.72	**702**

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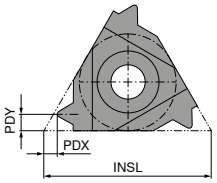
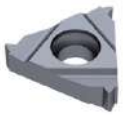
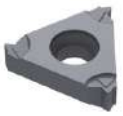
→ v_c Page 45

Right hand external thread turning insert

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

BSW | 55°



CCN20	CWN1525	HCN2525	CWK20	CCN7525
				

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 228 ... £ X3		ER 71 228 ... £ X3		ER 71 228 ... £ X3		ER 71 228 ... £ Y1		ER 71 228 ... £ X3	
11 ER 72	72.0	11	0.7	0.4	29.39	**202**								
11 ER 60	60.0	11	0.7	0.4	29.39	**204**								
11 ER 56	56.0	11	0.7	0.4	29.39	**206**								
11 ER 48	48.0	11	0.6	0.6	29.39	**208**								
11 ER 40	40.0	11	0.6	0.6	29.39	**210**								
11 ER 36	36.0	11	0.6	0.6	29.39	**212**								
11 ER 32	32.0	11	0.6	0.6	29.39	**214**								
11 ER 28	28.0	11	0.6	0.7	29.39	**216**								
11 ER 26	26.0	11	0.7	0.8	29.39	**218**								
11 ER 24	24.0	11	0.7	0.8	29.39	**220**								
11 ER 22	22.0	11	0.8	0.9	29.39	**222**								
11 ER 20	20.0	11	0.8	0.9	29.39	**224**								
11 ER 19	19.0	11	0.8	1.0	29.39	**226**								
11 ER 18	18.0	11	0.8	1.0	29.39	**228**								
11 ER 16	16.0	11	0.9	1.1	29.39	**230**								
11 ER 14	14.0	11	0.9	1.1	29.39	**232**								
16 ER 40	40.0	16	0.6	0.6	30.41	**240**					22.26	**640**		
16 ER 36	36.0	16	0.6	0.6	30.41	**242**					22.26	**642**		
16 ER 32	32.0	16	0.6	0.6	30.41	**244**					22.26	**644**		
16 ER 28	28.0	16	0.6	0.7	30.41	**246**	23.90	**146**	26.57	**746**	22.26	**646**		
16 ER 26	26.0	16	0.7	0.7					31.69	**748**				
16 ER 26	26.0	16	0.7	0.8	30.41	**248**					22.26	**648**		
16 ER 24	24.0	16	0.7	0.8	30.41	**250**					22.26	**650**		
16 ER 22	22.0	16	0.8	0.9	30.41	**252**					22.26	**652**		
16 ER 20	20.0	16	0.8	0.9	30.41	**254**			31.69	**754**	22.26	**654**		
16 ER 19	19.0	16	0.8	1.0	30.41	**256**	21.53	**156**	24.19	**756**	22.26	**656**	24.19	**956**
16 ER 18	18.0	16	0.8	1.0	30.41	**258**					22.26	**658**		
16 ER 16	16.0	16	0.9	1.1	30.41	**260**	26.25	**160**	28.95	**760**	22.26	**660**		
16 ER 14	14.0	16	1.0	1.2	30.41	**262**	21.53	**162**	24.19	**762**	22.26	**662**	24.19	**962**
16 ER 12	12.0	16	1.1	1.4	30.41	**264**	26.25	**164**	28.95	**764**	22.26	**664**		
16 ER 11	11.0	16	1.1	1.5	30.41	**266**	21.53	**166**	24.19	**766**	22.26	**666**	24.19	**966**
16 ER 10	10.0	16	1.1	1.5	30.41	**268**					22.26	**668**		
16 ER 9	9.0	16	1.2	1.7	30.41	**270**					22.26	**670**		
16 ER 8	8.0	16	1.2	1.5	30.41	**272**					22.26	**672**		
22 ER 7	7.0	22	1.6	2.3	42.01	**280**								
22 ER 6	6.0	22	1.6	2.3	42.01	**282**								
22 ER 5	5.0	22	1.7	2.4	42.01	**284**								
22 EN 4,5	4.5	22	2.3	11.0	42.01	**290** [1]								
22 EN 4	4.0	22	1.8	11.0	42.01	**292** [1]								

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O		○			

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

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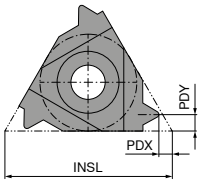
8

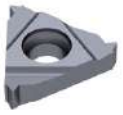
Left hand external thread turning insert

▲ Full profile

BSW

CCN20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	EL 71 229 ... £ X3	
11 EL 72	72	11	0.7	0.4	29.39	**202**
11 EL 60	60	11	0.7	0.4	29.39	**204**
11 EL 56	56	11	0.7	0.4	29.39	**206**
11 EL 48	48	11	0.6	0.6	29.39	**208**
11 EL 40	40	11	0.6	0.6	29.39	**210**
11 EL 36	36	11	0.6	0.6	29.39	**212**
11 EL 32	32	11	0.6	0.6	29.39	**214**
11 EL 28	28	11	0.6	0.7	29.39	**216**
11 EL 26	26	11	0.7	0.8	29.39	**218**
11 EL 24	24	11	0.7	0.8	29.39	**220**
11 EL 22	22	11	0.8	0.9	29.39	**222**
11 EL 20	20	11	0.8	0.9	29.39	**224**
11 EL 19	19	11	0.8	1.0	29.39	**226**
11 EL 18	18	11	0.8	1.0	29.39	**228**
11 EL 16	16	11	0.9	1.1	29.39	**230**
11 EL 14	14	11	0.9	1.1	29.39	**232**
16 EL 40	40	16	0.6	0.6	30.41	**240**
16 EL 36	36	16	0.6	0.6	30.41	**242**
16 EL 32	32	16	0.6	0.6	30.41	**244**
16 EL 28	28	16	0.6	0.7	30.41	**246**
16 EL 26	26	16	0.7	0.8	30.41	**248**
16 EL 24	24	16	0.7	0.8	30.41	**250**
16 EL 22	22	16	0.8	0.9	30.41	**252**
16 EL 20	20	16	0.8	0.9	30.41	**254**
16 EL 19	19	16	0.8	1.0	30.41	**256**
16 EL 18	18	16	0.8	1.0	30.41	**258**
16 EL 16	16	16	0.9	1.1	30.41	**260**
16 EL 14	14	16	1.0	1.2	30.41	**262**
16 EL 12	12	16	1.1	1.4	30.41	**264**
16 EL 11	11	16	1.1	1.5	30.41	**266**
16 EL 10	10	16	1.1	1.5	30.41	**268**
16 EL 9	9	16	1.2	1.7	30.41	**270**
16 EL 8	8	16	1.2	1.5	30.41	**272**
22 EL 7	7	22	1.6	2.3	45.51	**280**
22 EL 6	6	22	1.6	2.3	45.51	**282**
22 EL 5	5	22	1.7	2.4	38.92	**284**

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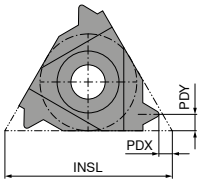
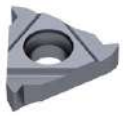
→ v_c Page 45

Right hand internal thread turning insert

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

BSW | 55°



CCN20	CWN1525	HCN2525	CCN7525
			

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 230 ... £ X3		IR 71 230 ... £ X3		IR 71 230 ... £ X3		IR 71 230 ... £ X3	
11 IR 48	48	11	0.6	0.6	30.41	**206**						
11 IR 40	40	11	0.6	0.6	30.41	**208**						
11 IR 36	36	11	0.6	0.6	30.41	**210**						
11 IR 32	32	11	0.6	0.6	30.41	**212**						
11 IR 28	28	11	0.6	0.7	30.41	**214**						
11 IR 26	26	11	0.7	0.8	30.41	**216**						
11 IR 24	24	11	0.7	0.8	30.41	**218**						
11 IR 22	22	11	0.8	0.9	30.41	**220**						
11 IR 20	20	11	0.8	0.9	30.41	**222**						
11 IR 19	19	11	0.8	1.0	30.41	**224**	22.60	**124**	25.30	**724**		
11 IR 19	19	11	0.8	0.9							25.30	**924**
11 IR 18	18	11	0.8	1.0	30.41	**226**						
11 IR 16	16	11	0.9	1.1	30.41	**228**						
11 IR 14	14	11	0.9	1.1	30.41	**230**	22.60	**130**	25.30	**730**		
11 IR 14	14	11	0.8	0.9							25.30	**930**
16 IR 40	40	16	0.6	0.6	30.41	**240**						
16 IR 36	36	16	0.6	0.6	30.41	**242**						
16 IR 32	32	16	0.6	0.6	30.41	**244**						
16 IR 28	28	16	0.6	0.7	30.41	**246**						
16 IR 26	26	16	0.7	0.8	30.41	**248**						
16 IR 24	24	16	0.7	0.8	30.41	**250**						
16 IR 22	22	16	0.8	0.9	30.41	**252**						
16 IR 20	20	16	0.8	0.9	30.41	**254**						
16 IR 19	19	16	0.8	1.0	30.41	**256**						
16 IR 18	18	16	0.8	1.0	30.41	**258**						
16 IR 16	16	16	0.9	1.1	30.41	**260**			31.69	**760**		
16 IR 14	14	16	1.0	1.2	30.41	**262**	21.53	**162**	24.19	**762**	24.19	**962**
16 IR 12	12	16	1.1	1.4	30.41	**264**						
16 IR 11	11	16	1.1	1.5	30.41	**266**	21.53	**166**	24.19	**766**	24.19	**966**
16 IR 10	10	16	1.1	1.5	30.41	**268**						
16 IR 9	9	16	1.2	1.7	30.41	**270**						
16 IR 8	8	16	1.2	1.5	30.41	**272**						
22 IR 7	7	22	1.6	2.3	42.01	**280**						
22 IR 6	6	22	1.6	2.3	42.01	**282**						
22 IR 5	5	22	1.7	2.4	42.01	**284**						

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→ v_c Page 45

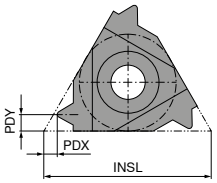
8

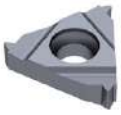
Left hand internal thread turning insert

▲ Full profile

BSW

CCN20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 231 ... £ X3	
11 IL 48	48	11	0.6	0.6	30.41	**206**
11 IL 40	40	11	0.6	0.6	30.41	**208**
11 IL 36	36	11	0.6	0.6	30.41	**210**
11 IL 32	32	11	0.6	0.6	30.41	**212**
11 IL 28	28	11	0.6	0.7	30.41	**214**
11 IL 26	26	11	0.7	0.8	30.41	**216**
11 IL 24	24	11	0.7	0.8	30.41	**218**
11 IL 22	22	11	0.8	0.9	30.41	**220**
11 IL 20	20	11	0.8	0.9	30.41	**222**
11 IL 19	19	11	0.8	1.0	30.41	**224**
11 IL 18	18	11	0.8	1.0	30.41	**226**
11 IL 16	16	11	0.9	1.1	30.41	**228**
11 IL 14	14	11	0.9	1.1	30.41	**230**
16 IL 40	40	16	0.6	0.6	30.41	**240**
16 IL 36	36	16	0.6	0.6	30.41	**242**
16 IL 32	32	16	0.6	0.6	30.41	**244**
16 IL 28	28	16	0.6	0.7	30.41	**246**
16 IL 26	26	16	0.7	0.8	30.41	**248**
16 IL 24	24	16	0.7	0.8	30.41	**250**
16 IL 22	22	16	0.8	0.9	30.41	**252**
16 IL 20	20	16	0.8	0.9	30.41	**254**
16 IL 19	19	16	0.8	1.0	30.41	**256**
16 IL 18	18	16	0.8	1.0	30.41	**258**
16 IL 16	16	16	0.9	1.1	30.41	**260**
16 IL 14	14	16	1.0	1.2	30.41	**262**
16 IL 12	12	16	1.1	1.4	30.41	**264**
16 IL 11	11	16	1.1	1.5	30.41	**266**
16 IL 10	10	16	1.1	1.5	30.41	**268**
16 IL 9	9	16	1.2	1.7	30.41	**270**
16 IL 8	8	16	1.2	1.5	30.41	**272**
22 IL 7	7	22	1.6	2.3	42.01	**280**
22 IL 6	6	22	1.6	2.3	42.01	**282**
22 IL 5	5	22	1.7	2.4	42.01	**284**

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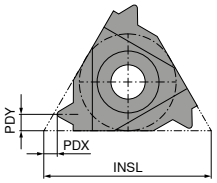
→ v_c Page 45

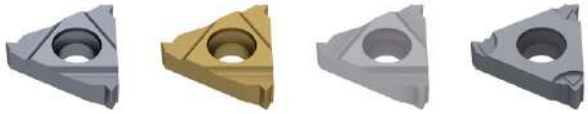
Right hand external thread turning insert

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

UN | UNC | UNF | UNEF | 60°

CCN20 | CWN1525 | HCN2525 | CCN7525





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 264 ... £ X3		ER 71 264 ... £ X3		ER 71 264 ... £ X3		ER 71 264 ... £ X3	
11 ER 72	72.0	11	0.8	0.4	29.39	**202**						
11 ER 64	64.0	11	0.8	0.4	29.39	**204**						
11 ER 56	56.0	11	0.7	0.4	29.39	**206**						
11 ER 48	48.0	11	0.6	0.6	29.39	**208**						
11 ER 44	44.0	11	0.6	0.6	29.39	**210**						
11 ER 40	40.0	11	0.6	0.6	29.39	**212**						
11 ER 36	36.0	11	0.6	0.6	29.39	**214**						
11 ER 32	32.0	11	0.6	0.6	29.39	**216**						
11 ER 28	28.0	11	0.6	0.7	29.39	**218**						
11 ER 27	27.0	11	0.7	0.8	29.39	**220**						
11 ER 24	24.0	11	0.7	0.8	29.39	**222**						
11 ER 20	20.0	11	0.8	0.9	29.39	**224**						
11 ER 18	18.0	11	0.8	1.0	29.39	**226**						
11 ER 16	16.0	11	0.9	1.1	29.39	**228**						
11 ER 14	14.0	11	0.9	1.1	29.39	**230**						
16 ER 72	72.0	16	0.8	0.4	30.41	**232**						
16 ER 64	64.0	16	0.8	0.4	30.41	**234**						
16 ER 56	56.0	16	0.7	0.4	30.41	**236**						
16 ER 48	48.0	16	0.6	0.6	30.41	**238**						
16 ER 44	44.0	16	0.6	0.6	30.41	**240**						
16 ER 40	40.0	16	0.6	0.6	30.41	**242**						
16 ER 36	36.0	16	0.6	0.6	30.41	**244**						
16 ER 32	32.0	16	0.6	0.6	30.41	**246**			31.00	**746**		
16 ER 28	28.0	16	0.6	0.7	30.41	**248**			28.95	**748**		
16 ER 27	27.0	16	0.7	0.8	30.41	**250**						
16 ER 24	24.0	16	0.7	0.8	30.41	**252**	23.90	**152**	26.57	**752**		
16 ER 20	20.0	16	0.8	0.9	30.41	**254**	22.60	**154**	25.30	**754**	25.30	**954**
16 ER 18	18.0	16	0.8	1.0	30.41	**256**	23.90	**156**	26.57	**756**		
16 ER 16	16.0	16	0.9	1.1	30.41	**258**	22.60	**158**	25.30	**758**	25.30	**958**
16 ER 14	14.0	16	1.0	1.2	30.41	**260**	23.90	**160**	26.57	**760**		
16 ER 13	13.0	16	1.0	1.3	30.41	**262**						
16 ER 12	12.0	16	1.1	1.4	30.41	**264**	23.90	**164**	26.57	**764**		
16 ER 11,5	11.5	16	1.1	1.5	30.41	**266**						
16 ER 11	11.0	16	1.1	1.5	30.41	**268**	29.49	**168**				
16 ER 10	10.0	16	1.1	1.5	30.41	**270**						
16 ER 9	9.0	16	1.2	1.7	30.41	**272**						
16 ER 8	8.0	16	1.2	1.6	30.41	**274**						
16 ER 8	8.0	16	1.1	1.1							31.69	**974**
16 ER 8	8.0	16	1.1	1.5			29.49	**174**				
22 ER 7	7.0	22	1.6	2.3	42.01	**276**						
22 ER 6	6.0	22	1.6	2.3	42.01	**278**						
22 ER 5	5.0	22	1.7	2.5	42.01	**280**						
22 EN 4,5	4.5	22	2.0	11.0	42.01	**282** 1)						
22 EN 4	4.0	22	2.0	11.0	42.01	**284** 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

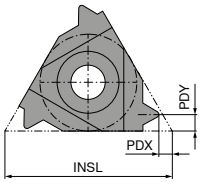
8

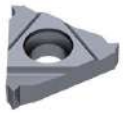
Left hand external thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20





EL

71 266 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
11 EL 72	72.0	11	0.8	0.4	29.39	**202**
11 EL 64	64.0	11	0.8	0.4	29.39	**204**
11 EL 56	56.0	11	0.7	0.4	29.39	**206**
11 EL 48	48.0	11	0.6	0.6	29.39	**208**
11 EL 44	44.0	11	0.6	0.6	29.39	**210**
11 EL 40	40.0	11	0.6	0.6	29.39	**212**
11 EL 36	36.0	11	0.6	0.6	29.39	**214**
11 EL 32	32.0	11	0.6	0.6	29.39	**216**
11 EL 28	28.0	11	0.6	0.7	29.39	**218**
11 EL 27	27.0	11	0.7	0.8	29.39	**220**
11 EL 24	24.0	11	0.7	0.8	29.39	**222**
11 EL 20	20.0	11	0.8	0.9	29.39	**224**
11 EL 18	18.0	11	0.8	1.0	29.39	**226**
11 EL 16	16.0	11	0.9	1.1	29.39	**228**
11 EL 14	14.0	11	0.9	1.1	29.39	**230**
16 EL 72	72.0	16	0.8	0.4	30.41	**232**
16 EL 64	64.0	16	0.8	0.4	30.41	**234**
16 EL 56	56.0	16	0.7	0.4	30.41	**236**
16 EL 48	48.0	16	0.6	0.6	30.41	**238**
16 EL 44	44.0	16	0.6	0.6	30.41	**240**
16 EL 40	40.0	16	0.6	0.6	30.41	**242**
16 EL 36	36.0	16	0.6	0.6	30.41	**244**
16 EL 32	32.0	16	0.6	0.6	30.41	**246**
16 EL 28	28.0	16	0.6	0.7	30.41	**248**
16 EL 27	27.0	16	0.7	0.8	30.41	**250**
16 EL 24	24.0	16	0.7	0.8	30.41	**252**
16 EL 20	20.0	16	0.8	0.9	30.41	**254**
16 EL 18	18.0	16	0.8	1.0	30.41	**256**
16 EL 16	16.0	16	0.9	1.1	30.41	**258**
16 EL 14	14.0	16	1.0	1.2	30.41	**260**
16 EL 13	13.0	16	1.0	1.3	30.41	**262**
16 EL 12	12.0	16	1.1	1.4	30.41	**264**
16 EL 11,5	11.5	16	1.1	1.5	30.41	**266**
16 EL 11	11.0	16	1.1	1.5	30.41	**268**
16 EL 10	10.0	16	1.1	1.5	30.41	**270**
16 EL 9	9.0	16	1.2	1.7	30.41	**272**
16 EL 8	8.0	16	1.2	1.6	30.41	**274**
22 EL 7	7.0	22	1.6	2.3	42.01	**276**
22 EL 6	6.0	22	1.6	2.3	42.01	**278**
22 EL 5	5.0	22	1.7	2.5	42.01	**280**

P	●
M	●
K	●
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S	○
H	○
O	

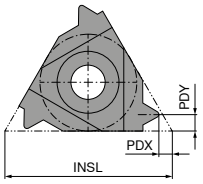
→ v_c Page 45

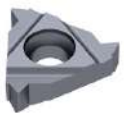
Right hand internal thread turning insert

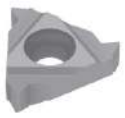
▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20 | HCN2525







Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 268 ... £ X3		IR 71 268 ... £ X3	
11 IR 72	72.0	11	0.8	0.3	30.41	**202**		
11 IR 64	64.0	11	0.8	0.4	30.41	**204**		
11 IR 56	56.0	11	0.7	0.4	30.41	**206**		
11 IR 48	48.0	11	0.6	0.6	30.41	**208**		
11 IR 44	44.0	11	0.6	0.6	30.41	**210**		
11 IR 40	40.0	11	0.6	0.6	30.41	**212**		
11 IR 36	36.0	11	0.6	0.6	30.41	**214**		
11 IR 32	32.0	11	0.6	0.6	30.41	**216**		
11 IR 28	28.0	11	0.6	0.7	30.41	**218**		
11 IR 27	27.0	11	0.7	0.8	30.41	**220**		
11 IR 24	24.0	11	0.7	0.8	30.41	**222**		
11 IR 20	20.0	11	0.8	0.9	30.41	**224**		
11 IR 18	18.0	11	0.8	1.0	30.41	**226**		
11 IR 16	16.0	11	0.9	1.1	30.41	**228**		
11 IR 14	14.0	11	1.0	1.1	30.41	**230**		
16 IR 72	72.0	16	0.8	0.3	30.41	**232**		
16 IR 64	64.0	16	0.8	0.4	30.41	**234**		
16 IR 56	56.0	16	0.7	0.4	30.41	**236**		
16 IR 48	48.0	16	0.6	0.6	30.41	**238**		
16 IR 44	44.0	16	0.6	0.6	30.41	**240**		
16 IR 40	40.0	16	0.6	0.6	30.41	**242**		
16 IR 36	36.0	16	0.6	0.6	30.41	**244**		
16 IR 32	32.0	16	0.6	0.6	30.41	**246**		
16 IR 28	28.0	16	0.6	0.7	30.41	**248**		
16 IR 27	27.0	16	0.7	0.8	30.41	**250**		
16 IR 24	24.0	16	0.7	0.8	30.41	**252**		
16 IR 20	20.0	16	0.8	0.9	30.41	**254**		
16 IR 18	18.0	16	0.8	1.0	30.41	**256**		
16 IR 16	16.0	16	0.9	1.1	30.41	**258**		
16 IR 14	14.0	16	1.0	1.2	30.41	**260**	31.69	**760**
16 IR 13	13.0	16	1.0	1.3	30.41	**262**		
16 IR 12	12.0	16	1.1	1.4	30.41	**264**	26.57	**764**
16 IR 11,5	11.5	16	1.1	1.5	30.41	**266**		
16 IR 11	11.0	16	1.1	1.5	30.41	**268**		
16 IR 10	10.0	16	1.1	1.5	30.41	**270**		
16 IR 9	9.0	16	1.2	1.7	30.41	**272**		
16 IR 8	8.0	16	1.2	1.6	30.41	**274**		
16 IR 8	8.0	16	1.1	1.5			31.69	**774**
22 IR 7	7.0	22	1.6	2.3	42.01	**276**	41.46	**776**
22 IR 6	6.0	22	1.6	2.3	42.01	**278**		
22 IR 5	5.0	22	1.7	2.5	42.01	**280**		
22 IN 4,5	4.5	22	2.0	11.0	42.01	**282** [1)]		
22 IN 4	4.0	22	2.0	11.0	42.01	**284** [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

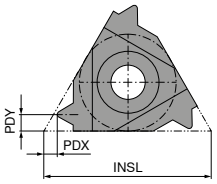
8

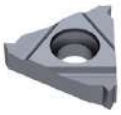
Left hand internal thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 270 ... £ X3	
11 IL 72	72.0	11	0.8	0.3	30.41	**202**
11 IL 64	64.0	11	0.8	0.4	30.41	**204**
11 IL 56	56.0	11	0.7	0.4	30.41	**206**
11 IL 48	48.0	11	0.6	0.6	30.41	**208**
11 IL 44	44.0	11	0.6	0.6	30.41	**210**
11 IL 40	40.0	11	0.6	0.6	30.41	**212**
11 IL 36	36.0	11	0.6	0.6	30.41	**214**
11 IL 32	32.0	11	0.6	0.6	30.41	**216**
11 IL 28	28.0	11	0.6	0.7	30.41	**218**
11 IL 27	27.0	11	0.7	0.8	30.41	**220**
11 IL 24	24.0	11	0.7	0.8	30.41	**222**
11 IL 20	20.0	11	0.8	0.9	30.41	**224**
11 IL 18	18.0	11	0.8	1.0	30.41	**226**
11 IL 16	16.0	11	0.9	1.1	30.41	**228**
11 IL 14	14.0	11	0.9	1.1	30.41	**230**
16 IL 72	72.0	16	0.8	0.3	42.17	**232**
16 IL 64	64.0	16	0.8	0.4	30.41	**234**
16 IL 56	56.0	16	0.7	0.4	30.41	**236**
16 IL 48	48.0	16	0.6	0.6	30.41	**238**
16 IL 44	44.0	16	0.6	0.6	30.41	**240**
16 IL 40	40.0	16	0.6	0.6	30.41	**242**
16 IL 36	36.0	16	0.6	0.6	30.41	**244**
16 IL 32	32.0	16	0.6	0.6	30.41	**246**
16 IL 28	28.0	16	0.6	0.7	30.41	**248**
16 IL 27	27.0	16	0.7	0.8	30.41	**250**
16 IL 24	24.0	16	0.7	0.8	30.41	**252**
16 IL 20	20.0	16	0.8	0.9	30.41	**254**
16 IL 18	18.0	16	0.8	1.0	30.41	**256**
16 IL 16	16.0	16	0.9	1.1	30.41	**258**
16 IL 14	14.0	16	1.0	1.2	30.41	**260**
16 IL 13	13.0	16	1.0	1.3	30.41	**262**
16 IL 12	12.0	16	1.1	1.4	30.41	**264**
16 IL 11,5	11.5	16	1.1	1.5	30.41	**266**
16 IL 11	11.0	16	1.1	1.5	30.41	**268**
16 IL 10	10.0	16	1.1	1.5	30.41	**270**
16 IL 9	9.0	16	1.2	1.7	30.41	**272**
16 IL 8	8.0	16	1.2	1.6	30.41	**274**
22 IL 7	7.0	22	1.6	2.3	42.01	**276**
22 IL 6	6.0	22	1.6	2.3	42.01	**278**
22 IL 5	5.0	22	1.7	2.5	42.01	**280**

P	●
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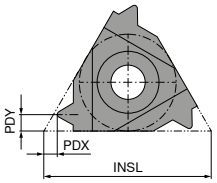
O	

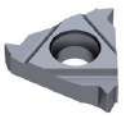
→ v_c Page 45

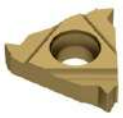
Right hand external thread turning insert

▲ Full profile

NPT 60°




CCN20


CWN1525


HCN2525

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 256 ... £ X3		ER 71 256 ... £ X3		ER 71 256 ... £ X3	
16 ER 27	27.0	16	0.7	0.8	33.57	**240**				
16 ER 18	18.0	16	0.8	1.0	33.57	**242**			31.30	**742**
16 ER 14	14.0	16	0.9	1.2	33.57	**244**	26.25	**144**	28.80	**744**
16 ER 11,5	11.5	16	1.1	1.5	33.57	**246**	28.59	**146**	31.30	**746**
16 ER 8	8.0	16	1.3	1.8	33.57	**248**				
P					●		●		○	
M					●		○		●	
K					●		●		○	
N							●		○	
S					○				○	
H					○				○	
O							○			

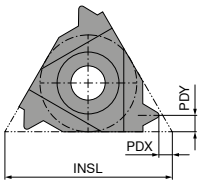
→ v_c Page 45

8

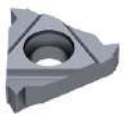
Left hand external thread turning insert

▲ Full profile

NPT 60°



CCN20



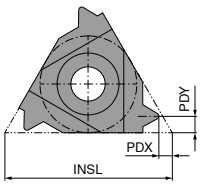
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	EL 71 258 ... £ X3	
16 EL 27	27.0	16	0.7	0.8	33.57	**240**
16 EL 18	18.0	16	0.8	1.0	33.57	**242**
16 EL 14	14.0	16	0.9	1.2	33.57	**244**
16 EL 11,5	11.5	16	1.1	1.5	33.57	**246**
16 EL 8	8.0	16	1.3	1.8	33.57	**248**
P					●	
M					●	
K					●	
N						
S					○	
H					○	
O						

→ v_c Page 45

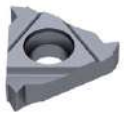
Right hand internal thread turning insert

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

NPT 60°



CCN20 CCN7525



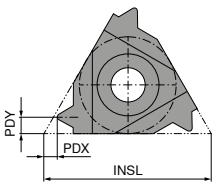

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 260 ... £ X3		IR 71 260 ... £ X3	
11 IR 27	27.0	11	0.7	0.8	33.57	**210**		
11 IR 18	18.0	11	0.8	1.0	33.57	**212**		
11 IR 14	14.0	11	0.9	1.1	33.57	**214**		
16 IR 27	27.0	16	0.7	0.8	33.57	**240**		
16 IR 18	18.0	16	0.8	1.0	33.57	**242**		
16 IR 14	14.0	16	0.9	1.2	33.57	**244**	33.12	**944**
16 IR 11,5	11.5	16	1.1	1.5	33.57	**246**	37.10	**946**
16 IR 8	8.0	16	1.3	1.8	33.57	**248**		
P						●		●
M						●		●
K						●		●
N								
S						○		●
H						○		○
O								

→ v_c Page 45

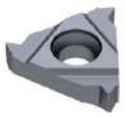
Left hand internal thread turning insert

▲ Full profile

NPT 60°



CCN20

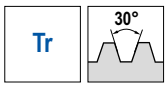


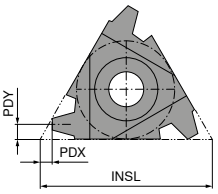
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 262 ... £ X3	
11 IL 27	27.0	11	0.7	0.8	33.57	**210**
11 IL 18	18.0	11	0.8	1.0	33.57	**212**
11 IL 14	14.0	11	0.9	1.1	33.57	**214**
16 IL 27	27.0	16	0.7	0.8	33.57	**240**
16 IL 18	18.0	16	0.8	1.0	33.57	**242**
16 IL 14	14.0	16	0.9	1.2	33.57	**244**
16 IL 11,5	11.5	16	1.1	1.5	33.57	**246**
16 IL 8	8.0	16	1.3	1.8	33.57	**248**
P						●
M						●
K						●
N						
S						○
H						○
O						

→ v_c Page 45

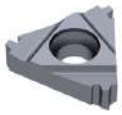
Right hand external thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103





CCN20



CWN1525

Designation	TP mm	INSL mm	PDX mm	PDY mm	ER 71 232 ... £ X3		ER 71 232 ... £ X3	
16 ER 1,5	1.5	16	1.0	1.1	33.57	**240**		
16 ER 2,0	2.0	16	1.1	1.3	33.57	**242**		
16 ER 2,0	2.0	16	1.0	1.3			28.25	**142**
16 ER 3,0	3.0	16	1.3	1.5	33.57	**244**	27.66	**144**
22 ER 4,0	4.0	22	1.8	1.9			38.75	**170**
22 ER 4,0	4.0	22	1.7	1.9	47.97	**270**		
22 ER 5,0	5.0	22	2.0	2.4			43.00	**172**
22 ER 5,0	5.0	22	2.1	2.5	47.97	**272**		
22 ER 6,0	6.0	22	2.3	2.7	47.97	**274** 1)		
22 EN 6,0	6.0	22	2.0	11.0	47.97	**276** 2)		
22 EN 7,0	7.0	22	2.3	11.0	47.97	**278** 2)		

P	●	●
M	●	○
K	●	●
N		●
S	○	
H	○	
O		○

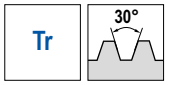
1) Requires special holder or an independently modified standard holder
2) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 45

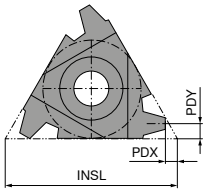
8

Left hand external thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103



CCN20



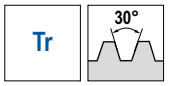
Designation	TP mm	INSL mm	PDX mm	PDY mm		EL 71 234 ... £ X3	
16 EL 1,5	1.5	16	1.0	1.1		33.57	**240**
16 EL 2,0	2.0	16	1.1	1.3		33.57	**242**
16 EL 3,0	3.0	16	1.3	1.5		33.57	**244**
22 EL 4,0	4.0	22	1.7	1.9		47.97	**270**
22 EL 5,0	5.0	22	2.1	2.5		47.97	**272**
22 EL 6,0	6.0	22	2.3	2.7		47.97	**274** 1)
P							●
M							●
K							●
N							
S							○
H							○
O							

1) Requires special holder or an independently modified standard holder

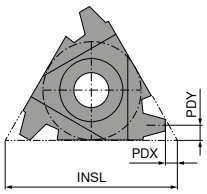
→ v_c Page 45

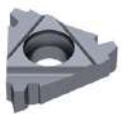
Right hand internal thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103



CCN20 CWN1525





Designation	TP mm	INSL mm	PDX mm	PDY mm		IR 71 236 ... £ X3		IR 71 236 ... £ X3	
11 IR 1,5	1.5	11	0.815	0.9		33.57	**210**		
16 IR 1,5	1.5	16	1.000	1.1		33.57	**240**		
16 IR 2,0	2.0	16	1.100	1.3		33.57	**242**		
16 IR 3,0	3.0	16	1.300	1.5		33.57	**244**	31.37	**144**
22 IR 4,0	4.0	22	1.800	1.9				43.82	**170**
22 IR 4,0	4.0	22	1.700	1.9		47.97	**270**		
22 IR 5,0	5.0	22	2.000	2.4				46.29	**172**
22 IR 5,0	5.0	22	2.100	2.5		47.97	**272**		
22 IR 6,0	6.0	22	2.300	2.7		47.97	**274** 1)		
22 IN 6,0	6.0	22	2.000	11.0		47.97	**276** 2)		
22 IN 7,0	7.0	22	2.300	11.0		47.97	**278** 2)		
P							●		●
M							●		○
K							●		●
N									●
S							○		
H							○		
O									○

1) Requires special holder or an independently modified standard holder

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

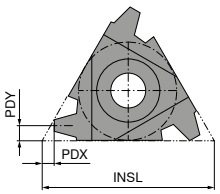
→ v_c Page 45

Left hand internal thread turning insert

▲ Full profile

Tr | 30°

CCN20



Designation	TP mm	INSL mm	PDX mm	PDY mm	IL 71 238 ... £ X3	
11 IL 1,5	1.5	11	0.8	0.9	33.57	**210**
16 IL 1,5	1.5	16	1.0	1.1	33.57	**240**
16 IL 2,0	2.0	16	1.1	1.3	33.57	**242**
16 IL 3,0	3.0	16	1.3	1.5	33.57	**244**
22 IL 4,0	4.0	22	1.7	1.9	47.97	**270**
22 IL 5,0	5.0	22	2.1	2.5	47.97	**272**
22 IL 6,0	6.0	22	2.3	2.7	47.97	**274** 1)

P	●
M	●
K	●
N	
S	○
H	○
O	

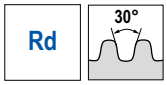
1) Requires special holder or an independently modified standard holder

→ v_c Page 45

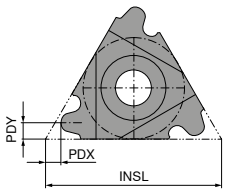
8

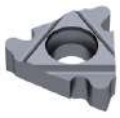
Right hand external thread turning insert

▲ Full profile
▲ Round thread DIN 405



CCN20





ER
71 248 ...

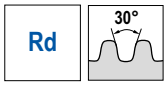
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
16 ER 10	10	16	1.1	1.2	33.57	**240**
16 ER 8	8	16	1.4	1.3	33.57	**242**
16 ER 6	6	16	1.5	1.7	33.57	**246**
22 ER 6	6	22	1.5	1.7	47.97	**270**
22 ER 4	4	22	2.2	2.3	47.97	**272**

P	●
M	●
K	●
N	
S	○
H	○
O	

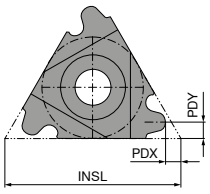
→ v_c Page 45

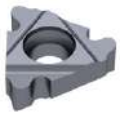
Left hand external thread turning insert

▲ Full profile
▲ Round thread DIN 405



CCN20





EL
71 250 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
16 EL 10	10	16	1.1	1.2	33.57	**240**
16 EL 8	8	16	1.4	1.3	33.57	**242**
16 EL 6	6	16	1.5	1.7	33.57	**246**
22 EL 6	6	22	1.5	1.7	47.97	**270**
22 EL 4	4	22	2.2	2.3	47.97	**272**

P	●
M	●
K	●
N	
S	○
H	○
O	

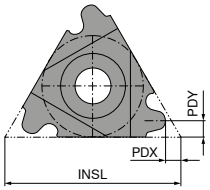
→ v_c Page 45

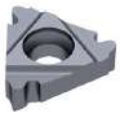
Right hand internal thread turning insert

▲ Full profile
▲ Round thread DIN 405

Rd | 30°

CCN20





IR
71 252 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
16 IR 10	10	16	1.1	1.2	33.57	**240**
16 IR 8	8	16	1.4	1.4	33.57	**242**
16 IR 6	6	16	1.4	1.5	33.57	**246**
22 IR 6	6	22	1.5	1.7	47.97	**270**
22 IR 4	4	22	2.2	2.3	47.97	**272**

P	●
M	●
K	●
N	
S	○
H	○
O	

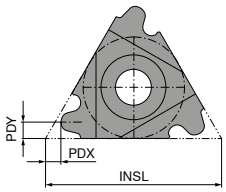
→ v_c Page 45

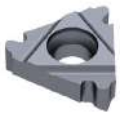
Left hand internal thread turning insert

▲ Full profile
▲ Round thread DIN 405

Rd | 30°

CCN20





IL
71 254 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
16 IL 10	10	16	1.1	1.2	33.57	**240**
16 IL 8	8	16	1.4	1.4	33.57	**242**
16 IL 6	6	16	1.4	1.5	33.57	**246**
22 IL 6	6	22	1.5	1.7	47.97	**270**
22 IL 4	4	22	2.2	2.3	47.97	**272**

P	●
M	●
K	●
N	
S	○
H	○
O	

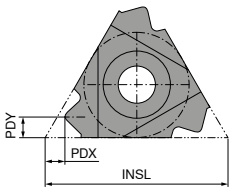
→ v_c Page 45

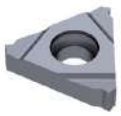
Right hand external thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20





ER
71 240 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
16 ER 20	20	16	0.8	0.8	33.57	**240**
16 ER 18	18	16	0.8	0.9	33.57	**242**
16 ER 16	16	16	0.8	1.0	33.57	**244**

P	●
M	●
K	●
N	
S	○
H	○
O	

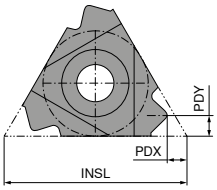
→ v_c Page 45

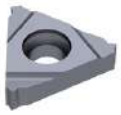
Left hand external thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20





EL
71 242 ...

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	£ X3	
16 EL 20	20	16	0.8	0.8	33.57	**240**
16 EL 18	18	16	0.8	0.9	33.57	**242**
16 EL 16	16	16	0.8	1.0	33.57	**244**

P	●
M	●
K	●
N	
S	○
H	○
O	

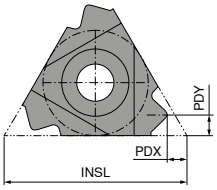
→ v_c Page 45

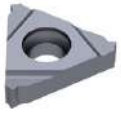
Right hand internal thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 244 ... £ X3	
11 IR 18	18	11	0.8	0.9	33.57	**238**
16 IR 18	18	16	0.8	0.9	33.57	**242**
16 IR 16	16	16	0.8	1.0	33.57	**244**

P	●
M	●
K	●
N	
S	○
H	○
O	

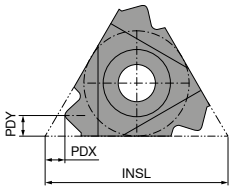
→ v_c Page 45

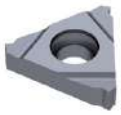
Left hand internal thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20





Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 246 ... £ X3	
11 IL 18	18	11	0.8	0.9	33.57	**238**
16 IL 18	18	16	0.8	0.9	33.57	**242**
16 IL 16	16	16	0.8	1.0	33.57	**244**

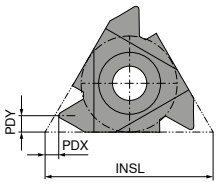
P	●
M	●
K	●
N	
S	○
H	○
O	

→ v_c Page 45

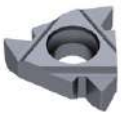
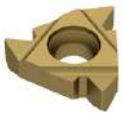
8

Right hand external thread turning insert

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



CCN20 | CWN1525 | HCN2525 | CCN7525

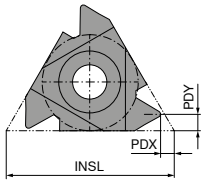
Designation	TP mm	INSL mm	PDX mm	PDY mm	ER 71 206 ... £ X3		ER 71 206 ... £ X3		ER 71 206 ... £ X3		ER 71 206 ... £ X3	
16 ER A60	0,5 - 1,5	16	0.8	0.9	30.41	**240**	20.82	**140**	22.60	**740**	22.60	**940**
16 ER AG60	0,5 - 3	16	1.2	1.7	30.41	**244**	20.30	**144**	21.91	**744**	21.91	**944**
16 ER G60	1,75 - 3	16	1.2	1.7	30.41	**242**	22.28	**142**	24.72	**742**	24.72	**942**
22 EN U60	5,5 - 8	22	0.9	11.0	42.01	**272** [1]						
22 ER N60	3,5 - 5	22	1.7	2.5	42.01	**270**	37.82	**170**				
P					●		●		○		●	
M					●		○		●		●	
K					●		●		○		●	
N							●		○			
S					○				○		●	
H					○				○		○	
O							○					

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

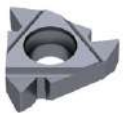
→ v_c Page 45

Left hand external thread turning insert

▲ Partial profile



CCN20



Designation	TP mm	INSL mm	PDX mm	PDY mm	EL 71 208 ... £ X3	
16 EL A60	0,5 - 1,5	16	0.8	0.9	30.41	**240**
16 EL AG60	0,5 - 3	16	1.2	1.7	30.41	**244**
16 EL G60	1,75 - 3	16	1.2	1.7	30.41	**242**
22 EL N60	3,5 - 5	22	1.7	2.5	42.01	**270**
P						●
M						●
K						●
N						
S						○
H						○
O						

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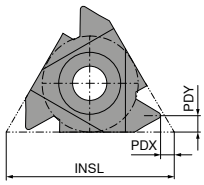
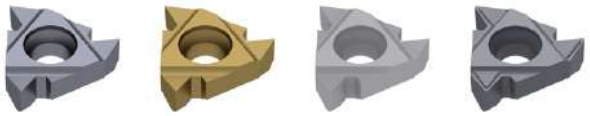
Right hand internal thread turning insert

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



CCN20 | CWN1525 | HCN2525 | CCN7525



Designation	TP mm	INSL mm	PDX mm	PDY mm	IR 71 210 ... £ X3		IR 71 210 ... £ X3		IR 71 210 ... £ X3		IR 71 210 ... £ X3	
11 IR A60	0,5 - 1,5	11	0.8	0.9	30.41	**210**	21.00	**110**				
16 IR A60	0,5 - 1,5	16	0.8	0.9	30.41	**240**	27.52	**140**				
16 IR AG60	0,5 - 3	16	1.2	1.7	30.41	**244**	21.58	**144**	23.18	**744**	23.18	**944**
16 IR G60	1,75 - 3	16	1.2	1.7	30.41	**242**	22.28	**142**				
22 IN U60	5,5 - 8	22	0.9	11.0	42.01	**272** [1)]						
22 IR N60	3,5 - 5	22	1.7	2.5	42.01	**270**	36.33	**170**				
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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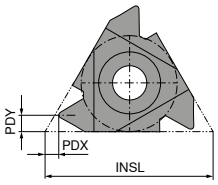
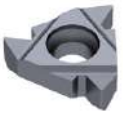
8

Left hand internal thread turning insert

▲ Partial profile



CCN20

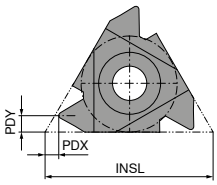


Designation	TP mm	INSL mm	PDX mm	PDY mm	IL 71 212 ... £ X3	
11 IL A60	0,5 - 1,5	11	0.8	0.9	30.41	**210**
16 IL A60	0,5 - 1,5	16	0.8	0.9	30.41	**240**
16 IL AG60	0,5 - 3	16	1.2	1.7	30.41	**244**
16 IL G60	1,75 - 3	16	1.2	1.7	30.41	**242**
22 IL N60	3,5 - 5	22	1.7	2.5	42.01	**270**
P						●
M						●
K						●
N						
S						○
H						○
O						

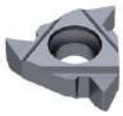
→ v_c Page 45

Right hand external thread turning insert

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



CCN20 | CWN1525 | HCN2525 | CCN7525



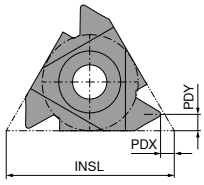

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	ER 71 200 ... £ X3		ER 71 200 ... £ X3		ER 71 200 ... £ X3		ER 71 200 ... £ X3	
16 ER A55	48 - 16	16	0.8	0.9	30.41	**240**	24.63	**140**	26.25	**740**	26.25	**940**
16 ER AG55	48 - 8	16	1.2	1.7	30.41	**244**	22.28	**144**	24.72	**744**	24.72	**944**
16 ER G55	14 - 8	16	1.2	1.7	30.41	**242**	24.63	**142**	27.12	**742**	27.12	**942**
22 ER N55	7 - 5	22	1.7	2.5	42.01	**270**	43.82	**170**	47.44	**770**		
22 EN U55	4,5 - 3,25	22	0.9	11.0	42.01	**272** [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.

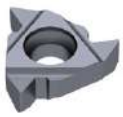
→ v_c Page 45

Left hand external thread turning insert

▲ Partial profile



CCN20

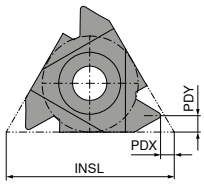


Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	EL 71 202 ... £ X3	
16 EL A55	48 - 16	16	0.8	0.9	30.41	**240**
16 EL AG55	48 - 8	16	1.2	1.7	30.41	**244**
16 EL G55	14 - 8	16	1.2	1.7	30.41	**242**
22 EL N55	7 - 5	22	1.7	2.5	42.01	**270**
P						●
M						●
K						●
N						
S						○
H						○
O						

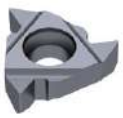
→ v_c Page 45

Right hand internal thread turning insert

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



CCN20 | CWN1525 | CCN7525



Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 204 ... £ X3		IR 71 204 ... £ X3		IR 71 204 ... £ X3	
11 IR A55	48 - 16	11	0.8	0.9	30.41	**210**				
16 IR A55	48 - 16	16	0.8	0.9	30.41	**240**				
16 IR AG55	48 - 8	16	1.2	1.7	30.41	**244**				
16 IR G55	14 - 8	16	1.2	1.7	30.41	**242**	24.63	**142**	27.12	**942**
22 IN U55	4,5 - 3,25	22	0.9	11.0	42.01	**272** [1)]				
22 IR N55	7 - 5	22	1.7	2.5	42.01	**270**				
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

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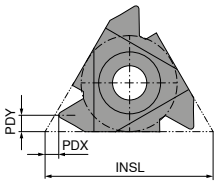
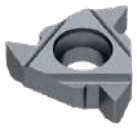
Left hand internal thread turning insert

▲ Partial profile



CCN20

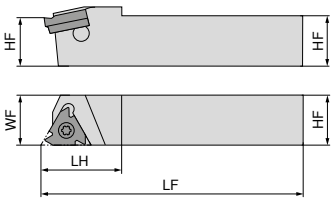


Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IL 71 203 ... £ X3	
11 IL A55	48 - 16	11	0.8	0.9	28.12	**210**
16 IL A55	48 - 16	16	0.8	0.9	28.12	**240**
16 IL AG55	48 - 8	16	1.2	1.7	28.12	**244**
16 IL G55	14 - 8	16	1.2	1.7	28.12	**242**
22 IL N55	7 - 5	22	1.7	2.5	39.55	**270**
P						●
M						●
K						●
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

ISO designation	HF mm	WF mm	LF mm	LH mm	Insert	torque moment Nm	Left-hand 71 281 ... £ Y2		Right-hand 71 280 ... £ Y2	
SE R/L 08 08 H11	8	11	100	16	11 ..	1,3	135.55	**908** [2]	135.55	**908** [2]
SE R/L 10 10 H11	10	12	100	18	11 ..	1,3	135.55	**910** [2]	135.55	**910** [2]
SE R/L 12 12 K11	12	12	125	20	11 ..	1,3	135.55	**912** [2]	135.55	**912** [2]
SE R/L 12 12 F16	12	16	80	22	16 ..	3,5	135.55	**012**	135.55	**012**
SE R/L 16 16 H16	16	16	100	25	16 ..	3,5	166.85	**016**	166.85	**016**
SE R/L 20 20 K16	20	20	125	30	16 ..	3,5	166.85	**020**	166.85	**020**
SE R/L 25 25 M16	25	25	150	30	16 ..	3,5	190.42	**025**	190.42	**025**
SE R/L 32 32 P16	32	32	170	30	16 ..	3,5	209.27	**032**	209.27	**032**
SE R/L 25 25 M22	25	25	150	32	22 ..	10	209.27	**125**	209.27	**125**
SE R 32 32 P22	32	32	170	34	22 ..	10			218.69	**132**
SE R 32 32 P22U	32	21	170	32	22 .N	10			218.69	**232** [1]

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


Multi tooth shim


Shim


Screw-U


Key D

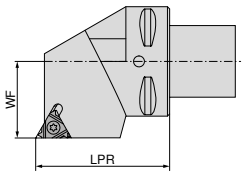

Clamping screw

Spare parts for Article no.		71 950 ... £ Y2			71 950 ... £ Y2		71 950 ... £ Y2			80 950 ... £ Y7		71 950 ... £ Y2	
71 280 908 / 71 281 908									T08	13.09	**110**	2.58	**230**
71 280 910 / 71 281 910									T08	13.09	**110**	2.58	**230**
71 280 912 / 71 281 912									T08	13.09	**110**	2.58	**230**
71 280 012	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 281 012	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 280 016	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 281 016	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 280 020	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 281 020	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 280 025	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 281 025	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 280 032	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 281 032	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 280 125				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 281 125				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 280 132				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 280 232				ER 22U / IL 22U	28.25	**153**	3.10	**235**	T20	16.66	**114**	3.10	**232**

Shims for correction of helix angle see page → **Page 43.**

External threading holder

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



Illustrations show right-hand versions

ISO designation	Adapter	LPR mm	WF mm	Insert	torque moment Nm	Left-hand 84 191 ... £ Y8		Right-hand 84 190 ... £ Y8	
PSC40 SE R/L 27050-16.IK	PSC 40	50	27	16 ..	3,5	463.78	**412**	463.78	**412**
PSC40 SE R/L 27050-22.IK	PSC 40	50	27	22 ..	10	463.78	**422**	463.78	**422**
PSC50 SE R/L 35060-16.IK	PSC 50	60	35	16 ..	3,5	511.78	**512**	511.78	**512**
PSC50 SE R/L 35060-22.IK	PSC 50	60	35	22 ..	10	511.78	**522**	511.78	**522**
PSC63 SE R/L 45065-16.IK	PSC 63	65	45	16 ..	3,5	587.44	**612**	587.44	**612**
PSC63 SE R/L 45065-22.IK	PSC 63	65	45	22 ..	10	587.44	**622**	587.44	**622**
PSC80 SE R/L 55080-22.IK	PSC 80	80	55	22 ..	10	620.17	**822**	620.17	**822**


Multi tooth shim


Shim


Screw-U


Key D


Clamping screw

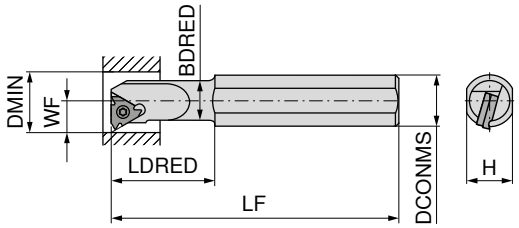
Spare parts for Article no.		71 950 ... £ Y2			71 950 ... £ Y2		71 950 ... £ Y2			80 950 ... £ Y7		71 950 ... £ Y2	
84 190 412	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
84 191 412	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
84 190 422				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 191 422				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 190 512	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
84 191 512	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
84 190 522				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 191 522				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 190 612	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
84 191 612	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
84 190 622				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 191 622				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 190 822				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
84 191 822				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**

Shims for correction of helix angle see page → **Page 43.**

8

Standard Internal Thread Turning Holder

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



Illustrations show right-hand versions

ISO designation	H mm	LF mm	LDRED mm	DCONMS mm	BDRED mm	WF mm	DMIN mm	Insert	torque moment Nm	Left-hand 71 283 ... £ Y2		Right-hand 71 282 ... £ Y2	
SI R 0010 H11	9.0	100	25	10	9.5	7.4	12	11 ..	1,3			190.42	**011** 1)
SI R/L 0010 K11	14.0	125	25	16	10.0	7.4	12	11 ..	1,3	146.10	**010** 1)	146.10	**010** 1)
SI R 0013 L11	14.0	140	32	16	12.0	8.9	15	11 ..	1,3			156.49	**013** 1)
SI R/L 0013 M16	14.0	150	32	16	13.0	10.2	16	16 ..	3,5	159.12	**015** 1)	159.12	**015** 1)
SI R/L 0016 P16	18.0	170	40	20	15.0	11.7	19	16 ..	3,5	159.12	**016** 1)	159.12	**016** 1)
SI R/L 0020 P16	18.0	170	40	20	19.5	13.7	24	16 ..	3,5	187.59	**020**	187.59	**020**
SI R 0025 R16	22.6	200	40	25	24.5	16.2	29	16 ..	3,5			228.11	**026**
SI R/L 0032 S16	28.8	250	50	32	31.5	19.7	36	16 ..	3,5	245.08	**032**	245.08	**032**
SI R 0040 T16	36.0	300	50	40	39.5	23.7	44	16 ..	3,5			363.86	**040**
SI R 0020 P22	18.0	170	40	20	19.5	15.6	24	22 ..	10			177.43	**120** 1)
SI R/L 0025 R22	22.6	200	40	25	24.5	18.1	29	22 ..	10	228.11	**126**	228.11	**126**
SI R 0032 S22	28.8	250	50	32	31.5	21.6	38	22 ..	10			252.62	**132**
SI R 0040 T22	36.0	300	60	40	39.5	25.6	46	22 ..	10			373.28	**140**
SI R 0032 S22U	28.8	250	60	32	31.5	24.4	38	22 .N	10			223.23	**133** 2)

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


Multi tooth shim


Shim


Screw-U


Key D

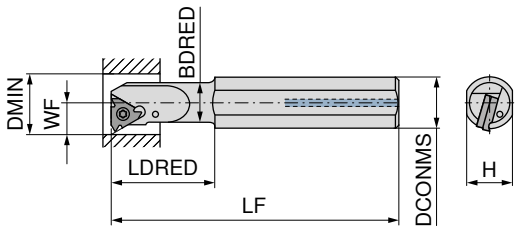

Clamping screw

Spare parts for Article no.		71 950 ... £ Y2			71 950 ... £ Y2		71 950 ... £ Y2			80 950 ... £ Y7		71 950 ... £ Y2	
71 282 011									T08	13.09	**110**	2.58	**230**
71 282 010 / 71 283 010									T08	13.09	**110**	2.58	**230**
71 282 013									T08	13.09	**110**	2.58	**230**
71 282 015 / 71 283 015									T10	15.30	**112**	2.84	**236**
71 282 016 / 71 283 016									T10	15.30	**112**	2.84	**236**
71 282 020	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 283 020	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 282 026	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 282 032	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 283 032	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 282 040	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 282 120							2.50	**234**	T20	16.66	**114**	3.05	**237**
71 282 126				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 283 126				ER 22 / IL 22	28.25	**137**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 282 132				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 282 140				EL 22 / IR 22	28.25	**145**	3.10	**235**	T20	16.66	**114**	3.10	**232**
71 282 133				AL 22U / IR 22U	28.25	**161**	3.10	**235**	T20	16.66	**114**	3.10	**232**

Shims for correction of helix angle see page → **Page 43.**

Standard Internal Thread Turning Holder with thro' coolant

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



Illustrations show right-hand versions

ISO designation	H mm	LF mm	LDRED mm	DCONMS mm	BDRED mm	WF mm	DMIN mm	Insert	torque moment Nm	Left-hand 71 283 ... £ Y2		Right-hand 71 282 ... £ Y2	
SI R 0010 M11CB	9.0	150	25	10	9.5	7.4	12	11 ..	1,3			597.61	**510** [2]
SI R 0012 P11CB	11.0	170	30	12	11.5	8.4	15	11 ..	1,3			635.34	**512** [2]
SI R/L 0010 K11B	14.0	125	25	16	10.0	7.4	12	11 ..	1,3	174.94	**310**	174.94	**310**
SI R/L 0013 M16B	14.0	150	32	16	13.0	10.2	16	16 ..	3,5	190.42	**315**	190.42	**315**
SI R 0016 P16B	18.0	170	40	20	16.0	11.7	19	16 ..	3,5			190.42	**316**
SI R 0020 P16B	18.0	170	40	20	19.5	13.7	24	16 ..	3,5			224.31	**320** [1]
SI R/L 0032 S16B	28.8	250	50	32	31.5	19.7	36	16 ..	3,5	277.12	**332** [1]	277.12	**332** [1]

1) with shim seat
2) Carbide version


Multi tooth shim


Shim

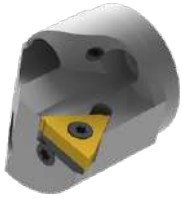

Screw-U


Key D


Clamping screw

Spare parts for Article no.		71 950 ... £ Y2			71 950 ... £ Y2		71 950 ... £ Y2			80 950 ... £ Y7		71 950 ... £ Y2	
71 282 510									T08	13.09	**110**	2.58	**230**
71 282 512									T08	13.09	**110**	2.58	**230**
71 282 310 / 71 283 310									T08	13.09	**110**	2.58	**230**
71 282 315 / 71 283 315									T10	15.30	**112**	2.84	**236**
71 282 316									T10	15.30	**112**	2.84	**236**
71 282 320	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 282 332	EL 16 / IR 16	21.81	**108**	EL 16 / IR 16	17.72	**129**	2.50	**234**	T10	15.30	**112**	1.84	**231**
71 283 332	ER 16 / IL 16	21.81	**101**	ER 16 / IL 16	17.72	**121**	2.50	**234**	T10	15.30	**112**	1.84	**231**

Shims for correction of helix angle see page → **Page 43.**



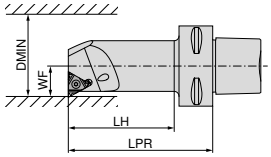
Have you seen our new exchangeable head system?

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

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



Illustrations show right-hand versions

								Left-hand		Right-hand	
								84 197 ...		84 196 ...	
ISO designation	Adapter	WF mm	LPR mm	LH mm	DMIN mm	Insert	torque moment Nm	£ Y8		£ Y8	
PSC40 SI R/L 12060-16.IK	PSC 40	12	60	37	20	16 ..	3,5	647.89	410	647.89	410
PSC40 SI R/L 14060-16.IK	PSC 40	14	60	38	25	16 ..	3,5	647.89	412	647.89	412
PSC40 SI R/L 17070-16.IK	PSC 40	17	70	48	32	16 ..	3,5	647.89	414	647.89	414
PSC40 SI R/L 22090-16.IK	PSC 40	22	90	69	40	16 ..	3,5	647.89	416	647.89	416
PSC40 SI R/L 27080-16.IK	PSC 40	27	80	60	50	16 ..	3,5	647.89	418	647.89	418
PSC40 SI R/L 15065-22.IK	PSC 40	15	65	42	25	22 ..	10	647.89	420	647.89	420
PSC40 SI R/L 19070-22.IK	PSC 40	19	70	48	32	22 ..	10	647.89	422	647.89	422
PSC40 SI R/L 22090-22.IK	PSC 40	22	90	69	40	22 ..	10	647.89	424	647.89	424
PSC40 SI R/L 27080-22.IK	PSC 40	27	80	60	50	22 ..	10	647.89	426	647.89	426
PSC50 SI R/L 12060-16.IK	PSC 50	12	60	35	20	16 ..	3,5	721.01	510	721.01	510
PSC50 SI R/L 14060-16.IK	PSC 50	14	60	36	25	16 ..	3,5	721.01	512	721.01	512
PSC50 SI R/L 17070-16.IK	PSC 50	17	70	47	32	16 ..	3,5	721.01	514	721.01	514
PSC50 SI R/L 22090-16.IK	PSC 50	22	90	68	40	16 ..	3,5	721.01	516	721.01	516
PSC50 SI R/L 27105-16.IK	PSC 50	27	105	84	50	16 ..	3,5	721.01	518	721.01	518
PSC50 SI R/L 15065-22.IK	PSC 50	15	65	41	25	22 ..	10	721.01	520	721.01	520
PSC50 SI R/L 19070-22.IK	PSC 50	19	70	47	32	22 ..	10	721.01	522	721.01	522
PSC50 SI R/L 22090-22.IK	PSC 50	22	90	68	40	22 ..	10	721.01	524	721.01	524
PSC50 SI R/L 27105-22.IK	PSC 50	27	105	84	50	22 ..	10	721.01	526	721.01	526
PSC63 SI R/L 14070-16.IK	PSC 63	14	70	42	25	16 ..	3,5	829.41	610	829.41	610
PSC63 SI R/L 17075-16.IK	PSC 63	17	75	48	32	16 ..	3,5	829.41	612	829.41	612
PSC63 SI R/L 22090-16.IK	PSC 63	22	90	64	40	16 ..	3,5	829.41	614	829.41	614
PSC63 SI R/L 27105-16.IK	PSC 63	27	105	80	50	16 ..	3,5	829.41	616	829.41	616
PSC63 SI R/L 19075-22.IK	PSC 63	19	75	48	32	22 ..	10	829.41	620	829.41	620
PSC63 SI R/L 22090-22.IK	PSC 63	22	90	64	40	22 ..	10	829.41	622	829.41	622
PSC63 SI R/L 27105-22.IK	PSC 63	27	105	80	50	22 ..	10	829.41	624	829.41	624


Multi tooth shim


Shim

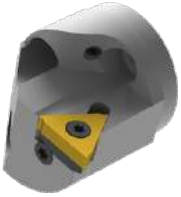

Screw-U


Key D


Clamping screw

			71 950 ...			71 950 ...		71 950 ...		80 950 ...		71 950 ...	
Spare parts Insert	Version		£ Y2			£ Y2		£ Y2			£ Y7		£ Y2	
16 ..	Right-hand	EL 16 / IR 16	21.81	108	EL 16 / IR 16	17.72	129	2.50	234	T10	15.30	112	1.84	231
16 ..	Left-hand	ER 16 / IL 16	21.81	101	ER 16 / IL 16	17.72	121	2.50	234	T10	15.30	112	1.84	231
22 ..	Left-hand				ER 22 / IL 22	28.25	137	3.10	235	T20	16.66	114	3.10	232
22 ..	Right-hand				EL 22 / IR 22	28.25	145	3.10	235	T20	16.66	114	3.10	232

Shims for correction of helix angle see page → **Page 43.**



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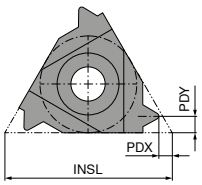
Right hand internal thread turning insert – Mini size 06

▲ Full profile
▲ Thread production from diameter 6 mm

M | 60°



CCN1525 | CCN2520


Designation	TP mm	PDX mm	PDY mm	INSL mm	IR 71 271 ... £ X3		IR 71 224 ... £ X3	
06 IR 0,5	0.50	0.9	0.5	6	28.95	**110**	33.75	**35700**
06 IR 0,75	0.75	0.8	0.5	6	28.95	**112**	33.75	**36100**
06 IR 1,0	1.00	0.7	0.6	6	28.95	**114**	31.75	**36500**
06 IR 1,25	1.25	0.6	0.6	6	28.95	**116**	33.75	**36700**

P	●	○
M	●	●
K	●	○
N	○	
S		●
H		○
O	○	

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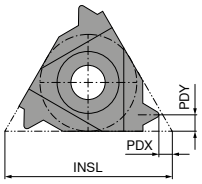
8

Right hand internal thread turning insert – Mini size 06

▲ Full profile
▲ Thread production from diameter 6 mm

BSW | 55°



CCN1525 | CCN2520


Designation	TPI 1/"	PDX mm	PDY mm	INSL mm	IR 71 230 ... £ X3		IR 71 230 ... £ X3	
06 IR 26	26	0.7	0.6	6	28.95	**13500**	33.75	**33500**
06 IR 22	22	0.6	0.6	6	28.95	**13100**	33.75	**33100**
06 IR 20	20	0.6	0.7	6	28.95	**12900**	33.75	**32900**
06 IR 18	18	0.6	0.7	6	28.95	**12500**	33.75	**32500**

P	●	○
M	●	●
K	●	○
N	○	
S		●
H		○
O	○	

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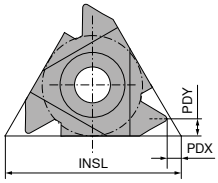
Right hand internal thread turning insert – Mini size 06

▲ Partial profile
▲ Thread production from diameter 6 mm



CCN1525 | CCN2520

Designation	TP mm	INSL mm	PDX mm	PDY mm	IR 71 274 ... £ X3		IR 71 272 ... £ X3	
06 IR A60	0,5 - 1,25	6	0.6	0.6	28.95	**210**	33.75	**30000**
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

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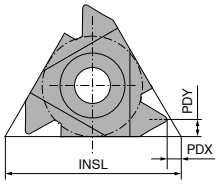
Right hand internal thread turning insert – Mini size 06

▲ Partial profile
▲ Thread production from diameter 6 mm



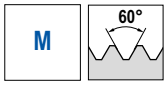
CCN1525 | CCN2520

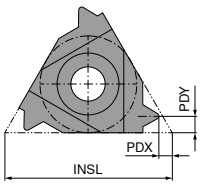
Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 272 ... £ X3		IR 71 272 ... £ X3	
06 IR A55	48 - 20	6	0.5	0.6	28.95	**10100**	33.75	**30100**
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

→ v_c Page 45

Right hand internal thread turning insert – Mini size 08

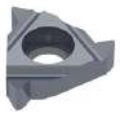
▲ Full profile
▲ Thread production from diameter 8 mm





CCN1525

CCN2520



Designation	TP mm	PDX mm	PDY mm	INSL mm	IR 71 224 ... £ X3		IR 71 224 ... £ X3	
08 IR 0,5	0.50	0.6	0.5	8	33.75	**14300**	33.75	**34300**
08 IR 0,75	0.75	0.6	0.5	8	33.75	**13700**	33.75	**33700**
08 IR 1,0	1.00	0.6	0.6	8	33.75	**13300**	31.75	**33300**
08 IR 1,25	1.25	0.6	0.7	8	33.75	**13100**	33.75	**33100**
08 IR 1,5	1.50	0.6	0.7	8	33.75	**12900**	31.75	**32900**
08 IR 1,75	1.75	0.6	0.8	8	33.75	**12700**	33.75	**32700**
08 IN 2,0	2.00	0.9	4.0	8	33.75	**12500** [1]	40.38	**32500** [1]
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

1) Neutral version (N)

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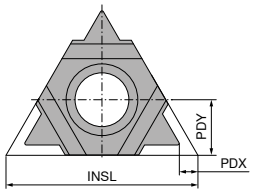
8

Neutral internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



CCN1525

CCN2520

Designation	TP mm	INSL mm	PDX mm	PDY mm	IN 71 273 ... £ X3		IN 71 273 ... £ X3	
08 IN M60	1,75 - 2,0	8	0.8	4	33.75	**10800**	40.38	**30800**
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

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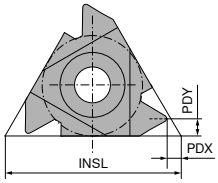
Right hand internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



CCN1525 CCN2520

Designation	TP mm	PDX mm	PDY mm	INSL mm	IR 71 272 ... £ X3		IR 71 272 ... £ X3	
08 IR A60	0,5 - 1,25	0.6	0.6	8	33.75	**10600**		
08 IR A60	0,5 - 1,5	0.6	0.7	8			33.75	**30600**
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

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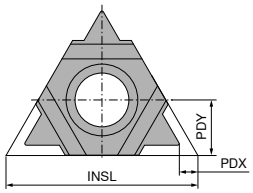
Neutral internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



CCN1525 CCN2520

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IN 71 273 ... £ X3		IN 71 273 ... £ X3	
08 IN M55	14 - 11	8	0.9	4	33.75	**10900**	40.38	**30900**
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

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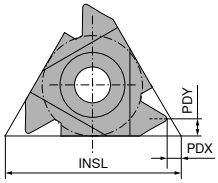
Right hand internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8 mm



CCN1525

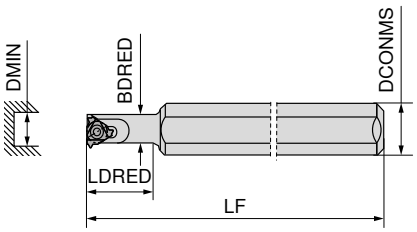
CCN2520

Designation	TPI 1/"	INSL mm	PDX mm	PDY mm	IR 71 272 ... £ X3		IR 71 272 ... £ X3	
08 IR A55	48 - 16	8	0.6	0.7	33.75	**10700**	33.75	**30700**
P					●		○	
M					●		●	
K					●		○	
N					○			
S							●	
H							○	
O					○			

→ v_c Page 45

8

Right Hand Internal Thread Holder – Mini size 06



ISO designation	LF mm	LDRED mm	DCONMS mm	BDRED mm	DMIN mm	Insert	torque moment Nm	Right-hand 71 282 ... £ Y2	
SI R 0005 H06	100	12	12	5.1	6	06 ..	0,6	242.13	**00500**
SI R 0005 H06 C	100	26	6	5.1	6	06 ..	0,6	431.72	**10500**[1]

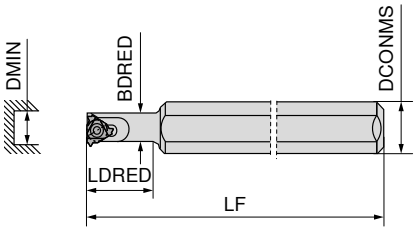
1) Solid Carbide Shank with Thro' Coolant


Key D


Clamping screw

Spare parts for Article no.		80 950 ... £ Y7		71 950 ... £ Y2	
71 282 00500	T06	14.16	**108**	2.36	**23800**
71 282 10500	T06	14.16	**108**	2.36	**23800**

Right Hand Internal Thread Holder – Mini size 08



ISO designation	LF mm	LDRED mm	DCONMS mm	BDRED mm	DMIN mm	Insert	torque moment Nm	Right-hand 71 282 ... £ Y2	
SI R 0007 K08	125	18	16	6.6	7.8	08 ..	0,6	242.13	**00700**
SI R 0008 K08U	125	21	16	7.3	9.0	08 .N	0,6	275.57	**00800**[1]
SI R 0007 K08CB	125	31	8	6.6	7.8	08 ..	0,6	489.95	**10700**[2]

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


Key D


Clamping screw

Spare parts for Article no.		80 950 ... £ Y7		71 950 ... £ Y2	
71 282 00700	T06	14.16	**108**	2.49	**23900**
71 282 00800	T06	14.16	**108**	2.49	**23900**
71 282 10700	T06	14.16	**108**	2.49	**23900**

Shims for Standard Threading Inserts

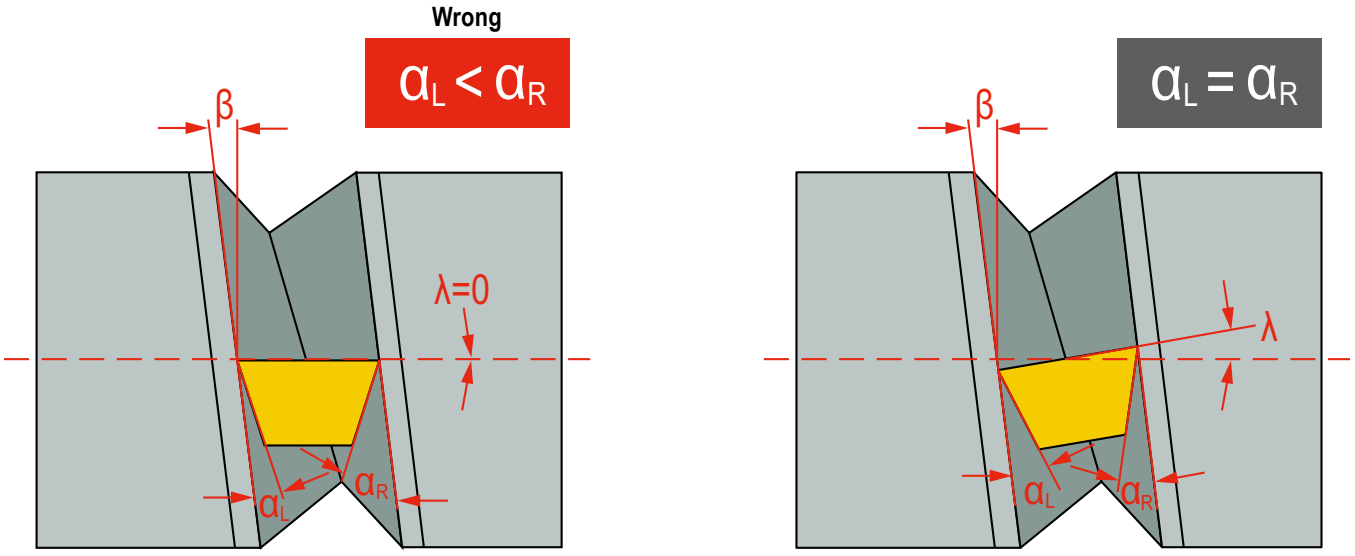
▲ Use the formula on **page 47** to calculate the required correction angle α (±).
▲ Then find the corresponding correction plate below.

Pitch-angle β	Correction angle α	AE 16 ER 16 / IL 16 71 950 ... £ Y2		AI 16 EL 16 / IR 16 71 950 ... £ Y2		AE 22 ER 22 / IL 22 71 950 ... £ Y2		AI 22 EL 22 / IR 22 71 950 ... £ Y2		AE 22 U ER 22 / IL 22 71 950 ... £ Y2		AI 22 U EL 22 / IR 22 71 950 ... £ Y2		AE 16 M ER 16 / IL 16 71 950 ... £ Y2		AI 16 M EL 16 / IR 16 71 950 ... £ Y2	
+ 4,5°	+ 3°	17.21	118	17.21	126	27.42	134	27.42	142	28.25	150 [1]	28.25	158 [1]				
+ 3,5°	+ 2°	17.21	119	17.21	127	27.42	135	27.42	143	28.25	151 [1]	28.25	159 [1]				
+ 2,5°	+ 1°	17.21	120	17.21	128	27.42	136	27.42	144	28.25	152 [1]	28.25	160 [1]				
+ 1,5°	0°	17.72	121	17.72	129	28.25	137	28.25	145	28.25	153 [1]	28.25	161 [1]	21.81	101	21.81	108
+ 0,5°	- 1°	17.21	122	17.21	130	27.42	138	27.42	146	28.25	154 [1]	28.25	162 [1]				
0°	- 1,5°	17.21	123	17.21	131	27.42	139	27.42	147								
- 0,5°	- 2°	17.21	124	17.21	132	27.42	140	27.42	148	28.25	156 [1]	28.25	164 [1]				
- 1,5°	- 3°	17.21	125	17.21	133	27.42	141	27.42	149	28.25	157 [1]	28.25	165 [1]				

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

Flank clearance angle and effective approach angle

The angle of inclination λ of the cutting edges, in concert with the thread approach angle β ensures an equal rake angle and side clearance angle on both thread flanks.



α = Side clearance angle
λ = Pitch angle
β = An effective angle of inclination is achieved by using a suitable insert seat

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

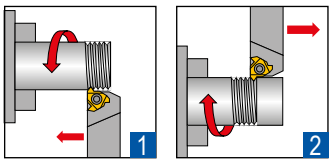
Index	CCN1525 Mini	CCN2520 Mini	CWN1525	HCN2525	CCN7525	CCN20	CWK20
	v_c (m/min)						
P.1.1	**80**	120	**120**	120	**120**	**120**	
P.1.2	**80**	120	**120**	120	**120**	**120**	
P.1.3	**80**	120	**120**	120	**120**	**120**	
P.1.4	**80**	80	**80**	90	**80**	**80**	
P.1.5	**70**	80	**80**	90	**80**	**80**	
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.

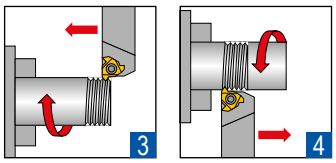
8

Thread turning methods

External right-hand thread

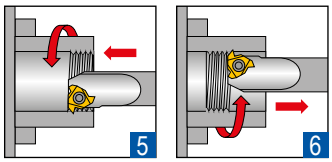


External left-hand thread

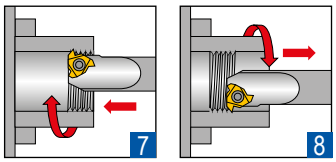


The machining examples 2, 4, 6 and 8 require negative shims!
These shims can be found on → **Page 43.**

Internal right-hand thread

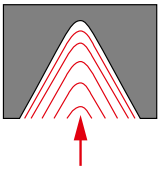


Internal left-hand thread



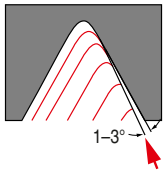
Thread infeed methods

Radial Infeed



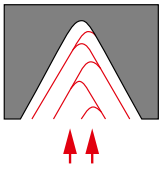
- for pitches less than 1.5 mm
- for short chipping materials
- for machining hardened materials
- simple and quick method

Flank infeed



- for pitches larger than 1.5 mm
- 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

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

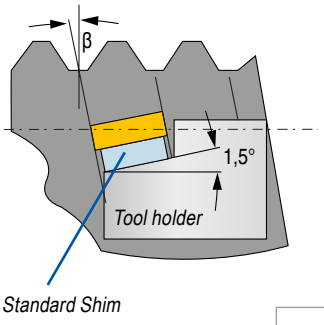
Calculating the helix angle β:

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

For trapezium:

$$\frac{\frac{30 \times TP}{2}}{DMIN}$$

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



Example calculation

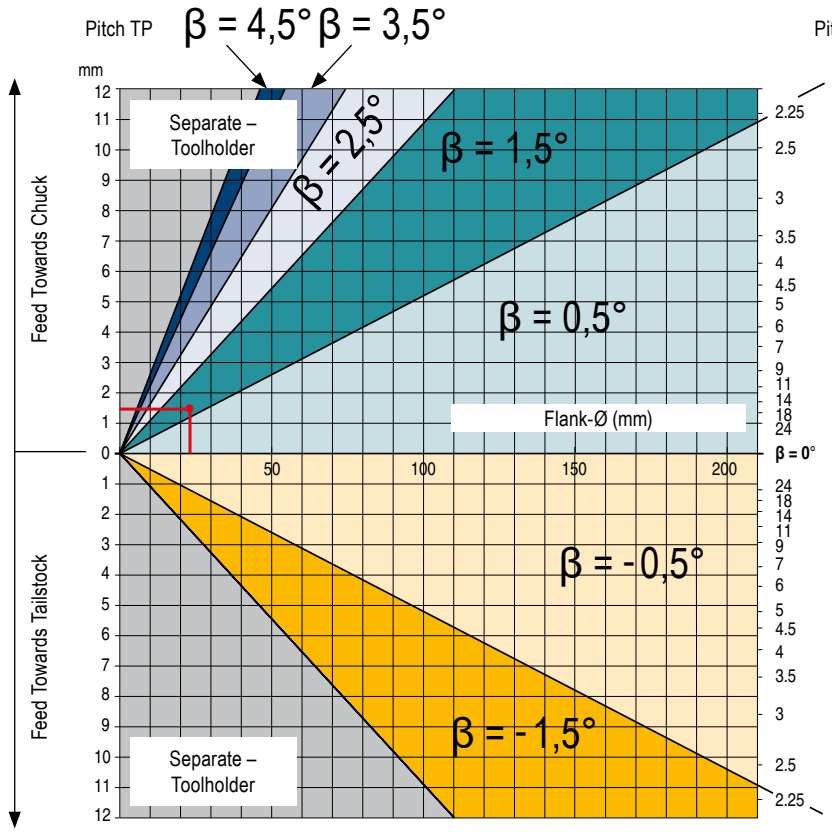
External thread M24 x 1.5
Feed towards chuck
DMIN = Nominal Ø: M24 = 24 mm
TP = Pitch: 1.5 mm

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

β = 1,25°

Method 2: Diagram

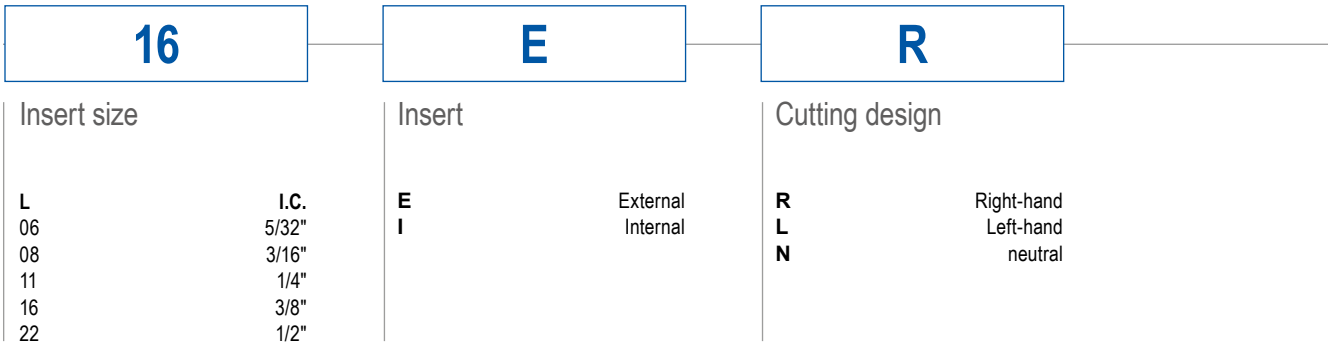
From the flank Ø in the diagram, a line is drawn vertically upwards until it intersects with the line of the pitch of the thread to be produced. In the color-coded region in which it is now, a horizontal line to the edge of the chart indicates the appropriate factor.



calculated pitch angle β value	Correction angle α
0,0°–0,49°	-1,5°
0,5°–0,99°	-1°
1,0°–1,99°	0°
2,0°–2,99°	+1°
3,0°–3,99°	+2°
4,0°–4,99°	+3°
0,0°–(-0,49°)	-2°
-0,5°–(-1,5°)	-3°

8

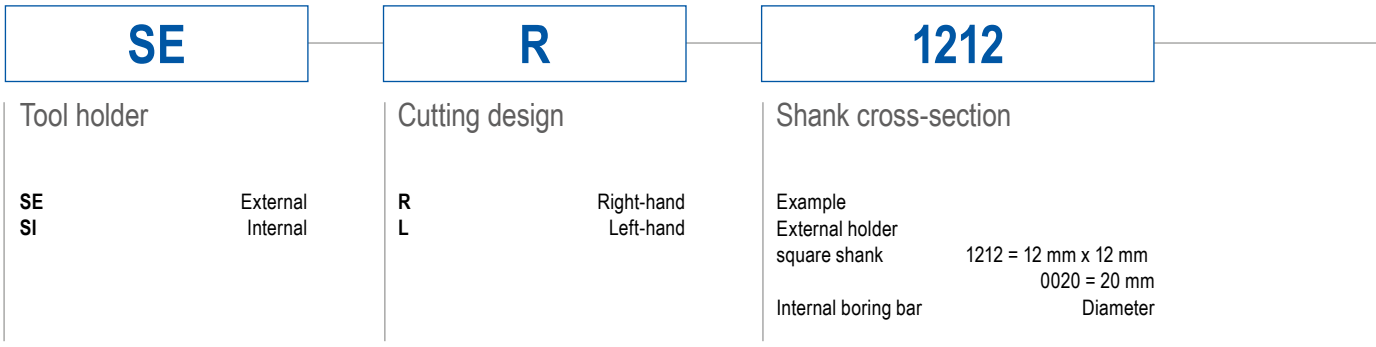
Designation key – indexable inserts



Example

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

Designation key – holders



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

AG 60

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

8

F

Overall length

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

16

Insert size

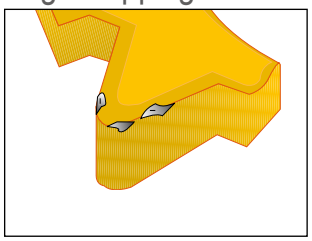
L	I.C.
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"

Properties

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

Troubleshooting

Edge chipping



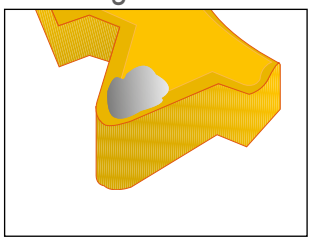
Cause

- Common in stainless materials
- Incorrect grade

Remedy

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

Cratering



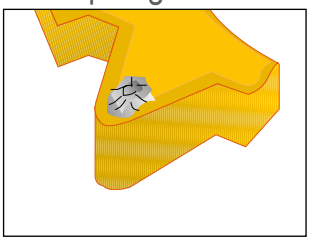
Cause

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

Remedy

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

Built-up edge



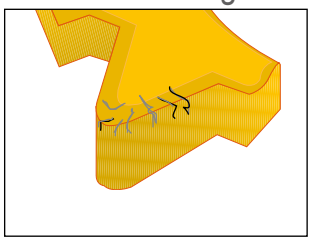
Cause

- Cutting speed too low
- Incorrect grade

Remedy

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

Thermal cracking



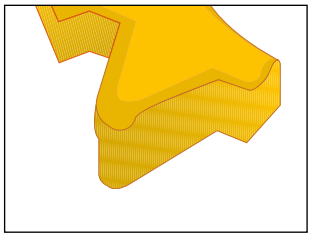
Cause

- Insufficient coolant
- Cutting speed too high
- Incorrect grade

Remedy

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

Plastic deformation



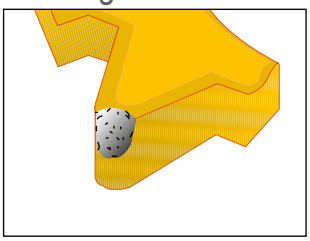
Cause

- 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

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

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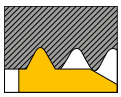
Profile Type Description

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