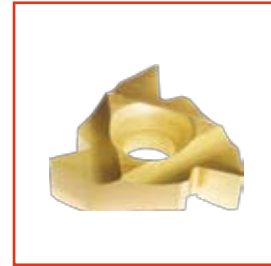


Gewindewerkzeuge *Threading Tools*

6



Fräswerkzeuge
Milling Tools

HDS-/VHM- Fräser
HDS-/ Solid Carbide
Endmills



Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools



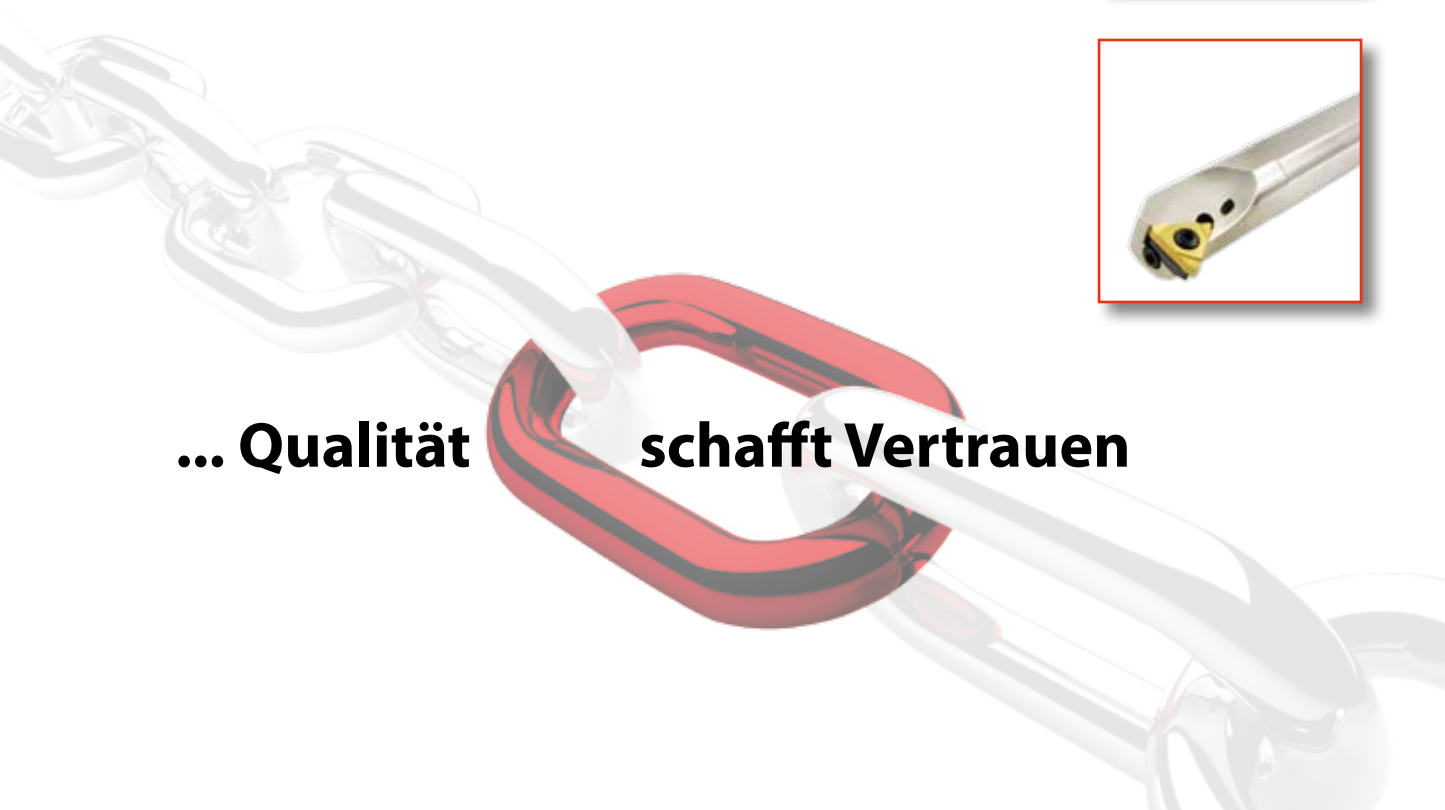
Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools

Gewinde-
werkzeuge
Threading Tools



Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

... Qualität schafft Vertrauen



Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stechdreh-
werkzeuge
Grooving Tools

Mini/Micro
Schneidwerkzeuge
Mini/Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendeplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

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Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools

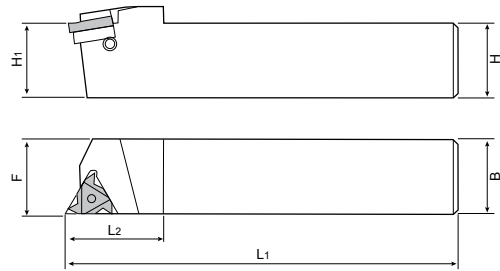
Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools

Gewinde-
werkzeuge
Threading tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

AL NL

zum Außen-Gewindedrehen / for External Threading



Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

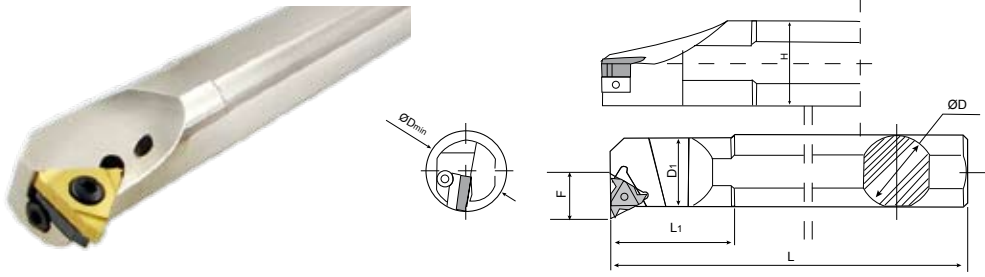
Stechdreh-
werkzeuge
Grooving Tools






Mini/Micro
Schneidwerkzeuge
Mini/Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Bezeichnung Part Number	Lager Stock	Bezeichnung Part Number	Lager Stock	Maße [mm] Dimensions					Ersatzteile Spare Parts					
				H ₁ = H=B	F	L ₁	L ₂							
NL 08 - 2	○	NL 08 - 2 LH	●	8	11	100	17	11 ER/EL	75.20.118	-	-	-	56.33.612	
NL 10 - 2	●	NL 10 - 2 LH	○	10	11	100	17							
NL 12 - 3	●	NL 12 - 3 LH	○	12	16	100	22	16 ER/EL	75.20.119	-	-	-	75.20.618	
AL 16 - 3	●	AL 16 - 3 LH	●	16	16	100	22							
AL 20 - 3	●	AL 20 - 3 LH	●	20	20	125	30							
AL 25 - 3	●	AL 25 - 3 LH	○	25	25	150	30							
AL 32 - 3	●	AL 32 - 3 LH	●	32	32	170	30							
AL 25 - 4	●	AL 25 - 4 LH	○	25	25	150	36	22 ER/EL	75.20.122	22 ER: 75.10.203 +1,5°(Standard) 22 EL: 75.20.202 +1,5°(Standard)	+4,5° +3,5° +2,5° Standard +0,5° -0,5° -1,5°	75.20.128	75.20.129	56.33.614
AL 32 - 4	○	AL 32 - 4 LH	●	32	32	170	36							
AL 40 - 4	●	AL 40 - 4 LH	○	40	40	200	36							
AL 25 - 5	○	AL 25 - 5 LH	○	25	25	150	36	27 ER/EL	75.20.124	27 ER: 75.10.204 +1,5°(Standard) 27 EL: 75.20.203 +1,5°(Standard)	+4,5° +3,5° +2,5° Standard +0,5° -0,5° -1,5°	75.20.127	56.33.613	
AL 32 - 5	○	AL 32 - 5 LH	●	32	32	170	40							
AL 40 - 5	○	AL 40 - 5 LH	○	40	40	200	40							

AVR NVR
zum Innen-Gewindedrehen / for Internal Threading


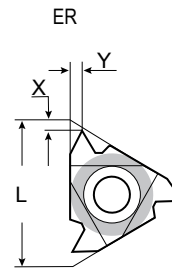
Bezeichnung Part Number	Lager Stock	Bezeichnung Part Number	Lager Stock	Maße [mm] Dimensions								Ersatzteile Spare Parts				
				D	D ₁	L	L ₁	F	D _{min}	H						
NVR 05 - 0	○	NVR 05 - 0 LH	○	12	5,1	100	12	4,3	6,0	11	06 IR/IL	75.20.102	-	-	75.20.621	
NVR 07 - 1	○	NVR 07 - 1 LH	●	16	6,6	125	18	5,3	7,8	14	08 IR/IL	75.20.101	-	-	75.20.621	
NVR 10 - 2 IK	●	NVR 10 - 2 IK LH	○	16	10	125	25	7,4	12	14	11 IR/IL	75.20.118	-	-	56.33.612	
NVR 10 D - 2	●	NVR 10 D - 2 LH	○	10	9,6	100	25	7,4	12	9						
NVR 12 - 2 E	○	NVR 12 - 2 E LH		12	12	170	-	8,4	15	11						
NVR 13 - 2 IK	●	NVR 13 - 2 IK LH	○	16	13	150	32	8,9	15	14						
NVR 13 - 3 IK	●	NVR 13 - 3 IK LH	○	16	13	150	32	10,2	16	14						
NVR 16 - 3 IK	●	NVR 16 - 3 IK LH	○	20	16	170	40	11,7	19	18		75.20.119	-	-		
NVR 16 - 3 E	○	NVR 16 - 3 E LH		16	16	200	-	11,7	19	14						
AVR 20 - 3 IK	●	AVR 20 - 3 IK LH	●	20	20	170	-	13,7	24	18	16 IR/IL	75.20.120	16 IR: 75.10.201 +1,5°(Standard) +4,5° +3,5° +2,5° Standard +0,5° -0,5° -1,5°	75.20.128	75.20.618	
AVR 20 - 3 E	○	AVR 20 - 3 E LH		20	20	250	-	13,7	23	18						
AVR 25 D - 3 IK	●	AVR 25 D - 3 IK LH	●	25	25	200	-	16,2	29	22,5						
AVR 32 - 3 IK	●	AVR 32 - 3 IK LH	●	32	32	250	-	19,7	36	29						
AVR 40 - 3	●	AVR 40 - 3 LH	●	40	40	300	-	23,7	44	36						
NVR 20 - 4	●	NVR 20 - 4 LH	○	20	20	170	-	15,6	24	18		75.20.121	-	-		
AVR 25 - 4 IK	●	AVR 25 - 4 IK LH	●	25	25	200	-	18,1	29	22,5	22 IR/IL	75.20.122	22 IR: 75.20.202 +1,5°(Standard) +4,5° +3,5° +2,5° Standard +0,5° -0,5° -1,5°	75.20.129	56.33.614	
AVR 32 - 4 IK	●	AVR 32 - 4 IK LH	○	32	32	250	-	21,5	39	29						
AVR 40 - 4	●	AVR 40 - 4 LH	○	40	40	300	-	25,6	46	36						
AVR 32 - 5	○	AVR 32 - 5 LH	○	32	32	250	-	22,6	40	29	27 IR/IL	75.20.124	27 IR: 75.20.203 +1,5°(Standard) +4,5° +3,5° +2,5° Standard +0,5° -0,5° -1,5°	75.20.127	75.20.622	
AVR 40 - 5	○	AVR 40 - 5 LH	○	40	40	300	-	26,6	48	36						
AVR 50 - 5	○	AVR 50 - 5 LH	○	50	50	350	-	31,6	58	45						
AVR 60 - 5	○	AVR 60 - 5 LH	○	60	60	400	-	36,6	68	54						

"E" = HM-Schaft mit Innenkühlung
Carbide Shank with Inner Coolant

"IK" = Innenkühlung
Inner Coolant

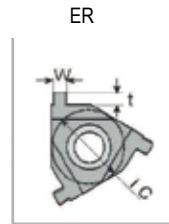
Außengewinde / External Thread „DP“

55° / 60°



Profile Profiles	Bezeichnung Part Number	Lager Stock TU 5125	Steigung Pitch mm /TPI	L mm	X mm	Y mm	
Teilprofil Partial Profile	60°	16 ER -T- A 60 - DP	●	0.5 - 1.5	16	0.8	0.9
		16 ER -T- G 60 - DP	●	1.75 - 3.0	16	1.2	1.7
		16 ER -T- AG 60 - DP	●	0.5 - 3.0	16	1.2	1.7
		22 ER -T- N 60 - DP	●	3.5 - 5.0	22	1.7	2.5
	55°	16 ER -T- A 55 - DP	●	48 - 16	16	0.8	0.9
		16 ER -T- G 55 - DP	●	14 - 8	16	1.2	1.7
		16 ER -T- AG 55 - DP	●	48 - 8	16	1.2	1.7
Vollprofil Full profile	ISO 60°	16 ER -V- ISO 1.00 - DP	●	1.00	16	0.7	0.7
		16 ER -V- ISO 1.25 - DP	●	1.25	16	0.8	0.9
		16 ER -V- ISO 1.50 - DP	●	1.50	16	0.8	1.0
		16 ER -V- ISO 1.75 - DP	●	1.75	16	0.9	1.2
		16 ER -V- ISO 2.00 - DP	●	2.00	16	1.0	1.3
		16 ER -V- ISO 2.50 - DP	●	2.50	16	1.1	1.5
		16 ER -V- ISO 3.00 - DP	●	3.00	16	1.2	1.6
	BSW 55°	16 ER -V- BSW 19 - DP	●	19	16	0.8	1.0
		16 ER -V- BSW 14 - DP	●	14	16	1.0	1.2
		16 ER -V- BSW 11 - DP	●	11	16	1.1	1.5
	NPT 60°	16 ER -V- NPT 18 - DP	●	18	16	0.8	1.0
		16 ER -V- NPT 14 - DP	●	14	16	0.9	1.2
		16 ER -V- NPT 11.5 - DP	●	11.5	16	1.1	1.5
	UN 60°	16 ER -V- UN 12 - DP	●	12	16	1.1	1.4
		16 ER -V- UN 16 - DP	●	16	16	0.9	1.1
		16 ER -V- UN 18 - DP	●	18	16	0.8	1.0
		16 ER -V- UN 20 - DP	●	20	16	0.8	0.9
	ISO 60°	22 ER -V- ISO 4.00 - DP	●	4.00	22	1.6	2.3
		22 ER -V- ISO 5.00 - DP	●	5.00	22	1.7	2.5
		22 ER -V- ISO 6.00 - DP	●	6.00	22	1.9	2.7

Präzisions-Einstecken Außen / Grooving External



Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools

Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools

Gewinde-
werkzeuge
Threading tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Bezeichnung Part Number	Lager Stock	Bezeichnung Part Number	Lager Stock	IC	L	W <small>+0,05 +0,10</small>	t <small>±0,10</small>
Rechte WSP RH Inserts	TU 5330	Linke WSP LH Inserts	TU 5330	mm	mm	mm	mm
60° außen / external		60° außen / external					
16 ER -1.10- T1.30	●	16 EL -1.10- T1.30	○			1.10	1.30
16 ER -1.30- T1.50	●	16 EL -1.30- T1.30	○			1.30	1.50
16 ER -1.60- T1.85	●	16 EL -1.60- T1.85	○	9.525 (3/8")	16	1.60	1.85
16 ER -1.85- T2.00	●	16 EL -1.85- T2.00	○			1.85	2.00
16 ER -2.15- T2.50	●	16 EL -2.15- T2.50	○			2.15	2.25

Set Präzisions - Einstecken Grooving

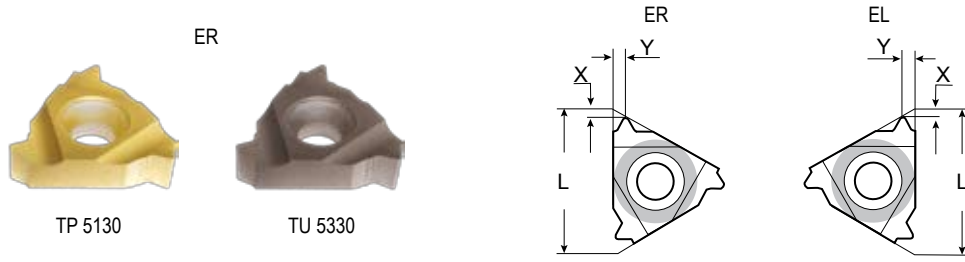


16ER 1.10-2.15/TU 5330

bestehend aus:
consisting of:
je 2 Stechplatten in den Breiten
each 2 grooving inserts in size
1.10, 1.30, 1.60, 1.85, 2.15 mm

Außengewinde / External Thread

Teilprofil 60° Partial Profile 60°



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch mm	L mm	X mm	Y mm
	TP 5130	TU 5330		Linke WSP LH Inserts	TP 5130				
60° außen / external			60° außen / external						
11 ER -T- A 60	○		11 EL -T- A 60			0.5-1.5	11	0.8	0.9
16 ER -T- A 60	●		16 EL -T- A 60	○		0.5-1.5	16	0.8	0.9
16 ER -T- G 60	●		16 EL -T- G 60	●		1.75-3.0	16	1.2	1.7
16 ER -T- AG 60	●	●	16 EL -T- AG 60	●		0.5-3.0	16	1.2	1.7
22 ER -T- N 60	●		22 EL -T- N 60			3.5-5.0	22	1.7	2.5
27 ER -T- Q 60			27 EL -T- Q 60			5.5-6.0	27	2.1	3.1

Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stechdreh-
werkzeuge
Grooving Tools

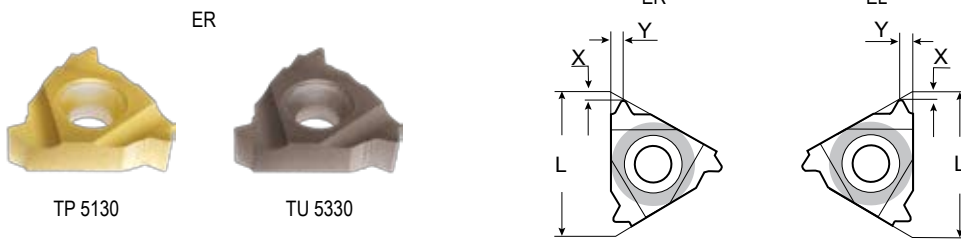
Mini/Micro
Schneidwerkzeuge
Mini/Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Außengewinde / External Thread

Teilprofil 55° Partial Profile 55°



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			mm	mm	mm	mm
55° außen / external			55° außen / external						
11 ER -T- A 55	○		11 EL -T- A 55			48 - 16	11	0.8	0.9
16 ER -T- A 55	●		16 EL -T- A 55	●		48 - 16	16	0.8	0.9
16 ER -T- G 55	●		16 EL -T- G 55	○		14 - 8	16	1.2	1.7
16 ER -T- AG 55	●		16 EL -T- AG 55	●		48 - 168	16	1.2	1.7
22 ER -T- N 55	●		22 EL -T- N 55			7 - 5	22	1.7	2.5
27 ER -T- Q 55			27 EL -T- Q 55			4.5 - 4	27	2.0	2.9

Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools

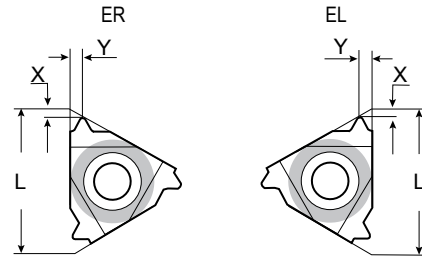
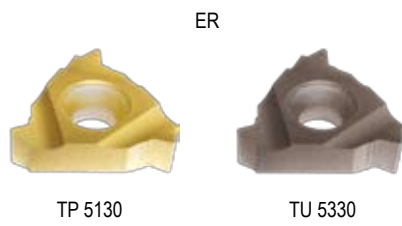
Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Außengewinde / External Thread

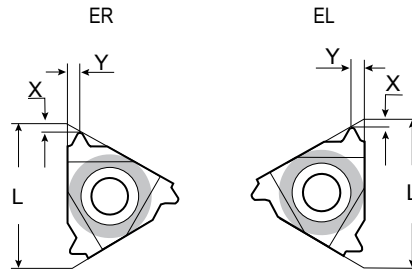
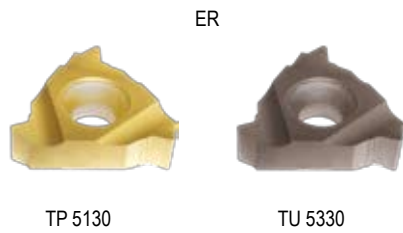
Vollprofil ISO 60° Full Profile ISO 60°



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch mm	L mm	X mm	Y mm
	TP 5130	TU 5330		TP 5130	TU 5330				
11 ER - V - ISO 0.35			11 EL - V - ISO 0.35			0.35		0.8	0.4
11 ER - V - ISO 0.4			11 EL - V - ISO 0.4			0.4		0.7	0.4
11 ER - V - ISO 0.45			11 EL - V - ISO 0.45			0.45		0.7	0.4
11 ER - V - ISO 0.5	○		11 EL - V - ISO 0.5			0.5		0.6	0.6
11 ER - V - ISO 0.6	○		11 EL - V - ISO 0.6			0.6		0.6	0.6
11 ER - V - ISO 0.7	○		11 EL - V - ISO 0.7			0.7		0.6	0.6
11 ER - V - ISO 0.75	○		11 EL - V - ISO 0.75			0.75	11	0.6	0.6
11 ER - V - ISO 0.8	○		11 EL - V - ISO 0.8			0.8		0.6	0.6
11 ER - V - ISO 1.0	●		11 EL - V - ISO 1.0			1.0		0.7	0.7
11 ER - V - ISO 1.25	○		11 EL - V - ISO 1.25			1.25		0.8	0.9
11 ER - V - ISO 1.5	●		11 EL - V - ISO 1.5			1.5		0.8	1.0
11 ER - V - ISO 1.75	○		11 EL - V - ISO 1.75			1.75		0.8	1.1
16 ER - V - ISO 0.35			16 EL - V - ISO 0.35			0.35		0.8	0.4
16 ER - V - ISO 0.4			16 EL - V - ISO 0.4			0.4		0.7	0.4
16 ER - V - ISO 0.45			16 EL - V - ISO 0.45			0.45		0.7	0.4
16 ER - V - ISO 0.5	●		16 EL - V - ISO 0.5	●		0.5		0.6	0.6
16 ER - V - ISO 0.6	○		16 EL - V - ISO 0.6			0.6		0.6	0.6
16 ER - V - ISO 0.7	●		16 EL - V - ISO 0.7			0.7		0.6	0.6
16 ER - V - ISO 0.75	●	●	16 EL - V - ISO 0.75	●		0.75		0.6	0.6
16 ER - V - ISO 0.8	●	●	16 EL - V - ISO 0.8			0.8	16	0.6	0.6
16 ER - V - ISO 1.0	●	●	16 EL - V - ISO 1.0	●		1.0		0.7	0.7
16 ER - V - ISO 1.25	●	●	16 EL - V - ISO 1.25	●		1.25		0.8	0.9
16 ER - V - ISO 1.5	●	●	16 EL - V - ISO 1.5	●		1.5		0.8	1.0
16 ER - V - ISO 1.75	●	●	16 EL - V - ISO 1.75	●		1.75		0.9	1.2
16 ER - V - ISO 2.0	●	●	16 EL - V - ISO 2.0	●		2.0		1.0	1.3
16 ER - V - ISO 2.5	●	●	16 EL - V - ISO 2.5	●		2.5		1.1	1.5
16 ER - V - ISO 3.0	●	●	16 EL - V - ISO 3.0	●		3.0		1.2	1.6
16 ER - V - ISO 3.5	●	●	16 EL - V - ISO 3.5			3.5		1.2	1.7
22 ER - V - ISO 3.5	●		22 EL - V - ISO 3.5			3.5		1.6	2.3
22 ER - V - ISO 4.0	●		22 EL - V - ISO 4.0			4.0		1.6	2.3
22 ER - V - ISO 4.5	●		22 EL - V - ISO 4.5			4.5		1.7	2.4
22 ER - V - ISO 5.0	●		22 EL - V - ISO 5.0			5.0	22	1.7	2.5
22 ER - V - ISO 5.5	●		22 EL - V - ISO 5.5			5.5		1.7	2.6
22 ER - V - ISO 6.0	●		22 EL - V - ISO 6.0			6.0		1.9	2.7
27 ER - V - ISO 5.5	○		27 EL - V - ISO 5.5			5.5	27	1.9	2.7
27 ER - V - ISO 6.0	○		27 EL - V - ISO 6.0			6.0		2.0	2.9

Außengewinde / External Thread

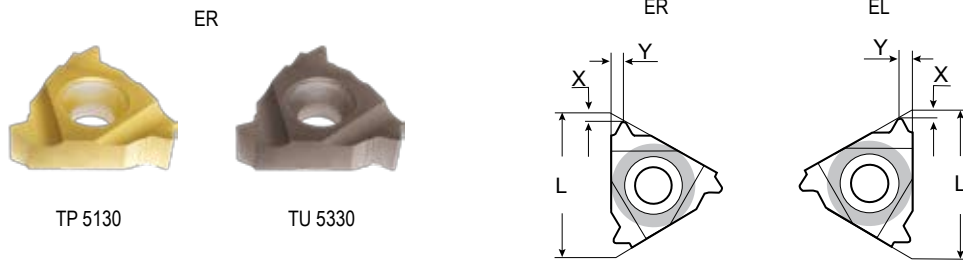
Vollprofil 55° Full Profile 55°
BSW, BSF, BSP, BSB, Whitworth



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
11 ER - V - BSW 40			11 EL - V - BSW 40			40		0.6	0.6
11 ER - V - BSW 36			11 EL - V - BSW 36			36		0.6	0.6
11 ER - V - BSW 32	○		11 EL - V - BSW 32			32		0.6	0.6
11 ER - V - BSW 28	○		11 EL - V - BSW 28			28		0.6	0.7
11 ER - V - BSW 26	○		11 EL - V - BSW 26			26		0.7	0.8
11 ER - V - BSW 24	○		11 EL - V - BSW 24			24		0.7	0.8
11 ER - V - BSW 22	○		11 EL - V - BSW 22			22	11	0.8	0.9
11 ER - V - BSW 20	○		11 EL - V - BSW 20			20		0.8	0.9
11 ER - V - BSW 19	○		11 EL - V - BSW 19			19		0.8	1.0
11 ER - V - BSW 18	○		11 EL - V - BSW 18			18		0.8	1.0
11 ER - V - BSW 16	○		11 EL - V - BSW 16			16		0.9	1.1
11 ER - V - BSW 14	○		11 EL - V - BSW 14			14		1.0	1.2
16 ER - V - BSW 40			16 EL - V - BSW 40			40		0.6	0.6
16 ER - V - BSW 36			16 EL - V - BSW 36			36		0.6	0.6
16 ER - V - BSW 32	○		16 EL - V - BSW 32			32		0.6	0.6
16 ER - V - BSW 28	●		16 EL - V - BSW 28			28		0.6	0.7
16 ER - V - BSW 26	○		16 EL - V - BSW 26			26		0.7	0.8
16 ER - V - BSW 24	○		16 EL - V - BSW 24			24		0.7	0.8
16 ER - V - BSW 22	○		16 EL - V - BSW 22			22		0.8	0.9
16 ER - V - BSW 20	○		16 EL - V - BSW 20			20		0.8	0.9
16 ER - V - BSW 19	●	●	16 EL - V - BSW 19	●		19	16	0.8	1.0
16 ER - V - BSW 18	●		16 EL - V - BSW 18			18		0.8	1.0
16 ER - V - BSW 16	●		16 EL - V - BSW 16			16		0.9	1.1
16 ER - V - BSW 14	●	●	16 EL - V - BSW 14	●		14		1.0	1.2
16 ER - V - BSW 12	●		16 EL - V - BSW 12			12		1.1	1.4
16 ER - V - BSW 11	●	●	16 EL - V - BSW 11	●		11		1.1	1.5
16 ER - V - BSW 10	●		16 EL - V - BSW 10			10		1.1	1.5
16 ER - V - BSW 9	●		16 EL - V - BSW 9			9		1.2	1.7
16 ER - V - BSW 8	●		16 EL - V - BSW 8			8		1.2	1.5
22 ER - V - BSW 7	○	○	22 EL - V - BSW 7			7		1.6	2.3
22 ER - V - BSW 6	○	○	22 EL - V - BSW 6			6	22	1.6	2.3
22 ER - V - BSW 5	○	○	22 EL - V - BSW 5			5		1.7	2.4
27 ER - V - BSW 4.5			27 EL - V - BSW 4.5			4.5		1.8	2.6
27 ER - V - BSW 4			27 EL - V - BSW 4			4	27	2.0	2.9

Außengewinde / External Thread

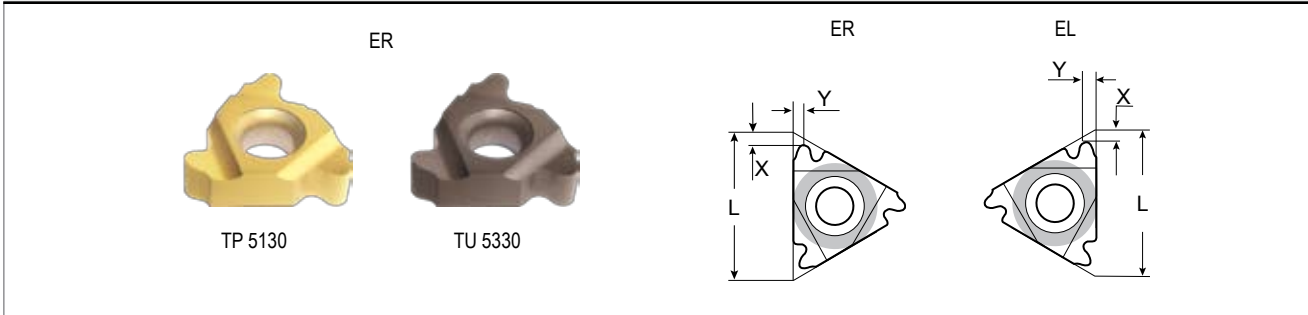
Vollprofil 60° Full Profile 60°
UN, UNC, UNEF, UNS



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
11 ER - V - UN 40			11 EL - V - UN 40			40		0.6	0.6
11 ER - V - UN 36			11 EL - V - UN 36			36		0.6	0.6
11 ER - V - UN 32	○		11 EL - V - UN 32			32		0.6	0.6
11 ER - V - UN 28	○		11 EL - V - UN 28			28		0.6	0.7
11 ER - V - UN 27	○		11 EL - V - UN 27			27	11	0.7	0.8
11 ER - V - UN 24	○		11 EL - V - UN 24			24		0.7	0.8
11 ER - V - UN 20	○		11 EL - V - UN 20			20		0.8	0.9
11 ER - V - UN 18	○		11 EL - V - UN 18			18		0.8	1.0
11 ER - V - UN 16	○		11 EL - V - UN 16			16		0.9	1.1
11 ER - V - UN 14	○		11 EL - V - UN 14			14		0.9	1.1
16 ER - V - UN 40	○		16 EL - V - UN 40			40		0.6	0.6
16 ER - V - UN 36	○		16 EL - V - UN 36			36		0.6	0.6
16 ER - V - UN 32	○		16 EL - V - UN 32			32		0.6	0.6
16 ER - V - UN 28	○		16 EL - V - UN 28			28		0.6	0.7
16 ER - V - UN 27	○		16 EL - V - UN 27			27		0.7	0.8
16 ER - V - UN 24	○		16 EL - V - UN 24			24		0.7	0.8
16 ER - V - UN 20	○		16 EL - V - UN 20			20		0.8	0.9
16 ER - V - UN 18	○		16 EL - V - UN 18			18	16	0.8	1.0
16 ER - V - UN 16	○		16 EL - V - UN 16			16		0.9	1.1
16 ER - V - UN 14	○		16 EL - V - UN 14			14		1.0	1.2
16 ER - V - UN 13	○		16 EL - V - UN 13			13		1.0	1.3
16 ER - V - UN 12	○		16 EL - V - UN 12			12		1.1	1.4
16 ER - V - UN 11	○		16 EL - V - UN 11			11		1.1	1.5
16 ER - V - UN 10	○		16 EL - V - UN 10			10		1.1	1.5
16 ER - V - UN 9	○		16 EL - V - UN 9			9		1.2	1.7
16 ER - V - UN 8	○		16 EL - V - UN 8			8		1.2	1.6
22 ER - V - UN 7	○		22 EL - V - UN 7			7		1.6	2.3
22 ER - V - UN 6	○		22 EL - V - UN 6			6	22	1.6	2.3
22 ER - V - UN 5	○		22 EL - V - UN 5			5		1.7	2.5
27 ER - V - UN 4.5			27 EL - V - UN 4.5			4.5	27	1.9	2.7
27 ER - V - UN 4			27 EL - V - UN 4			4		2.1	3.0

Außengewinde / External Thread

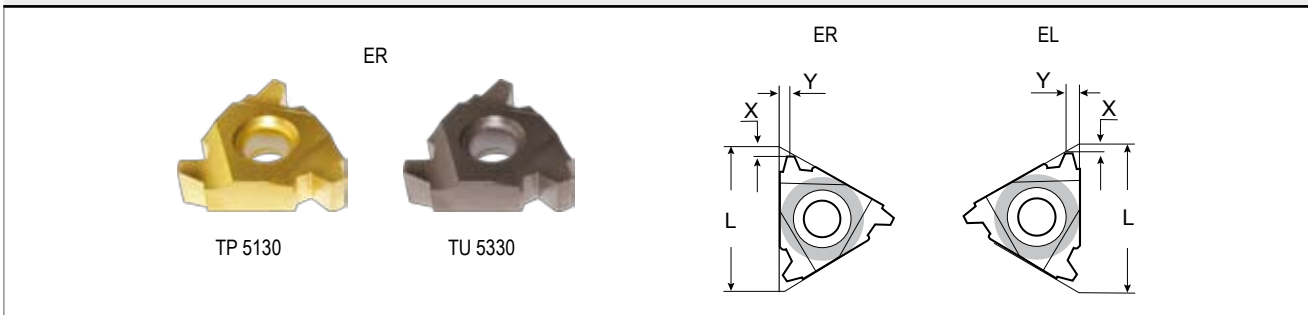
Vollprofil RD DIN 405 Full Profile RD DIN 405



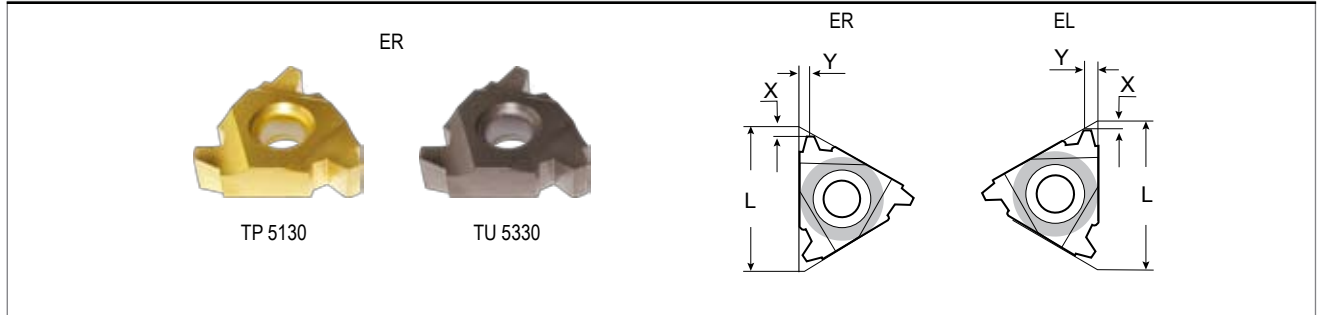
Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts	TP 5130	TU 5330	Linke WSP LH Inserts	TP 5130	TU 5330	TPI	mm	mm	mm
16 ER -V- RD 405/10	○		16 EL -V- RD 405/10			10		1.1	1.2
16 ER -V- RD 405/8	○		16 EL -V- RD 405/8			8	16	1.4	1.3
16 ER -V- RD 405/6	●		16 EL -V- RD 405/6			6		1.5	1.7
22 ER -V- RD 405/6	●		22 EL -V- RD 405/6			6	22	1.5	1.7
22 ER -V- RD 405/4	●		22 EL -V- RD 405/4			4		2.2	2.3
27 ER -V- RD 405/4			27 EL -V- RD 405/4			4	27	2.3	2.3

Außengewinde / External Thread

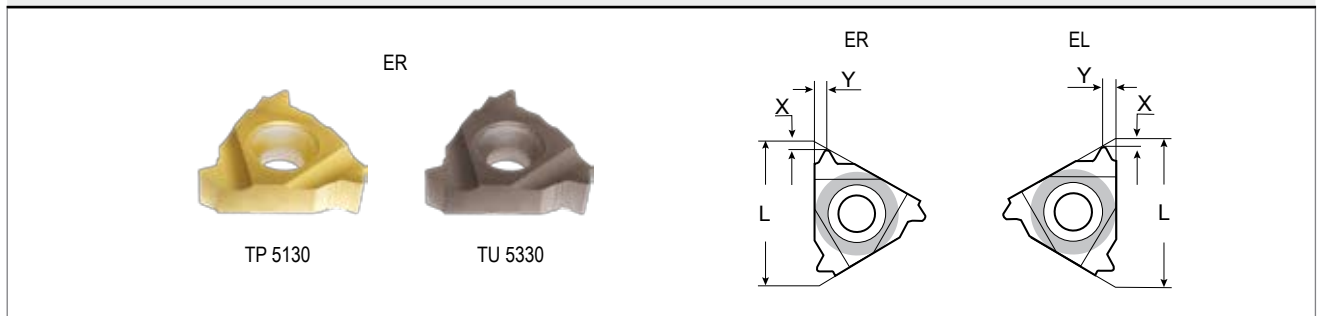
Vollprofil TR DIN 103 Full Profile TR DIN 103



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts	TP 5130	TU 5330	Linke WSP LH Inserts	TP 5130	TU 5330	mm	mm	mm	mm
11 ER -V- TR 103/1.5			11 EL -V- TR 103/1.5			1.5	11	0.8	0.9
16 ER -V- TR 103/1.5	○		16 EL -V- TR 103/1.5			1.5		1.0	1.1
16 ER -V- TR 103/2	●		16 EL -V- TR 103/2			2	16	1.0	1.3
16 ER -V- TR 103/3	●		16 EL -V- TR 103/3			3		1.3	1.5
22 ER -V- TR 103/4	●		22 EL -V- TR 103/4			4		1.7	1.9
22 ER -V- TR 103/5	●		22 EL -V- TR 103/5			5	22	2.1	2.5
22 ER -V- TR 103/6	●		22 EL -V- TR 103/6			6		2.3	2.7
27 ER -V- TR 103/6			27 EL -V- TR 103/6			6	27	2.3	2.7

Außengewinde / External Thread
Vollprofil ACME Full Profile ACME


Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
11 ER - V - ACME 16	○		11 EL - V - ACME 16			16	11	0.9	1.0
16 ER - V - ACME 16	○		16 EL - V - ACME 16			16		1.0	1.1
16 ER - V - ACME 14	○		16 EL - V - ACME 14			14		1.0	1.2
16 ER - V - ACME 12	○		16 EL - V - ACME 12			12	16	1.1	1.2
16 ER - V - ACME 10	○		16 EL - V - ACME 10			10		1.3	1.3
16 ER - V - ACME 8	○		16 EL - V - ACME 8			8		1.5	1.5
22 ER - V - ACME 6			22 EL - V - ACME 6			6	22	1.8	2.1
22 ER - V - ACME 5			22 EL - V - ACME 5			5		2.0	2.3
27 ER - V - ACME 4			27 EL - V - ACME 4			4	27	2.7	2.7

Außengewinde / External Thread
Vollprofil NPT 60° Full Profile NPT 60°


Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
11 ER - V - NPT 27	○		11 EL - V - NPT 27			27		0.7	0.8
11 ER - V - NPT 18	○		11 EL - V - NPT 18			18	11	0.8	1.0
11 ER - V - NPT 14	○		11 EL - V - NPT 14			14		0.8	1.0
16 ER - V - NPT 27	○		16 EL - V - NPT 27			27		0.7	0.8
16 ER - V - NPT 18	○		16 EL - V - NPT 18			18		0.8	1.0
16 ER - V - NPT 14	○		16 EL - V - NPT 14			14	16	0.9	1.2
16 ER - V - NPT 11.5	○		16 EL - V - NPT 11.5			11.5		1.1	1.5
16 ER - V - NPT 8	○		16 EL - V - NPT 8			8		1.3	1.8



Innengewinde / Internal Thread „DP“

55° / 60°

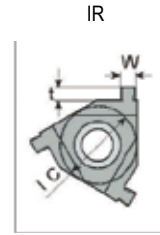


TU 5125

Profile Profiles	Bezeichnung Part Number	Lager Stock TU 5125	Steigung Pitch mm / TPI	L mm	X mm	Y mm		
Teilprofil Partial Profile	60°	11 IR -T- A 60 -DP	●	0.5 - 1.5	11	0.8	0.9	
		16 IR -T- A 60 -DP	●	0.5 - 1.5	16	0.8	0.9	
		16 IR -T- G 60 -DP	●	1.75 - 3.0	16	1.2	1.7	
		16 IR -T- AG 60 -DP	●	0.5 - 3.0	16	1.2	1.7	
		22 IR -T- N 60 -DP	●	3.5 - 5.0	22	1.7	2.5	
	55°	16 IR -T- A 55 -DP	●	48 - 16	16	0.8	0.9	
		16 IR -T- G 55 -DP	●	14 - 8	16	1.2	1.7	
		16 IR -T- AG 55 -DP	●	48 - 8	16	1.2	1.7	
	Vollprofil Full profile	ISO 60°	11 IR -V- ISO 1.00 -DP	●	1.00	11	0.6	0.7
			11 IR -V- ISO 1.25 -DP	●	1.25	11	0.8	0.9
11 IR -V- ISO 1.50 -DP			●	1.50	11	0.8	1.0	
16 IR -V- ISO 1.00 -DP			●	1.00	16	0.6	0.7	
16 IR -V- ISO 1.25 -DP			●	1.25	16	0.8	0.9	
16 IR -V- ISO 1.50 -DP			●	1.50	16	0.8	1.0	
16 IR -V- ISO 1.75 -DP			●	1.75	16	0.9	1.2	
16 IR -V- ISO 2.00 -DP			●	2.00	16	1.0	1.3	
16 IR -V- ISO 2.50 -DP			●	2.50	16	1.1	1.5	
16 IR -V- ISO 3.00 -DP			●	3.00	16	1.1	1.5	
BSW 55°			16 IR -V- BSW 19 -DP	●	19	16	0.8	1.0
			16 IR -V- BSW 14 -DP	●	14	16	1.0	1.2
			16 IR -V- BSW 12 -DP	●	12	16	1.1	1.4
			16 IR -V- BSW 11 -DP	●	11	16	1.1	1.5
NPT 60°		16 IR -V- NPT 18 -DP	●	18	16	0.8	1.0	
		16 IR -V- NPT 14 -DP	●	14	16	0.9	1.2	
		16 IR -V- NPT 11.5 -DP	●	11.50	16	1.1	1.5	
UN 60°		16 IR -V- UN 12 -DP	●	12	16	1.1	1.4	
		16 IR -V- UN 16 -DP	●	16	16	0.9	1.1	
		16 IR -V- UN 18 -DP	●	18	16	0.8	1.0	
		16 IR -V- UN 20 -DP	●	20	16	0.8	0.9	
ISO 60°		22 IR -V- ISO 3.50 -DP	●	3.50	22	1.6	2.3	
		22 IR -V- ISO 4.00 -DP	●	4.00	22	1.6	2.3	
		22 IR -V- ISO 5.00 -DP	●	5.00	22	1.6	2.3	
		22 IR -V- ISO 6.00 -DP	●	6.00	22	1.6	2.4	

- Drehen
Turning
- Fräswerkzeuge
Milling Tools
- HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills
- Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools
- Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools
- Gewinde-
werkzeuge
Threading tools
- Wendelplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Präzisions-Einstecken Innen / Grooving Internal



Bezeichnung Part Number	Lager Stock	Bezeichnung Part Number	Lager Stock	IC	L	W +0,05 +0,10	t ±0,10
Rechte WSP RH Inserts	TU 5330	Linke WSP LH Inserts	TU 5330	mm	mm	mm	mm
60° innen / internal		60° innen / internal					
16 IR -1.10- T1.30	●	16 IL -1.10- T1.30	○			1.10	1.30
16 IR -1.30- T1.30	●	16 IL -1.30- T1.30	○			1.30	1.50
16 IR -1.60- T1.85	●	16 IL -1.60- T1.85	○	9.525 (3/8")	16	1.60	1.85
16 IR -1.85- T2.00	●	16 IL -1.85- T2.00	○			1.85	2.00
16 IR -2.15- T2.50	●	16 IL -2.15- T2.50	○			2.15	2.25

Set Präzisions - Einstecken Grooving



16IR 1.10-2.15/TU 5330

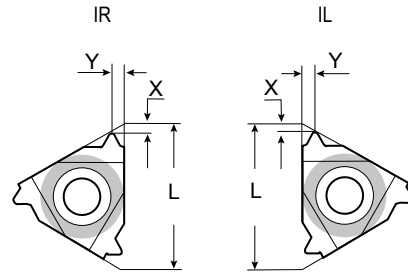
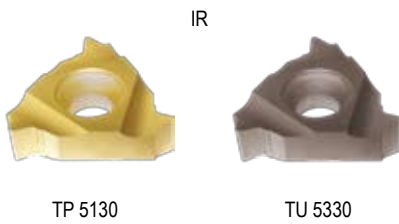
bestehend aus:

consisting of:

je 2 Stechplatten in den Breiten
each 2 grooving inserts in size
1.10, 1.30, 1.60, 1.85, 2.15 mm

Innengewinde / Internal Thread

Teilprofil 60° Partial Profile 60°



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts	TP 5130	TU 5330	Linke WSP LH Inserts	TP 5130	TU 5330	mm	mm	mm	mm
60° innen / internal			60° innen / internal						
06 IR -T- A 60	○		06 IL -T- A 60			0.5 - 1.25	6	0.6	0.6
08 IR -T- A 60	○		08 IL -T- A 60			0.5 - 1.5	8	0.6	0.7
11 IR -T- A 60	●		11 IL -T- A 60			0.5 - 1.5	11	0.8	0.9
16 IR -T- A 60	●		16 IL -T- A 60	○		0.5 - 1.5	16	0.8	0.9
16 IR -T- G 60	●		16 IL -T- G 60	○		1.75 - 3.0	16	1.2	1.7
16 IR -T- AG 60	●	●	16 IL -T- AG 60	○		0.5 - 3.0	16	1.2	1.7
22 IR -T- N 60	○		22 IL -T- N 60			3.5 - 5.0	22	1.7	2.5
27 IR -T- Q 60			27 IL -T- Q 60			5.5 - 6.0	27	1.8	2.7

Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools

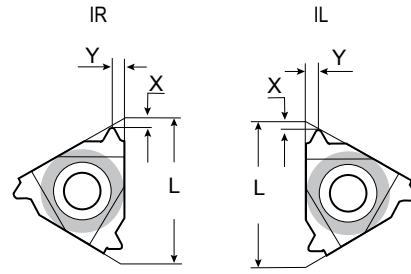
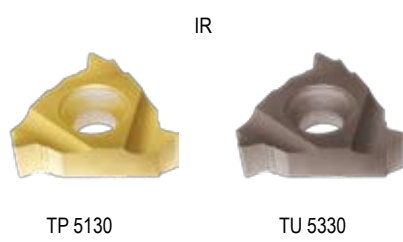
Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Innengewinde / Internal Thread

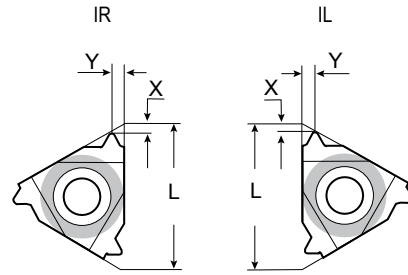
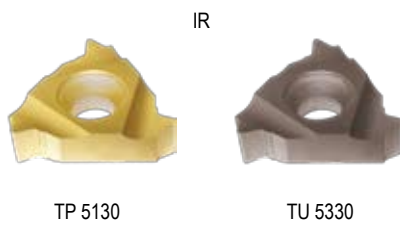
Teilprofil 55° Partial Profile 55°



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch mm	L mm	X mm	Y mm
	TP 5130	TU 5330		Linke WSP LH Inserts	TP 5130				
55° innen / internal			55° innen / internal						
06 IR -T- A55	○		06 IL -T- A55			48-20	6	0.6	0.6
08 IR -T- A55	○		08 IL -T- A55			48-16	8	0.6	0.7
11 IR -T- A55	●		11 IL -T- A55			48-16	11	0.8	0.9
16 IR -T- A55	●		16 IL -T- A55	●		48-16	16	0.8	0.9
16 IR -T- G55	●		16 IL -T- G55	○		14-8	16	1.2	1.7
16 IR -T- AG55	●		16 IL -T- AG55	●		48-8	16	1.2	1.7
22 IR -T- N55			22 IL -T- N55			7-5	22	1.7	2.5
27 IR -T- Q55			27 IL -T- Q55			4.5-4	27	2.0	2.9

Innengewinde / Internal Thread

Vollprofil ISO 60° Full Profile ISO 60°



Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/Solid Carbide
Endmills

Stech- und
Abstechwerkzeuge
Grooving and
Parting off Tools

Mini/ Micro
Schneidwerkzeuge
Mini/ Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendepplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills

Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
06 IR - V - ISO 0.5	○		06 IL - V - ISO 0.5			0.5		0.9	0.5
06 IR - V - ISO 0.75	○		06 IL - V - ISO 0.75			0.75		0.8	0.5
06 IR - V - ISO 1.0	○		06 IL - V - ISO 1.0			1.0	6	0.7	0.6
06 IR - V - ISO 1.25	○		06 IL - V - ISO 1.25			1.25		0.6	0.6
06 IR - V - ISO 1.5	○		06 IL - V - ISO 1.5			1.5		0.5	0.6
08 IR - V - ISO 0.5	○		08 IL - V - ISO 0.5			0.5		0.6	0.5
08 IR - V - ISO 0.75	○		08 IL - V - ISO 0.75			0.75		0.6	0.5
08 IR - V - ISO 1.0	○		08 IL - V - ISO 1.0			1.0	8	0.6	0.6
08 IR - V - ISO 1.25	○		08 IL - V - ISO 1.25			1.25		0.6	0.7
08 IR - V - ISO 1.5	○		08 IL - V - ISO 1.5			1.5		0.6	0.7
08 IR - V - ISO 1.75	○		08 IL - V - ISO 1.75			1.75		0.6	0.8
11 IR - V - ISO 0.35			11 IL - V - ISO 0.35			0.35		0.8	0.3
11 IR - V - ISO 0.4			11 IL - V - ISO 0.4			0.4		0.8	0.4
11 IR - V - ISO 0.45			11 IL - V - ISO 0.45			0.45		0.8	0.4
11 IR - V - ISO 0.5	○		11 IL - V - ISO 0.5			0.5		0.6	0.6
11 IR - V - ISO 0.6	○		11 IL - V - ISO 0.6			0.6		0.6	0.6
11 IR - V - ISO 0.7	○		11 IL - V - ISO 0.7			0.7		0.6	0.6
11 IR - V - ISO 0.75	●		11 IL - V - ISO 0.75			0.75	11	0.6	0.6
11 IR - V - ISO 0.8	○		11 IL - V - ISO 0.8			0.8		0.6	0.6
11 IR - V - ISO 1.0	●		11 IL - V - ISO 1.0			1.0		0.6	0.7
11 IR - V - ISO 1.25	●		11 IL - V - ISO 1.25			1.25		0.8	0.9
11 IR - V - ISO 1.5	●		11 IL - V - ISO 1.5			1.5		0.8	1.0
11 IR - V - ISO 1.75	●		11 IL - V - ISO 1.75			1.75		0.9	1.1
11 IR - V - ISO 2.0	●		11 IL - V - ISO 2.0			2.0		0.8	0.9
11 IR - V - ISO 2.5	●		11 IL - V - ISO 2.5			2.5		0.8	1.2

Innengewinde / Internal Thread

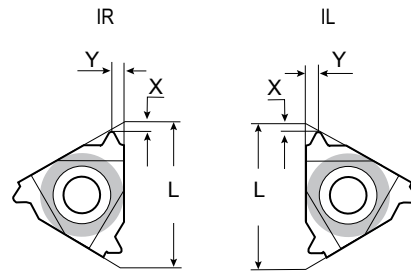
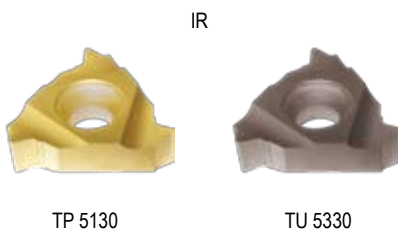
Vollprofil ISO 60° Full Profile ISO 60°



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch TPI	L mm	X mm	Y mm
	TP 5130	TU 5330		Linke WSP LH Inserts	TP 5130				
16 IR - V - ISO 0.35			16 IL - V - ISO 0.35			0.35		0.8	0.3
16 IR - V - ISO 0.4			16 IL - V - ISO 0.4			0.4		0.8	0.4
16 IR - V - ISO 0.45			16 IL - V - ISO 0.45			0.45		0.8	0.4
16 IR - V - ISO 0.5	●		16 IL - V - ISO 0.5	○		0.5		0.6	0.6
16 IR - V - ISO 0.6	○		16 IL - V - ISO 0.6			0.6		0.6	0.6
16 IR - V - ISO 0.7	●		16 IL - V - ISO 0.7			0.7		0.6	0.6
16 IR - V - ISO 0.75	●		16 IL - V - ISO 0.75	○		0.75		0.6	0.6
16 IR - V - ISO 0.8	●		16 IL - V - ISO 0.8			0.8	16	0.6	0.6
16 IR - V - ISO 1.0	●	●	16 IL - V - ISO 1.0	●		1.0		0.6	0.7
16 IR - V - ISO 1.25	●	●	16 IL - V - ISO 1.25	○		1.25		0.8	0.9
16 IR - V - ISO 1.5	●	●	16 IL - V - ISO 1.5	●		1.5		0.8	1.0
16 IR - V - ISO 1.75	●	●	16 IL - V - ISO 1.75	●		1.75		0.9	1.2
16 IR - V - ISO 2.0	●	●	16 IL - V - ISO 2.0	●		2.0		1.0	1.3
16 IR - V - ISO 2.5	●	●	16 IL - V - ISO 2.5	●		2.5		1.1	1.5
16 IR - V - ISO 3.0	●	●	16 IL - V - ISO 3.0	●		3.0		1.1	1.5
16 IR - V - ISO 3.5	●	●	16 IL - V - ISO 3.5			3.5		1.2	1.7
22 IR - V - ISO 3.5	●		22 IL - V - ISO 3.5			3.5		1.6	2.3
22 IR - V - ISO 4.0	●		22 IL - V - ISO 4.0			4.0		1.6	2.3
22 IR - V - ISO 4.5	●		22 IL - V - ISO 4.5			4.5		1.6	2.4
22 IR - V - ISO 5.0	●		22 IL - V - ISO 5.0			5.0	22	1.6	2.3
22 IR - V - ISO 5.5	●		22 IL - V - ISO 5.5			5.5		1.6	2.3
22 IR - V - ISO 6.0	●		22 IL - V - ISO 6.0			6.0		1.6	2.4
27 IR - V - ISO 5.5	○		27 IL - V - ISO 5.5			5.5		1.6	2.3
27 IR - V - ISO 6.0	○		27 IL - V - ISO 6.0			6.0	27	1.8	2.5

Innengewinde / Internal Thread

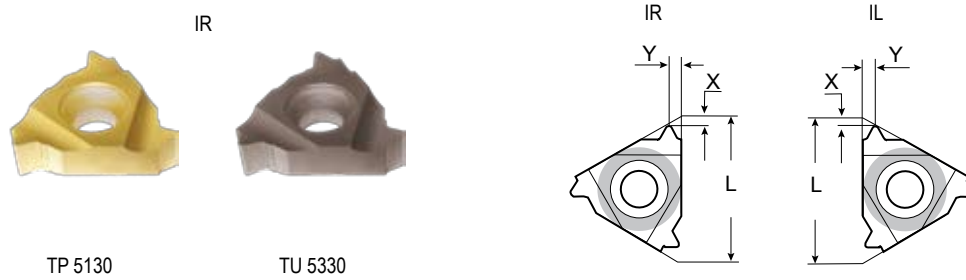
Vollprofil 55° Full Profile 55°
BSW, BSF, BSP, BSB, Whitworth



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		Linke WSP LH Inserts	TP 5130				
Rechte WSP RH Inserts	TP 5130	TU 5330	Linke WSP LH Inserts	TP 5130	TU 5330	TPI	mm	mm	mm
11 IR - V - BSW 40			11 IL - V - BSW 40			40		0.6	0.6
11 IR - V - BSW 36			11 IL - V - BSW 36			36		0.6	0.6
11 IR - V - BSW 32			11 IL - V - BSW 32			32		0.6	0.6
11 IR - V - BSW 28	○		11 IL - V - BSW 28			28		0.6	0.7
11 IR - V - BSW 26	○		11 IL - V - BSW 26			26		0.7	0.7
11 IR - V - BSW 24	○		11 IL - V - BSW 24			24		0.7	0.8
11 IR - V - BSW 22	○		11 IL - V - BSW 22			22	11	0.8	0.9
11 IR - V - BSW 20	○		11 IL - V - BSW 20			20		0.8	0.9
11 IR - V - BSW 19	●	○	11 IL - V - BSW 19			19		0.8	1.0
11 IR - V - BSW 18	○	○	11 IL - V - BSW 18			18		0.8	1.0
11 IR - V - BSW 16	○		11 IL - V - BSW 16			16		0.9	1.1
11 IR - V - BSW 14	●	○	11 IL - V - BSW 14			14		0.9	1.1
16 IR - V - BSW 40			16 IL - V - BSW 40			40		0.6	0.6
16 IR - V - BSW 36			16 IL - V - BSW 36			36		0.6	0.6
16 IR - V - BSW 32			16 IL - V - BSW 32			32		0.6	0.6
16 IR - V - BSW 28	○		16 IL - V - BSW 28			28		0.6	0.7
16 IR - V - BSW 26	●		16 IL - V - BSW 26			26		0.7	0.8
16 IR - V - BSW 24	○		16 IL - V - BSW 24			24		0.7	0.8
16 IR - V - BSW 22	○		16 IL - V - BSW 22			22		0.8	0.9
16 IR - V - BSW 20	●		16 IL - V - BSW 20			20		0.8	0.9
16 IR - V - BSW 19	●		16 IL - V - BSW 19			19	16	0.8	1.0
16 IR - V - BSW 18	●		16 IL - V - BSW 18			18		0.8	1.0
16 IR - V - BSW 16	●		16 IL - V - BSW 16			16		0.9	1.1
16 IR - V - BSW 14	●	●	16 IL - V - BSW 14			14		1.0	1.2
16 IR - V - BSW 12	○	○	16 IL - V - BSW 12			12		1.1	1.4
16 IR - V - BSW 11	●	●	16 IL - V - BSW 11			11		1.1	1.5
16 IR - V - BSW 10	●		16 IL - V - BSW 10			10		1.1	1.5
16 IR - V - BSW 9	●		16 IL - V - BSW 9			9		1.2	1.7
16 IR - V - BSW 8	●		16 IL - V - BSW 8			8		1.2	1.5
22 IR - V - BSW 7	○		22 IL - V - BSW 7			7		1.6	2.3
22 IR - V - BSW 6	○		22 IL - V - BSW 6			6	22	1.6	2.3
22 IR - V - BSW 5	○		22 IL - V - BSW 5			5		1.7	2.4
27 IR - V - BSW 4.5			27 IL - V - BSW 4.5			4.5		1.8	2.6
27 IR - V - BSW 4			27 IL - V - BSW 4			4	27	2.0	2.9

Innengewinde / Internal Thread

Vollprofil 60° Full Profile 60°
UN, UNC, UNF, UNEF, UNS



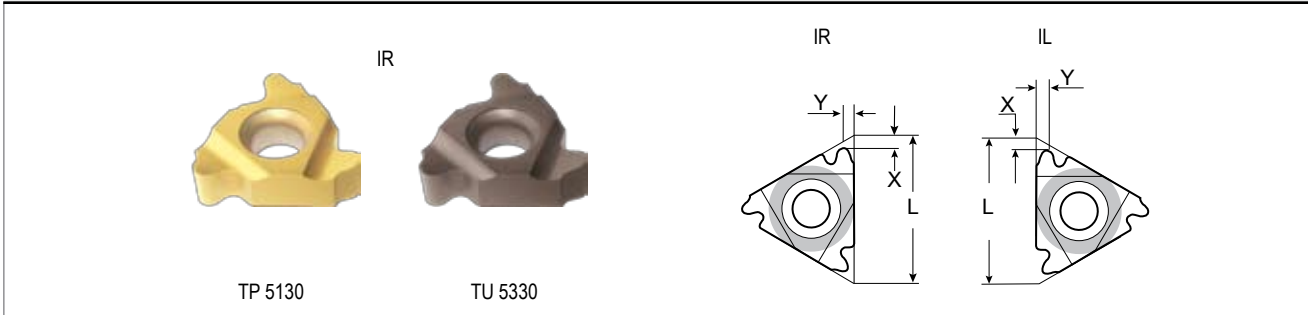
TP 5130

TU 5330

Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L mm	X mm	Y mm
	TP 5130	TU 5330		TP 5130	TU 5330				
11 IR - V - UN 40			11 IL - V - UN 40			40		0.6	0.6
11 IR - V - UN 36			11 IL - V - UN 36			36		0.6	0.6
11 IR - V - UN 32	○		11 IL - V - UN 32			32		0.6	0.6
11 IR - V - UN 28	○		11 IL - V - UN 28			28		0.6	0.7
11 IR - V - UN 27	○		11 IL - V - UN 27			27		0.7	0.8
11 IR - V - UN 24	○		11 IL - V - UN 24			24	11	0.7	0.8
11 IR - V - UN 20	○		11 IL - V - UN 20			20		0.8	0.9
11 IR - V - UN 18	○		11 IL - V - UN 18			18		0.8	1.0
11 IR - V - UN 16	○		11 IL - V - UN 16			16		0.9	1.1
11 IR - V - UN 14	○		11 IL - V - UN 14			14		0.9	1.1
16 IR - V - UN 40			16 IL - V - UN 40			40		0.6	0.6
16 IR - V - UN 36			16 IL - V - UN 36			36		0.6	0.6
16 IR - V - UN 32	○		16 IL - V - UN 32			32		0.6	0.6
16 IR - V - UN 28	●		16 IL - V - UN 28			28		0.6	0.7
16 IR - V - UN 27	○		16 IL - V - UN 27			27		0.7	0.8
16 IR - V - UN 24	●		16 IL - V - UN 24			24		0.7	0.8
16 IR - V - UN 20	●		16 IL - V - UN 20			20		0.8	0.9
16 IR - V - UN 18	●		16 IL - V - UN 18			18		0.8	1.0
16 IR - V - UN 16	●		16 IL - V - UN 16			16	16	0.9	1.1
16 IR - V - UN 14	●		16 IL - V - UN 14			14		0.9	1.2
16 IR - V - UN 13	○		16 IL - V - UN 13			13		1.0	1.3
16 IR - V - UN 12	●		16 IL - V - UN 12			12		1.1	1.4
16 IR - V - UN 11	○		16 IL - V - UN 11			11		1.1	1.5
16 IR - V - UN 10	○		16 IL - V - UN 10			10		1.1	1.5
16 IR - V - UN 9	●		16 IL - V - UN 9			9		1.2	1.7
16 IR - V - UN 8	●		16 IL - V - UN 8			8		1.1	1.5
22 IR - V - UN 7	○		22 IL - V - UN 7			7		1.6	2.3
22 IR - V - UN 6	○		22 IL - V - UN 6			6	22	1.6	2.3
22 IR - V - UN 5	○		22 IL - V - UN 5			5		1.6	2.3
27 IR - V - UN 4.5			27 IL - V - UN 4.5			4.5		1.7	2.4
27 IR - V - UN 4			27 IL - V - UN 4			4	27	1.8	2.7

Innengewinde / Internal Thread

Vollprofil RD DIN 405 Full Profile RD DIN 405



Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
16 IR - V - RD 405 / 10	○		16 IL - V - RD 405 / 10			10		1.1	1.2
16 IR - V - RD 405 / 8	●		16 IL - V - RD 405 / 8			8	16	1.4	1.4
16 IR - V - RD 405 / 6	○		16 IL - V - RD 405 / 6			6		1.4	1.5
22 IR - V - RD 405 / 6	○		22 IL - V - RD 405 / 6			6	22	1.5	1.7
22 IR - V - RD 405 / 4	○		22 IL - V - RD 405 / 4			4		2.2	2.3
27 IR - V - RD 405 / 4			27 IL - V - RD 405 / 4			4	27	2.2	2.3

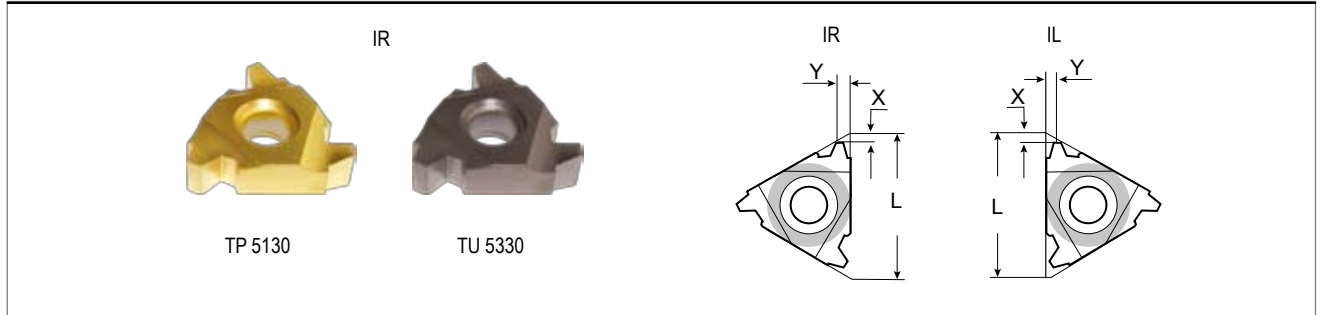
Innengewinde / Internal Thread

Vollprofil TR DIN 103 Full Profile TR DIN 103



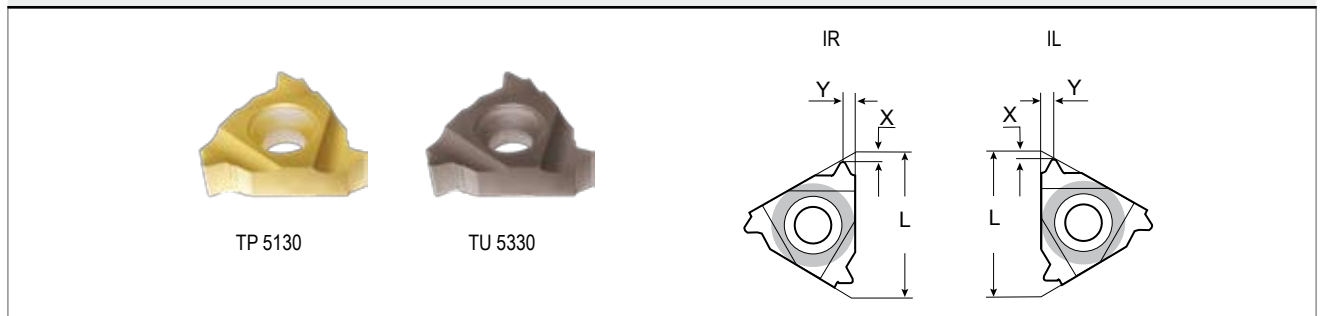
Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	TP 5130	TU 5330		TP 5130	TU 5330				
Rechte WSP RH Inserts			Linke WSP LH Inserts			TPI	mm	mm	mm
11 IR - V - TR 103 / 1.5			11 IL - V - TR 103 / 1.5			1.5	11	0.8	0.9
16 IR - V - TR 103 / 1.5	○		16 IL - V - TR 103 / 1.5			1.5		1.0	1.1
16 IR - V - TR 103 / 2	●		16 IL - V - TR 103 / 2			2	16	1.0	1.3
16 IR - V - TR 103 / 3	●		16 IL - V - TR 103 / 3			3		1.3	1.5
22 IR - V - TR 103 / 4	●		22 IL - V - TR 103 / 4			4		1.7	1.9
22 IR - V - TR 103 / 5	●		22 IL - V - TR 103 / 5			5	22	2.1	2.5
22 IR - V - TR 103 / 6	●		22 IL - V - TR 103 / 6			6		2.3	2,7
27 IR - V - TR 103 / 6			27 IL - V - TR 103 / 6			6	27	2.3	2,7

Innengewinde / Internal Thread

Vollprofil ACME Full Profile ACME


Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	Rechte WSP RH Inserts	TP 5130 TU 5330		Linke WSP LH Inserts	TP 5130 TU 5330				
11 IR - V - ACME16	○		11 IL - V - ACME16			16	11	0.9	1.0
16 IR - V - ACME16	○		16 IL - V - ACME16			16		0.9	1.0
16 IR - V - ACME14	○		16 IL - V - ACME14			14		1.0	1.2
16 IR - V - ACME12	○		16 IL - V - ACME12			12	16	1.1	1.2
16 IR - V - ACME10	○		16 IL - V - ACME10			10		1.3	1.3
16 IR - V - ACME8	○		16 IL - V - ACME8			8		1.5	1.5
22 IR - V - ACME6	○		22 IL - V - ACME6			6		1.8	2.1
22 IR - V - ACME5	●		22 IL - V - ACME5			5	22	2.0	2.3
27 IR - V - ACME 4			27 IL - V - ACME 4			4	27	2.3	2.6

Innengewinde / Internal Thread

Vollprofil NPT 60° Full Profile NPT 60°


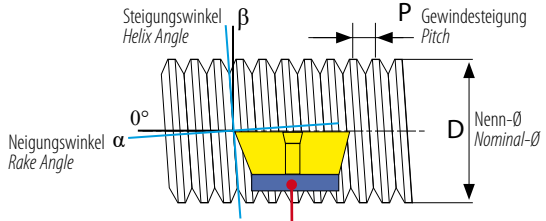
Bezeichnung Part Number	Lager Stock		Bezeichnung Part Number	Lager Stock		Steigung Pitch	L	X	Y
	Rechte WSP RH Inserts	TP 5130 TU 5330		Linke WSP LH Inserts	TP 5130 TU 5330				
11 IR - V - NPT 27	○		11 IL - V - NPT 27			27		0.7	0.8
11 IR - V - NPT 18	○		11 IL - V - NPT 18			18	11	0.8	1.0
11 IR - V - NPT 14	○		11 IL - V - NPT 14			14		0.8	1.0
16 IR - V - NPT 27	○		16 IL - V - NPT 27			27		0.7	0.8
16 IR - V - NPT 18	●		16 IL - V - NPT 18			18		0.8	1.0
16 IR - V - NPT 14	●		16 IL - V - NPT 14			14	16	0.9	1.2
16 IR - V - NPT 11.5	●		16 IL - V - NPT 11.5			11.5		1.1	1.5
16 IR - V - NPT 8	●		16 IL - V - NPT 8			8		1.3	1.8

Gewindedrehen - Technische Information

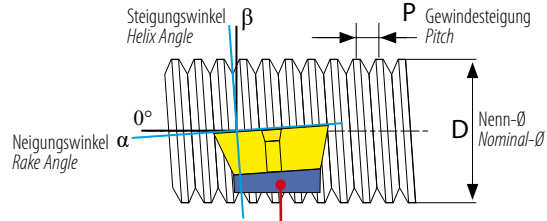
Threading - Technical Information

Zugunsten einer größtmöglichen Profildgenauigkeit, bester Oberflächengüte sowie einem gleichmäßigen Verschleiß und der damit verbundenen längeren Standzeit der Wendeschneidplatte, muss der **Wendepplatten-Neigungswinkel "α"** mit dem **Gewinde-Steigungswinkel "β"** möglichst exakt übereinstimmen.

In favor of high level on accuracy of the profile, best surface finish as well as simultaneously wear and longer tool life of the insert, the rake angle "α" of the insert and the helix angle "β" of the thread have to agree.



Unterlegplatte mit falschem Neigungswinkel
Shim with incorrect rake angle

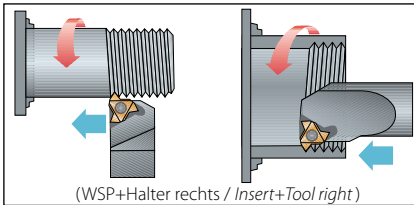


Unterlegplatte mit richtigem Neigungswinkel
Shim with correct rake angle

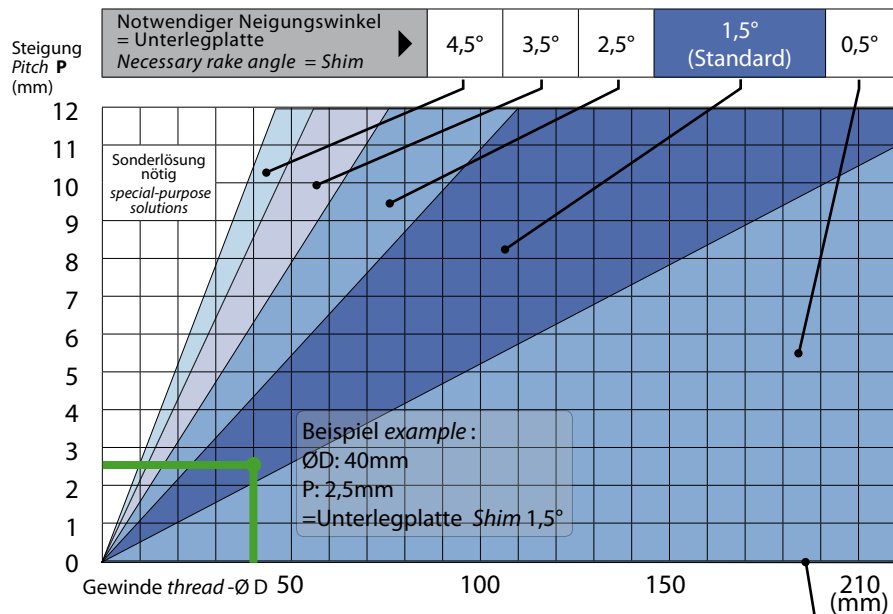
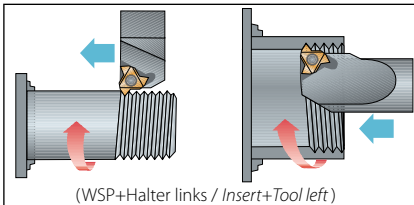
Steigungswinkeldiagramm zum Austausch der Unterlegplatten für metrisches Gewinde

Vorschub in Richtung Futter Movement to Chuck

Rechtsgewinde Right Thread:

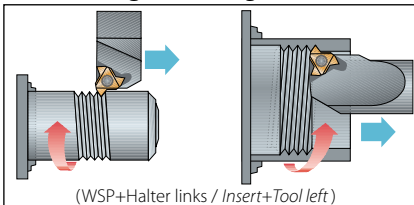


Linksgewinde Left Thread:

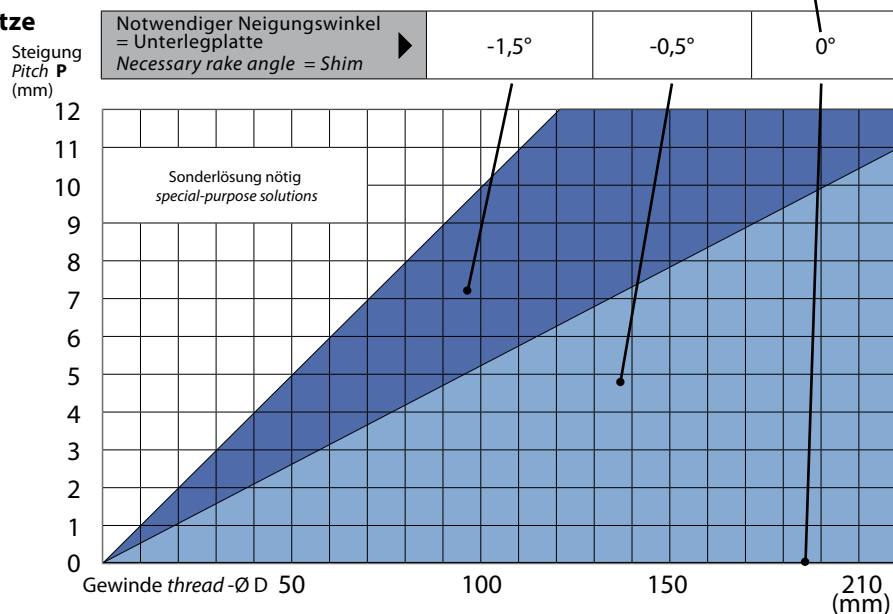
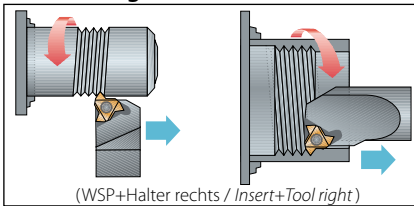


Vorschub in Richtung Drehbankspitze Movement to Center

Rechtsgewinde Right Thread:



Linksgewinde Left Thread:



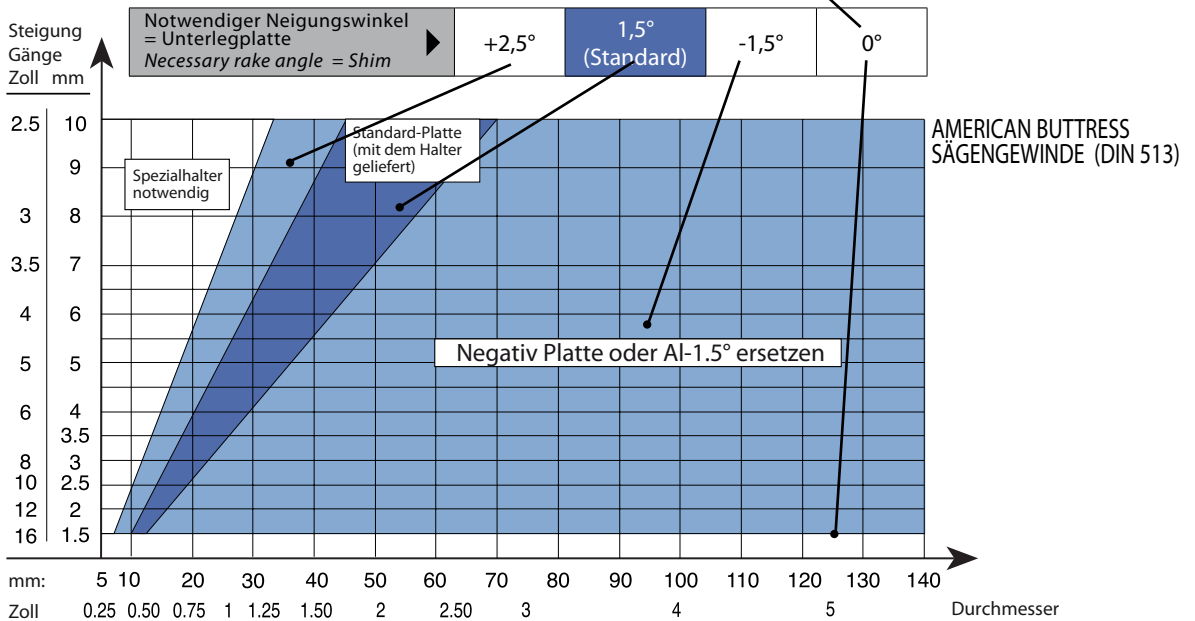
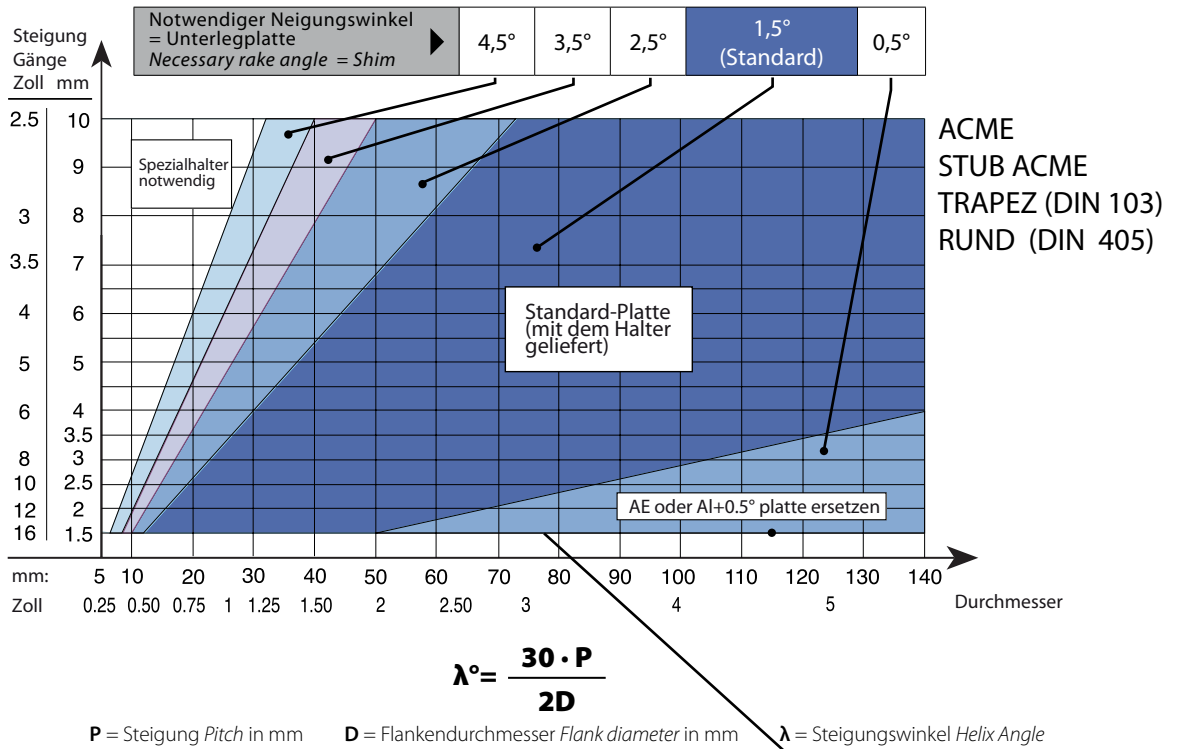
$$\lambda^\circ = \frac{20 \cdot P}{D} \quad \text{tg } \lambda = \frac{P}{3,14 \cdot D}$$

P = Steigung Pitch in mm

D = Flankendurchmesser Flank diameter in mm

λ = Steigungswinkel Helix Angle

Steigungswinkeldiagramm zum Austausch der Unterlegplatten



Richtwerte für die Anzahl der Gewindedurchgänge *
Guide Lines for the Number of Threading Passes *

Steigung Pitch	mm	0.5	0.75	1.0	1.25	1.5	1.75	2.0	2.5	3.0	4.0	5.0	6.0
	G/1" TPI	48	32	24	20	16	14	12	10	8	6	5	4
Zahl der Durchgänge No. of passes		4-6	4-7	4-8	5-9	6-10	7-12	7-12	8-14	10-16	11-18	12-20	12-20

*abhängig von Werkstoff und Schnittbedingungen depends on material and cutting conditions

Unterschiede zwischen Voll- und Teilprofil-Gewindeschneidplatten Differences between Full and Partial Profile Threading Inserts

Vollprofil - Gewindeschneidplatte



Full Profile - Threading Insert

Vorteile / Advantages

Das gesamte Gewindeprofil einschließlich Gewindespitze wird normhaltig bearbeitet - für Serienfertigung geeignet.
The complete thread profile including tip of thread is machined complying with the norm - suitable for series production.
Die Gewindespitzen sind gratfrei.
The tips of thread are burr-free.

Nachteile / Disadvantages

Für jede Steigung wird eine andere Wendeschneidplatte benötigt.
For every pitch a different insert is required.

Teilprofil - Gewindeschneidplatte



Partial Profile - Threading Insert

Vorteile / Advantages

Mit wenigen Wendeschneidplatten können die meisten Steigungen gefertigt werden.

With only a few inserts it is possible to machine most of the different pitches.

Nachteile / Disadvantages

Das Gewindeprofil weicht geringfügig von der Norm ab.
The profile of thread differs slightly from the norm.
Die Gewindespitzen müssen häufig nachträglich entgratet werden.
The tips of thread often have to be de-burred.

Schnittdaten-Empfehlungen zum Gewindedrehen Cutting Data Recommendations for Threading

	Werkstückwerkstoff Material	Festigkeit Tensile strength	Schnittgeschwindigkeiten / Cutting speeds v_c [m/min]	
			TP 5130 (P/M30/K20C)	TU 5330 (P30C)
A (P)	unlegierter Stahl mild steel	< 650 N/mm ²	70 - 200	70 - 220
		650 - 850 N/mm ²	70 - 160	70 - 160
R (M)	legierter Stahl alloyed steel	700 - 1000 N/mm ²	90 - 160	90 - 180
		1000 - 1300 N/mm ²	70 - 120	70 - 120
R (M)	rostfreier Stahl stainless steel	500 - 700 N/mm ² (austenitisch /austenitic)	80 - 160	50 - 240
		500 - 900 N/mm ² (ferritisch /ferritic)	100 - 160	50 - 200
F (K)	Grauguss grey cast iron	110 - 150 HB	150 - 220	60 - 230
		> 150 HB	100 - 160	60 - 160
N	Aluminium und Kupferlegierungen aluminium and copper alloys	50 - 160 HB	80 - 360	100 - 500

Symbolerklärung Explanation of Symbols



Metrisches ISO-Regelgewinde DIN 13
ISO Metric Coarse Thread DIN 13



Für universellen Einsatz
For universal use



Sackloch
Blind Hole



Vaporisiert
Steam treatment



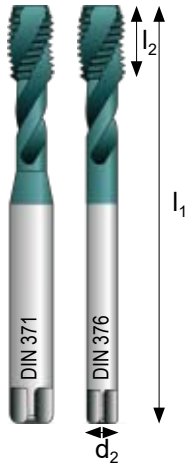
Durchgangsloch
Through Hole

Schnittdaten-Richtwerte (bei Verwendung von Emulsion / Schneidöl) Cutting Data Recommendations (when using emulsion / cutting oil)

Werkstückwerkstoff Material	Festigkeit Tensile strength	Schnittgeschwindigkeiten / Cutting feeds v_c [m/min]	
		JD 4126	JD 4226
A Unlegierter Stahl Mild steel	< 650 N/mm ²	08 - 12	10 - 15
		08 - 10	10 - 12
	650 - 850 N/mm ²	06 - 08	08 - 10
		08 - 10	
Legierter Stahl Alloyed steel	700 - 1000 N/mm ²	06 - 08	08 - 10
	1000 - 1300 N/mm ²		
R Rostfreier Stahl Stainless steel	500 - 700 N/mm ² (austenitisch / austenitic)	05 - 06	06 - 08
		05 - 06	06 - 08
	500 - 900 N/mm ² (ferritisch / ferritic)	05 - 06	06 - 08
F Grauguss Grey cast iron	110 - 150 HB	10 - 12	12 - 15
		08 - 10	10 - 12
	> 150 HB	10 - 12	
N Aluminium Aluminium		12 - 15	15 - 18
	Kupferlegierungen Copper alloys	08 - 12	08 - 15

Maschinengewindebohrer / Machine Taps

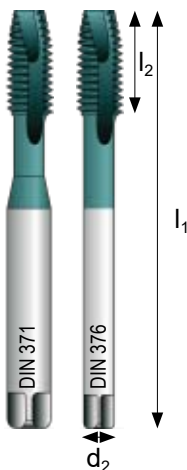
Typ Type VA/UNI
DIN 371 376
M
40°
SL
Form C 2-3
Tol. 6 H ISO 2
HSS-E
vapor.



Bezeichnung Part Number	DIN	Nennmaß Size	Lager Stock	Maße [mm] Dimensions					Z
				Steigung Pitch	l_1	l_2	d_2	a	
JD 4126 M3		M3	●	0.50	56	5	3.50	2.7	
JD 4126 M4		M4	●	0.70	63	7	4.50	3.4	
JD 4126 M5	371	M5	●	0.80	70	8	6.00	4.9	
JD 4126 M6		M6	●	1.00	80	10	6.00	4.9	3
JD 4126 M8		M8	●	1.25	90	13	8.00	6.2	
JD 4126 M10		M10	●	1.50	100	15	10.00	8.0	
JD 4126 M12		M12	●	1.75	110	18	9.00	7.0	
JD 4126 M14	376	M14	○	2.00	110	20	11.00	9.0	
JD 4126 M16		M16	○	2.00	110	20	12.00	9.0	4

Maschinengewindebohrer / Machine Taps

Typ Type VA/UNI
DIN 371 376
M
DL
Form B 3-5
Tol. 6 H ISO 2
HSS-E
vapor.



Bezeichnung Part Number	DIN	Nennmaß Size	Lager Stock	Maße [mm] Dimensions					Z
				Steigung Pitch	l_1	l_2	d_2	a	
JD 4226 M3		M3	●	0.50	56	9	3.50	2.7	
JD 4226 M4		M4	●	0.70	63	12	4.50	3.4	
JD 4226 M5	371	M5	●	0.80	70	13	6.00	4.9	
JD 4226 M6		M6	●	1.00	80	15	6.00	4.9	
JD 4226 M8		M8	●	1.25	90	18	8.00	6.2	3
JD 4226 M10		M10	●	1.50	100	20	10.00	8.0	
JD 4226 M12		M12	●	1.75	110	23	9.00	7.0	
JD 4226 M14	376	M14	○	2.00	110	25	11.00	9.0	
JD 4226 M16		M16	●	2.00	110	25	12.00	9.0	

Drehen
Turning

Fräswerkzeuge
Milling Tools

HDS-/VHM-Fräser
HDS-/ Solid Carbide
Endmills

Stechedreh-
werkzeuge
Grooving Tools

Mini/Micro
Schneidwerkzeuge
Mini/Micro Tools

Gewinde-
werkzeuge
Threading Tools

Wendeplattenbohrer
VHM-Bohrer
Indexable Drills
Solid Carbide Drills