

_ SOLUTIONS THAT OFFER OPPORTUNITIES

Product Innovations catalog



How to find and order your standard tools:



Personal – worldwide

You can contact us by phone, fax or e-mail. The contact details for your local contact can be found on our website at: walter-tools.com

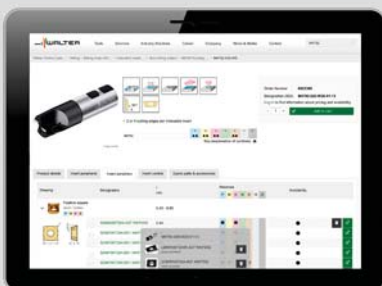


The Walter General Catalog 2018

contains the entire standard range of our competence brands Walter, Walter Titex and Walter Prototyp. It is supplemented regularly with the latest Product Innovations catalogs.

At walter-tools.com, you can access and order your Walter products quickly and conveniently online – via smartphone, tablet or PC. The benefit for you: Direct access from any device, displayed in an optimised form, at any time.

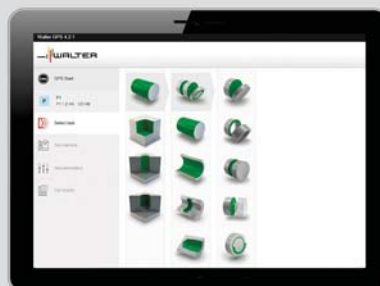
Walter online catalog



Tool-specific search

You can find products in the Walter online catalog using the familiar structure of our product catalog as well as filter and search functions. Other features: A shopping function and links to drawings and models.

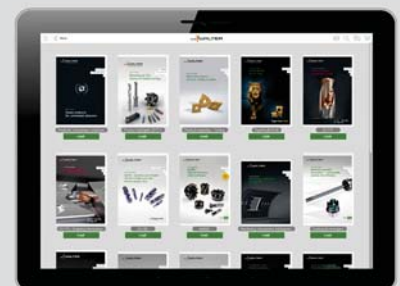
Walter GPS



Application-based search

With Walter GPS, it takes just a few steps for you to find the best machining solution for your component, online and offline – and the solution can be transferred directly to the Walter TOOLSHOP if required!

Walter eLibrary



Document-based search

The Walter eLibrary app provides you with all the information you need on your mobile devices within a matter of seconds: E.g. brochures and catalogs – online and offline, in 17 languages.

Digital ordering methods



TOOLSHOP



EDI B2B

Walter TOOLSHOP & EDI

The Walter TOOLSHOP offers customers opportunities to find information and place orders quickly.

EDI (electronic data interchange) also makes it possible to exchange documents (e.g. orders) – even special tools can be ordered.

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Technologies at Walter.

Accure-tec

The patented Walter Accure-tec technology ensures maximum vibration damping on boring bars for turning and adaptors for milling. Ideal for turning, milling and drilling operations involving extended tool applications.

Tiger-tec®Gold

Tiger-tec® Gold is the new Walter generation platform for unique indexable insert coatings. It makes maximum tool life and process reliability possible. The CVD grade is produced using the innovative ultra low pressure method (ULP-CVD). The special titanium aluminium nitride layer makes them highly resistant to abrasion, hairline cracks, oxidation and plastic deformation. The heat-resistant, tough PVD grade with aluminium oxide multi-layer is suitable for difficult machining conditions.

Tiger-tec®Silver

With Tiger-tec® Silver, Walter is offering a world first in coating technology for indexable inserts. The special aluminium oxide layer with optimised microstructure reduces wear during turning, milling and drilling operations, and increases toughness and temperature resistance for significantly higher cutting data.

Walter BLAXX

Walter BLAXX is the benchmark for a new generation of milling cutters: The milling bodies are extremely robust thanks to their special surface treatment. The milling systems, which are mainly positioned tangentially, are equipped with Tiger-tec® indexable inserts. Tools with the "Walter BLAXX" designation combine high wear resistance with unbeatable performance data.

Xtra-tec®

Xtra-tec® indexable insert milling cutters and drills guarantee extremely soft cutting action and optimal surface quality on almost all materials. Indexable inserts with highly positive geometries and the Tiger-tec® coating have a particularly beneficial hardness/toughness ratio. For maximum productivity and process reliability.

Walter Nexxt

Engineering Kompetenz and digital expertise go hand in hand at Walter. Together with our wholly owned software subsidiary Comara, we develop digital solutions that efficiently connect machines and tools, optimising their performance on the basis of real-time data. Digital solutions on a level playing field with Industry 4.0 – Walter Nexxt.

Xtra-tec® XT

Xtra-tec® XT is the latest generation of Walter milling tools. As the "Xtended" Xtra-tec® technology, it offers a completely new perspective on productivity and process reliability. It can cover nearly all milling operations in every common material group: More reliable, productive, cost-efficient than ever before – all while compensating for the CO₂ emissions through Walter Green.

XD Technology

Walter Titex solid carbide drilling and reaming tools stand for precision, high performance and cost-efficiency when drilling in practically any material. Walter Titex XD Technology offers the greatest precision and cost-efficiency in deep-hole drilling operations up to $70 \times D_c$ without pecking.

Walter Xpress

Walter Xpress is the rapid ordering and delivery service offered by Walter Multiply for high-quality special tools. It is available for around 10,000 tool varieties, with a maximum delivery time of two to four weeks from the order date. The ordering process is clearly structured and guarantees absolute planning security. Quotations for all enquiries are calculated and provided within 24 hours.

Walter Green

Walter Green: Sustainability and responsible use of resources are central components of our company principles. We use our "Walter Green" seal to show how we implement these principles, such as by offsetting our CO₂ emissions with environmental conservation projects.



Walter Capto™ is a modular tool adaptor system. It is suitable for all turning, milling, drilling and threading processes. Its ISO-standardised polygon taper absorbs torsional moments and bending moments extremely well and ensures optimal repeat accuracy.



Walter ConeFit is an extremely flexible solid carbide milling system with a wide range of high-performance exchangeable heads and shaft variants. Its conical thread can self-centre, thereby guaranteeing maximum stability and concentricity.



Walter ScrewFit users benefit from maximum flexibility. Its modular interface is suitable for a wide variety of boring bars and adaptors and a wide range of tool diameters and lengths for milling and drilling.



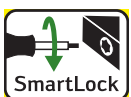
The precision-ground QuadFit interface with taper and support face characterises the precision of the vibration-damped boring bars for turning and thread turning with Walter Accuretec technology. The exchangeable head system, which can be rotated by 180°, makes it possible to rapidly replace tools with high indexing accuracy.



The Walter precision cooling system provides cooling at the centre of chip formation. Its dual coolant jets are directed precisely onto the flank and rake faces of the insert. This system provides significantly increased tool life, improved chip breaking and greater efficiency for turning and grooving applications.



"Flash" refers to specialised solid carbide milling cutters for high-feed milling. Their end-face geometry reduces the chip thickness "h" and therefore enables an extremely high feed per tooth. Forces that occur are diverted axially towards the centre of the tool, which helps to stabilise the machining process.



On Walter turning toolholders with "SmartLock", the clamping screw can be operated from the side of the tool. This makes it possible to change the inserts in the machine quickly and easily. Tool change times are reduced as a result. Ideal for use on CNC lathe and multi-spindle machines.



ISO turning – A1

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Grooving – A2

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Thread turning – A3

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ISO turning	Geometry overview	74
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Thread turning	Application information	83

Product range overview of indexable inserts and cutting tool materials: ISO turning – Carbide



Indexable inserts

Insert shape	Description	Page
  C Wiper	Negative basic shape	14
	Positive basic shape 7°	18
	Positive basic shape 11°	18
  D Wiper	Negative basic shape	15
	Positive basic shape 7°	19
  T Wiper	Negative basic shape	16
	Positive basic shape 7°	19
 V	Positive basic shape 5°/7°	20
  W Wiper	Negative basic shape	21

System inserts

Insert shape	Description	Page
 WL	WL copy turning inserts, three-edge	21

Cutting tool materials: Carbide

		Range of applications					
Application	Coating	01	10	20	30	40	
		05	15	25	35	45	
ISO P	CVD	WPP01					
	CVD	WPP05S					
	PVD*	WEP10C					
	CVD	WPP10S					
	CVD		WPP20S				
	CVD		WMP20S				
	CVD			WPP30S			
	CVD				WKP30S		
ISO M	PVD	WSM01					
	PVD	WSM10S					
	CVD		WMP20S				
	PVD		WSM20S				
	PVD		WSM21				
	PVD			WSM30S			
ISO K	CVD	WKK10S					
	CVD		WKK20S				
	CVD			WKP30S			
ISO N	PVD	WNN10					
	—	WK1					
ISO S	PVD	WSM01					
	PVD	WSM10S					
	—	WS10					
	PVD		WSM20S				
	PVD		WSM21				
	PVD			WSM30S			
		Wear resistance Toughness					

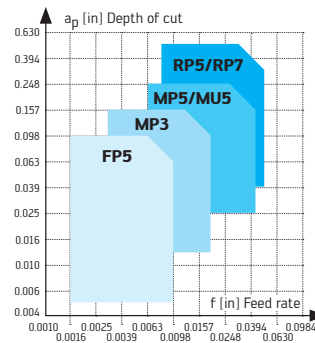
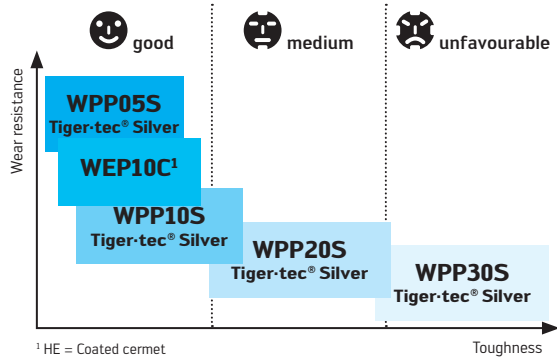
* Cermet

Product range overview of indexable inserts for ISO turning: Tiger-tec® Silver grades and geometries

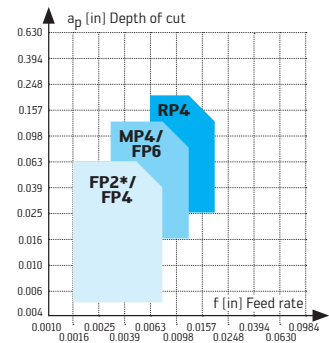
 Negative basic shape

 Positive basic shape

Machining steel ISO P

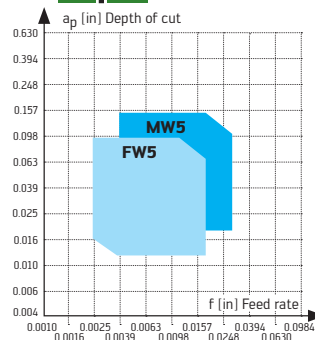


MP5: For universal machining
 MU5: Easy-cutting – for ISO P and ISO M
 RP5: For universal machining
 RP7: For interrupted cuts, cast skin/forged skin

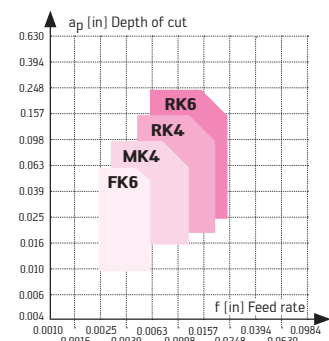
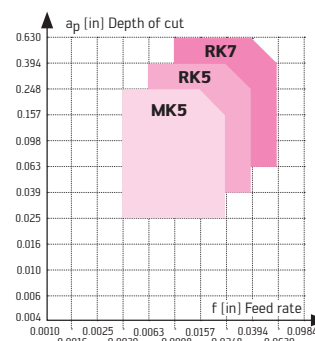
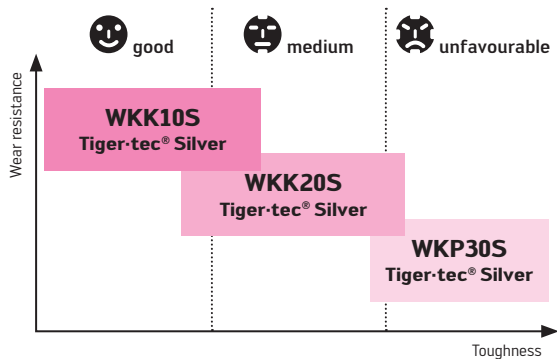


MP4: for universal machining, copy turning
 FP6: For semi-finishing operations
 * Fully ground circumference

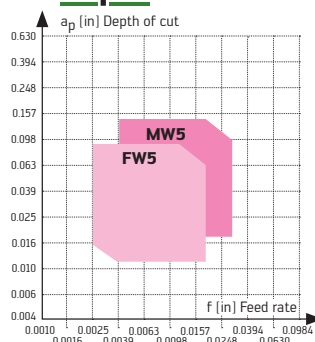
Wiper



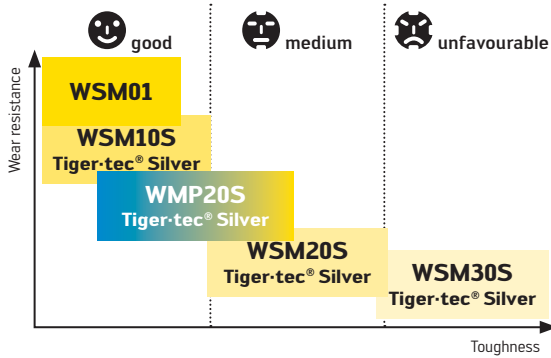
Cast iron machining ISO K



Wiper



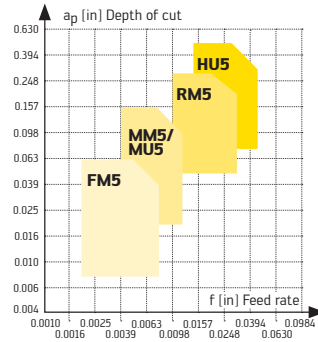
Stainless steel ISO M



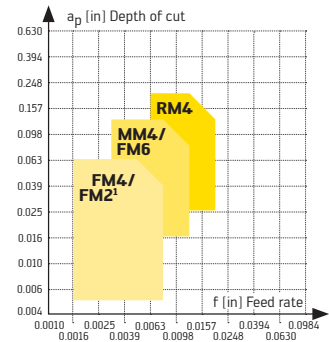
Negative basic shape



Positive basic shape

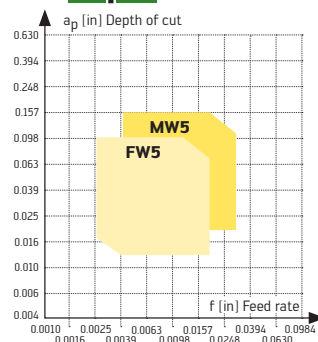


MM5: For universal machining
MU5: Easy-cutting – for ISO P and ISO M

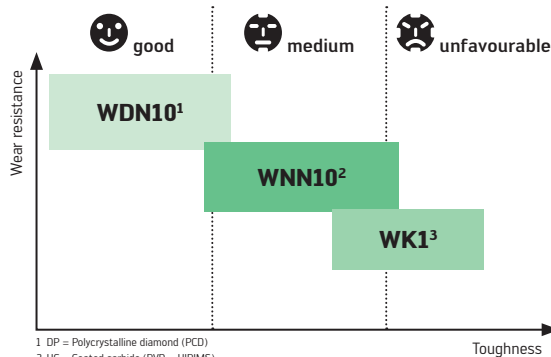


MM4: For universal machining, copy turning
FM6: For semi-finishing operations
¹ Fully ground circumference

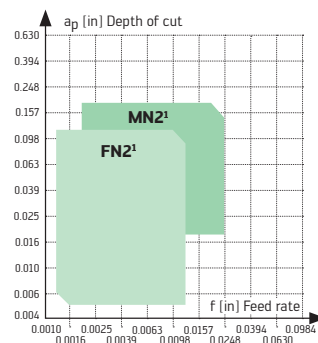
Wiper



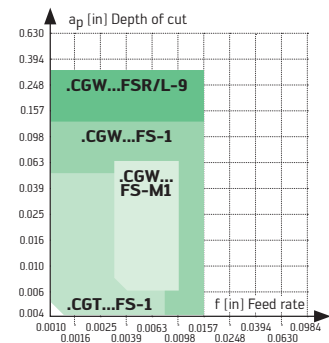
NF metals ISO N



1 DP = Polycrystalline diamond (PCD)
2 HC = Coated carbide (PVD – HIPIMS)
3 HW = Uncoated carbide

Positive basic shape
CarbidePositive basic shape
PCD

¹ Fully ground circumference



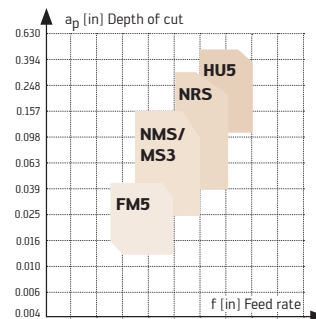
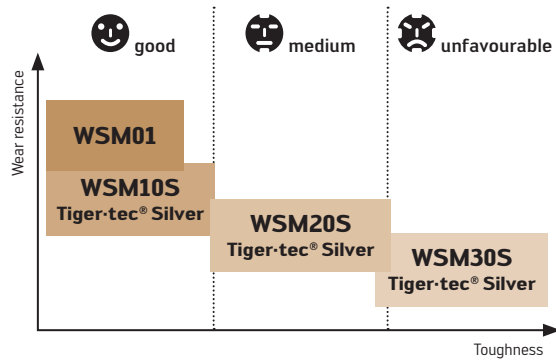


Negative basic shape

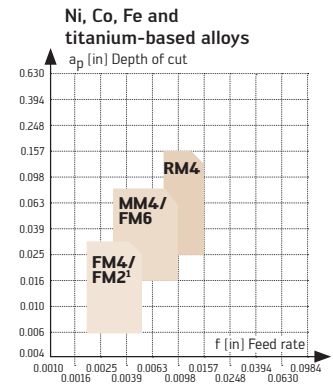


Positive basic shape

ISO S high-temperature alloys and titanium alloys

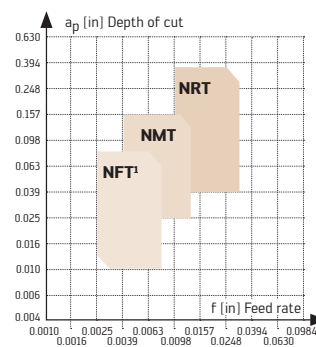


NMS: For universal machining
MS3: For low cutting pressure



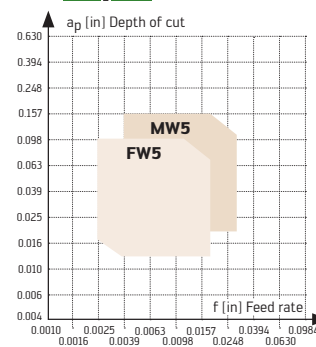
MM4: For universal machining, copy turning
FM6: For semi-finishing operations
¹ Fully ground circumference

Titanium-based alloys



¹ Fully ground circumference

Wiper



Designation key in accordance with ANSI / ISO 1832 for indexable inserts for turning — INCH

Example 1:

C	N	M	G	4	3	2	—	M	P	5
1	2	3	4	5	6	7		12	13	14

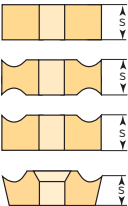
1	2	3																																																							
Insert shape	Clearance angle	Tolerances																																																							
A B C D E H K L M O P R S T V W <tr><td> A B C D E F G N P </td><td>     </td></tr> <tr><td colspan="3"> Permissible deviation in inch for <table><tr><th></th><th>d</th><th>m</th><th>s</th></tr><tr><td>A</td><td>± 0.0010</td><td>± 0.0002</td><td>± 0.0010</td></tr><tr><td>C</td><td>± 0.0010</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>E</td><td>± 0.0010</td><td>± 0.0010</td><td>± 0.0010</td></tr><tr><td>F</td><td>± 0.0005</td><td>± 0.0002</td><td>± 0.0010</td></tr><tr><td>G</td><td>± 0.0010</td><td>± 0.0010</td><td>± 0.0051</td></tr><tr><td>H</td><td>± 0.0005</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>J¹</td><td>± 0.002–0.006²</td><td>± 0.0002</td><td>± 0.0010</td></tr><tr><td>K¹</td><td>± 0.002–0.006²</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>L¹</td><td>± 0.002–0.006²</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>M</td><td>± 0.002–0.006²</td><td>± 0.003–0.008²</td><td>± 0.0005</td></tr><tr><td>N</td><td>± 0.002–0.006²</td><td>± 0.003–0.008²</td><td>± 0.0010</td></tr><tr><td>U</td><td>± 0.003–0.010²</td><td>± 0.005–0.015²</td><td>± 0.002–0.005</td></tr></table> ¹ Inserts with ground planar cutting edges ² Depending on the insert size (see ISO standard 1832) </td></tr>	A B C D E F G N P	   	Permissible deviation in inch for <table><tr><th></th><th>d</th><th>m</th><th>s</th></tr><tr><td>A</td><td>± 0.0010</td><td>± 0.0002</td><td>± 0.0010</td></tr><tr><td>C</td><td>± 0.0010</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>E</td><td>± 0.0010</td><td>± 0.0010</td><td>± 0.0010</td></tr><tr><td>F</td><td>± 0.0005</td><td>± 0.0002</td><td>± 0.0010</td></tr><tr><td>G</td><td>± 0.0010</td><td>± 0.0010</td><td>± 0.0051</td></tr><tr><td>H</td><td>± 0.0005</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>J¹</td><td>± 0.002–0.006²</td><td>± 0.0002</td><td>± 0.0010</td></tr><tr><td>K¹</td><td>± 0.002–0.006²</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>L¹</td><td>± 0.002–0.006²</td><td>± 0.0005</td><td>± 0.0010</td></tr><tr><td>M</td><td>± 0.002–0.006²</td><td>± 0.003–0.008²</td><td>± 0.0005</td></tr><tr><td>N</td><td>± 0.002–0.006²</td><td>± 0.003–0.008²</td><td>± 0.0010</td></tr><tr><td>U</td><td>± 0.003–0.010²</td><td>± 0.005–0.015²</td><td>± 0.002–0.005</td></tr></table> ¹ Inserts with ground planar cutting edges ² Depending on the insert size (see ISO standard 1832)				d	m	s	A	± 0.0010	± 0.0002	± 0.0010	C	± 0.0010	± 0.0005	± 0.0010	E	± 0.0010	± 0.0010	± 0.0010	F	± 0.0005	± 0.0002	± 0.0010	G	± 0.0010	± 0.0010	± 0.0051	H	± 0.0005	± 0.0005	± 0.0010	J ¹	± 0.002–0.006 ²	± 0.0002	± 0.0010	K ¹	± 0.002–0.006 ²	± 0.0005	± 0.0010	L ¹	± 0.002–0.006 ²	± 0.0005	± 0.0010	M	± 0.002–0.006 ²	± 0.003–0.008 ²	± 0.0005	N	± 0.002–0.006 ²	± 0.003–0.008 ²	± 0.0010	U	± 0.003–0.010 ²	± 0.005–0.015 ²	± 0.002–0.005
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U	± 0.003–0.010 ²	± 0.005–0.015 ²	± 0.002–0.005																																																						

	5								
	Size								
	IC		Metric Cutting Edge Length						
Inch	inch	mm	C	D	R	S	T	V	W
1.2 (5)	5/32	3.97	S4	04	03	03	06	—	02
1.5 (6)	3/16	4.76	04	05	04	04	08	08	S3
1.8 (7)	7/32	5.56	05	06	05	05	09	09	03
—	.236	6.00	—	—	06	—	—	—	—
2	1/4	6.35	06	07	06	06	11	11	04
2.5	5/16	7.94	08	09	07	07	13	13	05
—	.315	8.00	—	—	08	—	—	—	—
3	3/8	9.52	09	11	09	09	16	16	06
—	.394	10.00	—	—	10	—	—	—	—
3.5	7/16	11.11	11	13	11	11	19	19	07
—	.472	12.00	—	—	12	—	—	—	—
4	1/2	12.70	12	15	12	12	22	22	08
4.5	9/16	14.29	14	17	14	14	24	24	09
5	5/8	15.88	16	19	15	15	27	27	10
—	.630	16.00	—	—	16	—	—	—	—
5.5	11/16	17.46	17	21	17	17	30	30	11
6	3/4	19.05	19	23	19	19	33	33	13
—	.787	20.00	—	—	20	—	—	—	—
7	7/8	22.22	22	27	22	22	38	38	15
—	.984	25.00	—	—	25	—	—	—	—
8	1	25.40	25	31	25	25	44	44	17
10	1 1/4	31.75	32	38	31	31	54	54	21
—	1.260	32.00	—	—	32	—	—	—	—

¹ Inch version (00)

6

Insert thickness $s =$ inch



symbol		thickness	
inch	mm	inch	mm
.5 (1)	—	1/32	0.79
.6	T0	0.40	1.00
1 (2)	01	1/16	1.59
1.2	T1	5/64	1.98
1.5 (3)	02	3/32	2.38
2	03	1/8	3.18
2.5	T3	5/32	3.97
3	04	3/16	4.76
3.5	05	7/32	5.56
4	06	1/4	6.35
5	07	5/16	7.94
6	09	3/8	9.52
7	11	7/16	11.11
8	12	1/2	12.70

Note: Inch sizes in parentheses for "alternate symbols" (under 1/4 inch IC)

Example 2:

T	N	M	A	3	3	3	T	020	20
1	2	3	4	5	6	7	8	10	11

4			
Machining and fastening features			
A		H	 $\beta = 70-90^\circ$
B	 $\beta = 70-90^\circ$	J	 $\beta = 70-90^\circ$
C	 $\beta = 70-90^\circ$	M	
F		N	
G		Q	 $\beta = 40-60^\circ$
		R	
		T	 $\beta = 40-60^\circ$
		U	 $\beta = 40-60^\circ$
		W	 $\beta = 40-60^\circ$

X Drawing or precise description of the indexable insert is required

7				
Corner radius				
	inch	mm	inch	mm
	0	.01	.004	0.1
	.5	.02	.008	0.2
	1	.04	.015	0.4
	2	.08	.031	0.8
	3	.12	.047	1.2
	4	.16	.062	1.6
	5	.20	.078	2.0
	6	.24	.093	2.4
	7	.28	.109	2.8
	8	.32	.125	3.2
	—	00	round insert (in)	
	—	M0	round insert (mm)	

M0 for diameter inch sizes converted to mm

00 for diameter in metric sizes

8	
Edge formation	
F	
E	
T	
S	

9	
Cutting direction	
	R
	L
	N

10	
Chamfer width inch	
	010 = 0.004
	020 = 0.008
	025 = 0.010
	070 = 0.028
	150 = 0.059
	200 = 0.079

11	
Chamfer angle	
	15 = 15°
	20 = 20°

Designation key in accordance with ISO 1832 for indexable inserts for turning

Example 1:

C	N	M	G	12	04	08M	–	M	P	5
1	2	3	4	5	6	7		12	13	14

1			
Insert shape			
A		M	
B		O	
C		P	
D		R	
E		S	
H		T	
K		V	
L		W	

2			
Clearance angle			
A		F	
B		G	
C		N	
D		P	
E			

3			
Tolerances			
Permissible deviation in mm for			
	d	m	s
A	± 0.025	± 0.005	± 0.025
C	± 0.025	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
F	± 0.013	± 0.005	± 0.025
G	± 0.025	± 0.025	± 0.130
H	± 0.013	± 0.013	± 0.025
J ¹	± 0.05–0.15 ²	± 0.005	± 0.025
K ¹	± 0.05–0.15 ²	± 0.013	± 0.025
L ¹	± 0.05–0.15 ²	± 0.025	± 0.025
M	± 0.05–0.15 ²	± 0.08–0.20 ²	± 0.130
N	± 0.05–0.15 ²	± 0.08–0.20 ²	± 0.025
U	± 0.08–0.25 ²	± 0.13–0.38 ²	± 0.130

¹ Inserts with ground planar cutting edges
² Depending on the insert size (see ISO standard 1832)

5													
Cutting edge length l [mm]													
Inner circle diameter d		C		D		R		S		T		V	
mm	Inches	Size	l	Size	l	Size	Size	Size	l	Size	l	Size	l
3.97	5/32									06	6.9		
5	0.197					05						03	3.8
5.56	7/32									09	9		
6	0.236					06							
6.35	2/8	06	6.4	07	7.7	06 ¹				11	11	11	11
8	0.315					08						04	4.3
9.525	3/8	09	9.6	11	11.6	09 ¹	09	9.5		16	16.5	16	16.5
10	0.394					10							
12	0.472					12							
12.7	4/8	12	12.9	15	15.5	12 ¹	12	12.7		22	22	22	22.1
15.875	5/8	16	16.1				15	15.8		27	27		
16	0.63					16							
17.46	11/16												
19.05	6/8	19	19.3			19 ¹	19	19.0				12	11.6
20	0.787					20							
25	0.984					25							
25.4	8/8	25	25.8			25 ¹	25	25.4					
32	1.26					32							

6	
Insert thickness s [mm]	
	01 s = 1.59
	T1 s = 1.98
	02 s = 2.38
	T2 s = 2.78
	03 s = 3.18
	T3 s = 3.97
	04 s = 4.76
	05 s = 5.56
	06 s = 6.35
	07 s = 7.94
	09 s = 9.52

¹ Inch version (00)

Example 2:

T	N	M	A	16	04	08	T	020	20
1	2	3	4	5	6	7	8	10	11

4			
Machining and fastening features			
A		H	 $\beta = 70-90^\circ$
B	 $\beta = 70-90^\circ$	J	 $\beta = 70-90^\circ$
C	 $\beta = 70-90^\circ$	M	
F		N	
G		Q	 $\beta = 40-60^\circ$
		R	
		T	 $\beta = 40-60^\circ$
		U	 $\beta = 40-60^\circ$
		W	 $\beta = 40-60^\circ$

X Drawing or precise description of the indexable insert is required

7	
Corner radius r [mm]	
	005 $r = 0.05$ 005M $r = 0.03$
	01 $r = 0.1$ 01M $r = 0.07$
	02 $r = 0.2$ 02M $r = 0.17$
	04 $r = 0.4$ 04M $r = 0.37$
	08 $r = 0.8$ 08M $r = 0.77$
	12 $r = 1.2$
	16 $r = 1.6$
	24 $r = 2.4$
M0 Metric version (diameter in [mm])	
00 Inch version (diameter with inch units in [mm])	

8	
Edge formation	
F	
T	
E	
S	

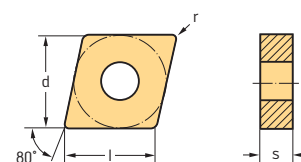
10	
Chamfer width	
	
010 = 0.10 mm	070 = 0.70 mm
020 = 0.20 mm	150 = 1.50 mm
025 = 0.25 mm	200 = 2.00 mm

9	
Cutting direction	
	R
	L
	N

11	
Chamfer angle	
	15 = 15°
	20 = 20°

Negative rhombic 80° CNMG

Tiger-tec® Silver



Indexable inserts

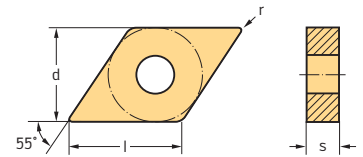
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						HC					HC				HC			HC						
						WPP05S	WPP10S	WPP20S	WPP30S	WMP20S	WSM01	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WKP30S	WSM01	WSM10S	WSM20S	WSM30S	WS10		
 Wiper	CNMG431-FW5	CNMG120404-FW5	0.016	0.004–0.016	0.012–0.118	☹️	☹️						☹️	☹️						☹️	☹️			
	CNMG432-FW5	CNMG120408-FW5	0.031	0.006–0.024	0.016–0.118	☹️	☹️						☹️	☹️						☹️	☹️			
 Wiper	CNMG432-MW5	CNMG120408-MW5	0.031	0.008–0.026	0.031–0.157	☹️	☹️	☹️		☹️	☹️					☹️	☹️							
	CNMG433-MW5	CNMG120412-MW5	0.047	0.010–0.028	0.059–0.157	☹️	☹️	☹️		☹️	☹️					☹️	☹️							
	CNMG431-MS3	CNMG120404-MS3	0.016	0.005–0.010	0.024–0.118							☹️	☹️	☹️	☹️					☹️	☹️	☹️	☹️	☹️
	CNMG432-MS3	CNMG120408-MS3	0.031	0.006–0.012	0.031–0.118		☹️	☹️				☹️	☹️	☹️	☹️					☹️	☹️	☹️	☹️	☹️
	CNMG433-MS3	CNMG120412-MS3	0.047	0.006–0.016	0.039–0.138			☹️				☹️	☹️	☹️	☹️					☹️	☹️	☹️	☹️	☹️
	CNMG643-MS3	CNMG190612-MS3	0.047	0.007–0.020	0.047–0.197							☹️	☹️	☹️	☹️					☹️		☹️		☹️
	CNMG431-MU5	CNMG120404-MU5	0.016	0.006–0.012	0.020–0.157		☹️	☹️		☹️	☹️		☹️	☹️								☹️		
	CNMG432-MU5	CNMG120408-MU5	0.031	0.006–0.016	0.024–0.197	☹️	☹️	☹️		☹️	☹️		☹️	☹️								☹️		
	CNMG433-MU5	CNMG120412-MU5	0.047	0.008–0.020	0.039–0.197	☹️	☹️	☹️		☹️	☹️		☹️	☹️								☹️		
	CNMG434-MU5	CNMG120416-MU5	0.063	0.010–0.022	0.047–0.197	☹️	☹️	☹️	☹️															
	CNMG543-MU5	CNMG160612-MU5	0.047	0.012–0.022	0.039–0.275	☹️	☹️	☹️	☹️		☹️	☹️		☹️	☹️							☹️		

See the ISO 1832 designation key for dimensions

 HC = Coated carbide
 HW = Uncoated carbide

Negative rhombic 55° DNMG

Tiger-tec® Silver

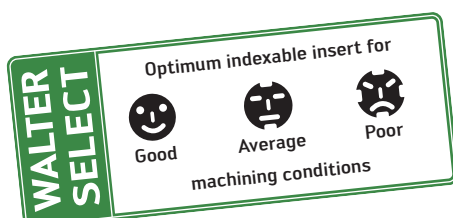


Indexable inserts

	ANSI Designation	Designation	r in	f in	a _p in	P HC				M HC				K HC			S HC			
						WPP05S	WPP10S	WPP20S	WPP30S	WMP20S	WSM01	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WKP30S	WSM01	WSM10S	WSM20S
 Wiper	DNMG331-FW5	DNMG110404-FW5	0.016	0.004–0.014	0.012–0.079	☹	☹					☹	☹					☹	☹	
	DNMG332-FW5	DNMG110408-FW5	0.031	0.006–0.020	0.016–0.079	☹	☹					☹	☹					☹	☹	
	DNMG431-FW5	DNMG150404-FW5	0.016	0.004–0.016	0.012–0.118	☹							☹						☹	
	DNMG432-FW5	DNMG150408-FW5	0.031	0.006–0.020	0.016–0.118	☹							☹						☹	
	DNMG441-FW5	DNMG150604-FW5	0.016	0.004–0.016	0.012–0.118		☹	☹					☹	☹					☹	
	DNMG442-FW5	DNMG150608-FW5	0.031	0.006–0.020	0.016–0.118		☹	☹					☹	☹					☹	
 Wiper	DNMG332-MW5	DNMG110408-MW5	0.031	0.006–0.020	0.031–0.118		☹	☹							☹	☹				
	DNMG333-MW5	DNMG110412-MW5	0.047	0.008–0.024	0.059–0.118		☹	☹							☹	☹				
	DNMG432-MW5	DNMG150408-MW5	0.031	0.006–0.022	0.031–0.157		☹								☹					
	DNMG433-MW5	DNMG150412-MW5	0.047	0.008–0.026	0.059–0.157		☹								☹					
	DNMG442-MW5	DNMG150608-MW5	0.031	0.006–0.022	0.059–0.157	☹	☹	☹							☹	☹				
	DNMG443-MW5	DNMG150612-MW5	0.047	0.008–0.026	0.059–0.157	☹	☹	☹							☹	☹				
	DNMG332-MS3	DNMG110408-MS3	0.031	0.005–0.012	0.031–0.098			☹				☹	☹		☹			☹	☹	
	DNMG431-MS3	DNMG150404-MS3	0.016	0.005–0.010	0.024–0.098							☹	☹					☹	☹	
	DNMG432-MS3	DNMG150408-MS3	0.031	0.006–0.012	0.031–0.098			☹				☹	☹		☹			☹	☹	
	DNMG441-MS3	DNMG150604-MS3	0.016	0.005–0.010	0.024–0.098							☹	☹					☹	☹	
	DNMG442-MS3	DNMG150608-MS3	0.031	0.006–0.012	0.031–0.098			☹				☹	☹		☹			☹	☹	
	DNMG332-MU5	DNMG110408-MU5	0.031	0.007–0.014	0.024–0.157		☹	☹		☹	☹		☹						☹	
	DNMG432-MU5	DNMG150408-MU5	0.031	0.007–0.014	0.024–0.197		☹	☹		☹	☹		☹						☹	
	DNMG442-MU5	DNMG150608-MU5	0.031	0.007–0.014	0.024–0.197	☹	☹	☹		☹	☹		☹						☹	
	DNMG443-MU5	DNMG150612-MU5	0.047	0.008–0.018	0.039–0.197	☹	☹	☹		☹	☹		☹						☹	
	DNMG444-MU5	DNMG150616-MU5	0.063	0.010–0.020	0.047–0.197		☹	☹		☹	☹		☹						☹	

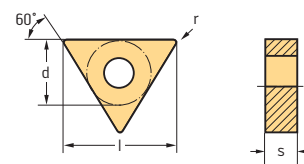
See the ISO 1832 designation key for dimensions

HC = Coated carbide



Negative triangular 60° TNMG

Tiger-tec® Silver



Indexable inserts

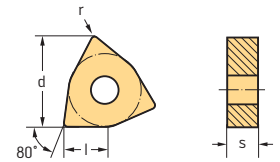
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						HC					HC			HC			HC		
						WPP05S	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WKP30S	WSM10S	WSM20S
 <u>Wiper</u>	TNMG331-FW5	TNMG160404-FW5	0.016	0.004–0.016	0.012–0.118		☺	☺				☺	☺				☺	☺	
	TNMG332-FW5	TNMG160408-FW5	0.031	0.006–0.020	0.016–0.118		☺	☺				☺	☺				☺	☺	
 <u>Wiper</u>	TNMG332-MW5	TNMG160408-MW5	0.031	0.006–0.022	0.031–0.157		☺	☺							☺	☺			
	TNMG333-MW5	TNMG160412-MW5	0.047	0.008–0.026	0.059–0.157		☺	☺							☺	☺			
 <u>Wiper</u>	TNMG331-MU5	TNMG160404-MU5	0.016	0.006–0.012	0.020–0.157		☺	☺		☺	☺	☺					☺		
	TNMG332-MU5	TNMG160408-MU5	0.031	0.007–0.014	0.024–0.157		☺	☺		☺	☺	☺					☺		
	TNMG333-MU5	TNMG160412-MU5	0.047	0.008–0.018	0.039–0.157		☺	☺		☺	☺	☺					☺		

See the ISO 1832 designation key for dimensions

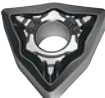
HC = Coated carbide

Negative Trigon 80° WNMG

Tiger-tec® Silver

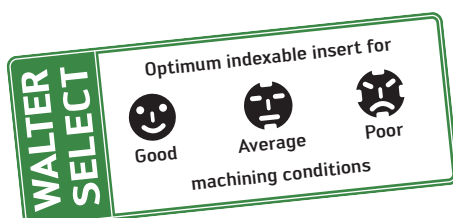


Indexable inserts

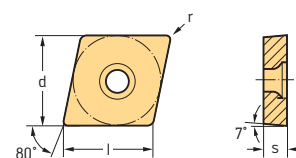
	ANSI Designation	Designation	r in	f in	a _p in	P					M				K			S			
						HC					HC				HC			HC			
						WPP05S	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM01	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WKP30S	WSM01	WSM10S	WSM20S
 Wiper	WNMG331-FW5	WNMG060404-FW5	0.016	0.004–0.138	0.012–0.079	☺	☺	☺				☺	☺					☺	☺		
	WNMG332-FW5	WNMG060408-FW5	0.031	0.006–0.020	0.016–0.079	☺	☺	☺				☺	☺					☺	☺		
	WNMG431-FW5	WNMG080404-FW5	0.016	0.004–0.016	0.012–0.118	☺	☺	☺				☺	☺					☺	☺		
	WNMG432-FW5	WNMG080408-FW5	0.031	0.006–0.024	0.016–0.118	☺	☺	☺				☺	☺					☺	☺		
	WNMG433-FW5	WNMG080412-FW5	0.047	0.010–0.026	0.024–0.118	☺	☺	☺													
 Wiper	WNMG332-MW5	WNMG060408-MW5	0.031	0.006–0.020	0.031–0.118	☺	☺	☺							☺						
	WNMG333-MW5	WNMG060412-MW5	0.047	0.008–0.024	0.059–0.118	☺	☺	☺							☺						
	WNMG432-MW5	WNMG080408-MW5	0.031	0.008–0.026	0.031–0.157	☺	☺	☺		☺	☺				☺	☺					
	WNMG433-MW5	WNMG080412-MW5	0.047	0.010–0.028	0.059–0.157	☺	☺	☺		☺	☺				☺						
	WNMG431-MS3	WNMG080404-MS3	0.016	0.005–0.010	0.024–0.118							☺	☺		☺			☺	☺		
	WNMG432-MS3	WNMG080408-MS3	0.031	0.006–0.012	0.031–0.118							☺	☺		☺			☺	☺		
	WNMG332-MU5	WNMG060408-MU5	0.031	0.006–0.138	0.024–0.118	☺	☺	☺		☺	☺		☺							☺	
	WNMG431-MU5	WNMG080404-MU5	0.016	0.006–0.012	0.020–0.157	☺	☺	☺		☺	☺		☺							☺	
	WNMG432-MU5	WNMG080408-MU5	0.031	0.006–0.016	0.024–0.197	☺	☺	☺		☺	☺		☺							☺	
	WNMG433-MU5	WNMG080412-MU5	0.047	0.008–0.020	0.039–0.197	☺	☺	☺		☺	☺		☺							☺	

See the ISO 1832 designation key for dimensions

HC = Coated carbide



Positive rhombic 80° CCGT



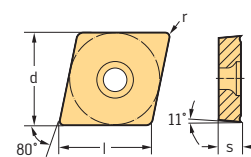
Indexable inserts

	ANSI Designation	Designation	l in	r in	f in	a _p in	P					M			K		S			
							HE	HC				HC			HC		HC		HC	
								WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S
	CCGT2(1.5)0.2M-FP2	CCGT060201M-FP2	0.253	0.003	0.001–0.002	0.004–0.059	☹													
	CCGT2(1.5)0.5M-FP2	CCGT060202M-FP2	0.253	0.007	0.002–0.005	0.008–0.079	☹													
	CCGT2(1.5)1M-FP2	CCGT060204M-FP2	0.253	0.015	0.003–0.010	0.008–0.098	☹													
	CCGT3(2.5)0.2M-FP2	CCGT09T301M-FP2	0.380	0.003	0.001–0.002	0.004–0.059	☹													
	CCGT3(2.5)0.5M-FP2	CCGT09T302M-FP2	0.380	0.007	0.002–0.005	0.008–0.079	☹													
	CCGT3(2.5)1M-FP2	CCGT09T304M-FP2	0.380	0.015	0.003–0.010	0.008–0.098	☹													
	CCGT3(2.5)2M-FP2	CCGT09T308M-FP2	0.380	0.030	0.004–0.012	0.012–0.118	☹													

See the ISO 1832 designation key for dimensions

HE = Coated cermet
HC = Coated carbide

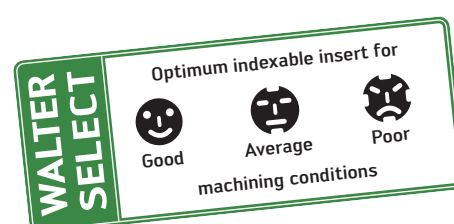
Positive rhombic 80° CPGT



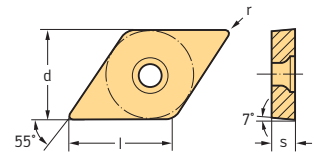
Indexable inserts

	ANSI Designation	Designation	l in	r in	f in	a _p in	P					M				K		S		
							HE	HC				HC				HC		HC		
							WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S	WSM30S
	CPGT1.8(1.5)0.5M-FP2	CPGT050202M-FP2	0.222	0.007	0.002–0.005	0.008–0.079														
	CPGT1.8(1.5)1M-FP2	CPGT050204M-FP2	0.222	0.015	0.003–0.008	0.008–0.079														

See the ISO 1832 designation key for dimensions

HE = Coated cermet
HC = Coated carbide

Positive rhombic 55° DCGT



Indexable inserts

	ANSI Designation	Designation	l in	r in	f in	a _p in	P				M				K		S		
							HE		HC		HC				HC		HC		
							WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S
	DCGT2(1.5)0.5M-FP2	DCGT070202M-FP2	0.305	0.007	0.002–0.005	0.008–0.079	☞												
	DCGT2(1.5)1M-FP2	DCGT070204M-FP2	0.305	0.015	0.003–0.010	0.008–0.098	☞												
	DCGT32.5X20M-FP2*	DCGT11T3005M-FP2	0.457	0.001	0.0004–0.002	0.004–0.039	☞												
	DCGT3(2.5)0.2M-FP2	DCGT11T301M-FP2	0.457	0.003	0.001–0.002	0.004–0.059	☞												
	DCGT3(2.5)0.5M-FP2	DCGT11T302M-FP2	0.457	0.007	0.002–0.005	0.008–0.079	☞												
	DCGT3(2.5)1M-FP2	DCGT11T304M-FP2	0.457	0.015	0.003–0.010	0.008–0.098	☞												
	DCGT3(2.5)2M-FP2	DCGT11T308M-FP2	0.457	0.030	0.004–0.012	0.012–0.118	☞												

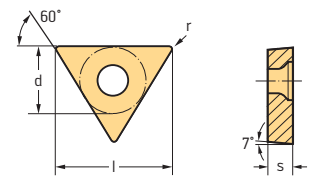
See the ISO 1832 designation key for dimensions

*For corner radii smaller than ANSI 0.2, the nomenclature changes to direct thousands of an inch. For example, X20=0.002in, X10=0.001 in, etc.

HE = Coated cermet

HC = Coated carbide

Positive triangular 60° TCGT



Indexable inserts

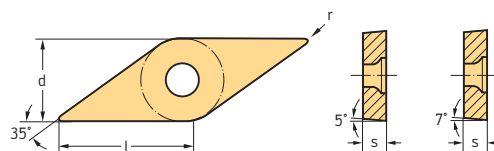
	ANSI Designation	Designation	l in	r in	f in	a _p in	P					M			K		S			
							HE		HC			HC			HC		HC			
							WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S	WSM30S
	TCGT1.2(1.2)1M-FP2	TCGT06T104M-FP2	0.270	0.015	0.003–0.010	0.008–0.079	☺													
	TCGT1.8(1.5)1M-FP2	TCGT090204M-FP2	0.378	0.015	0.003–0.010	0.008–0.098	☺													
	TCGT2(1.5)0.5M-FP2	TCGT110202M-FP2	0.432	0.007	0.002–0.005	0.008–0.079	☺													
	TCGT2(1.5)1M-FP2	TCGT110204M-FP2	0.432	0.015	0.003–0.010	0.008–0.098	☺													

See the ISO 1832 designation key for dimensions

HE = Coated cermet

HC = Coated carbide

Positive rhombic 35° VCGT



Indexable inserts

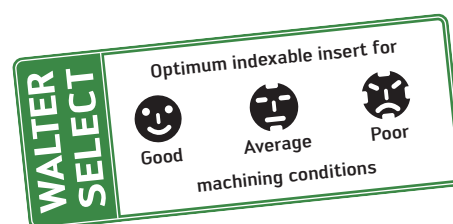
Designation	Designation	l in	r in	f in	a _p in	P				M				K		S		
						HE	HC			HC				HC		HC		
						WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S	WSM30S
 VCGT22X20M-FP2*	VCGT1103005M-FP2	0.435	0.001	0.0004–0.002	0.004–0.039	☹												
VCGT2(2)0.2M-FP2	VCGT110301M-FP2	0.435	0.003	0.001–0.002	0.004–0.059	☹												
VCGT2(2)0.5M-FP2	VCGT110302M-FP2	0.435	0.007	0.002–0.005	0.008–0.079	☹												
VCGT221M-FP2	VCGT110304M-FP2	0.435	0.015	0.003–0.010	0.008–0.098	☹												
VCGT3(3)0.5M-FP2	VCGT160402M-FP2	0.653	0.007	0.002–0.005	0.008–0.079	☹												
VCGT331M-FP2	VCGT160404M-FP2	0.653	0.015	0.003–0.010	0.008–0.098	☹												
VCGT332M-FP2	VCGT160408M-FP2	0.653	0.030	0.004–0.012	0.012–0.118	☹												

See the ISO 1832 designation key for dimensions

*For corner radii smaller than ANSI 0.2, the nomenclature changes to direct thousands of an inch. For example, X20=0.002in, X10=0.001 in, etc.

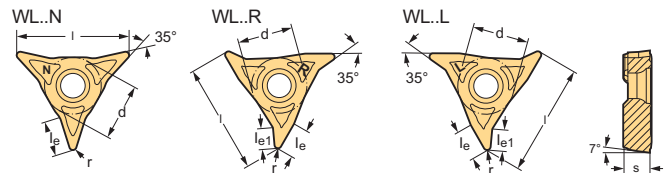
HE = Coated cermet

HC = Coated carbide



Indexable inserts for copy turning system WL

Tiger-tec® Silver



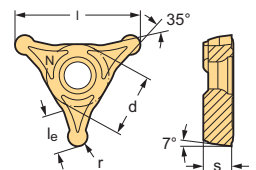
Indexable inserts

	Designation	r in	l in	l _e in	l _{e1} in	f in	a _p in	P			M			K		S	
								HC			HC			HC		HC	
								WPP10S	WPP20S	WMP20S	WMP20S	WSM20S	WSM30S	WKK10S	WKK20S	WSM20S	WSM30S
	WL25-VC0704N-MP4	0.016	0.983	0.248		0.003–0.010	0.016–0.098	☹	☹								
	WL25-VC0708N-MP4	0.031	0.983	0.279		0.005–0.013	0.020–0.098	☹	☹								
	WL25-VC0704R-MP4	0.016	0.983	0.244	0.153	0.003–0.010	0.016–0.098	☹	☹								
	WL25-VC0708R-MP4	0.031	0.983	0.259	0.181	0.005–0.013	0.020–0.098	☹	☹								
	WL25-VC0704L-MP4	0.016	0.983	0.244	0.153	0.003–0.010	0.016–0.098	☹	☹								
	WL25-VC0708L-MP4	0.031	0.983	0.259	0.181	0.005–0.013	0.020–0.098	☹	☹								
	WL25-VC0704N-MM4	0.016	0.983	0.248		0.003–0.010	0.016–0.098			☹	☹	☹				☹	
	WL25-VC0708N-MM4	0.031	0.983	0.279		0.005–0.013	0.020–0.098			☹	☹	☹				☹	
	WL25-VC0704R-MM4	0.016	0.983	0.244	0.153	0.003–0.010	0.016–0.098			☹	☹	☹				☹	
	WL25-VC0708R-MM4	0.031	0.983	0.259	0.181	0.005–0.013	0.020–0.098			☹	☹	☹				☹	
	WL25-VC0704L-MM4	0.016	0.983	0.244	0.153	0.003–0.010	0.016–0.098			☹	☹	☹				☹	
	WL25-VC0708L-MM4	0.031	0.983	0.259	0.181	0.005–0.013	0.020–0.098			☹	☹	☹				☹	

HC = Coated carbide

Indexable inserts for copy turning system WL

Tiger-tec® Silver

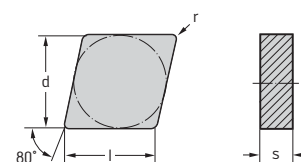


Indexable inserts

	Designation	r in	l in	l _e in	f in	a _p in	P			M			K		S	
							HC			HC			HC		HC	
							WPP10S	WPP20S	WMP20S	WMP20S	WSM20S	WSM30S	WKK10S	WKK20S	WSM20S	WSM30S
	WL25-RC0420N-MU6	0.079	0.983	0.283	0.005–0.016	0.020–0.079		☹				☹	☹		☹	☹

HC = Coated carbide

CBN – Negative rhombic 80° CNGN



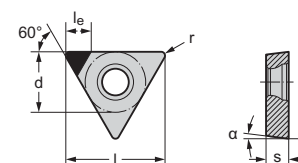
Indexable inserts

	ANSI Designation	Designation	Number of cutting edges	r in	f in	a _p in	K		N		S		H		O	
							CN		BH		DP		BL		DP	
							WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20	WDN10	
	CNGN432TM-S	CNGN120408TM-S	4	0.031	0.002–0.020	0.004–0.197			★							
	CNGN433TM-S	CNGN120412TM-S	4	0.047	0.002–0.020	0.004–0.197			★							
	CNGN434TM-S	CNGN120416TM-S	4	0.063	0.002–0.020	0.004–0.197			★							

See the ISO 1832 designation key for dimensions

CN = Silicon nitride Si₃N₄
 BH = CBN with high CBN content
 DP = Polycrystalline diamond
 BL = CBN with low CBN content

CBN – Positive triangular 60° TCGW



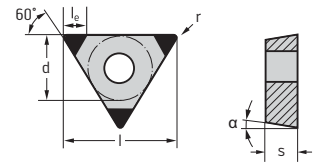
Indexable inserts

	ANSI Designation	Designation	Number of cutting edges	l _e in	r in	α	f in	a _p in	K		N		S		H		O	
									CN		BH		DP		BL		DP	
									WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20	WDN10	
	TCGW1.2(1.2)0.5TS-1	TCGW06T102TS-1	1	0.094	0.008	7°	0.002–0.006	0.004–0.012		★								
	TCGW1.2(1.2)0.5TS-1	TCGW06T102TS-1	1	0.094	0.008	7°	0.001–0.005	0.004–0.012							★	★		
	TCGW1.2(1.2)1TS-1	TCGW06T104TS-1	1	0.086	0.016	7°	0.002–0.006	0.004–0.012		★								
	TCGW1.2(1.2)1TS-1	TCGW06T104TS-1	1	0.086	0.016	7°	0.001–0.005	0.004–0.012							★	★		

See the ISO 1832 designation key for dimensions

CN = Silicon nitride Si₃N₄
 BH = CBN with high CBN content
 DP = Polycrystalline diamond
 BL = CBN with low CBN content

CBN – Positive triangular 60° TCGW



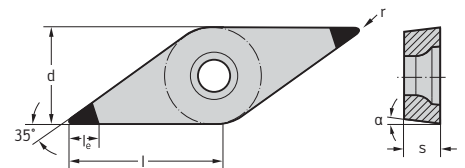
Indexable inserts

	ANSI Designation	Designation	Number of cutting edges	l_e in	r in	α	f in	a_p in	K		N		S		H		O
									CN	BH	DP	BH			BL		DP
	TCGW2(1.5)0.5TS-3	TCGW110202TS-3	3	0.110	0.008	7°	0.002–0.006	0.004–0.012	WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20	WDN10
	TCGW2(1.5)1TS-3	TCGW110204TS-3	3	0.122	0.016	7°	0.002–0.008	0.004–0.012	WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20	WDN10
	TCGW2(1.5)1TM-3	TCGW110204TM-3	3	0.122	0.016	7°	0.002–0.008	0.004–0.012							⊗	⊗	⊗
	TCGW2(1.5)2TM-3	TCGW110208TM-3	3	0.110	0.031	7°	0.002–0.010	0.004–0.020							⊗	⊗	⊗

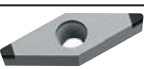
See the ISO 1832 designation key for dimensions

CN = Silicon nitride Si_3N_4
 BH = CBN with high CBN content
 DP = Polycrystalline diamond
 BL = CBN with low CBN content

CBN – Positive rhombic 35° VBGW

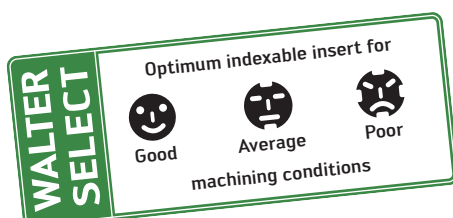


Indexable inserts

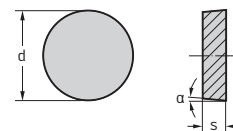
	Designation	Designation	Number of cutting edges	l_e in	r in	α	f in	a_p in	K		N		S		H		O
									CN	BH	DP	BH			BL		DP
	VBGW331TS-2	VBGW160404TS-2	2	0.118	0.016	5°	0.002–0.008	0.004–0.020	WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20	WDN10
	VBGW332TS-2	VBGW160408TS-2	2	0.118	0.031	5°	0.002–0.010	0.004–0.020	WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20	WDN10
	VBGW221TM-2	VBGW110304TM-2	2	0.118	0.016	5°	0.002–0.008	0.004–0.020							⊗	⊗	
	VBGW3(3)0.5TM-2	VBGW160402TM-2	2	0.134	0.008	5°	0.002–0.010	0.004–0.020							⊗	⊗	
	VBGW331TM-2	VBGW160404TM-2	2	0.118	0.016	5°	0.002–0.008	0.004–0.020							⊗	⊗	
	VBGW332TM-2	VBGW160408TM-2	2	0.118	0.031	5°	0.002–0.010	0.004–0.020							⊗	⊗	

See the ISO 1832 designation key for dimensions

CN = Silicon nitride Si_3N_4
 BH = CBN with high CBN content
 DP = Polycrystalline diamond
 BL = CBN with low CBN content



Ceramic – Positive round RPGN

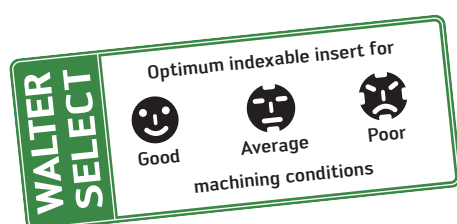


Indexable inserts

	ANSI Designation	Designation	d in	α	f in	a _p in	K			N		S		H			O
							CN		BH	DP	BH	CN		BL			DP
							WCK10	WBK20	WBK30	WDN10	WBS10	WIS10	WBH10C	WBH10	WBH20	WDN10	
	RPGN32E	RPGN090300E	0.375	11°	0.004–0.008	0.004–0.094							☹				
	RPGN43E	RPGN120400E	0.499	11°	0.004–0.012	0.004–0.141						☹					
	RPGN32T01020	RPGN090300T01020	0.375	11°	0.004–0.010	0.008–0.094						☹					
	RPGN43T01020	RPGN120400T01020	0.499	11°	0.004–0.013	0.008–0.141						☹					

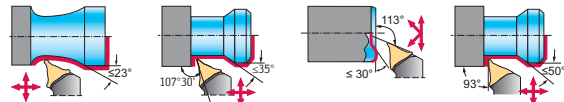
See the ISO 1832 designation key for dimensions

CN = Silicon nitride Si₃N₄
 BH = CBN with high CBN content
 DP = Polycrystalline diamond
 BL = CBN with low CBN content



Walter Turn turning tools product range overview – External machining

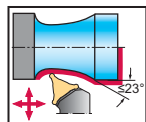
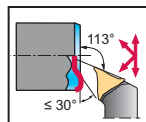
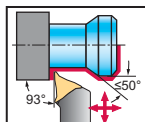
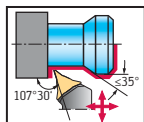
Square shank turning toolholders – WL copy turning system

Machining	
Type	 WL...
Designation	W1011...-P
Clamping system	Screw
Coolant supply	Precision cooling
Shank size h [mm]	20–25
Shank size h [inch]	0.750–1.000
Insert size l [mm]	25
Page	26
	

Shank tool – copy turning system

W1011...-P

Walter Turn

[illegible]

Measured with master insert: WL25-VC0708N

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"

The maximum recommended coolant pressure is 150 bar (2175 psi)

Ordering example, right-hand tool: W1011-2020R-WL25-P/ordering example, left-hand tool: W1011-2020L-WL25-P

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

Type		WL25..
	Clamping screw for indexable insert Tightening torque	FS1495 (Torx 20IP) 5.0 Nm
	G 1/8" threaded plug	FS2258 (SW 5)
	M6 threaded plug	FS2288 (SW 3)
	Torx key	FS1464 (Torx 20IP)

Indexable inserts

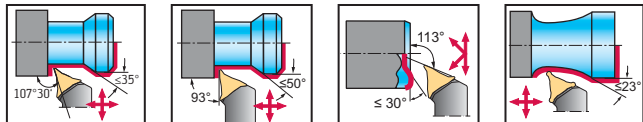
	Designation	r in	l _{e1} in	f in	a _p in	P		M			K		S	
						HC		HC			HC		HC	
						WPP10S	WPP20S	WMP20S	WSM20S	WSM30S	WKK10S	WKK20S	WSM20S	WSM30S
	WL25-VC0704N-MM4	0.016		0.003–0.010	0.016–0.098									
	WL25-VC0708N-MM4	0.031		0.005–0.013	0.020–0.098									
	WL25-VC0704N-MP4	0.016		0.003–0.010	0.016–0.098									
	WL25-VC0708N-MP4	0.031		0.005–0.013	0.020–0.098									
	WL25-VC0704R-MM4	0.016	0.153	0.003–0.010	0.016–0.098									
	WL25-VC0708R-MM4	0.031	0.181	0.005–0.013	0.020–0.098									
	WL25-VC0704R-MP4	0.016	0.153	0.003–0.010	0.016–0.098									
	WL25-VC0708R-MP4	0.031	0.181	0.005–0.013	0.020–0.098									
	WL25-VC0704L-MM4	0.016	0.153	0.003–0.010	0.016–0.098									
	WL25-VC0708L-MM4	0.031	0.181	0.005–0.013	0.020–0.098									
	WL25-VC0704L-MP4	0.016	0.153	0.003–0.010	0.016–0.098									
	WL25-VC0708L-MP4	0.031	0.181	0.005–0.013	0.020–0.098									
	WL25-RC0420N-MU6	0.079		0.005–0.016	0.020–0.079									

HC = Coated carbide

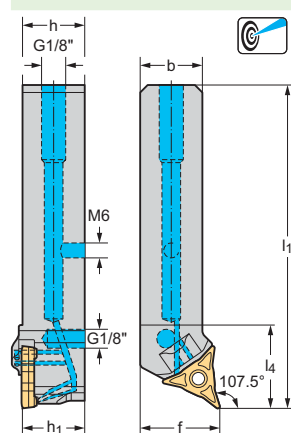
Shank tool – copy turning system

W1011...-P inch

Walter Turn



Tool



Designation

★ W1011.12R/L-WL25-P

★ W1011.16R/L-WL25-P

h = h₁
inchb
inchf
inchl₁
inchl₄
inch

γ

λ_s

Type

WL25..

Measured with master insert: WL25-VC0708N

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s, see "Technical information – ISO turning"

For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"

The maximum recommended coolant pressure is 150 bar (2175 psi)

Ordering example, right-hand tool: W1011.12R-WL25-P/ordering example, left-hand tool: W1011.12L-WL25-P

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

Type		WL25..
	Clamping screw for indexable insert Tightening torque	FS1495 (Torx 20IP) 44 in lbs
	G 1/8" threaded plug	FS2258 (SW 5)
	M6 threaded plug	FS2288 (SW 3)
	Torx key	FS1464 (Torx 20IP)

Indexable inserts

	Designation	r in	l _{e1} in	f in	a _p in	P			M			K		S	
						HC			HC			HC		HC	
						WPP10S	WPP20S	WMP20S	WMP20S	WSM20S	WSM30S	WKK10S	WKK20S	WSM20S	WSM30S
	WL25-VC0704N-MM4	0.016		0.003–0.010	0.016–0.098										
	WL25-VC0708N-MM4	0.031		0.005–0.013	0.020–0.098										
	WL25-VC0704N-MP4	0.016		0.003–0.010	0.016–0.098										
	WL25-VC0708N-MP4	0.031		0.005–0.013	0.020–0.098										
	WL25-VC0704R-MM4	0.016	0.153	0.003–0.010	0.016–0.098										
	WL25-VC0708R-MM4	0.031	0.181	0.005–0.013	0.020–0.098										
	WL25-VC0704R-MP4	0.016	0.153	0.003–0.010	0.016–0.098										
	WL25-VC0708R-MP4	0.031	0.181	0.005–0.013	0.020–0.098										
	WL25-VC0704L-MM4	0.016	0.153	0.003–0.010	0.016–0.098										
	WL25-VC0708L-MM4	0.031	0.181	0.005–0.013	0.020–0.098										
	WL25-VC0704L-MP4	0.016	0.153	0.003–0.010	0.016–0.098										
	WL25-VC0708L-MP4	0.031	0.181	0.005–0.013	0.020–0.098										
	WL25-RC0420N-MU6	0.079		0.005–0.016	0.020–0.079										

HC = Coated carbide

Walter Turn turning tools product range overview – Internal machining

Boring bar/adaptor

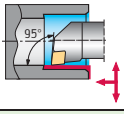
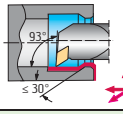
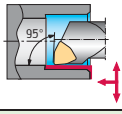
Designation	A2140-W
Coolant supply	Axial
Boring bar diameter d_1 [mm]	16–40
Page	32
	

Accuretec vibration-damped boring bar/adaptor

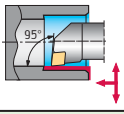
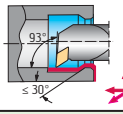
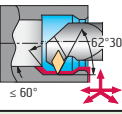
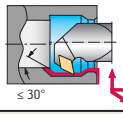
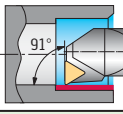
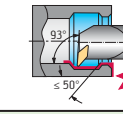
Designation	A3000	A3000-C	A3000-HSK-T
Tool type	QuadFit boring bars		
Machine-side	Parallel shank	Walter Capto™ in acc. with ISO 26623	HSK-T DIN 69893-7
Tool-side	Q25 / Q32 / Q40 / Q50	Q25 / Q32 / Q40 / Q50	Q25 / Q32 / Q40 / Q50
Boring bar diameter d_1 [mm]	25–50	25–50	25–50
Boring bar diameter d_1 [in]	1-2	-	-
Boring bar length l_4 [mm]	130–470	130–468	130–468
Page	33	35	36
			

Walter Turn turning tools product range overview – Internal machining

QuadFit exchangeable head – negative basic shape

Machining			
Type			
Designation	Q...-DCLN	Q...-DDUN	Q...-DWLN
Lead angle κ	95°	93°	95°
Clamping system	Clamp	Clamp	Clamp
Coolant supply	Internal	Internal	Internal
QuadFit size	Q32–Q50	Q32–Q50	Q32–Q50
Insert size l [mm]	12–16	11–15	6–8
Page	37	38	39
			

QuadFit exchangeable head – positive basic shape

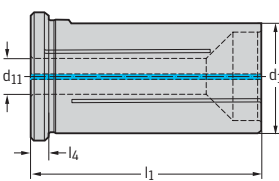
Machining						
Type						
Designation	Q...-SCLC	Q...-SDUC	Q...-SDXC	Q...-SDUC...-X	Q...-STFC	Q...-SVUB
Lead angle κ	95°	93°	62.5°	32°	91°	93°
Clamping system	Screw	Screw	Screw	Screw	Screw	Screw
Coolant supply	Internal	Internal	Internal	Internal	Internal	Internal
QuadFit size	Q25–Q50	Q25–Q50	Q25–Q50	Q25–Q50	Q25–Q50	Q25–Q50
Insert size l [mm]	9–12	11	11	11	11–16	11–16
Page	40	41	43	42	44	45
						

Boring bar/adaptor

A2140-W mm



- With Weldon shank in accordance with DIN 9766
- Self-centring for cylindrical round shank

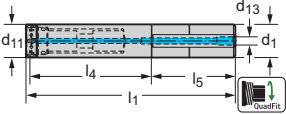
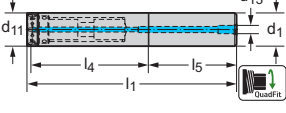
Tool	Designation	d ₁ mm	d ₁₁ mm	l ₁ mm	l ₄ mm	kg
Parallel shank with flat in acc. with ISO 9766 	★ A2140-W16-R06-048	16	6	48	5	0,1
	★ A2140-W16-R08-048	16	8	48	5	0,1
	★ A2140-W16-R10-048	16	10	48	5	0,1
	★ A2140-W16-R12-048	16	12	48	5	0,1
	★ A2140-W20-R06-055	20	6	55	5	0,1
	★ A2140-W20-R08-055	20	8	55	5	0,1
	★ A2140-W20-R10-055	20	10	55	5	0,1
	★ A2140-W20-R12-055	20	12	55	5	0,1
	★ A2140-W20-R16-055	20	16	55	5	0,1
	A2140-W25-R06-061	25	6	61	5	0,2
	A2140-W25-R08-061	25	8	61	5	0,2
	A2140-W25-R10-061	25	10	61	5	0,2
	A2140-W25-R12-061	25	12	61	5	0,2
	A2140-W25-R16-061	25	16	61	5	0,1
	A2140-W32-R06-065	32	6	65	5	0,3
	A2140-W32-R08-065	32	8	65	5	0,3
	A2140-W32-R10-065	32	10	65	5	0,3
	A2140-W32-R12-065	32	12	65	5	0,3
	A2140-W32-R16-065	32	16	65	5	0,3
	A2140-W32-R20-065	32	20	65	5	0,2
	A2140-W40-R06-075	40	6	75	5	0,6
	A2140-W40-R08-075	40	8	75	5	0,6
	A2140-W40-R10-075	40	10	75	5	0,6
	A2140-W40-R12-075	40	12	75	5	0,6
	A2140-W40-R16-075	40	16	75	5	0,6
	A2140-W40-R20-075	40	20	75	5	0,6
	A2140-W40-R25-075	40	25	75	5	0,5

Note: Groove for self-centring is present on all Walter Turn boring bars with fully rounded shank (-R) dia. 6–25 mm.
The maximum recommended coolant pressure is 80 bar (1160 psi)

Plain cylindrical adaptor – vibration-damped

A3000 mm
Accure-tec


- For QuadFit exchangeable heads
- With preset vibration damping

Tool	Designation	d ₁ mm	d ₁₁	l ₄ mm	l ₅ mm	l ₁ mm	d ₁₃	kg
 Parallel shank with clamping surface	★ A3000-25-Q25-130	25	Q25	130	100	235	G 1/4	0.9
	★ A3000-25-Q25-180	25	Q25	180	100	285	G 1/4	1.1
	A3000-32-Q32-160	32	Q32	160	128	293	G 1/4	1.8
	A3000-32-Q32-224	32	Q32	224	128	357	G 1/4	2.3
	A3000-40-Q40-208	40	Q40	208	160	374	G 1/4	3.8
	A3000-40-Q40-288	40	Q40	288	160	454	G 1/4	4.6
	A3000-50-Q50-268	50	Q50	268	200	475	G 1/4	7.5
	A3000-50-Q50-368	50	Q50	368	200	575	G 1/4	9.1
 Parallel shank without clamping surface	★ A3000-25-Q25-230-CS	25	Q25	230	75	310	M8X1	1.7
	★ A3000-32-Q32-288-CS	32	Q32	288	98	389	M8X1	2.7
	A3000-40-Q40-368	40	Q40	368	160	534	G 1/4	5.5
	A3000-50-Q50-468	50	Q50	468	200	675	G 1/4	11

QuadFit exchangeable heads – see the “Turning” section

A3000...-CS = Carbide-reinforced version

Bodies and assembly parts are included in the scope of delivery.

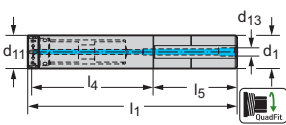
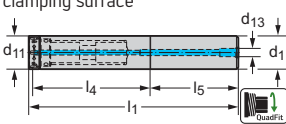
Assembly parts		d ₁₁	Q25	Q32	Q40	Q50
	Hook wrench		SD9000-Q25	SD9000-Q32	SD9000-Q40	SD9000-Q50
	Tightening torque		25 Nm	25 Nm	35 Nm	55 Nm
	Coolant adaptor for CS variant		CN3001-M8-G1/4	CN3001-M8-G1/4		

Accessories		d ₁₁	Q32	Q40	Q50
	Torque wrench with hook		SD4000-Q32-25	SD4000-Q40-35	SD4000-Q50-55
	Tightening torque		25 Nm	35 Nm	55 Nm
	Hook for torque wrench		SD6000-Q32	SD6000-Q40	SD6000-Q50

Plain cylindrical adaptor – vibration-damped

A3000 inch
Accure-tec


- For QuadFit exchangeable heads
- With preset vibration damping

Tool	Designation	d ₁ inch	d ₁₁	l ₄ inch	l ₅ inch	l ₁ inch	d ₁₃	lbs
 Parallel shank with clamping surface	★ A3000.16-Q25-133	1.000	Q25	5.250	4.000	9.430	G 1/4	4.37
	★ A3000.16-Q25-184	1.000	Q25	7.250	4.000	11.430	G 1/4	5.36
	A3000.20-Q32-165	1.250	Q32	6.500	5.000	11.713	G 1/4	3.97
	A3000.20-Q32-229	1.250	Q32	9.000	5.000	14.213	G 1/4	5.07
	A3000.24-Q40-203	1.500	Q40	8.000	6.000	14.252	G 1/4	7.72
	A3000.24-Q40-279	1.500	Q40	11.000	6.000	17.252	G 1/4	9.48
	A3000.32-Q50-267	2.000	Q50	10.500	8.000	18.791	G 1/4	16.76
	A3000.32-Q50-368	2.000	Q50	14.496	8.000	22.791	G 1/4	20.28
 Parallel shank without clamping surface	★ A3000.16-Q25-235-CS	1.000	Q25	9.250	3.000	12.430	M8X1	8.75
	★ A3000.20-Q32-292-CS	1.250	Q32	11.500	3.750	15.463	M8X1	13.12
	A3000.24-Q40-356	1.500	Q40	14.000	6.000	20.252	G 1/4	11.46
	A3000.32-Q50-470	2.000	Q50	18.500	8.000	26.791	G 1/4	24.69

QuadFit exchangeable heads – see the “Turning” section

A3000...-CS = Carbide-reinforced version

Bodies and assembly parts are included in the scope of delivery.

Assembly parts		d ₁₁	Q25	Q32	Q40	Q50
	Hook wrench		SD9000-Q25	SD9000-Q32	SD9000-Q40	SD9000-Q50
	Tightening torque		220 in lb	220 in lb	310 in lb	485 in lb
	Coolant adaptor for CS variant		CN3001-M8-G1/4	CN3001-M8-G1/4		

Accessories		d ₁₁	Q32	Q40	Q50
	Torque wrench with hook		SD4000-Q32-25	SD4000-Q40-35	SD4000-Q50-55
	Tightening torque		220 in lb	310 in lb	485 in lb
	Hook for torque wrench		SD6000-Q32	SD6000-Q40	SD6000-Q50

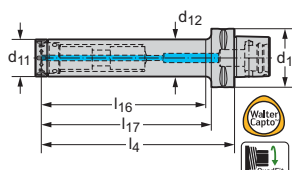
Walter Capto™ boring bar – vibration-damped

A3000-C mm

Accuretec



- For QuadFit exchangeable heads
- With preset vibration damping

Tool	Designation	d ₁	d ₁₁	d ₁₂ mm	l ₄ mm	l ₁₆ mm	l ₁₇ mm	n _{max}	kg
	★ A3000-C4-Q25-130	C4	Q25	25	130	107	110	10000	0.8
	★ A3000-C4-Q25-180	C4	Q25	25	180	157	160	8000	1
	★ A3000-C4-Q32-160	C4	Q32	32	160	137	140	10000	1.2
	★ A3000-C4-Q32-224	C4	Q32	32	224	201	204	8000	1.7
	★ A3000-C5-Q25-130	C5	Q25	25	130	107	110	10000	0.9
	★ A3000-C5-Q25-180	C5	Q25	25	180	157	160	8000	1.1
	★ A3000-C5-Q25-230	C5	Q25	25	230	207	210	6000	1.3
	★ A3000-C5-Q32-160	C5	Q32	32	160	136	140	10000	1.4
	★ A3000-C5-Q32-224	C5	Q32	32	224	200	204	8000	1.8
	★ A3000-C5-Q32-288	C5	Q32	32	288	264	268	6000	2.2
	★ A3000-C5-Q40-208	C5	Q40	40	208	184	188	8000	2.5
	★ A3000-C5-Q40-288	C5	Q40	40	288	264	268	6000	3.3
	★ A3000-C5-Q40-368	C5	Q40	40	368	344	348	5000	4.3
	★ A3000-C6-Q25-130	C6	Q25	25	130	102	105	10000	1.3
	★ A3000-C6-Q25-180	C6	Q25	25	180	152	155	8000	1.5
	★ A3000-C6-Q25-230	C6	Q25	25	230	202	205	6000	1.7
	A3000-C6-Q32-160	C6	Q32	32	160	129	135	10000	1.8
	A3000-C6-Q32-224	C6	Q32	32	224	193	199	8000	2.1
	A3000-C6-Q32-288	C6	Q32	32	288	257	263	6000	2.6
	A3000-C6-Q40-208	C6	Q40	40	208	177	183	8000	2.9
	A3000-C6-Q40-288	C6	Q40	40	288	257	263	6000	3.7
	A3000-C6-Q40-368	C6	Q40	40	368	337	343	5000	4.5
	A3000-C6-Q50-268	C6	Q50	50	268	238	243	6000	5
	A3000-C6-Q50-368	C6	Q50	50	368	338	343	4000	6.6
	A3000-C6-Q50-468	C6	Q50	50	468	438	443	2500	8.5
	A3000-C8-Q32-224	C8	Q32	32	224	181	191	8000	3.2
	A3000-C8-Q32-288	C8	Q32	32	288	245	255	6000	3.6
	A3000-C8-Q40-288	C8	Q40	40	288	245	255	6000	4.7
	A3000-C8-Q40-368	C8	Q40	40	368	325	335	5000	5.6
	A3000-C8-Q50-268	C8	Q50	50	268	225	235	6000	5.9
	A3000-C8-Q50-368	C8	Q50	50	368	325	335	4000	7.5
	A3000-C8-Q50-468	C8	Q50	50	468	425	435	2500	9.4

QuadFit exchangeable heads – see the “Turning” section
 Bodies and assembly parts are included in the scope of delivery.

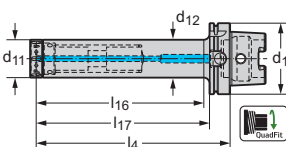
Assembly parts		d ₁₁	Q25	Q32	Q40	Q50
	Hook wrench		SD9000-Q25	SD9000-Q32	SD9000-Q40	SD9000-Q50
	Tightening torque		25 Nm	25 Nm	35 Nm	55 Nm
Accessories		d ₁₁	Q32	Q40	Q50	
	Torque wrench with hook		SD4000-Q32-25	SD4000-Q40-35	SD4000-Q50-55	
	Tightening torque		25 Nm	35 Nm	55 Nm	
	Hook for torque wrench		SD6000-Q32	SD6000-Q40	SD6000-Q50	

 / ★ New addition to the product range

HSK-T boring bar – vibration-damped

A3000-HSK-T mm
Accuretec


- For QuadFit exchangeable heads
- With preset vibration damping

Tool	Designation	d ₁ mm	d ₁₁	d ₁₂ mm	l ₄ mm	l ₁₆ mm	l ₁₇ mm	n _{max}	kg
 HSK-T DIN 69893-7	★ A3000-H63T-Q25-130	63	Q25	25	130	101	104	10000	1.1
	★ A3000-H63T-Q25-180	63	Q25	25	180	151	154	8000	1.3
	★ A3000-H63T-Q25-230	63	Q25	25	230	201	204	6000	1.5
	★ A3000-H63T-Q32-160	63	Q32	32	160	128	134	10000	1.6
	★ A3000-H63T-Q32-224	63	Q32	32	224	192	198	8000	2
	★ A3000-H63T-Q40-208	63	Q40	40	208	176	182	8000	2.7
	★ A3000-H63T-Q40-288	63	Q40	40	288	256	262	6000	3.5
	★ A3000-H63T-Q50-268	63	Q50	50	268	241	242	6000	4.8
	★ A3000-H63T-Q50-368	63	Q50	50	368	341	342	4000	6.4
	A3000-H100T-Q32-224	100	Q32	32	224	189	195	8000	3.4
	A3000-H100T-Q32-288	100	Q32	32	288	253	259	6000	3.8
	A3000-H100T-Q40-288	100	Q40	40	288	253	259	6000	4.9
	A3000-H100T-Q40-368	100	Q40	40	368	333	339	5000	5.8
	A3000-H100T-Q50-268	100	Q50	50	268	234	239	6000	6.2
	A3000-H100T-Q50-368	100	Q50	50	368	334	339	4000	7.8
	A3000-H100T-Q50-468	100	Q50	50	468	434	439	2500	9.7

Bodies and assembly parts are included in the scope of delivery.

Assembly parts		d ₁₁	Q25	Q32	Q40	Q50
	Hook wrench Tightening torque		SD9000-Q25 25 Nm	SD9000-Q32 25 Nm	SD9000-Q40 35 Nm	SD9000-Q50 55 Nm

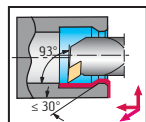
Accessories		d ₁₁	Q32	Q40	Q50
	Torque wrench with hook Tightening torque		SD4000-Q32-25 25 Nm	SD4000-Q40-35 35 Nm	SD4000-Q50-55 55 Nm
	Hook for torque wrench		SD6000-Q32	SD6000-Q40	SD6000-Q50

Exchangeable head – rigid clamping

Q...-DDUN

Walter Turn

- QuadFit
- For Accuretec boring bars

[illegible]

Measured with master insert: DN .. 442

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

Ordering example, right-hand tool: Q32-DDUNR-22032-15/ordering example, left-hand tool: Q32-DDUNL-22032-15

Bodies and assembly parts are included in the scope of delivery.

Assembly parts		DN .. 33. DN .. 1104 ..	DN .. 44. DN .. 1506 ..
	Shim	AP305-DN11	AP304-DN15
	Screw for shim Tightening torque	FS1462 (Torx 9IP) 13 in lbs (1.5 Nm)	FS1461 (Torx 15IP) 22 in lbs (2.5 Nm)
	Clamp	PK240	PK241
	Clamp screw Tightening torque	FS1472 (Torx 9IP) 15 in lbs (1.7 Nm)	FS1473 (Torx 15IP) 35 in lbs (3.9 Nm)
	Pressure spring	FS1469	FS1470
	Pin	RS116	RS117
	Torx key	FS1466 (Torx 9IP)	FS1465 (Torx 15IP /SW 3.5)

Accessories		DN .. 33. DN .. 1104 ..	DN .. 44. DN .. 1506 ..
Type			
	Carbide clamp set Insert with drilled hole		PK245-SET
	Clamp set (standard assembly parts)	PK240 SET	PK241-SET
	Carbide clamp set Insert without drilled hole		PK254-SET
	Shim for DN .. 44. / DN .. 1504 ..		AP304-DN1504

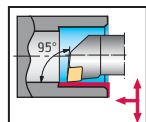
😊😞😡 / ★ New addition to the product range

Exchangeable head – screw clamping

Q...-SCLC

Walter Turn

- QuadFit
- For Accuretec boring bars

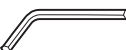
[illegible]

Measured with master insert: CC.. 3(2.5)2 / CC .. 432

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

Ordering example, right-hand tool: Q32-SCLCR-22032-09/ordering example, left-hand tool: Q32-SCLCL-22032-09

Bodies and assembly parts are included in the scope of delivery.

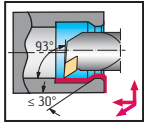
Assembly parts		CC .. 3(2.5). CC .. 09T3 ..	CC .. 3(2.5). CC .. 09T3 ..	CC .. 43 . CC .. 1204 ..
	Clamping screw for indexable insert tightening torque	FS1461 (Torx 15IP) 22 in lbs (2.5 Nm)	FS2062 (Torx 15IP) 27 in lbs (3.0 Nm)	FS2281 (Torx 20IP) 44 in lbs (5.0 Nm)
	Shim			AP364-CC1208
	Screw for shim			FS2592 (SW 5)
	Torx key	FS1465 (Torx 15IP /SW 3.5)	FS1465 (Torx 15IP /SW 3.5)	
	Allen key			FS1464 (Torx 20IP)
	Allen key for shim			ISO2936-5 (SW 5)

Exchangeable head – screw clamping

Q...-SDUC

Walter Turn

- QuadFit
- For Accuretec boring bars

[illegible]

Measured with master insert: DC .. 3(2.5)2

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see “Technical information – ISO turning”

Ordering example, right-hand tool: Q32-SDUCR-22032-11/ordering example, left-hand tool: Q32-SDUCL-22032-11

Bodies and assembly parts are included in the scope of delivery.

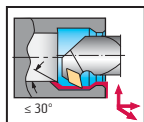
Assembly parts		DC .. 3(2.5). DC .. 11T3 ..
	Type	
	Clamping screw for indexable insert	FS1461 (Torx 15IP)
	Tightening torque	22 in lbs (2.5 Nm)
	Torx key	FS1465 (Torx 15IP /SW 3.5)

Exchangeable head – screw clamping

Q...-SDUC...-X

Walter Turn

- QuadFit
- For Accuretec boring bars

[illegible]

Measured with master insert: DC .. 3(2.5)2

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

Ordering example, right-hand tool: Q32-SDUCR-22018-11X/ordering example, left-hand tool: Q32-SDUCL-22018-11X

Bodies and assembly parts are included in the scope of delivery.

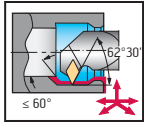
Assembly parts		DC .. 3(2.5). DC .. 11T3 ..
	Type	
	Clamping screw for indexable insert Tightening torque	FS1461 (Torx 15IP) 22 in lbs (2.5 Nm)
	Torx key	FS1465 (Torx 15IP / SW 3.5)

Exchangeable head – screw clamping

Q...-SDXC

Walter Turn

- QuadFit
- For Accuretec boring bars

[illegible]

Measured with master insert: DC .. 3(2.5)2

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

Ordering example, right-hand tool: Q32-SDXCR-22025-11/ordering example, left-hand tool: Q32-SDXCL-22025-11

Bodies and assembly parts are included in the scope of delivery.

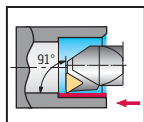
Assembly parts		DC .. 3(2.5). DC .. 11T3 ..
	Type Clamping screw for indexable insert Tightening torque	FS1461 (Torx 15IP) 22 in lbs (2.5 Nm)
	Torx key	FS1465 (Torx 15IP /SW 3.5)

Exchangeable head – screw clamping

Q...-STFC

Walter Turn

- QuadFit
- For Accuretec boring bars

[illegible]

Measured with master insert: TC .. 3(2.5)2

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

Ordering example, right-hand tool: Q32-STFCR-22032-16/ordering example, left-hand tool: Q32-STFCL-22032-16

Bodies and assembly parts are included in the scope of delivery.

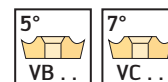
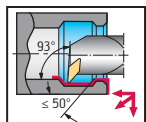
Assembly parts		TC .. 2(1.5) . TC .. 1102 ..	TC .. 3(2.5) . TC .. 16T3 ..
	Clamping screw for indexable insert Tightening torque	FS2061 (Torx 7IP) 8 in lbs (0.9 Nm)	FS2063 (Torx 15IP) 27 in lbs (3.0 Nm)
	Shim for radius		AP317-TC1612 r ≤ 1.2 mm
	Screw for shim		FS2068 (SW 3.5)
	Torx key	FS1490 (Torx 7IP)	FS1465 (Torx 15IP /SW 3.5)

Exchangeable head – screw clamping

Q...-SVUB

Walter Turn

- QuadFit
- For Accuretec boring bars

[illegible]

Measured with master insert: VB .. 332

For information on the rake angle γ (for indexable inserts without chip groove) and on the inclination angle λ_s , see "Technical information – ISO turning"

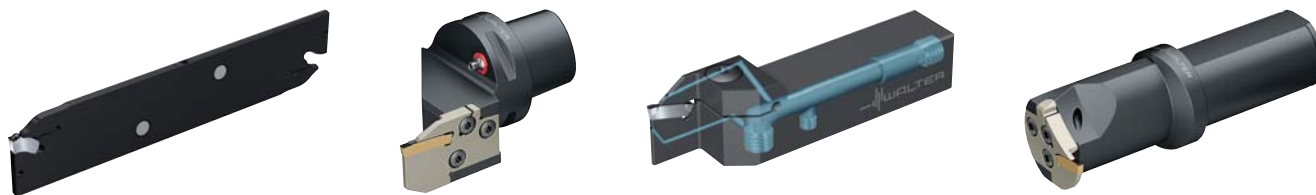
Ordering example, right-hand tool: Q32-SVUBR-22032-16/ordering example, left-hand tool: Q32-SVUBL-22032-16

Bodies and assembly parts are included in the scope of delivery.

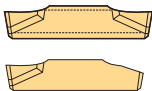
Assembly parts		VB .. 22. VB .. 1103 .. VC .. 22. VC .. 1103 ..		VB .. 33. VB .. 1604 .. VC .. 33. VC .. 1604 ..	
		Type			
	Clamping screw for indexable insert Tightening torque		FS2061 (Torx 7IP) 8 in lbs (0.9 Nm)		FS2063 (Torx 15IP) 27 in lbs (3.0 Nm)
	Shim for radius				AP316-VB1608 r ≤ 0.8 mm
	Screw for shim				FS2068 (SW 3.5)
	Torx key		FS1490 (Torx 7IP)		FS1465 (Torx 15IP /SW 3.5)

Product range overview of cutting inserts and cutting tool materials: Grooving

A2



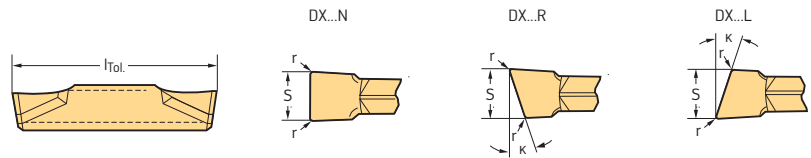
Cutting inserts

Insert shape	Description	Page
 DX	Walter Cut DX grooving inserts, double-edged	47
 GX	Walter Cut GX grooving inserts, double-edged/ single-edged	50

Cutting tool materials: Carbide

		Range of applications															
Application	Coating	01	05		10	15		20	25		30	35		40	45		
ISO P	CVD					WKP13S											
	CVD					WKP23S											
	CVD									WKP33S							
	PVD					WSM23S											
	PVD									WSM33S							
	PVD													WSM43S			
ISO M	PVD			WSM13S													
	PVD					WSM23S											
	PVD							WSM33S									
	PVD									WSM43S							
ISO K	CVD			WKP13S													
	CVD					WKP23S											
	CVD							WKP33S									
ISO N	—			WK1													
	PCD			WDN10													
ISO S	PVD			WSM13S													
	PVD					WSM23S											
	PVD							WSM33S									
	PVD									WSM43S							
	CBN			WBS10													
ISO H	CBN			WBH20													
		Wear resistance															
		Toughness															

Grooving and parting off DX cutting inserts Tiger-tec® Silver



A2

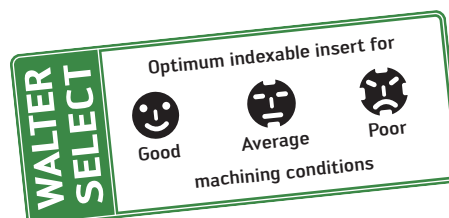
Cutting inserts

	Designation	s mm	s in	r in	κ	l in	f in	S _{Tol} in	l _{Tol} in	P		M		K		S		
										HC	HC	HC	HC	HC	HC	HC	HC	
										WKP23S	WKP33S	WSM23S	WSM33S	WSM43S	WKP23S	WSM23S	WSM33S	WSM43S
	DX18-1E150N01-CF6	1.5	0.059	0.006		0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200N02-CF6	2	0.079	0.008		0.709	0.001-0.006	±0.002	±0.006									
	DX18-2E250N02-CF6	2.5	0.098	0.008		0.709	0.001-0.007	±0.002	±0.006									
	DX18-3E300N02-CF6	3	0.118	0.008		0.709	0.002-0.009	±0.002	±0.006									
	DX18-1E150L10-CF6	1.5	0.059	0	10°	0.709	0.001-0.004	±0.002	±0.006									
	DX18-2E200L6-CF6	2	0.079	0.008	6°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200L15-CF6	2	0.079	0	15°	0.720	0.001-0.005	±0.002	±0.006									
	DX18-2E250L6-CF6	2.5	0.098	0.008	6°	0.709	0.001-0.006	±0.002	±0.006									
	DX18-3E300L6-CF6	3	0.118	0.008	6°	0.709	0.002-0.007	±0.002	±0.006									
	DX18-1E150R10-CF6	1.5	0.059	0	10°	0.709	0.001-0.004	±0.002	±0.006									
	DX18-2E200R6-CF6	2	0.079	0.008	6°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200R15-CF6	2	0.079	0	15°	0.720	0.001-0.005	±0.002	±0.006									
	DX18-2E250R6-CF6	2.5	0.098	0.008	6°	0.709	0.001-0.006	±0.002	±0.006									
	DX18-3E300R6-CF6	3	0.118	0.008	6°	0.709	0.002-0.007	±0.002	±0.006									
	DX18-1E150N01-CF5	1.5	0.059	0.006		0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200N00-CF5	2	0.079	0		0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200N02-CF5	2	0.079	0.008		0.709	0.002-0.006	±0.002	±0.006									
	DX18-2E250N02-CF5	2.5	0.098	0.008		0.709	0.002-0.007	±0.002	±0.006									
	DX18-3E300N02-CF5	3	0.118	0.008		0.709	0.003-0.009	±0.002	±0.006									
	DX18-1E150L10-CF5	1.5	0.059	0	10°	0.709	0.001-0.002	±0.002	±0.006									
	DX18-2E200L6-CF5	2	0.079	0.008	6°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200L7-CF5	2	0.079	0	7°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200L15-CF5	2	0.079	0	15°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E250L6-CF5	2.5	0.098	0.008	6°	0.709	0.001-0.006	±0.002	±0.006									
	DX18-3E300L6-CF5	3	0.118	0.008	6°	0.709	0.002-0.007	±0.002	±0.006									
	DX18-3E300L7-CF5	3	0.118	0	7°	0.740	0.002-0.006	±0.002	±0.006									
	DX18-3E300L15-CF5	3	0.118	0	15°	0.740	0.002-0.006	±0.002	±0.006									
	DX18-3E300L15-CF5	3	0.118	0	15°	0.740	0.002-0.006	±0.002	±0.006									
	DX18-1E150R10-CF5	1.5	0.059	0	10°	0.709	0.001-0.002	±0.002	±0.006									
	DX18-2E200R6-CF5	2	0.079	0.008	6°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200R7-CF5	2	0.079	0	7°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200R15-CF5	2	0.079	0	15°	0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E250R6-CF5	2.5	0.098	0.008	6°	0.709	0.001-0.006	±0.002	±0.006									
	DX18-3E300R6-CF5	3	0.118	0.008	6°	0.709	0.002-0.007	±0.002	±0.006									
	DX18-3E300R7-CF5	3	0.118	0	7°	0.740	0.002-0.006	±0.002	±0.006									
	DX18-3E300R15-CF5	3	0.118	0	15°	0.740	0.002-0.006	±0.002	±0.006									
	DX18-1E150N01-CE4	1.5	0.059	0.006		0.709	0.001-0.005	±0.002	±0.006									
	DX18-2E200N02-CE4	2	0.079	0.008		0.709	0.002-0.007	±0.002	±0.006									
	DX18-2E250N02-CE4	2.5	0.098	0.008		0.709	0.003-0.008	±0.002	±0.006									
	DX18-3E300N02-CE4	3	0.118	0.008		0.709	0.004-0.013	±0.002	±0.006									

l_{Tol} = Repeat accuracy when changing indexable inserts within the same indexable insert batch
Radius tolerance r_{Tol} = ±0.002 in (±0.05 mm)

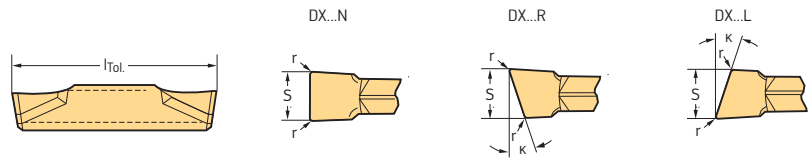
HC = Coated carbide

☹️☹️☹️ / ★ New addition to the product range



Grooving and parting off DX cutting inserts Tiger-tec® Silver

A2

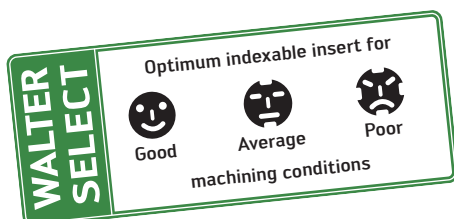


Cutting inserts

		Designation	s mm	s in	r in	κ	l in	f in	S _{Tol} in	l _{Tol} in	P		M		K	S		
											HC		HC		HC		HC	
	DX18-2E200L6-CE4	2	0.079	0.008	6°	0.709	0.002–0.005	±0.002	±0.006				⊗	⊗			⊗	⊗
	DX18-2E250L6-CE4	2.5	0.098	0.008	6°	0.709	0.002–0.006	±0.002	±0.006				⊗				⊗	
	DX18-3E300L6-CE4	3	0.118	0.008	6°	0.709	0.004–0.011	±0.002	±0.006				⊗	⊗			⊗	⊗
	DX18-2E200R6-CE4	2	0.079	0.008	6°	0.709	0.002–0.005	±0.002	±0.006				⊗	⊗			⊗	⊗
	DX18-2E250R6-CE4	2.5	0.098	0.008	6°	0.709	0.002–0.006	±0.002	±0.006				⊗				⊗	
	DX18-3E300R6-CE4	3	0.118	0.008	6°	0.709	0.004–0.011	±0.002	±0.006				⊗	⊗			⊗	⊗
				0.000														
	DX18-2E200N02-GD3	2	0.079	0.008		0.709	0.002–0.006	±0.002	±0.006	⊕			⊗		⊕		⊗	
	DX18-2E250N02-GD3	2.5	0.098	0.008		0.709	0.002–0.007	±0.002	±0.006	⊕			⊗		⊕		⊗	
	DX18-3E300N03-GD3	3	0.118	0.012		0.709	0.002–0.008	±0.002	±0.006	⊕			⊗		⊕		⊗	
	DX18-2E200N02-GD6	2	0.079	0.008		0.709	0.002–0.006	±0.002	±0.006			⊗	⊗			⊗	⊗	
	DX18-2E250N02-GD6	2.5	0.098	0.008		0.709	0.002–0.008	±0.002	±0.006			⊗	⊗			⊗	⊗	
	DX18-3E300N03-GD6	3	0.118	0.008		0.709	0.003–0.008	±0.002	±0.006			⊗	⊗			⊗	⊗	

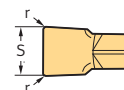
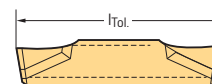
l_{Tol} = Repeat accuracy when changing indexable inserts within the same indexable insert batch
Radius tolerance r_{Tol} = ±0.002 in (±0.05 mm)

HC = Coated carbide



Grooving and recessing DX cutting inserts Tiger-tec® Silver

DX...N



A2

Cutting inserts

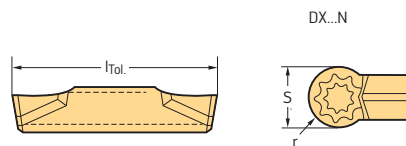
	Designation	s mm	s in	r in	l in	f in	a _p in	S _{Tol} in	l _{Tol} in	P				M				K		S			
										HC		HC		HC		HC		HC		HC		HC	
										WKP13S	WKP23S	WKP33S	WSM23S	WSM33S	WSM43S	WKP23S	WSM23S	WSM33S	WSM43S	WKP23S	WSM23S	WSM33S	WSM43S
	DX18-2E200N02-UF4	2	0.079	0.008	0.709	0.004-0.007	0.012-0.047	±0.002	±0.006	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	DX18-2E250N02-UF4	2.5	0.098	0.008	0.709	0.004-0.008	0.012-0.051	±0.002	±0.006	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	DX18-3E300N03-UF4	3	0.118	0.012	0.709	0.004-0.009	0.016-0.079	±0.002	±0.006	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	DX18-2E200N02-UD4	2	0.079	0.008	0.709	0.004-0.007	0.012-0.047	±0.002	±0.006	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	DX18-3E300N03-UD4	3	0.118	0.012	0.709	0.004-0.009	0.016-0.079	±0.002	±0.006	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
			0.000	0.000																			
	DX18-2E200N02-UA4	2	0.079	0.008	0.709	0.003-0.007	0.012-0.047	±0.002	±0.006	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	DX18-3E300N03-UA4	3	0.118	0.012	0.709	0.004-0.010	0.016-0.079	±0.002	±0.006	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹

l_{Tol} = Repeat accuracy when changing indexable inserts within the same indexable insert batch
 Radius tolerance r_{Tol} = ±0.002 in (±0.05 mm)

HC = Coated carbide

Grooving and copy turning DX cutting inserts Tiger-tec® Silver

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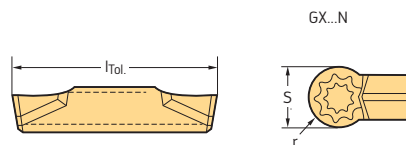
Cutting inserts

Designation		s mm	s in	r in	l in	f in	a _p in	S _{Tol} in	l _{Tol} in	P		M			K	S	
										HC		HC			HC	HC	
										WKP23S	WKP33S	WSM23S	WSM33S	WSM43S	WKP23S	WSM23S	WSM33S
	DX18-2E200N10-RF7	2	0.079	0.039	0.720	0.031–0.010	0.004–0.039	±0.002	±0.006								
	DX18-3E300N15-RF7	3	0.118	0.059	0.720	0.004–0.014	0.004–0.059	±0.002	±0.006								
	DX18-2E200N10-RD4	2	0.079	0.039	0.720	0.031–0.011	0.008–0.039	±0.002	±0.006								
	DX18-3E300N15-RD4	3	0.118	0.059	0.720	0.004–0.015	0.020–0.059	±0.002	±0.006								

l_{Tol} = Repeat accuracy when changing indexable inserts within the same indexable insert batch
Radius tolerance r_{Tol} = ±0.002 in (±0.05 mm)

HC = Coated carbide

Grooving and copy turning GX cutting inserts Tiger-tec® Silver



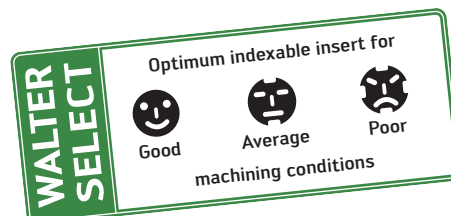
Cutting inserts

										P					M				K	S				
										HC					HC				HC	HC				
Designation		s mm	s in	r in	l in	f in	a _p in	S _{Tol} in	l _{Tol} in	WKP23S	WSM13S	WSM23S	WSM33S	WSM43S	WSM13S	WSM23S	WSM33S	WSM43S	WKP23S	WSM13S	WSM23S	WSM33S	WSM43S	
	GX24-2E300N15-RF7	3	0.118	0.059	0.945	0.004–0.013	0.004–0.059	±0.002	±0.006															
	GX24-3E400N20-RF7	4	0.157	0.079	0.945	0.005–0.019	0.004–0.079	±0.002	±0.006															
	GX24-3E500N25-RF7	5	0.197	0.098	0.945	0.005–0.021	0.004–0.098	±0.002	±0.006															
	GX24-2F300N15-RF7	3	0.118	0.059	0.945	0.004–0.013	0.004–0.059	±0.002	±0.006															
	GX24-3F400N20-RF7	4	0.157	0.079	0.945	0.005–0.019	0.004–0.079	±0.002	±0.006															
	GX24-3F500N25-RF7	5	0.197	0.098	0.945	0.005–0.021	0.004–0.098	±0.002	±0.006															

l_{Tol} = Repeat accuracy when changing indexable inserts within the same indexable insert batch
Radius tolerance r_{Tol} = ±0.002 in (±0.05 mm)

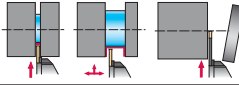
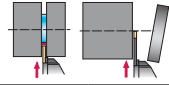
HC = Coated carbide

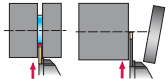
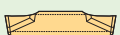
☹️ ☹️ ☹️ / ★ New addition to the product range



Walter Cut grooving tools product range overview

Shank tools / parting blades / boring bars

Machining						
Type						
Designation	G4014	G4014...-P	G4011	G4011...-P	G4041	G4041...-P
Insert width s [mm]	1.5–3	2–3	2–3	2–3	1.5–3	2
Cutting depth T_{max} [mm]	10–18	12–18	10–17	17	17–21	17–21
Coolant supply	External	Precision cooling	External	Precision cooling	External	Precision cooling
Shank size h [mm]	10–20	12–20	25	25	26–32	26–32
Shank size h [inch]	0.394–0.787	0.472–0.787	0.984–1.000	0.984–1.000	1.024–1.260	1.024–1.260
Page	56	57	63	64	67	68
						

Machining		
Type		
Designation	G4041...C	G4041...C-P
Insert width s [mm]	1.5–3	2
Cutting depth T_{max} [mm]	17–21	17
Coolant supply	External	Precision cooling
Shank size h [mm]	26–32	26
Shank size h [inch]	1.024–1.260	1.024
Page	69	70
		

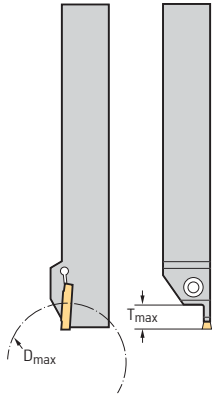
Designation key for Walter Cut grooving tools – INCH

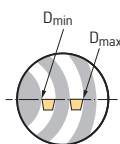
A2

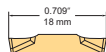
Example:

G	1	1	11	–	16	R	–	3	T33	–	090	GX24	–	C	–	P
1	2	3	4		5	6		7	8		9	10		11		12

1	2	3	4
Tool group	Generation	Tool type	Tool type
G Grooving	1 GX 2 SX / UX 3 MX 4 DX	0 Radial grooving tool 1 Axial grooving tool 5 Grooving tool without support 6 Modular external radial grooving	11 Angled at 0°, straight clamping screw 12 Angled at 0°, self-clamping system 14 Angled at 0°, clamping screw from the side (SmartLock) 16 Angled at 0°, clamping screw from the front 21 Angled at 90°, straight clamping screw 22 Angled at 90°, self-clamping system 32 Grooving module, self-clamping system 41 Parting blade, clamping screw 42 Parting blade, self-clamping system 51 Angled, straight clamping screw 61 Clamping block/split

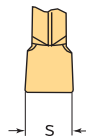
8	
Cutting depth / parting off diameter	
T06	0.236 in
T12	0.472 in
T21	0.827 in
T32	1.260 in
T33	1.299 in
T35	1.378 in
D16	Ø 0.630 in
D32	Ø 1.260 in
	

9	
Minimum axial grooving diameter / blade height	
Minimum axial grooving diameter	
034	Ø 34 mm Ø 1.339 in
042	Ø 42 mm Ø 1.653 in
054	Ø 54 mm Ø 2.126 in
067	Ø 67 mm Ø 2.368 in
090	Ø 90 mm Ø 3.543 in
130	Ø 130 mm Ø 5.118 in
220	Ø 220 mm Ø 8.661 in
Blade height	
26	1.024 in
32	1.260 in
52	2.047 in
	

10	
Type of indexable insert	
GX	
DX	
SX	
MX	
UX	

5	
Shank size	
Square shank inch	Module size h_1 inch
1010 0.393 x 0.393	E12 0.472
1212 0.472 x 0.472	E16 0.630
1616 0.630 x 0.630	E20 0.787
2020 0.787 x 0.787	E25 0.984
2525 0.984 x 0.984	E32 1.260
3225 1.260 x 0.984	
3232 1.260 x 1.260	
4032 1.575 x 1.260	
Shank dimensions inch	
$h_1 = b$	
06 = 0.375"	
08 = 0.5"	
10 = 0.625"	
12 = 0.75"	
16 = 1.0"	
20 = 1.25"	
24 = 1.50"	

6	
Toolholder design	
L	R
R Right-hand	
L Left-hand	
N Neutral	

7	
Insert width	
1.5 0.059 in	
2 0.078 in	
3 0.118 in	
4 0.157 in	
5 0.197 in	
6 0.236 in	
8 0.315 in	
10 0.394 in	

11	
Version	
- C Contra	

12	
Cooling	
- P 	

Designation key for Walter Cut grooving tools – METRIC

A2

Example:

G	1	1	11	–	2020	R	–	3	T33	–	090	GX24	–	C	–	P
1	2	3	4		5	6		7	8		9	10		11		12

1	2	3	4
Tool group	Generation	Tool type	Tool type
G Grooving	1 GX 2 SX / UX 3 MX 4 DX	0 Radial grooving tool 1 Axial grooving tool 5 Grooving tool without support 6 Modular external radial grooving	11 Angled at 0°, straight clamping screw 12 Angled at 0°, self-clamping system 14 Angled at 0°, clamping screw from the side (SmartLock) 16 Angled at 0°, clamping screw from the front 21 Angled at 90°, straight clamping screw 22 Angled at 90°, self-clamping system 32 Grooving module, self-clamping system 41 Parting blade, clamping screw 42 Parting blade, self-clamping system 51 Angled, straight clamping screw 61 Clamping block/split

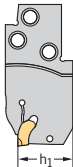
8	
Cutting depth / parting off diameter	
T06	6 mm
T12	12 mm
T21	21 mm
T32	32 mm
T33	33 mm
T35	35 mm
D16	Ø 16 mm
D32	Ø 32 mm

9	
Minimum axial grooving diameter / blade height	
Minimum axial grooving diameter	
034	Ø 34 mm
042	Ø 42 mm
054	Ø 54 mm
067	Ø 67 mm
090	Ø 90 mm
130	Ø 130 mm
220	Ø 220 mm
Blade height	
26	26 mm
32	32 mm
52	52 mm

10	
Type of indexable insert	
GX	
DX	
SX	
MX	
UX	

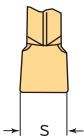
5																	
Shank size																	
Square shank <table><tr><td>1010</td><td>10 × 10 mm</td></tr><tr><td>1212</td><td>12 × 12 mm</td></tr><tr><td>1616</td><td>16 × 16 mm</td></tr><tr><td>2020</td><td>20 × 20 mm</td></tr><tr><td>2525</td><td>25 × 25 mm</td></tr><tr><td>3225</td><td>32 × 25 mm</td></tr><tr><td>3232</td><td>32 × 32 mm</td></tr><tr><td>4032</td><td>40 × 32 mm</td></tr></table>		1010	10 × 10 mm	1212	12 × 12 mm	1616	16 × 16 mm	2020	20 × 20 mm	2525	25 × 25 mm	3225	32 × 25 mm	3232	32 × 32 mm	4032	40 × 32 mm
1010	10 × 10 mm																
1212	12 × 12 mm																
1616	16 × 16 mm																
2020	20 × 20 mm																
2525	25 × 25 mm																
3225	32 × 25 mm																
3232	32 × 32 mm																
4032	40 × 32 mm																
Module size h₁ <table><tr><td>E12</td><td>12 mm</td></tr><tr><td>E16</td><td>16 mm</td></tr><tr><td>E20</td><td>20 mm</td></tr><tr><td>E25</td><td>25 mm</td></tr><tr><td>E32</td><td>32 mm</td></tr></table>		E12	12 mm	E16	16 mm	E20	20 mm	E25	25 mm	E32	32 mm						
E12	12 mm																
E16	16 mm																
E20	20 mm																
E25	25 mm																
E32	32 mm																





6	
Toolholder design	
  R L N Right-hand Left-hand Neutral	

7	
Insert width	
1.5	1.5 mm
2	2 mm
3	3 mm
4	4 mm
5	5 mm
6	6 mm
8	8 mm
10	10 mm



11	
Version	
– C Contra	

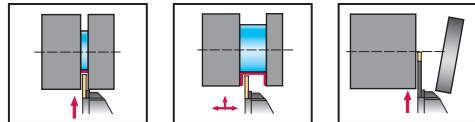
12	
Cooling	
– P  ooling	

Shank tool – Radial grooving

G4014 mm

Walter Cut

– Side screw clamping



Tool	Designation	s mm	s in	D _{max} mm	h = h ₁ mm	b mm	f ₁ mm	l ₁ mm	h ₄ mm	l ₄ mm	Type
	G4014-1010R/L-1.5T10DX18	1.5	0.059	20	10	10	9.4	110	4	21	DX18-1E1 ..
	G4014-1212R/L-1.5T12DX18			25	12	12	11.4	110	3	22	
	G4014-1616R/L-1.5T12DX18			25	16	16	15.4	120	4	24	
	G4014-1010R/L-2T10DX18	2	0.079	20	10	10	9.2	110	4	21	DX18-2E2 ..
	G4014-1212R/L-2T12DX18			25	12	12	11.2	110	3	22	
	G4014-1616R/L-2T12DX18			25	16	16	15.2	120	4	24	
	G4014-1616R/L-3T17DX18	3	0.118	35	16	16	14.8	120	4	30	DX18-3E3 ..
	G4014-2020R/L-3T17DX18			35	20	20	18.8	120	3	30	

$$f = f_1 + s/2$$

Ordering example, right-hand tool: G4014-1010R-1.5T10DX18/ordering example, left-hand tool: G4014-1010L-1.5T10DX18

Bodies and assembly parts are included in the scope of delivery.

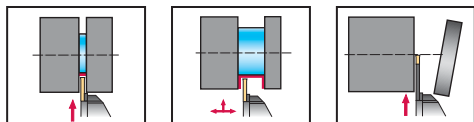
Assembly parts

	h = h ₁ [mm]	10-12	16-20
	Clamping screw for grooving insert Tightening torque	FS2586 (Torx 15IP) 2.0 Nm	FS2585 (Torx 15IP) 3.0 Nm
	Screw plug	FS2589	FS2589
	Torx key	FS1465 (Torx 15IP /SW 3.5)	FS1465 (Torx 15IP /SW 3.5)

Accessories

	h = h ₁ [mm]	10-20
	Torque screwdriver, analogue Tightening torque	FS2003 1.5–5.0 Nm
	Interchangeable blade	FS2014 (Torx 15IP)

G4014...-P



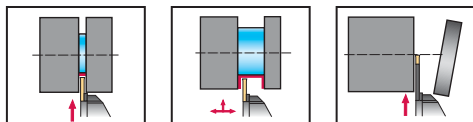
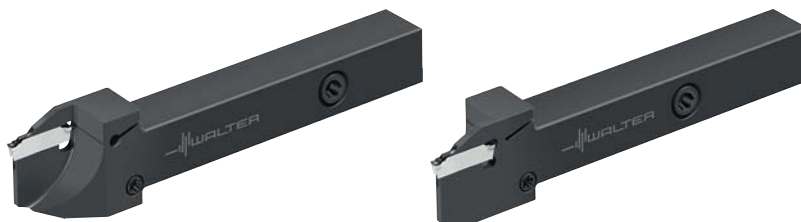
Accessories		h = h ₁ [mm]	12
	Torque screwdriver, analogue Tightening torque		FS2003 1.5–5.0 Nm
	Interchangeable blade		FS2014 (Torx 15IP)
	M8x1 angle connection		FS2596
	M8x1 connection element		FS2597
	Copper gasket		FS2598

Shank tool – Radial grooving

G4014...-P

Walter Cut

- Side screw clamping
- Precision cooling

[illegible]

$$\overline{f} = f_1 + s/2$$

For the connection set for coolant supply with G1/8" thread, see "Assembly parts and accessories"

The maximum recommended coolant pressure is 150 bar (2175 psi).

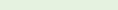
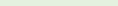
Ordering example, right-hand tool: G4014-1616R-2T12DX18-P/ordering example, left-hand tool: G4014-1616L-2T12DX18-P

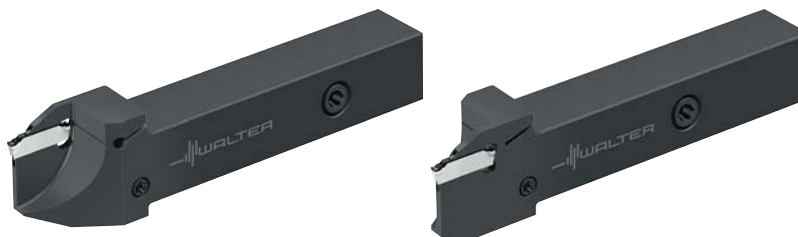
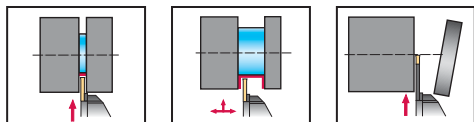
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

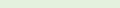
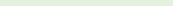
Assembly parts		h = h ₁ [mm]	16
	Clamping screw for grooving insert		FS2585 (Torx 15IP)
	Tightening torque		3.0 Nm
	Screw plug		FS2589
	G 1/8" threaded plug		FS2258 (SW 5)
	Torx key		FS1465 (Torx 15IP /SW 3.5)

Accessories

Accessories		h = h ₁ [mm]	16
	Torque screwdriver, analogue Tightening torque		FS2003 1.5–5.0 Nm
	Interchangeable blade		FS2014 (Torx 15IP)

G4014...-P [illegible]

Assembly parts		h = h ₁ [mm]	20
	Clamping screw for grooving insert		FS2585 (Torx 15IP)
	Tightening torque		3.0 Nm
	Screw plug		FS2589
	G 1/8" threaded plug		FS2258 (SW 5)
	M6 threaded plug		FS2288 (SW 3)
	Torx key		FS1465 (Torx 15IP /SW 3.5)

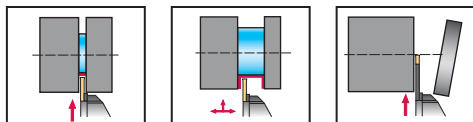
Accessories		h = h ₁ [mm]	20
	Torque screwdriver, analogue Tightening torque		FS2003 1.5–5.0 Nm
	Interchangeable blade		FS2014 (Torx 15IP)

G4014 **inch**

Walter Cut



- Side screw clamping

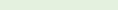
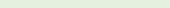
[illegible]

Ordering example, right-hand tool: G4014.08R-1.5T12DX18/ordering example, left-hand tool: G4014.08L-1.5T12DX18
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

Assembly parts		h = h ₁ [inch]	0.500
	Clamping screw for grooving insert Tightening torque		FS2586 (Torx 15IP) 13 in lb (2.0 Nm)
	Screw plug		FS2589
	Torx key		FS1465 (Torx 15IP /SW 3.5)

Accessories

Accessories		h = h ₁ [inch]	0.500
	Torque screwdriver, analogue Tightening torque		FS2003 13–44 in lbs (1.5–5.0 Nm)
	Interchangeable blade		FS2014 (Torx 15IP)

Shank tool – Radial grooving

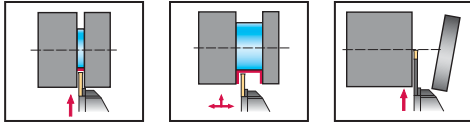
G4014...-P inch

Walter Cut

- Side screw clamping
- Precision cooling



A2



Tool		Designation	s inch	D _{max} inch	h = h ₁ inch	b inch	f ₁ inch	l ₁ inch	h ₄ inch	l ₄ inch	Type
		G4014.08R/L-2T12DX18-P	0.079	0.984	0.500	0.500	0.469	4.331	0.091	0.866	DX18-2E2 ..
		G4014.08R/L-3T12DX18-P	0.118	0.984	0.500	0.500	0.453	4.331	0.091	0.866	DX18-3E3 ..

$$f = f_1 + s/2$$

The maximum recommended coolant pressure is 150 bar (2175 psi)

Ordering example, right-hand tool: G4014.08R-2T12DX18-P/ordering example, left-hand tool: G4014.08L-2T12DX18-P

Bodies and assembly parts are included in the scope of delivery.

Assembly parts		h = h ₁ [inch]	0.500
	Clamping screw for grooving insert Tightening torque		FS2586 (Torx 15IP) 18 in lb (2.0 Nm)
	Screw plug		FS2589
	UNF 5/16-24 threaded plug		FS2593
	Torx key		FS1465 (Torx 15IP /SW 3.5)

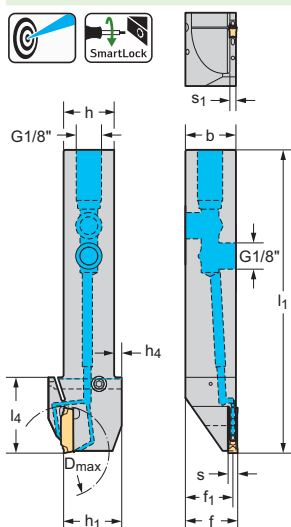
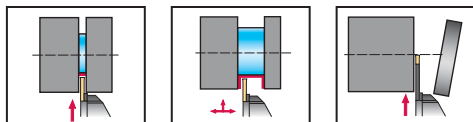
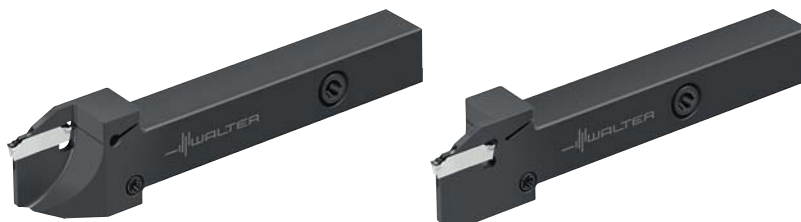
Accessories		h = h ₁ [inch]	0.500
	Torque screwdriver, analogue Tightening torque		FS2003 13–44 in lbs (1.5–5.0 Nm)
	Interchangeable blade		FS2014 (Torx 15IP)
	5/16" UNF angle connection		FS2594
	5/16" UNF connection element		FS2597
	Copper gasket		FS2598

G4014...-P inch

inch

A2

- Side screw clamping
- Precision cooling

[illegible]

$$\overline{f} = f_1 + s/2$$

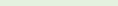
The maximum recommended coolant pressure is 150 bar (2175 psi)

Ordering example, right-hand tool: G4014.10R-2T17DX18-P/ordering example, left-hand tool: G4014.10L-2T17DX18-P

Bodies and assembly parts are included in the scope of delivery.

Technical drawing of a mechanical part, likely a nozzle or a probe, shown in a cross-sectional view. The part has a cylindrical body with a central hole, a conical tip, and a flange at the base. The drawing includes dimension lines and a scale bar.

Assembly parts		h = h ₁ [inch]	0.625	0.750
	Clamping screw for grooving insert Tightening torque		FS2585 (Torx 15IP) 27 in lb (3.0 Nm)	FS2585 (Torx 15IP) 27 in lb (3.0 Nm)
	Screw plug		FS2589	FS2589
	G 1/8" threaded plug		FS2258 (SW 5)	FS2258 (SW 5)
	M6 threaded plug			FS2288 (SW 3)
	Torx key		FS1465 (Torx 15IP /SW 3.5)	FS1465 (Torx 15IP /SW 3.5)

Accessories		h = h ₁ [inch]	0.625-0.750
	Torque screwdriver, analogue Tightening torque		FS2003 13-44 in lb (1.5-5.0 Nm)
	Interchangeable blade		FS2014 (Torx 15IP)

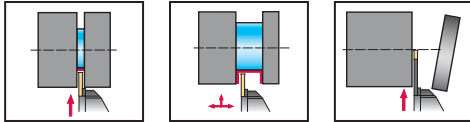
Shank tool – Radial grooving

G4011

Walter Cut



- Screw clamping

[illegible]
$$\overline{f} = f_1 + s/2$$

If no D_2 or $D_{\max}$ is specified, the tool has no diameter limit.

Ordering example, right-hand tool: G4011-2525R-2T10DX18/ordering example, left-hand tool: G4011-2525L-2T10DX18

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

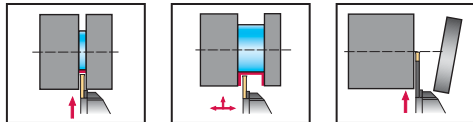
Assembly parts		h = h ₁ [mm]	25
	Clamping screw for grooving insert Tightening torque		FS2118 (Torx 20IP) 5,0 Nm
	Torx key		FS1464 (Torx 20IP)

G4011...-P

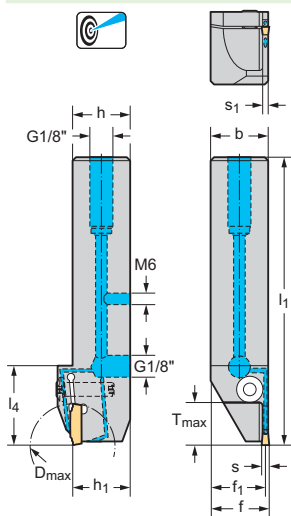
mm

A2

- Screw clamping
- Precision cooling



Designation

[illegible]
$$\overline{f} = f_1 + s/2$$

If no D_2 or $D_{\max}$ is specified, the tool has no diameter limit.

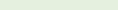
The maximum recommended coolant pressure is 150 bar (2175 psi)

Ordering example, right-hand tool: G4011-2525R-2T17DX18-P/ordering example, left-hand tool: G4011-2525L-2T17DX18-P

Bodies and assembly parts are included in the scope of delivery.

$$h = h_1 \text{ [mm]}$$

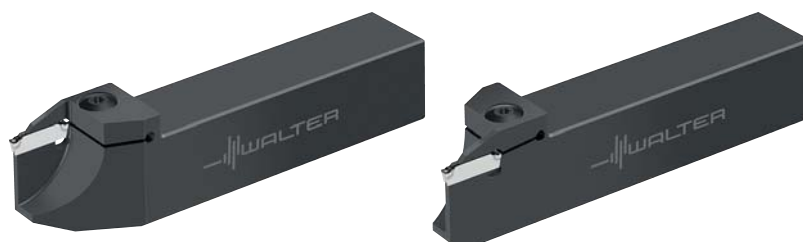
25

	Clamping screw for grooving insert Tightening torque	FS2118 (Torx 20IP) 5.0 Nm
	G 1/8" threaded plug	FS2258 (SW 5)
	M6 threaded plug	FS2288 (SW 3)
	Torx key	FS1464 (Torx 20IP)

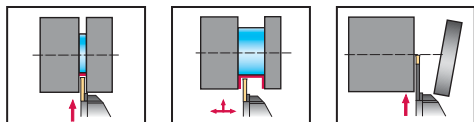
Shank tool – Radial grooving

G4011 **inch**

Walter Cut



- Screw clamping

[illegible]
$$\overline{f} = f_1 + s/2$$

If no D_2 or $D_{\max}$ is specified, the tool has no diameter limit.

Ordering example, right-hand tool: G4011.16R-2T10DX18/ordering example, left-hand tool: G4011.16L-2T10DX18

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

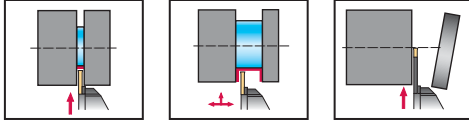
Assembly parts		h = h ₁ [inch]	1.000
	Clamping screw for grooving insert Tightening torque		FS2118 (Torx 20IP) 44 in lb (5.0 Nm)
	Torx key		FS1464 (Torx 20IP)

Shank tool – Radial grooving

G4011...-P inch

Walter Cut

- Screw clamping
- Precision cooling



Tool	Designation	s inch	T _{max} inch	D _{max} inch	h = h ₁ inch	b inch	f ₁ inch	l ₁ inch	l ₄ inch	s ₁ inch	Type
	★ G4011.16R/L-2T17DX18-P	0.079	0.669	1.378	1.000	1.000	0.969	4.921	1.319	0.063	DX18-2E2 ..
	★ G4011.16R/L-3T17DX18-P	0.118	0.669	1.378	1.000	1.000	0.953	4.921	1.319	0.094	DX18-3E3 ..

$$f = f_1 + s/2$$

If no D₂ or D_{max} is specified, the tool has no diameter limit.

The maximum recommended coolant pressure is 150 bar (2175 psi)

Ordering example, right-hand tool: G4011.16R-2T17DX18-P/ordering example, left-hand tool: G4011.16L-2T17DX18-P

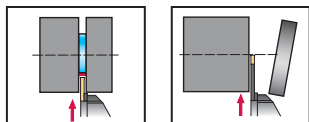
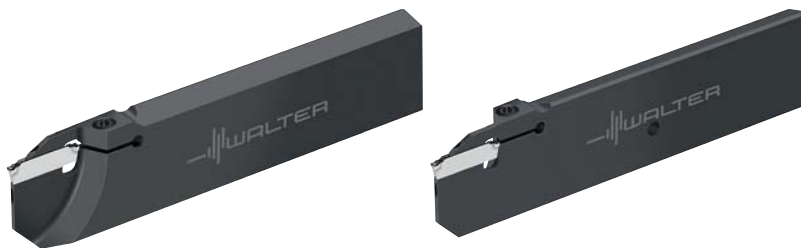
Bodies and assembly parts are included in the scope of delivery.

Assembly parts		h = h ₁ [inch]	1.000
	Clamping screw for grooving insert		FS2118 (Torx 20IP)
	Tightening torque		44 in lb (5.0 Nm)
	G 1/8" threaded plug		FS2258 (SW 5)
	M6 threaded plug		FS2288 (SW 3)
	Torx key		FS1464 (Torx 20IP)

G4041...-P

mm

- Screw clamping
- Precision cooling

[illegible]

Ordering example, right-hand tool: G4041-26R-2T17DX18-P/ordering example, left-hand tool: G4041-26L-2T17DX18-P
Bodies and assembly parts are included in the scope of delivery.

 h_4 [mm]

26-32

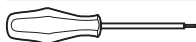


Clamping screw for grooving insert
Tightening torque

FS2164 (Torx 15IP)
31 in lb (3.5 Nm)

 h_4 [mm]

26-32

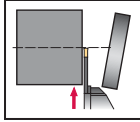


Screwdriver for grooving insert

FS1485 (Torx 15IP)

G4041...C

The image shows two perspectives of a dark grey, rectangular cutting tool. The tool has a complex, multi-faceted cutting edge. On its side, there is a small circular feature and a black pin-like component. The brand name "WALTER" is printed in white capital letters along the length of the tool's body.



Bodies and assembly parts are included in the scope of delivery.

Assembly parts		h ₄ [mm]	26-32
	Clamping screw for grooving insert		FS2164 (Torx 15IP)
	Tightening torque		31 in lb (3.5 Nm)

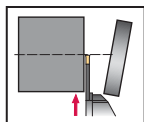
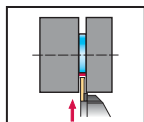
Accessories	
	h₄ [mm] 26-32 Screwdriver for grooving insert FS1485 (Torx 15IP)

G4041...C-P

mm

A2

- Screw clamping
- Precision cooling

[illegible]

Ordering example, right-hand tool: G4041-26R-2T17DX18C-P/ordering example, left-hand tool: G4041-26L-2T17DX18C-P
Bodies and assembly parts are included in the scope of delivery.

 h_4 [mm]

26

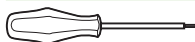


Clamping screw for grooving insert
Tightening torque

FS2164 (Torx 15IP)
31 in lb (3.5 Nm)

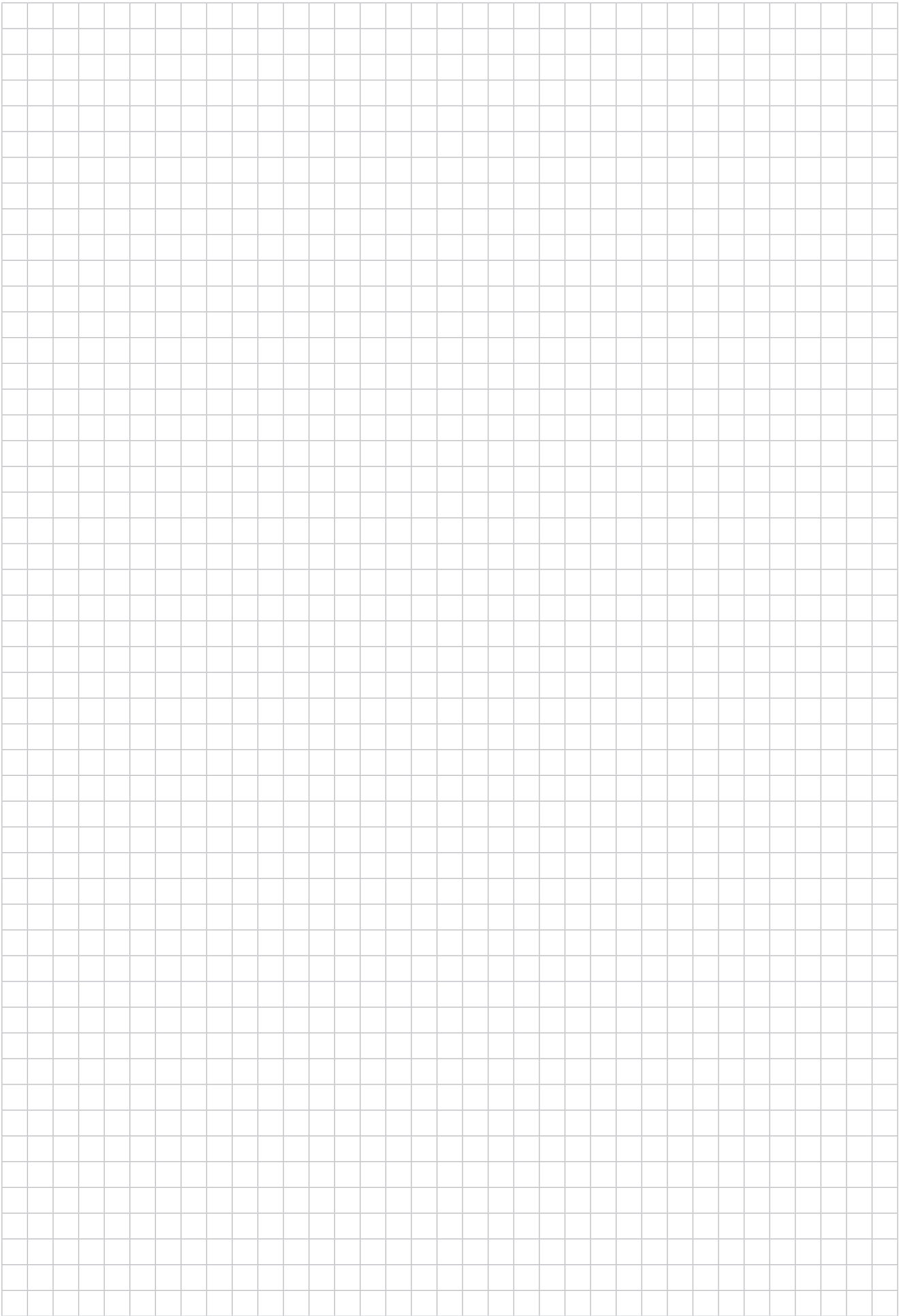
 h_4 [mm]

26



Screwdriver for grooving insert

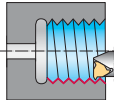
FS1485 (Torx 15IP)



Walter NTS threading tools product range overview

Thread turning tools – Internal machining

A3

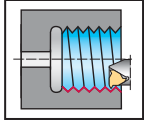
	
Type	 NTS..
Designation	Q...-T1820...-P
Clamping system	Toggle
Coolant supply	Precision cooling
QuadFit size	Q25–Q50
Insert size	16–22
Page	73
	

Exchangeable head – internal thread

Q...-T1820...-P

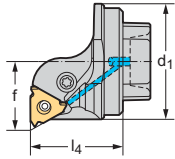
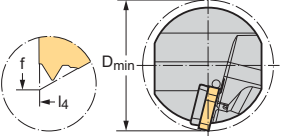
Walter NTS

- QuadFit
- Precision cooling



A3



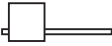
Tool		Designation		d ₁	D _{min} in	f in	l ₄ in	D _{min} mm	f mm	l ₄ mm	β	Type
   	★	T1820-Q25R/L-16l-P	16	Q25	1.142	0.642	0.984	29	16.3	25	1°	NTS-I . -16 ..
	★	T1820-Q32R/L-16l-P	16	Q32	1.417	0.780	1.260	36	19.8	32	1°	
	★	T1820-Q40R/L-16l-P	16	Q40	1.732	0.937	1.260	44	23.8	32	1°	
	★	T1820-Q50R/L-16l-P	16	Q50	2.126	1.134	1.260	54	28.8	32	1°	
	★	T1820-Q32R/L-22l-P	22	Q32	1.496	0.839	1.260	38	21.3	32	1°	NTS-I . -22 ..
	★	T1820-Q40R/L-22l-P	22	Q40	1.811	0.996	1.260	46	25.3	32	1°	
	★	T1820-Q50R/L-22l-P	22	Q50	2.205	1.193	1.260	56	30.3	32	1°	

For information on the inclination angle β and compatible shim, see "Technical information – Thread turning"

The maximum recommended coolant pressure is 150 bar (2175 psi)

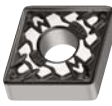
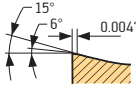
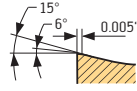
Ordering example, right-hand tool: T1820-Q25R-16l-P/ordering example, left-hand tool: T1820-Q25L-16l-P

Bodies and assembly parts are included in the scope of delivery.

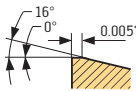
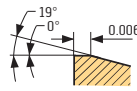
Assembly parts			
	Type	NTS-I . -16 ..	NTS-I . -22 ..
	Shim	GXA16-1	NXA22-1
	Clamping screw	FS2615 (Torx 15IP)	FS2616 (Torx 25IP)
	Tightening torque	18 in lb (2.0 Nm)	44 in lb (5.0 Nm)
	Lever	KN129	KN130
	Pin	RS123	RS124
	Torx key	FS1465 (Torx 15IP /SW 3.5)	
	Allen key		FS1592 (Torx 25IP)

Geometry overview of turning inserts – Negative basic shape

Finishing operation

Geometry	Remarks/field of applications	Material groups							Section Main cutting edge	Section Corner radius	a_p [in]	f [in]
		P	M	K	N	S	H	O				
		Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials	Other				
	FW5 – Finishing with wiper technology – Double the feed rate – the same high surface quality – Reduced cutting pressure thanks to short wiper curved cutting edge	••	••	••	•						0.012–0.118	0.004–0.024

Medium machining

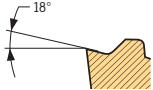
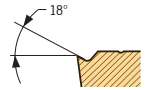
	MW5 – Medium machining with wiper technology – Double the feed rate – the same high surface quality – Maximum feeds thanks to long wiper curved cutting edge	••	••	••	•						0.031–0.157	0.006–0.030
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- Primary application
- Additional application

Note: Sectional views show CNMG432...

Geometry overview of turning inserts – Positive basic shape

Finishing operation

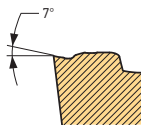
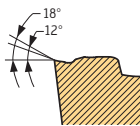
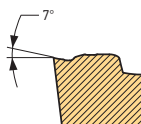
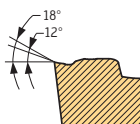
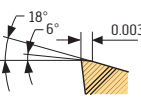
Geometry	Remarks/field of applications	Material groups							Section Main cutting edge	Section Corner radius	a_p [in]	f [in]
		P	M	K	N	S	H	O				
		Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials	Other				
	FP2 – Finishing insert with fully ground circumference – Long, small-diameter shafts with a tendency to vibrate – Low cutting forces	••	••	••	•	•					0.005–0.098	0.001–0.013

- Primary application
- Additional application

Note: Sectional views show CCMT3(2.5)2... or CCGT3(2.5)2...

Geometry overview of system inserts – WL

Medium machining

Geometry	Remarks/field of applications	Material groups							Section Main cutting edge	Section Corner radius	a_p [in]	f [in]
		P	M	K	N	S	H	O				
		Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials	Other				
	MM4 – Medium machining – with a large range of applications – Machining for long-chipping materials – Specially developed for copy turning – Chip breaking during forward and reverse turning	•	••	•		••					0.016–0.098	0.003–0.014
	MP4 – Medium machining – with a large range of applications – Machining for long-chipping materials – Specially developed for copy turning – Chip breaking during forward and reverse turning	••	•	•		•					0.016–0.098	0.003–0.014
	MU6 – Full-radius geometry for copy turning – Soft cutting action with excellent chip breaking – Chip breaking during forward and reverse turning	••	••	••		••	•				0.016–0.098	0.004–0.016

- Primary application
 • Additional application

Note: Sectional views show WL25-VC0708 . . and WL25-RC0420 . .

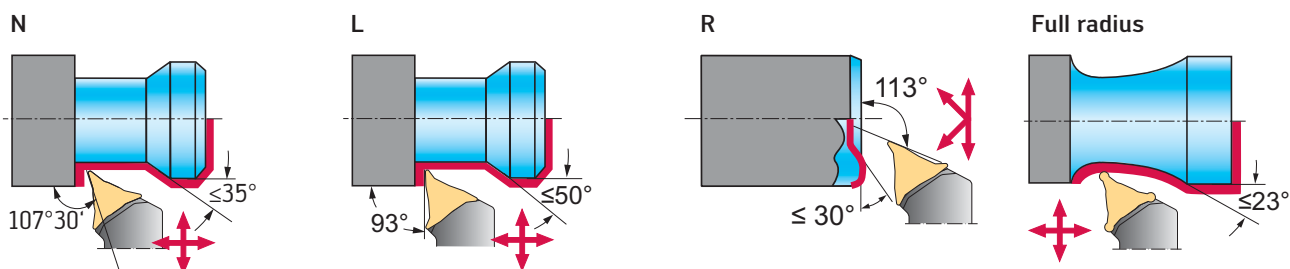
Application information: W1011-P Walter Turn copy turning system

W1011-P Walter Turn copy turning system

On W1011-P copy turning tools, four different indexable insert types can be fitted in the same tool.
This means that different profiling angles/approach angles can be achieved with the same tool.

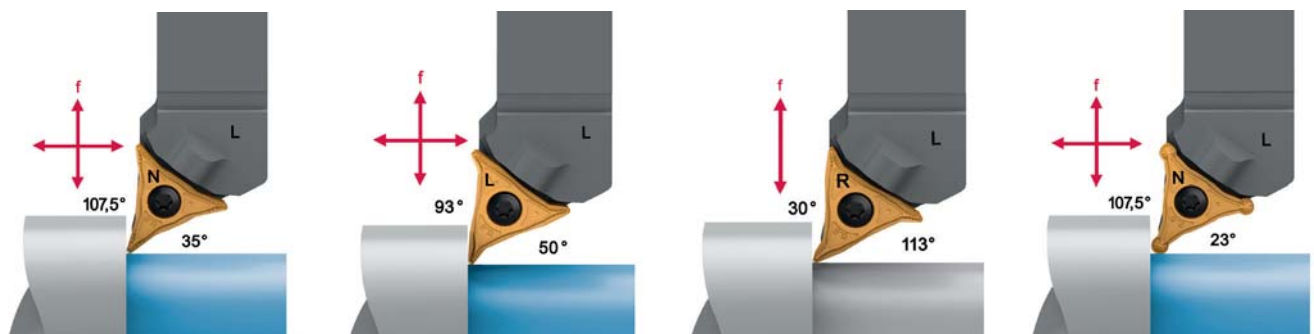


1. Application area and profiling angle



2. Fitting options and approach angle

Four different indexable inserts can be fitted in the same tool.
The approach angles are formed by fitting the different indexable inserts.



Example:
Left-hand tool:
W1011-2525L-WL25-P
Neutral indexable insert:
WL25-VC0708N-MP4 WPP20S

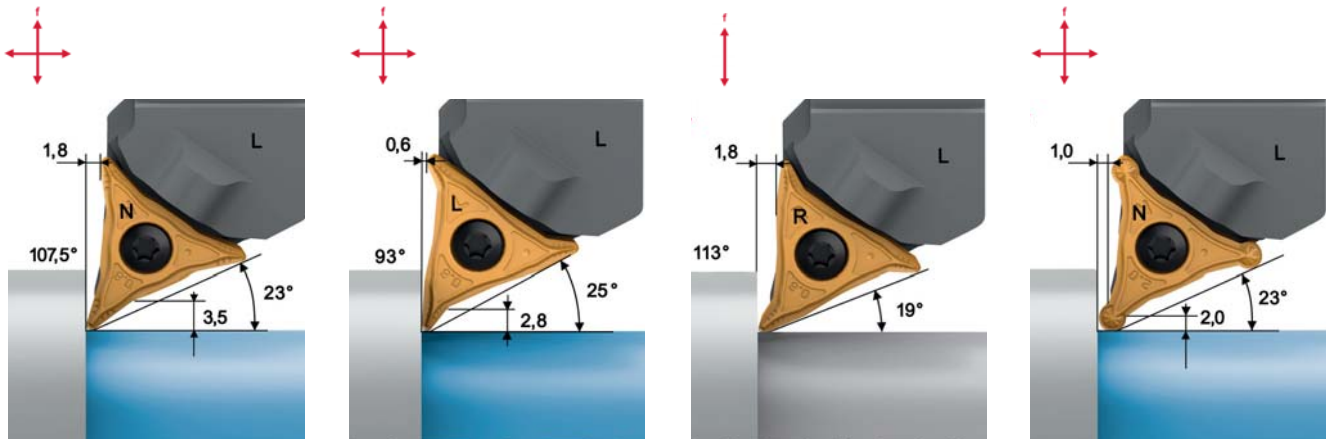
Example:
Left-hand tool:
W1011-2525L-WL25-P
Left-hand indexable insert:
WL25-VC0708L-MP4 WPP20S

Example:
Left-hand tool:
W1011-2525L-WL25-P
Right-hand indexable insert:
WL25-VC0708R-MP4 WPP20S

Example:
Left-hand tool:
W1011-2525L-WL25-P
Neutral indexable insert:
WL25-RC0420N-MU6 WPP20S

3. Maximum feed WL25 indexable inserts / W1011-P

Example – left-hand tool

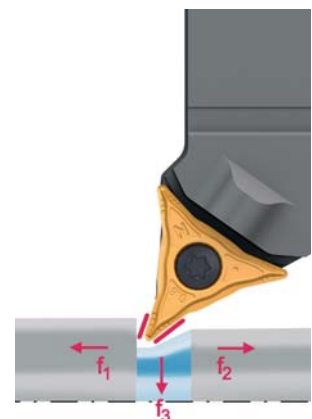


4. Cutting data

Geometry/corner radius	MM4 / MP4 – R 0.016 inches				
	Reverse turning (f_2)			Forward turning (f_1)	
Approach angle	31°/35°	50°	72.5°	93°	107.5/113°
$a_{p\min}$ [in]	0.008	0.012	0.016	0.016	0.016
$a_{p\max}$ [in]	0.055	0.075	0.094	0.098	0.094
$f_{\min}$ [in]	0.006	0.004	0.003	0.003	0.003
$f_{\max}$ [in]	0.016	0.013	0.010	0.010	0.010

Geometry/corner radius	MM4 / MP4 – R 0.031 inches				
	Reverse turning (f_2)			Forward turning (f_1)	
Approach angle	31°/35°	50°	72.5°	93°	107.5/113°
$a_{p\min}$ [in]	0.012	0.016	0.020	0.020	0.020
$a_{p\max}$ [in]	0.055	0.075	0.094	0.098	0.094
$f_{\min}$ [in]	0.008	0.006	0.005	0.005	0.005
$f_{\max}$ [in]	0.020	0.017	0.013	0.013	0.013

Geometry/corner radius	MU6 – R 0.079 inches				
	Reverse turning (f_2)			Forward turning (f_1)	
Approach angle	31°/35°	50°	72.5°	93°	107.5/113°
$a_{p\min}$ [in]	0.012	0.016	0.020	0.020	0.020
$a_{p\max}$ [in]	0.043	0.059	0.075	0.079	0.075
$f_{\min}$ [in]	0.008	0.006	0.005	0.005	0.005
$f_{\max}$ [in]	0.024	0.020	0.017	0.016	0.017

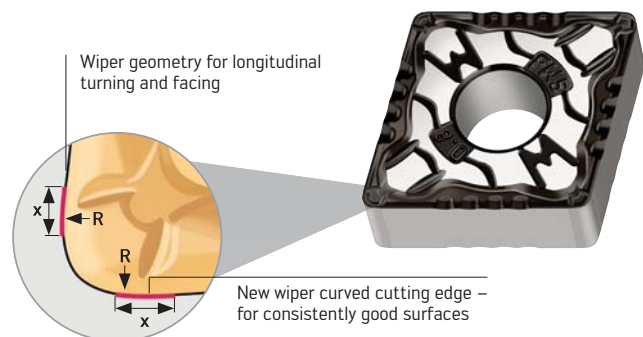


f_1 = forward turning
 f_2 = reverse turning
 f_3 = plunging
 A feed of f 0.008" is recommended for plunging into the workpiece (-X).

These values correspond to the depths of cut and feed values on the catalogue ordering page.

Application information for wiper indexable inserts

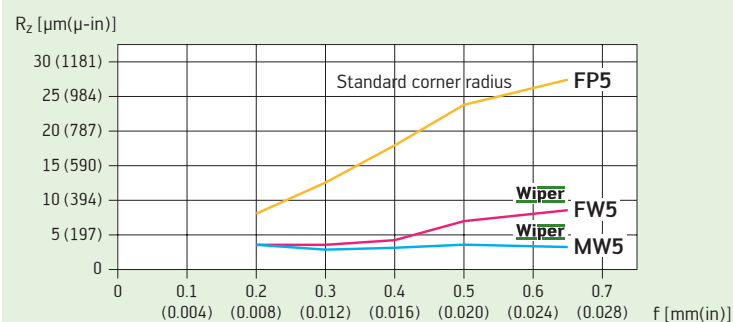
Wiper



Application area:

- Double the surface quality with the same feed compared to the standard corner radius
- Same surface quality with double the feed rate compared to the standard corner radius
- Increased productivity – the higher feeds reduce the machining time
- Fewer tools – there is the option to combine roughing and finishing in a single operation
- Longer tool life as the higher feed reduces the contact time with the workpiece

1. Surface quality that can be achieved with wiper indexable inserts



Material: AISI 4140
Indexable insert: CNMG432-FP5 WPP20S
CNMG432-FW5 WPP20S
CNMG432-MW5 WPP20S

The surface finish values are available in R_z (not R_a)
There is no direct conversion from R_z to R_a possible

2. Edge formation: Comparison of wiper indexable inserts and standard indexable inserts

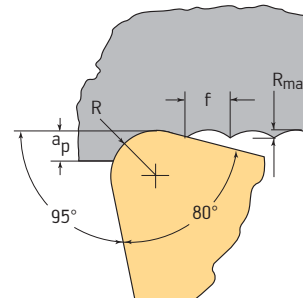
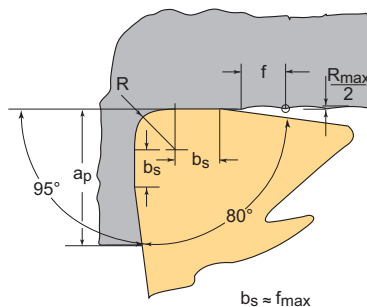
The specified maximum feeds [f_{max}] should not be exceeded with wiper geometries. They approximately correspond to the wiper curved cutting edge length.

Wiper geometry:
Example of CNMG432-FW5 /
CNMG432-MW5

Standard geometry with corner radius:
Example of CNMG432-FP5

Corner radius

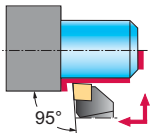
R [mm(in)]	FW5 f_{max} [mm(in)]	MW5 f_{max} [mm(in)]
0.4 (0.016)	0.45 (0.018)	–
0.8 (0.031)	0.55 (0.022)	0.65 (0.026)
1.2 (0.047)	0.65 (0.026)	0.75 (0.030)



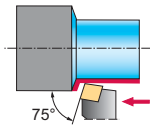
3. Turning toolholder for using wiper geometries

To achieve the wiper effect, the wiper indexable insert has to be used in a toolholder with the correct lead angle.

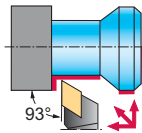
CNMG / CCMT – 80° corner



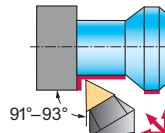
CNMG / CCMT – 100° corner



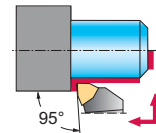
DNMG / DCMT



TNMG / TCMT



WNMG / WCMT



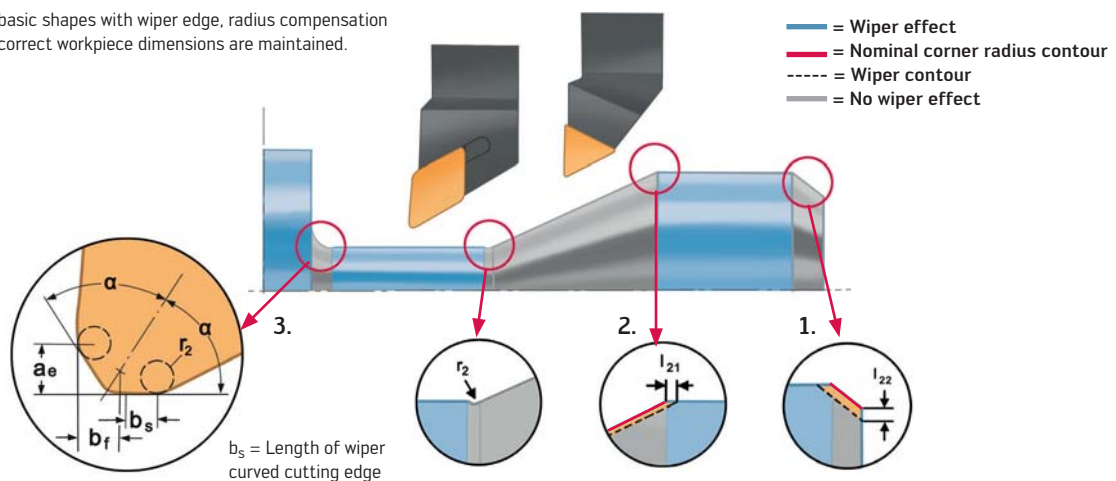
— = Wiper effect

Comments:

- The standard CNC range can be used with CNMG, CCMT, WNMG and WCMT indexable inserts
- The wiper effect is not achieved when profiling and turning inclined surfaces with DNMG, DCMT, TNMG and TCMT indexable inserts
- Please note that compensation is required in the area of radii/inclined surfaces; otherwise contour distortions may occur (see point 4).

4. Effects on the workpiece dimensions when machining with DNMG/DCMT and TNMG/TCMT wiper indexable inserts

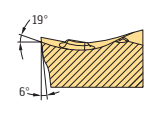
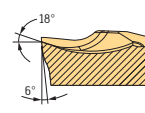
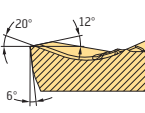
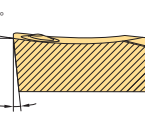
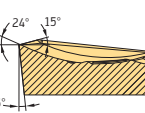
When using D and T basic shapes with wiper edge, radius compensation can ensure that the correct workpiece dimensions are maintained.



Indexable insert designation			Dimensions				Compensation dimensions		
	ANSI Designation	Designation	r_2 [in]	a_e [in]	b_s [in]	b_f [in]	1. Chamfer with 45° inclined surface	2. Profiling 27° D basic shape	3. Profiling 22° T basic shape
							l_{22} [in]	l_{21} [in]	l_{21} [in]
	DNMG331-FW5	DNMG110404-FW5	0.012	0.017	0.007	0.016	0.0004	0.0035	
	DNMG332-FW5	DNMG110408-FW5	0.016	0.029	0.017	0.022	0.0024	0.0016	
	DNMG431-FW5	DNMG150404-FW5	0.012	0.017	0.007	0.016	0.0004	0.0035	
	DNMG432-FW5	DNMG150408-FW5	0.016	0.029	0.017	0.022	0.0024	0.0016	
	DNMG441-FW5	DNMG150604-FW5	0.012	0.017	0.007	0.016	0.0004	0.0035	
	DNMG442-FW5	DNMG150608-FW5	0.016	0.029	0.017	0.022	0.0024	0.0016	
	DNMG332-MW5	DNMG110408-MW5	0.014	0.032	0.022	0.024	-0.0004	0.0094	
	DNMG333-MW5	DNMG110412-MW5	0.018	0.041	0.028	0.029	0.0043	0.0024	
	DNMG432-MW5	DNMG150408-MW5	0.012	0.032	0.022	0.024	-0.0004	0.0094	
	DNMG433-MW5	DNMG150412-MW5	0.018	0.041	0.028	0.029	0.0043	0.0024	
	DNMG442-MW5	DNMG150608-MW5	0.014	0.032	0.022	0.024	-0.0004	0.0094	
	DNMG443-MW5	DNMG150612-MW5	0.018	0.041	0.030	0.029	0.0043	0.0024	
	TNMG331-FW5	TNMG160404-FW5	0.012	0.017	0.007	0.013	0.0004		0.0039
	TNMG332-FW5	TNMG160408-FW5	0.016	0.030	0.015	0.022	0.0024		0.0028
	TNMG332-MW5	TNMG160408-MW5	0.014	0.033	0.022	0.023	0.0008		0.0094
	TNMG333-MW5	TNMG160412-MW5	0.022	0.043	0.028	0.028	0.0059		0.0028

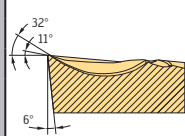
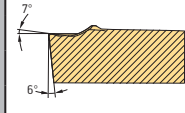
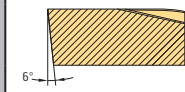
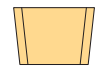
Geometry overview of cutting inserts

DX system: Grooving and parting off

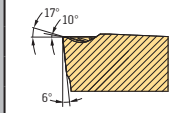
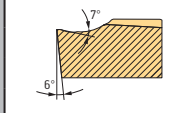
Geometry	Remarks/ field of applications	Material groups							Section Main cutting edge	View Main cutting edge	s [mm]	s [in]	f [in]
		P Steel	M Stainless steel	K Cast iron	N NF metals	S Materials with difficult cutting properties	H Hard materials	O Other					
 CF6 – Low feeds – Low burr/centre pip formation – Low cutting force		●●	●●		●●	●●		●			1.5	0.059	0.001–0.005
											2	0.079	0.001–0.006
											2.5	0.098	0.001–0.007
											3	0.118	0.002–0.009
 CF5 – Grooving and parting off operations – Light to moderate feeds – Good chip control – Low burr/centre pip formation		●●	●●	●	●●	●●		●			1.5	0.059	0.001–0.005
											2	0.079	0.002–0.006
											2.5	0.098	0.002–0.007
											3	0.118	0.003–0.009
 CE4 – Grooving and parting off operations – Moderate to high feeds – Good chip constrictor – Stable cutting edge		●●	●	●●	●	●		●			1.5	0.059	0.001–0.005
											2	0.079	0.002–0.007
											2.5	0.098	0.003–0.008
											3	0.118	0.004–0.013
 GD3 – Extremely soft cutting action – Light to moderate feeds – General parting off and grooving operations		●●	●●	●	●	●		●			2	0.079	0.002–0.006
											2.5	0.098	0.002–0.007
											3	0.118	0.002–0.008
 GD6 – Moderate feeds – Long-chipping materials – Medium machining conditions		●●	●●	●	●	●●					2	0.079	0.002–0.006
											2.5	0.098	0.002–0.008
											3	0.118	0.003–0.008

- Primary application
 ● Additional application

DX system: Grooving, parting off and recessing

Geometry	Remarks/ field of applications	Material groups							Section Main cutting edge	View Main cutting edge	s [mm]	s [in]	a _p [in]	f [in]
		P	M	K	N	S	H	O						
		Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials	Other						
 UF4 – All grooving operations – Good chip control – Average feed range – Positive cut		●●	●●	●●	●	●			 32° 11° 6°		2	0.079	0.012–0.047	0.004–0.007
											2.5	0.098	0.012–0.051	0.004–0.008
											3	0.118	0.016–0.079	0.004–0.009
 UD4 – Large chip breaking range – Optimum chip breaking when machining forged parts – Stable cutting edge – For moderate to high feeds		●●	●	●●					 7° 6°		2	0.079	0.012–0.047	0.004–0.007
											3	0.118	0.016–0.079	0.004–0.009
 UA4 – For cast iron machining – For middle to high machining parameters – For maximum process reliability in cast iron machining				●●		●			 6°		2	0.079	0.012–0.047	0.003–0.007
											3	0.118	0.016–0.079	0.004–0.010

DX system: Full radius cutting inserts for grooving and copy turning

Geometry	Remarks/ field of applications	Material groups							Section Main cutting edge	View Main cutting edge	s [mm]	s [in]	a _p [in]	f [in]
		P	M	K	N	S	H	O						
		Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials	Other						
 RF7 – For copy and relief turning – High surface quality – Stable cutting edge		●●	●●	●	●	●●			 17° 10° 6°		2	0.079	0.004–0.039	0.003–0.010
											3	0.118	0.004–0.059	0.004–0.014
 RD4 – For copy turning – Outstanding chip control when grooving – For moderate to high feeds – Circumference-sintered		●●	●	●●	●				 7° 6°		2	0.079	0.008–0.039	0.003–0.011
											3	0.118	0.020–0.059	0.004–0.015

- Primary application
 ● Additional application

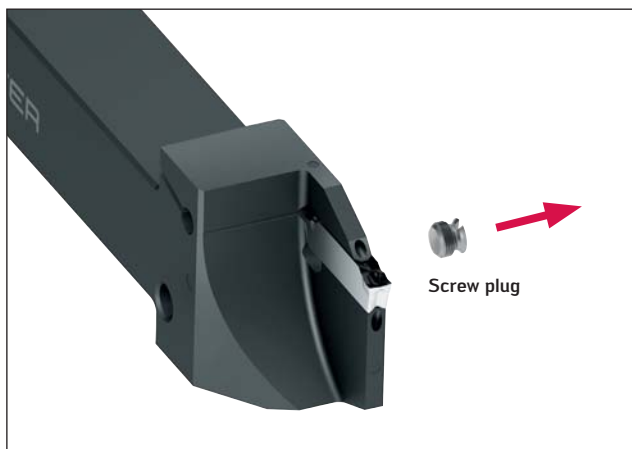
Assembly instructions for Walter Cut DX

Purpose: The tool activation side can be converted as required.

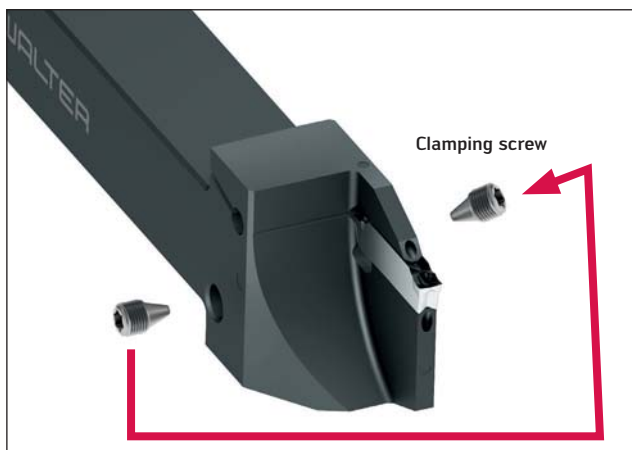
The Torx 15IP clamping screw is delivered fitted on the left-hand side of the toolholder. To fit this screw on the other side, follow the instructions below:

Important: Conversion is only possible when the indexable insert is fitted.

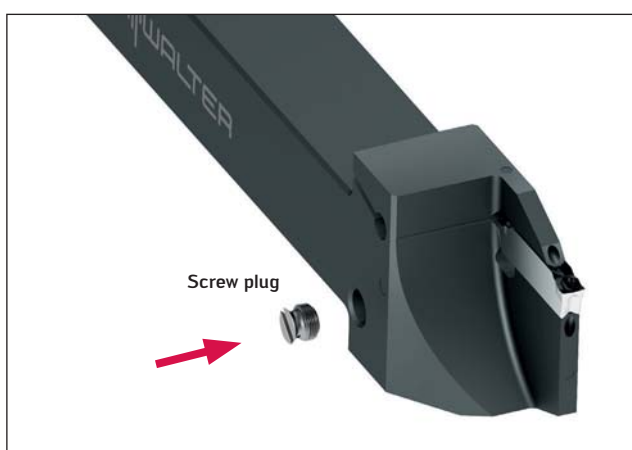
1. Remove the screw plug on the right-hand side of the toolholder using a slotted screwdriver.



2. Unscrew the Torx 15IP clamping screw from the left-hand side and screw it into the right-hand side at the prescribed torque.



3. Screw the screw plug back into the left-hand side of the toolholder, which is now free, to protect against contamination.



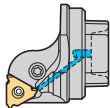
[Link to the video with conversion instructions](#)

Application information: Thread turning with Walter NTS

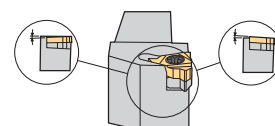
Thread turning – Shims

Shims fitted in the tool holder exchangeable head

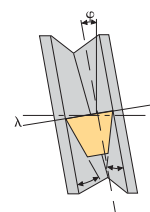
The table shows the shims that are fitted in the tool holder as standard and are used when cutting in the direction of the head stock.

Tool adaptor		QuadFit Q...-T1820... exchangeable head with precision cooling	
Tool adaptor			
		Internal thread	
Type of indexable insert		Single-tooth indexable insert	
Shim			
Indexable insert size	16	GXA 16-1	
	22	NXA 22-1	

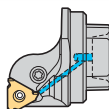
By replacing the shim, the inclination angle can be selected between +5 and -2. The same shims should be used for right-hand and left-hand threads. The centre height dimension always remains constant.



To achieve the best possible profile accuracy and even wear, the indexable insert inclination angle (λ) must be correspond to the thread inclination angle (φ) as closely as possible.



Selecting a shim

Tool adaptor		QuadFit Q...-T1820... exchangeable head with precision cooling	
Tool adaptor			
		Internal thread	
Type of indexable insert		Single-tooth indexable insert	
Shim			
		Direction of cut towards the head stock	Direction of cut towards the tail stock
Indexable insert size	16	GXA16-0, -1, -2, -3, -4	GXA16-0, -99, -98
	22	NXA22-0, -1, -2, -3, -4	NXA22-0, -99, -98

Selecting a shim

Use the diagram below to select the right shim. The diagram shows you the last digit in the shim designation.
Example: GX16-1

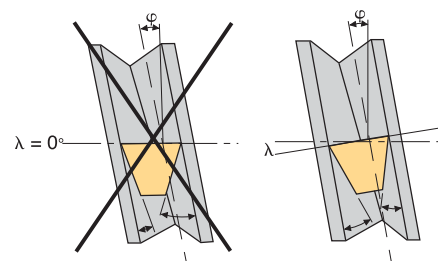
Production method

Direction of cut towards the head stock = see right-hand triangle on the diagram
Direction of cut towards the tail stock = see left-hand triangle on the diagram

Vertical rows – pitch

Single-start thread, pitch height (P_h) = pitch (P)

Multi-start thread, pitch height (P_h) = pitch (P) x number of starts



Application information: Thread turning with Walter NTS

(continued)

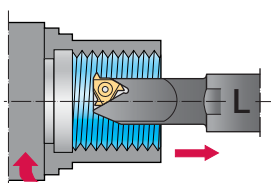
Horizontal rows = thread diameter [D_2]

[illegible]

Feed in the direction of the tail stock – internal thread

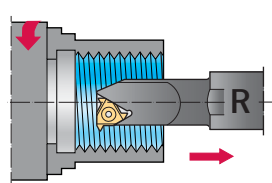
Right-hand thread

Opposite inclination angle



Left-hand thread

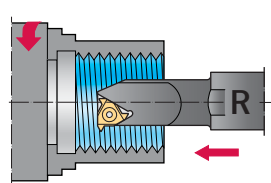
Right-hand tool holder
Right-hand insert
Opposite inclination angle



Feed in the direction of the head stock – internal thread

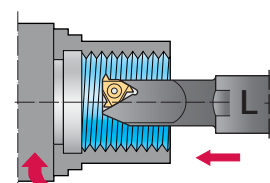
Right-hand thread

Right-hand tool holder
Right-hand insert



Left-hand thread

Left-hand tool holder
Left-hand insert



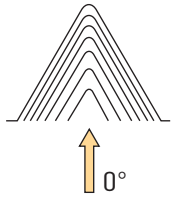
Application information: Standard values for thread turning with Walter NTS

Feed types and their influence on machining

Radial feed

Recommended for:

- Short-chipping materials
- Hard materials

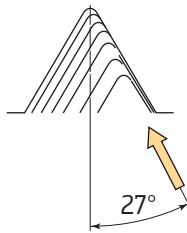


- Formation of V-shaped chips
- Both cutting edges engaged
- High cutting temperature
- Even indexable insert wear on both flanks
- Suitable for small pitches

Feed via flank 27°–29°

Recommended for:

- Pitches greater than 1.5 mm or 16 TPI
- The manufacture of trapezoidal threads

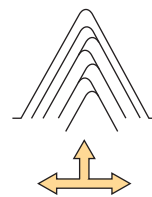


- Good chip formation
- Formation of helical chips
- One cutting edge engaged
- Chips are guided away from the thread
- Thread flanks with excellent surface quality

Alternating feed

Recommended for:

- Steep pitches
- Long-chipping materials



- Good chip formation
- Formation of flat helical chips
- Both cutting edges are evenly engaged, ensuring even wear

Standard values for the number of radial infeeds for each thread turning pass on manual lathes

The recommended cutting passes are only to be regarded as standard values. They were determined under good operating conditions with medium-strength steel materials. In the case of high-strength steel materials, the number of feeds must be increased. It is important to reduce the initial threading cuts in this case. If the operating conditions are different, the feeds should be modified accordingly. This applies to internal thread turning with a projection length of more than $2.5 \times$ the boring bar diameter.

Whitworth (WH), external and internal machining

No. of feeds	Pitch [TPI]														
	28	26	20	19	18	16	14	12	11	10	9	8	7	6	5
Total depth [mm]	0.64	0.68	0.87	0.91	1.07	1.12	1.23	1.42	1.54	1.69	1.87	2.09	2.41	2.80	3.34
16															
15															
14														0.10	0.10
13														0.12	0.12
12												0.08	0.08	0.14	0.15
11											0.08	0.12	0.12	0.14	0.17
10										0.08	0.12	0.12	0.14	0.15	0.18
9									0.08	0.12	0.12	0.13	0.15	0.16	0.19
8						0.08	0.08	0.08	0.12	0.13	0.13	0.14	0.16	0.17	0.20
7					0.08	0.10	0.11	0.13	0.13	0.13	0.14	0.15	0.18	0.19	0.22
6			0.08	0.08	0.11	0.10	0.12	0.14	0.14	0.15	0.15	0.16	0.19	0.20	0.24
5	0.08	0.08	0.11	0.12	0.13	0.12	0.13	0.15	0.16	0.16	0.17	0.18	0.21	0.21	0.27
4	0.11	0.11	0.13	0.13	0.14	0.14	0.15	0.17	0.18	0.18	0.19	0.20	0.23	0.24	0.30
3	0.12	0.14	0.15	0.16	0.17	0.16	0.18	0.21	0.21	0.21	0.22	0.23	0.27	0.28	0.36
2	0.15	0.16	0.19	0.20	0.21	0.20	0.22	0.26	0.25	0.26	0.27	0.28	0.33	0.34	0.41
1	0.18	0.19	0.21	0.22	0.23	0.22	0.24	0.28	0.27	0.27	0.28	0.30	0.35	0.36	0.43

Radial infeed [mm]



Reduce the cutting speed

Application information: Standard values for thread turning with Walter NTS

(continued)

Internal machining, metric 60°

No. of feeds	Pitch [mm]																	
	0.5	0.6	0.7	0.75	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
Total depth [mm]	0.34	0.38	0.44	0.48	0.51	0.63	0.77	0.90	1.07	1.20	1.49	1.77	2.04	2.32	2.62	2.89	3.20	3.46
16																	0.10	0.10
15																	0.12	0.12
14														0.08	0.10	0.10	0.12	0.13
13														0.10	0.11	0.12	0.13	0.14
12												0.08	0.08	0.10	0.12	0.14	0.14	0.15
11												0.09	0.10	0.11	0.12	0.14	0.14	0.15
10											0.08	0.10	0.11	0.12	0.13	0.15	0.15	0.16
9											0.10	0.10	0.12	0.12	0.14	0.15	0.16	0.18
8									0.08	0.08	0.10	0.11	0.13	0.13	0.15	0.16	0.17	0.19
7									0.09	0.10	0.11	0.12	0.14	0.14	0.16	0.17	0.18	0.20
6							0.08	0.08	0.09	0.11	0.12	0.13	0.15	0.15	0.19	0.20	0.20	0.22
5						0.08	0.09	0.11	0.10	0.12	0.13	0.14	0.17	0.18	0.21	0.22	0.22	0.24
4	0.07	0.07	0.07	0.07	0.07	0.09	0.10	0.13	0.13	0.14	0.15	0.16	0.19	0.21	0.23	0.25	0.26	0.28
3	0.07	0.08	0.08	0.10	0.11	0.11	0.13	0.15	0.15	0.17	0.18	0.20	0.23	0.24	0.27	0.30	0.32	0.35
2	0.09	0.11	0.13	0.14	0.15	0.16	0.17	0.21	0.21	0.23	0.25	0.26	0.30	0.31	0.33	0.38	0.38	0.41
1	0.11	0.12	0.16	0.17	0.18	0.19	0.20	0.22	0.22	0.25	0.27	0.28	0.32	0.33	0.36	0.41	0.41	0.44

Radial infeed [mm]

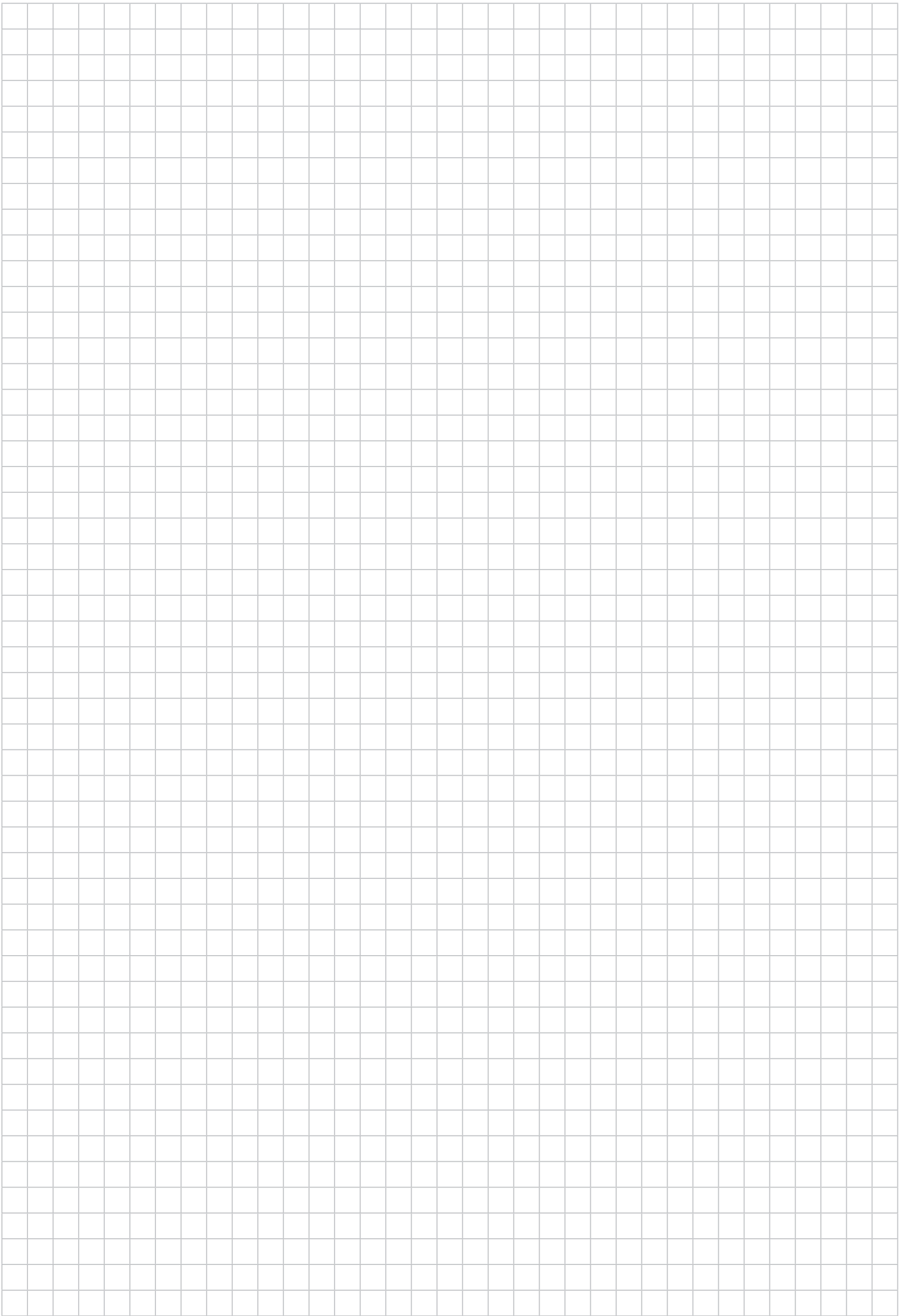
Reduce the cutting speed

Internal machining, UN 60°

No. of feeds	Pitch [TPI]															
	32	28	24	20	18	16	14	13	12	11	10	9	8	7	6	5
Total depth [mm]	0.49	0.59	0.66	0.78	0.86	0.95	1.10	1.17	1.26	1.38	1.49	1.66	1.86	2.11	2.44	2.93
16																
15																
14															0.10	0.10
13															0.11	0.12
12													0.08	0.08	0.11	0.14
11												0.08	0.10	0.11	0.12	0.14
10											0.08	0.09	0.10	0.12	0.12	0.15
9										0.08	0.10	0.10	0.11	0.12	0.13	0.16
8							0.08	0.08	0.08	0.10	0.10	0.11	0.11	0.13	0.14	0.17
9						0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.12	0.14	0.15	0.18
6				0.08	0.08	0.09	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.15	0.16	0.20
5		0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.13	0.13	0.14	0.15	0.17	0.18	0.22
4	0.08	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.15	0.15	0.15	0.16	0.17	0.20	0.20	0.25
3	0.10	0.10	0.14	0.13	0.14	0.14	0.15	0.16	0.18	0.18	0.18	0.19	0.21	0.23	0.24	0.30
2	0.14	0.14	0.16	0.17	0.19	0.20	0.21	0.22	0.24	0.24	0.25	0.26	0.28	0.28	0.32	0.38
1	0.17	0.17	0.18	0.20	0.23	0.22	0.23	0.25	0.27	0.27	0.27	0.28	0.30	0.34	0.35	0.42

Radial infeed [mm]

Reduce the cutting speed





Drilling from solid – B1

Indexable inserts for drilling	Product range overview	90
	Designation key	91
	Indexable inserts for drilling	94
Boring tools with indexable inserts	Product range overview	99
	Indexable insert drills	100
Technical information	Cutting data	118
	Cutting tool material application chart	124

Boring and precision boring – B2

Indexable inserts for boring and precision boring	Indexable inserts for counterboring and precision boring tools	116
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Product range overview of indexable inserts for drilling from solid

B 1



Machining	Insert shape	Description	Page
Drilling from solid		P484 . . For drilling from solid	94
		P284 . . For drilling from solid	96
		L For drilling from solid	97
		W For drilling from solid	98

Designation key

P 284	0	S	–	2	N	–	A57
1	2	3		4	5		6

1	2	3	4
Walter indexable insert designation	Version	Position	Insert size
P284 For D3120	0 Fully ground circumference	C Centre insert	P284 mm in
P484 For D4120 and B421 ...	1 Circumference-sintered	P Outer insert	1 $D_C = 16.00-20.00$ $D_C = 0.630-0.787$
		S Centre insert and outer insert identical	2 $D_C = 21.00-25.00$ $D_C = 0.827-0.984$
			3 $D_C = 26.00-30.00$ $D_C = 1.024-1.181$
			4 $D_C = 31.00-36.00$ $D_C = 1.220-1.417$
			5 $D_C = 37.00-42.00$ $D_C = 1.457-1.654$
			P484 mm in
			1 $D_C = 13.50-16.00$ $D_C = 0.531-0.630$
			2 $D_C = 16.50-20.00$ $D_C = 0.650-0.787$
			3 $D_C = 20.50-24.00$ $D_C = 0.807-0.945$
			4 $D_C = 24.50-29.00$ $D_C = 0.965-0.945$
			5 $D_C = 29.50-35.00$ $D_C = 1.161-1.378$
			6 $D_C = 36.00-42.00$ $D_C = 1.417-1.654$
			7 $D_C = 43.00-50.00$ $D_C = 1.693-1.969$
			8 $D_C = 51.00-59.00$ $D_C = 2.008-2.323$

Designation key for exchangeable-tip drills for drilling from solid

P 600	5	–	D 18,50	R	WKK45C
1	2		3	4	5

1	2	3	4
Walter exchangeable-tip drill designation	Walter geometry	Insert diameter	Cutting direction
P600x For D4140 / D4240 / B401 . .	1 For ISO P 3 For ISO M and ISO S 4 For ISO N 5 For ISO K	D In mm	R RH-cutting

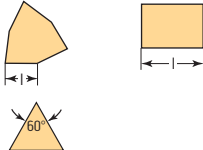
5
Coating

Designation key in accordance with ISO 1832 for indexable inserts for drilling from solid

L	C	M	X	06	T2	04	–	D57
1	2	3	4	5	6	7		8

B 1

1	2	3																
Insert shape	Clearance angle	Tolerances																
L W T	C O	  <table><tr><th colspan="4">Permissible deviation in mm for</th></tr><tr><th></th><th>d</th><th>m</th><th>s</th></tr><tr><td>E</td><td>± 0.025</td><td>± 0.025</td><td>± 0.025</td></tr><tr><td>M</td><td>± 0.05–0.15²</td><td>± 0.08–0.20²</td><td>± 0.130</td></tr></table> ¹ Inserts with ground planar cutting edges ² Depending on the insert size (see ISO standard 1832)	Permissible deviation in mm for					d	m	s	E	± 0.025	± 0.025	± 0.025	M	± 0.05–0.15 ²	± 0.08–0.20 ²	± 0.130
Permissible deviation in mm for																		
	d	m	s															
E	± 0.025	± 0.025	± 0.025															
M	± 0.05–0.15 ²	± 0.08–0.20 ²	± 0.130															

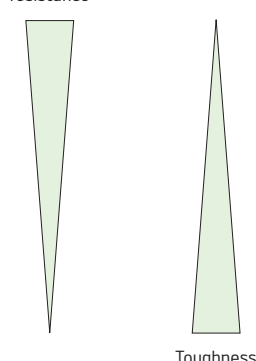
4		5		6																							
Machining and fastening features		Cutting edge length		Insert thickness																							
A		X	Drawing or precise description of the indexable insert is required			<table><tr><td>02</td><td>s = 2.38</td><td>s = 0.094</td></tr><tr><td>T2</td><td>s = 2.78</td><td>s = 0.109</td></tr><tr><td>03</td><td>s = 3.18</td><td>s = 0.125</td></tr><tr><td>T3</td><td>s = 3.97</td><td>s = 0.156</td></tr><tr><td>04</td><td>s = 4.76</td><td>s = 0.187</td></tr><tr><td>05</td><td>s = 5.56</td><td>s = 0.219</td></tr><tr><td>06</td><td>s = 6.35</td><td>s = 0.250</td></tr></table>	02	s = 2.38	s = 0.094	T2	s = 2.78	s = 0.109	03	s = 3.18	s = 0.125	T3	s = 3.97	s = 0.156	04	s = 4.76	s = 0.187	05	s = 5.56	s = 0.219	06	s = 6.35	s = 0.250
02	s = 2.38	s = 0.094																									
T2	s = 2.78	s = 0.109																									
03	s = 3.18	s = 0.125																									
T3	s = 3.97	s = 0.156																									
04	s = 4.76	s = 0.187																									
05	s = 5.56	s = 0.219																									
06	s = 6.35	s = 0.250																									
B																											

7		
Corner radius		
	02	r = 0.2 mm r = 0.008 in
	04	r = 0.4 mm r = 0.016 in
	08	r = 0.8 mm r = 0.031 in

8	
Manufacturer specifications	
The ISO code includes nine symbols. The eighth and/or ninth symbols should only be used when required.	
The manufacturer can add other symbols which can be combined with the ISO code by means of a hyphen (e.g. for the chip breaker form).	
Drilling from solid	A57, B57, D57, E57, E67

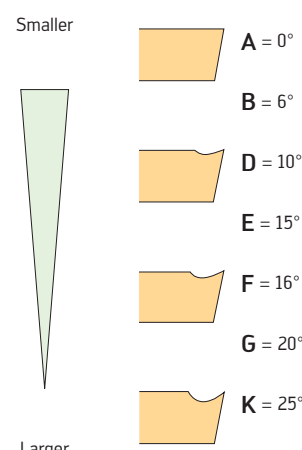
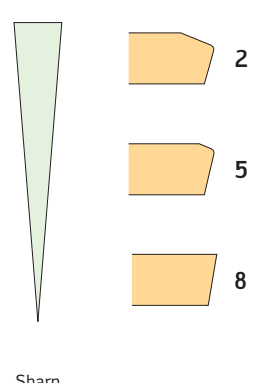
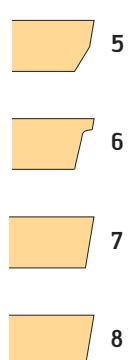
Designation key for cutting material grades – Drilling

W	S	P	45	G
Walter	1	2	3	4

1	2	3	4
1. Primary application or coating type	2. Primary application	ISO range of applications	Generation
P Steel M Stainless steel K Cast iron N NF metals S Materials with difficult cutting properties H Hard materials A CVD aluminium coating X PVD coating	P Steel M Stainless steel K Cast iron N NF metals S Materials with difficult cutting properties H Hard materials	Wear resistance 01 10 15 20 25 30 35 45  Toughness	S Tiger-tec® Silver C Color Select G Tiger-tec® Gold

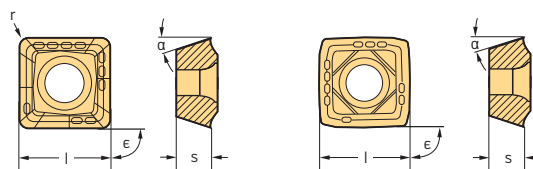
Geometry designation key for indexable inserts for drilling from solid

B	5	7
1	2	3

1	2	3
Chip breaker groove	Cutting edge	Flank face design
Smaller  Larger A = 0° B = 6° D = 10° E = 15° F = 16° G = 20° K = 25°	Heavily ground down  Sharp 2 5 8	 5 6 7 8

Square P484 .

Tiger-tec® Gold



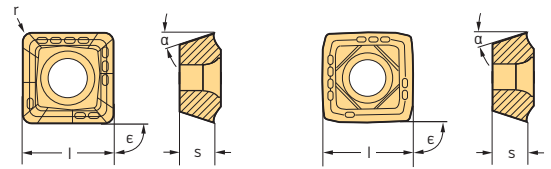
Indexable inserts – external

B 1

	Designation	Number of cutting edges	l in	s in	r in	α	ε	P					M			K			N			S		
								HC					HC			HC			HC			HC		
								WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	P4840P-1R-A57	4	0.179	0.077	0.011	11°	90°																	
	P4840P-2R-A57	4	0.217	0.090	0.013	11°	90°																	
	P4840P-3R-A57	4	0.256	0.110	0.016	11°	90°																	
	P4840P-4R-A57	4	0.307	0.132	0.019	11°	90°																	
	P4840P-5R-A57	4	0.376	0.162	0.023	11°	90°																	
	P4840P-6R-A57	4	0.463	0.192	0.028	11°	90°																	
	P4840P-7R-A57	4	0.552	0.218	0.031	11°	90°																	
	P4840P-8R-A57	4	0.650	0.218	0.039	11°	90°																	
	P4840P-1R-E57	4	0.179	0.077	0.011	11°	90°																	
	P4840P-2R-E57	4	0.217	0.090	0.013	11°	90°																	
	P4840P-3R-E57	4	0.256	0.110	0.016	11°	90°																	
	P4840P-4R-E57	4	0.307	0.132	0.019	11°	90°																	
	P4840P-5R-E57	4	0.376	0.162	0.023	11°	90°																	
	P4840P-6R-E57	4	0.463	0.192	0.028	11°	90°																	
	P4840P-7R-E57	4	0.552	0.218	0.031	11°	90°																	
	P4840P-8R-E57	4	0.650	0.218	0.039	11°	90°																	
	P4840P-1R-E67	4	0.179	0.077	0.011	11°	90°																	
	P4840P-2R-E67	4	0.217	0.090	0.013	11°	90°																	
	P4840P-3R-E67	4	0.256	0.110	0.016	11°	90°																	
	P4840P-4R-E67	4	0.307	0.132	0.019	11°	90°																	
	P4840P-5R-E67	4	0.376	0.162	0.023	11°	90°																	
	P4840P-6R-E67	4	0.463	0.192	0.028	11°	90°																	
	P4840P-7R-E67	4	0.552	0.218	0.031	11°	90°																	

Square P484 .

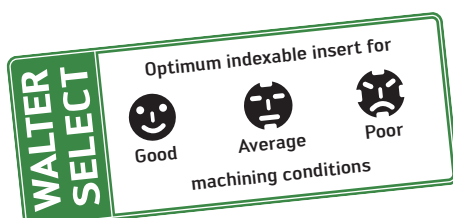
Tiger-tec® Gold



Indexable inserts – internal

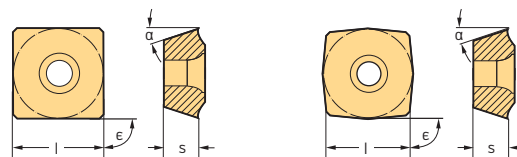
	Designation	Number of cutting edges	l in	s in	r in	α	ε	P					M			K			N			S		
								HC					HC			HC			HC			HC		
								WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	P4841C-1R-A57	4	0.193	0.077	0.011	11°	90°																	
	P4841C-2R-A57	4	0.234	0.094	0.013	11°	90°																	
	P4841C-3R-A57	4	0.276	0.110	0.016	11°	90°																	
	P4841C-4R-A57	4	0.331	0.132	0.019	11°	90°																	
	P4841C-5R-A57	4	0.405	0.162	0.023	11°	90°																	
	P4841C-6R-A57	4	0.482	0.192	0.028	11°	90°																	
	P4841C-7R-A57	4	0.578	0.218	0.031	11°	90°																	
	P4841C-8R-A57	4	0.689	0.218	0.039	11°	90°																	
	P4841C-1R-E57	4	0.193	0.077	0.011	11°	90°																	
	P4841C-2R-E57	4	0.234	0.094	0.013	11°	90°																	
	P4841C-3R-E57	4	0.276	0.110	0.016	11°	90°																	
	P4841C-4R-E57	4	0.331	0.132	0.019	11°	90°																	
	P4841C-5R-E57	4	0.405	0.162	0.023	11°	90°																	
	P4841C-6R-E57	4	0.482	0.192	0.028	11°	90°																	
	P4841C-7R-E57	4	0.578	0.218	0.031	11°	90°																	
	P4841C-8R-E57	4	0.689	0.218	0.039	11°	90°																	
	P4840C-1R-E67	4	0.193	0.077	0.011	11°	90°																	
	P4840C-2R-E67	4	0.234	0.094	0.013	11°	90°																	
	P4840C-3R-E67	4	0.276	0.110	0.016	11°	90°																	
	P4840C-4R-E67	4	0.331	0.132	0.019	11°	90°																	
	P4840C-5R-E67	4	0.405	0.162	0.023	11°	90°																	
	P4840C-6R-E67	4	0.482	0.192	0.028	11°	90°																	
	P4840C-7R-E67	4	0.578	0.218	0.031	11°	90°																	
	P4840C-8R-E67	4	0.689	0.218	0.039	11°	90°																	

HC = Coated carbide



Square P284..

Tiger-tec® Gold

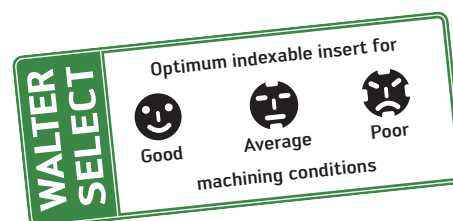


Indexable inserts

B 1

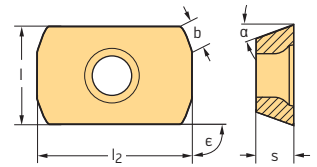
	Designation	Number of cutting edges	l in	s in	α	ϵ	P					M			K			N		S			
							HC					HC			HC			HC		HC			
							WKP25S	WKP35S	WSP45S	WSP45G	WXP40	WSP45S	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WK40	WSP45G	WK40	WSP45S	WSP45G	WXP40
	P2840S-1N-A57	4	0.250	0.094	14°	90°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-2N-A57	4	0.307	0.125	14°	90°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-3N-A57	4	0.375	0.156	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-4N-A57	4	0.433	0.156	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-5N-A57	4	0.500	0.187	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-6N-A57	4	0.591	0.187	11°	96°		☹		☹		☹	☹								☹	☹	
	P2840S-7N-A57	4	0.693	0.219	11°	96°		☹		☹		☹	☹								☹	☹	
	P2840S-1N-E67	4	0.250	0.094	14°	90°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-2N-E67	4	0.307	0.125	14°	90°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-3N-E67	4	0.375	0.156	11°	96°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-4N-E67	4	0.433	0.156	11°	96°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-5N-E67	4	0.500	0.187	11°	96°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2840S-6N-E67	4	0.591	0.187	11°	96°		☹	☹	☹		☹	☹								☹	☹	
	P2840S-7N-E67	4	0.693	0.219	11°	96°		☹	☹	☹		☹	☹								☹	☹	
	P2841S-1N-A57	4	0.250	0.094	14°	90°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-2N-A57	4	0.307	0.125	14°	90°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-3N-A57	4	0.375	0.156	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-4N-A57	4	0.433	0.156	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-5N-A57	4	0.500	0.187	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-6N-A57	4	0.591	0.187	11°	96°	☹	☹		☹		☹	☹								☹	☹	
	P2841S-7N-A57	4	0.693	0.219	11°	96°	☹	☹		☹		☹	☹								☹	☹	
	P2841S-1N-E57	4	0.250	0.094	14°	90°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-2N-E57	4	0.307	0.125	14°	90°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-3N-E57	4	0.375	0.156	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-4N-E57	4	0.433	0.156	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-5N-E57	4	0.500	0.187	11°	96°	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-6N-E57	4	0.591	0.187	11°	96°		☹		☹		☹	☹								☹	☹	
	P2841S-7N-E57	4	0.693	0.219	11°	96°		☹		☹		☹	☹								☹	☹	
	P2841S-1N-E67	4	0.250	0.094	14°	90°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-2N-E67	4	0.307	0.125	14°	90°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-3N-E67	4	0.375	0.156	11°	96°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-4N-E67	4	0.433	0.156	11°	96°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-5N-E67	4	0.500	0.187	11°	96°		☹	☹	☹	☹	☹	☹	☹	☹	☹	☹				☹	☹	☹
	P2841S-6N-E67	4	0.591	0.187	11°	96°		☹		☹		☹	☹								☹	☹	
	P2841S-7N-E67	4	0.693	0.219	11°	96°		☹		☹		☹	☹								☹	☹	

HC = Coated carbide



Rectangular LCMX

Tiger-tec® Gold



Indexable inserts

Designation		Number of cutting edges	l in	l ₂ in	s in	α	b in	ε	P HC					M HC			K HC				N HC		S HC		
									WKP25S	WKP35S	WSP45S	WSP45G	WXP40	WSP45S	WSP45G	WXP40	WAK15	WKP25S	WKP35S	WXP40	WSP45S	WSP45G	WSP45S	WSP45G	WXP40
	LCMX050203-B57	2	0.157	0.205	0.094	7°	0.024	90°	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		
	LCMX06T204-B57	2	0.205	0.260	0.109	7°	0.031	90°	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		
	LCMX050203-D57	2	0.157	0.205	0.094	7°	0.024	90°	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		
	LCMX06T204-D57	2	0.205	0.260	0.109	7°	0.031	90°	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		
	LCMX050203-E57	2	0.157	0.205	0.094	7°	0.024	90°	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		
	LCMX06T204-E57	2	0.205	0.260	0.109	7°	0.031	90°	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		

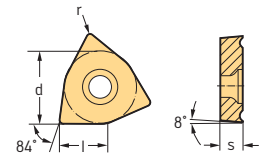
HC = Coated carbide

B 1

Trigon

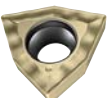
WOMX / WOEX

Tiger-tec® Gold

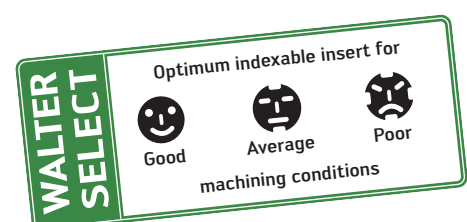


Indexable inserts

B 1

Designation	Number of cutting edges	l in	s in	r in	d in	P					M			K				N	S		
						HC					HC			HC				HC	HC		
						WKP25S	WKP35S	WSP45S	WSP45G	WXP40	WSP45S	WSP45G	WXP40	WAK15	WKP25S	WKP35S	WXP40	WSP45G	WSP45S	WSP45G	WXP40
 WOMX030204-B57	3	0.130	0.091	0.016	0.197																
WOMX040304-B57	3	0.165	0.125	0.016	0.250																
WOMX05T304-B57	3	0.208	0.150	0.016	0.315																
WOMX06T304-B57	3	0.261	0.150	0.016	0.394																
WOMX080408-B57	3	0.313	0.189	0.031	0.472																
WOMX100508-B57	3	0.391	0.209	0.031	0.591																
WOMX120608-B57	3	0.458	0.236	0.031	0.689																
 WOMX030204-D57	3	0.130	0.091	0.016	0.197																
WOMX040304-D57	3	0.165	0.125	0.016	0.250																
WOMX05T304-D57	3	0.208	0.150	0.016	0.315																
WOMX06T304-D57	3	0.261	0.150	0.016	0.394																
WOMX080408-D57	3	0.313	0.189	0.031	0.472																
WOMX100508-D57	3	0.391	0.209	0.031	0.591																
WOMX120608-D57	3	0.458	0.236	0.031	0.689																
 WOEX030204-E57	3	0.130	0.091	0.016	0.197																
WOEX040304-E57	3	0.165	0.125	0.016	0.250																
WOEX05T304-E57	3	0.208	0.150	0.016	0.315																
WOEX06T304-E57	3	0.261	0.150	0.016	0.394																
WOEX080408-E57	3	0.313	0.189	0.031	0.472																
WOEX100508-E57	3	0.391	0.209	0.031	0.591																
WOEX120608-E57	3	0.458	0.236	0.031	0.689																

HC = Coated carbide



Product range overview of boring tools with indexable inserts

Indexable insert drills

				
Drilling depth	$2 \times D_c$	$3 \times D_c$	$4 \times D_c$	$5 \times D_c$
Designation	D4120.02	D4120.03	D4120.04	D4120.05
Dia. range [mm]	13.5–41.3	13.5–41.3	16.7–41.3	16.7–41.3
Dia. range [in]	0.531–1.625	0.531–1.625	0.531–1.625	0.531–1.625
Page	100	104	108	112
				

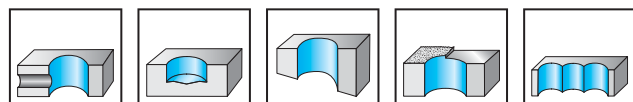
B 1

Indexable insert drills

D4120.02 inch

2×D_C

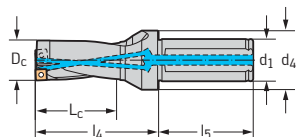
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	P	M	K	N	S	H	O
D4120.02	●	●	●	●	●	●	●

Tool

Parallel shank with flat



Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
★ D4120.02-13.49F19-P41	0.531	1.062	1.849	2.031	0.750	1.125	0.51	1 1	P484 . P-1R- .. P484 . C-1R- ..
★ D4120.02-13.89F19-P41	0.547	1.094	1.881	2.031	0.750	1.125	0.51	1 1	
★ D4120.02-14.27F19-P41	0.562	1.124	1.911	2.031	0.750	1.125	0.52	1 1	
★ D4120.02-14.68F19-P41	0.578	1.156	1.943	2.031	0.750	1.125	0.52	1 1	
★ D4120.02-15.09F19-P41	0.594	1.188	1.975	2.031	0.750	1.125	0.52	1 1	
★ D4120.02-15.47F19-P41	0.609	1.218	2.005	2.031	0.750	1.125	0.53	1 1	
★ D4120.02-15.88F19-P41	0.625	1.250	2.037	2.031	0.750	1.125	0.54	1 1	
Parallel shank with flat									
★ D4120.02-16.66F26-P42	0.656	1.312	2.310	2.281	1.000	1.375	0.93	1 1	P484 . P-2R- .. P484 . C-2R- ..
★ D4120.02-17.04F26-P42	0.671	1.342	2.340	2.281	1.000	1.375	0.94	1 1	
★ D4120.02-17.45F26-P42	0.687	1.374	2.370	2.281	1.000	1.375	0.77	1 1	
★ D4120.02-17.86F26-P42	0.703	1.406	2.410	2.281	1.000	1.375	0.95	1 1	
★ D4120.02-18.24F26-P42	0.718	1.436	2.440	2.281	1.000	1.375	0.98	1 1	
★ D4120.02-19.05F26-P42	0.750	1.500	2.500	2.281	1.000	1.375	0.99	1 1	
★ D4120.02-19.43F26-P42	0.765	1.530	2.530	2.281	1.000	1.375	1.00	1 1	
★ D4120.02-19.84F26-P42	0.781	1.562	2.560	2.281	1.000	1.375	0.88	1 1	
Parallel shank with flat									
★ D4120.02-20.62F26-P43	0.812	1.624	2.620	2.281	1.000	1.375	1.03	1 1	P484 . P-3R- .. P484 . C-3R- ..
★ D4120.02-21.41F26-P43	0.843	1.686	2.690	2.281	1.000	1.375	1.04	1 1	
★ D4120.02-22.23F31-P43	0.875	1.750	2.880	2.281	1.250	1.625	1.48	1 1	
★ D4120.02-23.01F31-P43	0.906	1.812	2.940	2.281	1.250	1.625	1.51	1 1	
★ D4120.02-23.39F31-P43	0.921	1.842	2.970	2.281	1.250	1.625	1.53	1 1	
★ D4120.02-23.80F31-P43	0.937	1.874	3.000	2.281	1.250	1.625	1.50	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2120 (Torx 6IP) 3.5 in lb (0.4 Nm)	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)

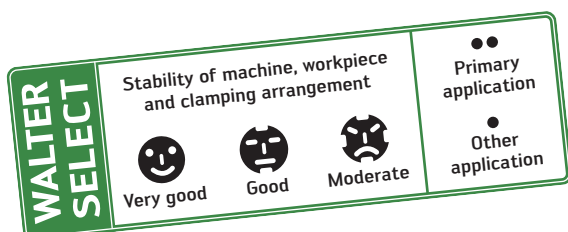
Accessories

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque			FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)	FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

			P				M			K			N			S			
			HC				HC			HC			HC			HC			
			WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	Designation	Size																	
	P4840P-R-A57	1-3																	
	P4840P-R-E57	1-3																	
	P4840P-R-E67	1-3																	
	P4841P-R-A57	1-3																	
	P4841P-R-E57	1-3																	
	P4840C-R-E67	1-3																	
	P4841C-R-A57	1-3																	
	P4841C-R-E57	1-3																	

HC = Coated carbide

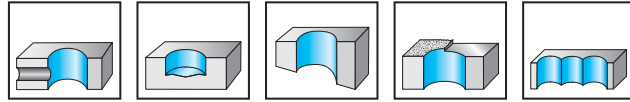


Indexable insert drills

D4120.02 inch

2×D_C

Z=1



	P	M	K	N	S	H	O
D4120.02	●	●	●	●	●	●	●

Tool	Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
Parallel shank with flat 	★ D4120.02-24.59F31-P44	0.968	1.936	3.070	2.281	1.250	1.625	1.57	1 1	P484 . P-4R- .. P484 . C-4R- ..
	★ D4120.02-24.99F31-P44	0.984	1.968	3.100	2.281	1.250	1.625	1.59	1 1	
	★ D4120.02-25.40F31-P44	1.000	2.000	3.130	2.281	1.250	1.625	1.61	1 1	
	★ D4120.02-26.57F31-P44	1.046	2.092	3.220	2.281	1.250	1.625	1.59	1 1	
	★ D4120.02-26.97F31-P44	1.062	2.124	3.250	2.281	1.250	1.625	1.61	1 1	
	★ D4120.02-28.17F31-P44	1.109	2.218	3.350	2.281	1.250	1.625	1.66	1 1	
	★ D4120.02-28.58F31-P44	1.125	2.250	3.380	2.281	1.250	1.625	1.72	1 1	
Parallel shank with flat 	★ D4120.02-29.74F31-P45	1.171	2.342	3.470	2.281	1.250	1.625	1.70	1 1	P484 . P-5R- .. P484 . C-5R- ..
	★ D4120.02-30.15F31-P45	1.187	2.374	3.500	2.281	1.250	1.625	1.74	1 1	
	★ D4120.02-31.75F31-P45	1.250	2.500	3.630	2.281	1.250	1.625	1.81	1 1	
	★ D4120.02-33.32F31-P45	1.312	2.624	3.750	2.281	1.250	1.625	1.90	1 1	
	★ D4120.02-34.11F31-P45	1.343	2.686	3.820	2.281	1.250	1.625	1.95	1 1	
	★ D4120.02-34.93F31-P45	1.375	2.750	3.880	2.281	1.250	1.625	1.99	1 1	
Parallel shank with flat 	★ D4120.02-36.09F31-P46	1.421	2.842	3.970	2.281	1.250	1.625	1.97	1 1	P484 . P-6R- .. P484 . C-6R- ..
	★ D4120.02-36.50F38-P46	1.437	2.874	4.250	2.688	1.500	1.940	2.86	1 1	
	★ D4120.02-38.10F38-P46	1.500	3.000	4.380	2.688	1.500	1.940	3.00	1 1	
	★ D4120.02-39.67F38-P46	1.562	3.124	4.500	2.688	1.500	1.940	3.10	1 1	
	★ D4120.02-41.28F38-P46	1.625	3.250	4.630	2.688	1.500	1.940	3.38	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly

parts	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2120 (Torx 6IP) 3.5 in lb (0.4 Nm)	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)

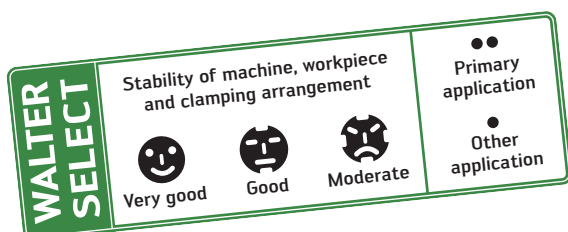
Accessories

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque			FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)	FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

				P					M			K			N			S		
				HC					HC			HC			HC			HC		
				WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	Designation	Size																		
	P4840P-R-A57	4–6																		
	P4840P-R-E57	4–6																		
	P4840P-R-E67	4–6																		
	P4841P-R-A57	4–6																		
	P4841P-R-E57	4–6																		
	P4840C-R-E67	4–6																		
	P4841C-R-A57	4–6																		
	P4841C-R-E57	4–6																		

HC = Coated carbide

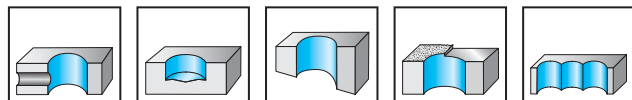


Indexable insert drills

D4120.03 inch

3×D_C

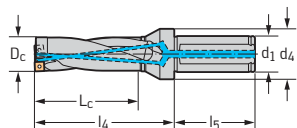
Z=1



	P	M	K	N	S	H	O
D4120.03	●	●	●	●	●	●	●

Tool

Parallel shank with flat



Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	indexable inserts	Type
★ D4120.03-13.49F19-P41	0.531	1.593	2.380	2.031	0.750	1.125	0.52	1 1	P484 . P-1R- .. P484 . C-1R- ..
★ D4120.03-13.89F19-P41	0.547	1.641	2.428	2.031	0.750	1.125	0.53	1 1	
D4120.03-14.27F19-P41	0.562	1.686	2.473	2.031	0.750	1.125	0.53	1 1	
D4120.03-14.68F19-P41	0.578	1.734	2.521	2.031	0.750	1.125	0.54	1 1	
★ D4120.03-15.09F19-P41	0.594	1.782	2.569	2.031	0.750	1.125	0.55	1 1	
★ D4120.03-15.47F19-P41	0.609	1.827	2.614	2.031	0.750	1.125	0.55	1 1	
D4120.03-15.88F19-P41	0.625	1.875	2.662	2.031	0.750	1.125	0.56	1 1	
D4120.03-16.66F26-P42	0.656	1.968	2.970	2.281	1.000	1.375	0.95	1 1	P484 . P-2R- .. P484 . C-2R- ..
★ D4120.03-17.04F26-P42	0.671	2.013	3.010	2.281	1.000	1.375	0.98	1 1	
★ D4120.03-17.45F26-P42	0.687	2.061	3.060	2.281	1.000	1.375	0.97	1 1	
★ D4120.03-17.86F26-P42	0.703	2.109	3.110	2.281	1.000	1.375	1.02	1 1	
★ D4120.03-18.24F26-P42	0.718	2.154	3.150	2.281	1.000	1.375	1.01	1 1	
D4120.03-19.05F26-P42	0.750	2.250	3.250	2.281	1.000	1.375	1.01	1 1	
★ D4120.03-19.43F26-P42	0.765	2.295	3.300	2.281	1.000	1.375	1.04	1 1	
D4120.03-19.84F26-P42	0.781	2.343	3.340	2.281	1.000	1.375	1.04	1 1	P484 . P-3R- .. P484 . C-3R- ..
D4120.03-20.62F26-P43	0.812	2.436	3.440	2.281	1.000	1.375	1.04	1 1	
D4120.03-21.41F26-P43	0.843	2.529	3.530	2.281	1.000	1.375	1.06	1 1	
D4120.03-22.23F31-P43	0.875	2.625	3.760	2.281	1.250	1.625	1.56	1 1	
★ D4120.03-23.01F31-P43	0.906	2.718	3.850	2.281	1.250	1.625	1.60	1 1	
★ D4120.03-23.39F31-P43	0.921	2.763	3.890	2.281	1.250	1.625	1.62	1 1	
★ D4120.03-23.80F31-P43	0.937	2.811	3.940	2.281	1.250	1.625	1.64	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2120 (Torx 6IP) 3.5 in lb (0.4 Nm)	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)

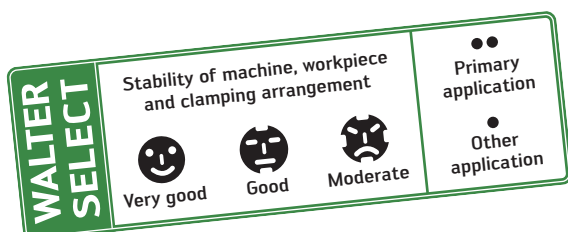
Accessories

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque			FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)	FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

			P					M			K			N			S		
			HC					HC			HC			HC			HC		
			WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	Designation	Size																	
	P4840P-R-A57	1-3																	
	P4840P-R-E57	1-3																	
	P4840P-R-E67	1-3																	
	P4841P-R-A57	1-3																	
	P4841P-R-E57	1-3																	
	P4840C-R-E67	1-3																	
	P4841C-R-A57	1-3																	
	P4841C-R-E57	1-3																	

HC = Coated carbide

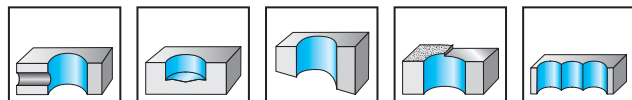


Indexable insert drills

D4120.03 inch

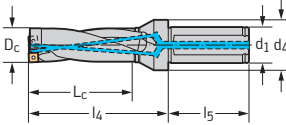
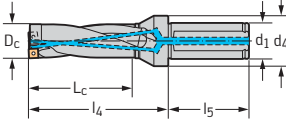
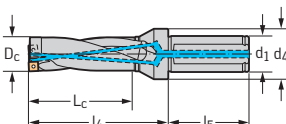
3×D_C

Z=1



	P	M	K	N	S	H	O
D4120.03	●	●	●	●	●	●	●

Tool

	Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
Parallel shank with flat 	★ D4120.03-24.59F31-P44	0.968	2.904	4.030	2.281	1.250	1.625	1.69	1 1	P484 . P-4R- .. P484 . C-4R- ..
	★ D4120.03-24.99F31-P44	0.984	2.952	4.080	2.281	1.250	1.625	1.70	1 1	
	D4120.03-25.40F31-P44	1.000	3.000	4.130	2.281	1.250	1.625	1.68	1 1	
	★ D4120.03-26.57F31-P44	1.046	3.138	4.270	2.281	1.250	1.625	1.73	1 1	
	D4120.03-26.97F31-P44	1.062	3.186	4.320	2.281	1.250	1.625	1.76	1 1	
	★ D4120.03-28.17F31-P44	1.109	3.327	4.459	2.281	1.250	1.625	1.83	1 1	
	D4120.03-28.58F31-P44	1.125	3.375	4.509	2.281	1.250	1.625	1.86	1 1	
Parallel shank with flat 	★ D4120.03-29.74F31-P45	1.171	3.513	4.640	2.281	1.250	1.625	1.90	1 1	P484 . P-5R- .. P484 . C-5R- ..
	★ D4120.03-30.15F31-P45	1.187	3.561	4.690	2.281	1.250	1.625	1.92	1 1	
	D4120.03-31.75F31-P45	1.250	3.750	4.880	2.281	1.250	1.625	2.06	1 1	
	D4120.03-33.32F31-P45	1.312	3.936	5.070	2.281	1.250	1.625	2.20	1 1	
	★ D4120.03-34.11F31-P45	1.343	4.029	5.160	2.281	1.250	1.625	2.27	1 1	
	D4120.03-34.93F31-P45	1.375	4.125	5.260	2.281	1.250	1.625	2.34	1 1	
Parallel shank with flat 	★ D4120.03-36.09F31-P46	1.421	4.263	5.390	2.281	1.250	1.625	2.33	1 1	P484 . P-6R- .. P484 . C-6R- ..
	★ D4120.03-36.50F38-P46	1.437	4.311	5.690	2.688	1.500	1.940	3.31	1 1	
	★ D4120.03-38.10F38-P46	1.500	4.500	5.880	2.688	1.500	1.940	3.49	1 1	
	★ D4120.03-39.67F38-P46	1.562	4.686	6.070	2.688	1.500	1.940	3.68	1 1	
	★ D4120.03-41.28F38-P46	1.625	4.875	6.260	2.688	1.500	1.940	3.89	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2120 (Torx 6IP) 3.5 in lb (0.4 Nm)	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)

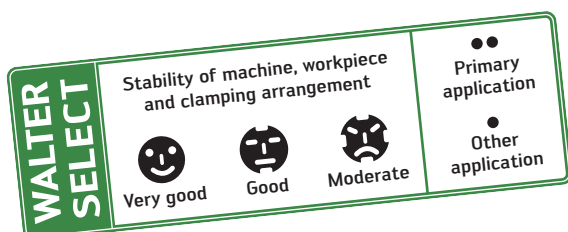
Accessories

	D _c [inch]	0.531–0.625	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque			FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)	FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

			P HC					M HC			K HC			N HC			S HC		
Designation		Size	WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	P4840P-R-A57	4–6																	
	P4840P-R-E57	4–6																	
	P4840P-R-E67	4–6																	
	P4841P-R-A57	4–6																	
	P4841P-R-E57	4–6																	
	P4840C-R-E67	4–6																	
	P4841C-R-A57	4–6																	
	P4841C-R-E57	4–6																	

HC = Coated carbide

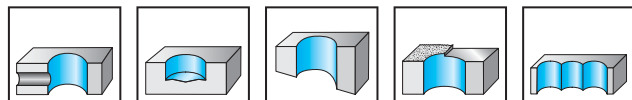


Indexable insert drills

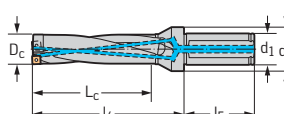
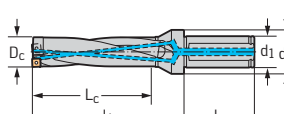
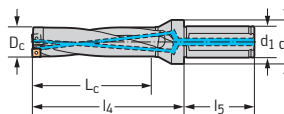
D4120.04 inch

4×D_C

Z=1



	P	M	K	N	S	H	O
D4120.04	●	●	●	●	●	●	●

Tool	Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
Parallel shank with flat 	★ D4120.04-16.66F26-P42	0.656	2.624	3.620	2.281	1.000	1.375	1.03	1 1	P484 . P-2R- .. P484 . C-2R- ..
	★ D4120.04-17.04F26-P42	0.671	2.684	3.680	2.281	1.000	1.375	1.04	1 1	
	★ D4120.04-17.45F26-P42	0.687	2.748	3.750	2.281	1.000	1.375	1.00	1 1	
	★ D4120.04-17.86F26-P42	0.703	2.812	3.810	2.281	1.000	1.375	1.05	1 1	
	★ D4120.04-18.24F26-P42	0.718	2.872	3.870	2.281	1.000	1.375	1.03	1 1	
	★ D4120.04-19.05F26-P42	0.750	3.000	4.000	2.281	1.000	1.375	1.10	1 1	
	★ D4120.04-19.43F26-P42	0.765	3.060	4.060	2.281	1.000	1.375	1.07	1 1	
	★ D4120.04-19.84F26-P42	0.781	3.124	4.120	2.281	1.000	1.375	1.13	1 1	
Parallel shank with flat 	D4120.04-20.62F26-P43	0.812	3.248	4.250	2.281	1.000	1.375	1.08	1 1	P484 . P-3R- .. P484 . C-3R- ..
	★ D4120.04-21.41F26-P43	0.843	3.372	4.370	2.281	1.000	1.375	1.19	1 1	
	D4120.04-22.23F31-P43	0.875	3.500	4.630	2.281	1.250	1.625	1.65	1 1	
	★ D4120.04-23.01F31-P43	0.906	3.624	4.750	2.281	1.250	1.625	1.71	1 1	
	★ D4120.04-23.39F31-P43	0.921	3.684	4.810	2.281	1.250	1.625	1.72	1 1	
	D4120.04-23.80F31-P43	0.937	3.748	4.880	2.281	1.250	1.625	1.74	1 1	
Parallel shank with flat 	★ D4120.04-24.59F31-P44	0.968	3.872	5.000	2.281	1.250	1.625	1.81	1 1	P484 . P-4R- .. P484 . C-4R- ..
	D4120.04-24.99F31-P44	0.984	3.936	5.070	2.281	1.250	1.625	1.79	1 1	
	D4120.04-25.40F31-P44	1.000	4.000	5.130	2.281	1.250	1.625	1.81	1 1	
	★ D4120.04-26.57F31-P44	1.046	4.184	5.309	2.281	1.250	1.625	1.90	1 1	
	D4120.04-26.97F31-P44	1.062	4.248	5.380	2.281	1.250	1.625	1.92	1 1	
	★ D4120.04-28.17F31-P44	1.109	4.436	5.570	2.281	1.250	1.625	2.02	1 1	
	★ D4120.04-28.58F31-P44	1.125	4.500	5.630	2.281	1.250	1.625	1.97	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)

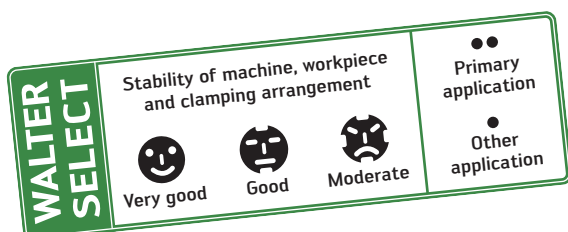
Accessories

	D _c [inch]	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque		FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)	FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

	Designation	Size	P					M			K			N			S		
			HC					HC			HC			HC			HC		
			WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	P4840P-R-A57	2–4																	
	P4840P-R-E57	2–4																	
	P4840P-R-E67	2–4																	
	P4841P-R-A57	2–4																	
	P4841P-R-E57	2–4																	
	P4840C-R-E67	2–4																	
	P4841C-R-A57	2–4																	
	P4841C-R-E57	2–4																	

HC = Coated carbide

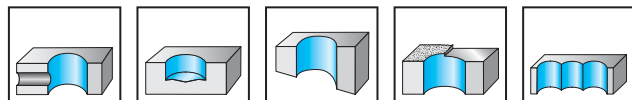


Indexable insert drills

D4120.04 inch

4×D_C

Z=1



	P	M	K	N	S	H	O
D4120.04	●	●	●	●	●	●	●

Tool

	Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
Parallel shank with flat 	★ D4120.04-29.74F31-P45	1.171	4.684	5.810	2.281	1.250	1.625	2.13	1 1	P484 . P-5R- .. P484 . C-5R- ..
	D4120.04-30.15F31-P45	1.187	4.748	5.880	2.281	1.250	1.625	2.16	1 1	
	D4120.04-31.75F31-P45	1.250	5.000	6.130	2.281	1.250	1.625	2.31	1 1	
	★ D4120.04-33.32F31-P45	1.312	5.248	6.380	2.281	1.250	1.625	2.51	1 1	
	★ D4120.04-34.11F31-P45	1.343	5.372	6.496	2.281	1.250	1.625	2.36	1 1	
	D4120.04-34.93F31-P45	1.375	5.500	6.630	2.281	1.250	1.625	2.69	1 1	
Parallel shank with flat 	★ D4120.04-36.09F31-P46	1.421	5.684	6.810	2.281	1.250	1.625	2.39	1 1	P484 . P-6R- .. P484 . C-6R- ..
	★ D4120.04-36.50F38-P46	1.437	5.748	7.130	2.688	1.500	1.940	3.65	1 1	
	★ D4120.04-38.10F38-P46	1.500	6.000	7.380	2.688	1.500	1.940	3.88	1 1	
	★ D4120.04-39.67F38-P46	1.562	6.248	7.630	2.688	1.500	1.940	4.14	1 1	
	★ D4120.04-41.28F38-P46	1.625	6.500	7.880	2.688	1.500	1.940	4.42	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

D _c [inch]	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.375	1.421–1.625
 Clamping screw for indexable insert Tightening torque	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)

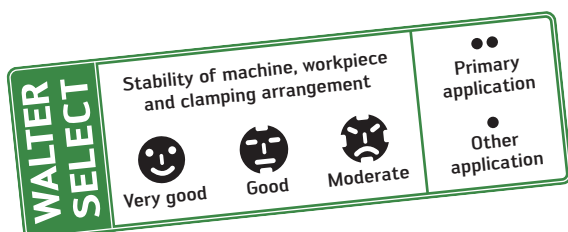
Accessories

D _c [inch]	0.656–0.781	0.812–0.937	0.968–1.125	1.171–1.625
 Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 (1.5–5.0 Nm)
 Torque screwdriver, digital Tightening torque		FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
 Interchangeable blade	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)	FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
 Screwdriver	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

Designation	Size	P HC					M HC			K HC			N HC			S HC		
		WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
 P4840P-R-A57	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
P4840P-R-E57	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
P4840P-R-E67	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
P4841P-R-A57	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
P4841P-R-E57	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
 P4840C-R-E67	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
P4841C-R-A57	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
P4841C-R-E57	5–6	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹

HC = Coated carbide

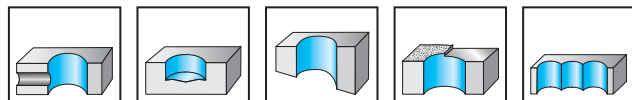


Indexable insert drills

D4120.05 inch

5×D_C

Z=1



	P	M	K	N	S	H	O
D4120.05	●	●	●	●	●	●	●

Tool	Designation	D _C inch	L _C inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
Parallel shank with flat 	★ D4120.05-16.66F26-P42	0.656	3.280	4.280	2.281	1.000	1.375	1.03	1 1	P484 . P-2R- .. P484 . C-2R- ..
	★ D4120.05-17.04F26-P42	0.671	3.355	4.355	2.281	1.000	1.375	1.05	1 1	
	★ D4120.05-17.45F26-P42	0.687	3.435	4.435	2.281	1.000	1.375	1.07	1 1	
	★ D4120.05-17.86F26-P42	0.703	3.515	4.515	2.281	1.000	1.375	1.05	1 1	
	★ D4120.05-18.24F26-P42	0.718	3.590	4.590	2.281	1.000	1.375	1.11	1 1	
	★ D4120.05-19.05F26-P42	0.750	3.750	4.750	2.281	1.000	1.375	1.18	1 1	
	★ D4120.05-19.43F26-P42	0.765	3.825	4.825	2.281	1.000	1.375	1.12	1 1	
Parallel shank with flat 	★ D4120.05-19.84F26-P42	0.781	3.905	4.905	2.281	1.000	1.375	1.14	1 1	P484 . P-3R- .. P484 . C-3R- ..
	★ D4120.05-20.62F26-P43	0.812	4.060	5.060	2.281	1.000	1.375	1.18	1 1	
	★ D4120.05-21.41F26-P43	0.843	4.215	5.215	2.281	1.000	1.375	1.24	1 1	
	★ D4120.05-22.23F31-P43	0.875	4.375	5.505	2.281	1.250	1.625	1.77	1 1	
	★ D4120.05-23.01F31-P43	0.906	4.530	5.660	2.281	1.250	1.625	1.77	1 1	
	★ D4120.05-23.39F31-P43	0.921	4.605	5.735	2.281	1.250	1.625	1.80	1 1	
Parallel shank with flat 	★ D4120.05-23.80F31-P43	0.937	4.685	5.815	2.281	1.250	1.625	1.88	1 1	P484 . P-4R- .. P484 . C-4R- ..
	★ D4120.05-24.59F31-P44	0.968	4.840	5.970	2.281	1.250	1.625	1.96	1 1	
	★ D4120.05-24.99F31-P44	0.984	4.920	6.050	2.281	1.250	1.625	1.98	1 1	
	★ D4120.05-25.40F31-P44	1.000	5.000	6.130	2.362	1.250	1.625	2.01	1 1	
	★ D4120.05-26.57F31-P44	1.046	5.230	6.359	2.281	1.250	1.625	2.06	1 1	
	★ D4120.05-26.97F31-P44	1.062	5.310	6.440	2.281	1.250	1.625	2.10	1 1	
	★ D4120.05-28.17F31-P44	1.109	5.545	6.675	2.281	1.250	1.625	2.22	1 1	
	★ D4120.05-28.58F31-P44	1.125	5.625	6.755	2.281	1.250	1.625	2.27	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.656–0.781	0.812–0.937	0.906	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)
	Interchangeable blade			FS2012 (Torx 8IP)			

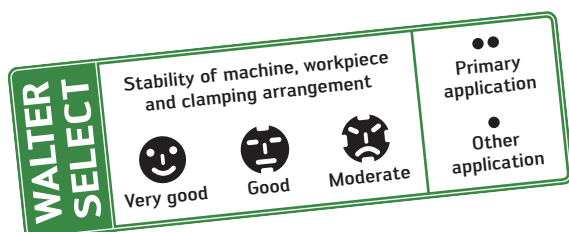
Accessories

	D _c [inch]	0.656–0.781	0.812–0.937	0.906	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque		FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)		FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

Indexable inserts

	Designation	Size	P HC					M HC			K HC			N HC			S HC		
			WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	P4840P-R-A57	2–4																	
	P4840P-R-E57	2–4																	
	P4840P-R-E67	2–4																	
	P4841P-R-A57	2–4																	
	P4841P-R-E57	2–4																	
	P4840C-R-E67	2–4																	
	P4841C-R-A57	2–4																	
	P4841C-R-E57	2–4																	

HC = Coated carbide

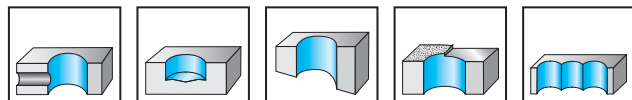


Indexable insert drills

D4120.05 inch

5×D_c

Z=1



	P	M	K	N	S	H	O
D4120.05	●	●	●	●	●	●	●

Tool	Designation	D _c inch	L _c inch	l ₄ inch	l ₅ inch	d ₁ inch	d ₄ inch	lbs	No. of indexable inserts	Type
Parallel shank with flat 	★ D4120.05-29.74F31-P45	1.171	5.855	6.985	2.281	1.250	1.625	2.33	1 1	P484 . P-5R- .. P484 . C-5R- ..
	★ D4120.05-30.15F31-P45	1.187	5.935	7.065	2.281	1.250	1.625	2.37	1 1	
	★ D4120.05-31.75F31-P45	1.250	6.250	7.380	2.281	1.250	1.625	2.58	1 1	
	★ D4120.05-33.32F31-P45	1.312	6.560	7.690	2.281	1.250	1.625	2.80	1 1	
	★ D4120.05-34.11F31-P45	1.343	6.715	7.845	2.281	1.250	1.625	2.91	1 1	
	★ D4120.05-34.93F31-P45	1.375	6.875	8.005	2.281	1.250	1.625	3.03	1 1	
Parallel shank with flat 	★ D4120.05-36.09F31-P46	1.421	7.105	8.235	2.281	1.250	1.625	2.98	1 1	P484 . P-6R- .. P484 . C-6R- ..
	★ D4120.05-36.50F38-P46	1.437	7.185	8.565	2.688	1.500	1.940	3.89	1 1	
	★ D4120.05-38.10F38-P46	1.500	7.500	8.880	2.688	1.500	1.940	4.27	1 1	
	★ D4120.05-39.67F38-P46	1.562	7.810	9.190	2.688	1.500	1.940	4.60	1 1	
	★ D4120.05-41.28F38-P46	1.625	8.125	9.505	2.688	1.500	1.940	5.06	1 1	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.656–0.781	0.812–0.937	0.906	0.968–1.125	1.171–1.375	1.421–1.625
	Clamping screw for indexable insert Tightening torque	FS2111 (Torx 7IP) 8.0 in lb (0.9 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1454 (Torx 8IP) 10.6 in lb (1.2 Nm)	FS1457 (Torx 9IP) 17.7 in lb (2.0 Nm)	FS2080 (Torx 15IP) 22.1 in lb (2.5 Nm)	FS1453 (Torx 15IP) 31.0 in lb (3.5 Nm)
	Interchangeable blade			FS2012 (Torx 8IP)			

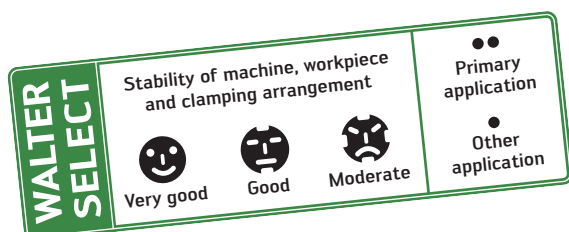
Accessories

	D _c [inch]	0.656–0.781	0.812–0.937	0.906	0.968–1.125	1.171–1.625
	Torque screwdriver, analogue Tightening torque	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2002 3.5–10.6 in lb (0.4–1.2 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)	FS2004 13.3–44.3 in lb (1.5–5.0 Nm)
	Torque screwdriver, digital Tightening torque		FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)	FS2248 8.9–53.1 in lb (1.0–6.0 Nm)
	Interchangeable blade	FS2011 (Torx 7IP)	FS2012 (Torx 8IP)		FS2013 (Torx 9IP)	FS2014 (Torx 15IP)
	Screwdriver	FS2088 (Torx 7IP)	FS1483 (Torx 8IP)	FS1483 (Torx 8IP)	FS1484 (Torx 9IP)	FS1485 (Torx 15IP)

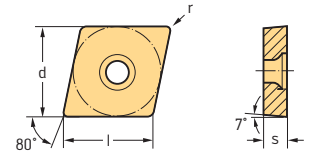
Indexable inserts

	Designation	Size	P HC					M HC			K HC			N HC			S HC		
			WKP25S	WKP35S	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40	WKP25S	WKP35S	WXP40	WSP45	WSP45G	WXP40	WSP45	WSP45G	WXP40
	P4840P-R-A57	5–6																	
	P4840P-R-E57	5–6																	
	P4840P-R-E67	5–6																	
	P4841P-R-A57	5–6																	
	P4841P-R-E57	5–6																	
	P4840C-R-E67	5–6																	
	P4841C-R-A57	5–6																	
	P4841C-R-E57	5–6																	

HC = Coated carbide



Positive rhombic 80° CCGT



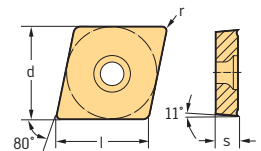
Indexable inserts

	ANSI Designation	Designation	l in	r in	f in	a _p in	P					M			K		S		
							HE	HC				HC			HC		HC		
							WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S
	CCGT2(1.5)0.2M-FP2	CCGT060201M-FP2	0.253	0.003	0.001–0.002	0.004–0.059	☹												
	CCGT2(1.5)0.5M-FP2	CCGT060202M-FP2	0.253	0.007	0.002–0.005	0.008–0.079	☹												
	CCGT2(1.5)1M-FP2	CCGT060204M-FP2	0.253	0.015	0.003–0.010	0.008–0.098	☹												
	CCGT3(2.5)0.2M-FP2	CCGT09T301M-FP2	0.380	0.003	0.001–0.002	0.004–0.059	☹												
	CCGT3(2.5)0.5M-FP2	CCGT09T302M-FP2	0.380	0.007	0.002–0.005	0.008–0.079	☹												
	CCGT3(2.5)1M-FP2	CCGT09T304M-FP2	0.380	0.015	0.003–0.010	0.008–0.098	☹												
	CCGT3(2.5)2M-FP2	CCGT09T308M-FP2	0.380	0.030	0.004–0.012	0.012–0.118	☹												

See the ISO 1832 designation key for dimensions

HE = Coated cermet
HC = Coated carbide

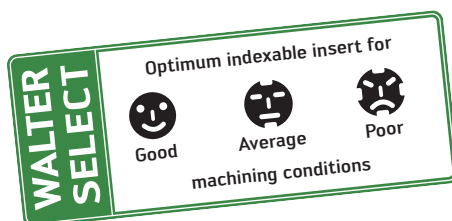
Positive rhombic 80° CPGT



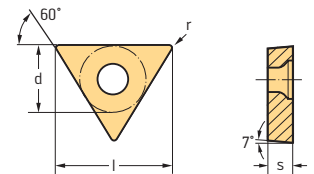
Indexable inserts

						P					M				K		S		
						HE					HC				HC		HC		
						WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S	WSM30S
	ANSI Designation	Designation	l in	r in	f in	a _p in													
	CPGT1.8(1.5)0.5M-FP2	CPGT050202M-FP2	0.222	0.007	0.002–0.005	0.008–0.079	☹												
	CPGT1.8(1.5)1M-FP2	CPGT050204M-FP2	0.222	0.015	0.003–0.008	0.008–0.079	☹												

See the ISO 1832 designation key for dimensions

HE = Coated cermet
HC = Coated carbide


Positive triangular 60° TCGT



Indexable inserts

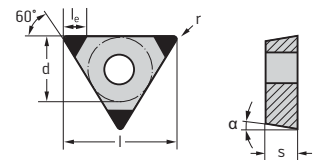
	ANSI Designation	Designation	l in	r in	f in	a _p in	P					M				K		S		
							HE	HC				HC				HC		HC		
							WEP10C	WPP10S	WPP20S	WPP30S	WMP20S	WMP20S	WSM10S	WSM20S	WSM30S	WKK10S	WKK20S	WSM10S	WSM20S	WSM30S
	TCGT1.2(1.2)1M-FP2	TCGT06T104M-FP2	0.270	0.015	0.003–0.010	0.008–0.079	☹													
	TCGT2(1.5)0.5M-FP2	TCGT110202M-FP2	0.432	0.007	0.002–0.005	0.008–0.079	☹													
	TCGT2(1.5)1M-FP2	TCGT110204M-FP2	0.432	0.015	0.003–0.010	0.008–0.098	☹													

See the ISO 1832 designation key for dimensions

HE = Coated cermet
HC = Coated carbide

B2

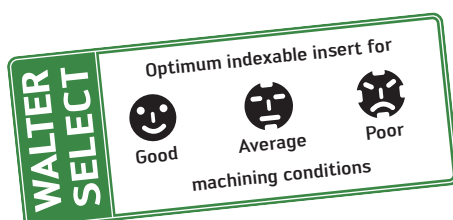
CBN – Positive triangular 60° TCGW



Indexable inserts

			Number of cutting edges	l _e in	r in	α	f in	a _p in	K			N	S	H			O
									CN	BH		DP	BH	BL			DP
ANSI Designation									Designation	WCK10	WBK20	WBK30	WDN10	WBS10	WBH10C	WBH10	WBH20
	TCGW2(1.5)0.5TS-3	TCGW110202TS-3	3	0.110	0.008	7°	0.002–0.006	0.004–0.012									
	TCGW2(1.5)1TS-3	TCGW110204TS-3	3	0.122	0.016	7°	0.002–0.008	0.004–0.012									
	TCGW2(1.5)1TM-3	TCGW110204TM-3	3	0.122	0.016	7°	0.002–0.008	0.004–0.012									
	TCGW2(1.5)2TM-3	TCGW110208TM-3	3	0.110	0.031	7°	0.002–0.010	0.004–0.020									

See the ISO 1832 designation key for dimensions

CN = Silicon nitride Si₃N₄
BH = CBN with high CBN content
DP = Polycrystalline diamond
BL = CBN with low CBN content

Cutting data for D4120

= Wet machining (E = emulsion, O = oil)
 = Dry machining is possible (M = MQL, L = dry)
 The cutting data must be selected from Walter GPS

* The classification of the machining groups can be found in the material group comparison table

B 1

Material group	 = Wet machining (E = emulsion, O = oil)  = Dry machining is possible (M = MQL, L = dry) The cutting data must be selected from Walter GPS * The classification of the machining groups can be found in the material group comparison table									Indexable insert geometry						
										Starting values for feed f [in/rev]						
										A 57						
										Size 1	Size 2	Size 3	Size 4	Size 5 Size 6	Size 7 Size 8	
D _c [in]																
0.531–0.6460.650–0.8030.807–0.9610.965–1.1571.161–1.6691.673–2.339																
Overview of the main material groups and code letters																
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	62	P1	●●		0.002	0.002	0.002	0.004	0.005	0.005		
		C > 0.25% to ≤ 0.55%	Annealed	190	93	P2	●●		0.003	0.004	0.004	0.005	0.007	0.007		
		C > 0.25% to ≤ 0.55%	Heat-treated	210	103	P3	●●		0.003	0.004	0.004	0.005	0.007	0.007		
		C > 0.55%	Annealed	190	93	P4	●●		0.003	0.004	0.004	0.005	0.007	0.007		
		C > 0.55%	Heat-treated	300	146	P5	●●		0.003	0.004	0.004	0.005	0.007	0.007		
		Free-machining steel (short-chipping)	Annealed	220	109	P6	●●●	●	0.003	0.004	0.004	0.005	0.007	0.007		
	Low-alloy steel	Annealed		175	86	P7	●●		0.003	0.004	0.005	0.006	0.008	0.008		
		Heat-treated		285	139	P8	●●		0.003	0.004	0.004	0.005	0.006	0.006		
		Heat-treated		380	186	P9	●●		0.003	0.004	0.004	0.005	0.006	0.006		
		Heat-treated		430	215	P10	●●		0.002	0.002	0.002	0.004	0.005	0.005		
	High-alloy steel and high-alloy tool steel	Annealed		200	99	P11	●●		0.003	0.004	0.005	0.006	0.007	0.007		
		Hardened and tempered		300	146	P12	●●		0.003	0.004	0.004	0.005	0.006	0.006		
		Hardened and tempered		380	186	P13	●●		0.002	0.003	0.004	0.005	0.006	0.006		
	Stainless steel	Ferritic/martensitic, annealed		200	99	P14	●●		0.003	0.004	0.004	0.005	0.006	0.006		
		Martensitic, heat-treated		330	161	P15	●●		0.002	0.003	0.004	0.005	0.006	0.006		
M	Stainless steel	Austenitic, quench hardened		200	99	M1	●●		0.002	0.003	0.003	0.004	0.005	0.006		
		Austenitic, precipitation hardened (PH)		300	146	M2	●●		0.002	0.003	0.003	0.004	0.005	0.006		
		Austenitic/ferritic, duplex		230	113	M3	●●		0.002	0.003	0.003	0.004	0.005	0.006		
K	Malleable cast iron	Ferritic		200	58	K1	●●●	●	0.004	0.005	0.006	0.007	0.009	0.009		
		Pearlitic		260	102	K2	●●	●	0.003	0.004	0.004	0.006	0.007	0.008		
	Grey cast iron	Low tensile strength		180	29	K3	●●	●	0.004	0.005	0.006	0.007	0.009	0.009		
		High tensile strength/austenitic		245	51	K4	●●	●	0.003	0.004	0.005	0.006	0.008	0.008		
	Cast iron with spheroidal graphite	Ferritic		155	58	K5	●●	●	0.004	0.005	0.006	0.007	0.009	0.009		
		Pearlitic		265	102	K6	●●		0.003	0.004	0.005	0.007	0.009	0.009		
	GGV (CGI)			230	58	K7	●●	●	0.004	0.005	0.006	0.007	0.009	0.009		
N	Wrought aluminium alloys	Not hardenable		30	—	N1										
		Hardenable, hardened		100	49	N2	●●									
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	38	N3	●●									
		≤ 12% Si, hardenable, hardened		90	45	N4	●●									
		> 12% Si, not hardenable		130	65	N5	●●	●								
	Magnesium-based alloys			70	36	N6	●●									
				100	49	N7										
	Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper		90	45	N8	●●									
Brass, bronze, red brass			110	55	N9	●●	●									
Cu alloys, short-chipping			300	146	N10	●●	●	0.002	0.003	0.003	0.004	0.005	0.006			
S	Heat-resistant alloys	Fe-based	Annealed	200	99	S1	●●									
			Hardened	280	136	S2	●●									
		Ni- or Co-based	Annealed	250	122	S3	●●									
			Hardened	350	171	S4	●●									
			Cast	320	157	S5	●●									
	Titanium alloys	Pure titanium		200	99	S6										
		α and β alloys, hardened		375	183	S7	●●									
		β alloys		410	203	S8	●●									
Tungsten alloys			300	146	S9	●●		0.002	0.002	0.002	0.004	0.004	0.005			
Molybdenum alloys			300	146	S10	●●		0.002	0.002	0.002	0.004	0.004	0.005			
H	Hardened steel	Hardened and tempered		50 HRC	—	H1	●●		0.002	0.002	0.002	0.004	0.004	0.004		
		Hardened and tempered		55 HRC	—	H2	●●		0.002	0.002	0.002	0.004	0.004	0.004		
		Hardened and tempered		60 HRC	—	H3										
	Hardened cast iron	Hardened and tempered		55 HRC	—	H4	●●		0.002	0.002	0.002	0.004	0.004	0.004		
O	Thermoplastics	Without abrasive fillers				O1	●●	●								
	Thermosets	Without abrasive fillers				O2	●●	●								
	Plastic, glass-fibre-reinforced	GFRP				O3										
	Plastic, carbon-fibre-reinforced	CFRP				O4										
	Plastic, aramid-fibre-reinforced	AFRP				O5										
	Graphite (technical)			80 Shore		O6	●●	●	0.004	0.005	0.006	0.007	0.009	0.009		

- Recommended application (the specified cutting data is regarded as starting values for the recommended application)
- Possible application. Limited to 2 × D_c drilling depth. MQL (minimum quantity lubrication) or compressed air is recommended.

When using drills > 3 × D_c, the following reductions are recommended:
 > 3 × D_c: Cutting speed v_c –20%, feed f –30% when spot drilling, feed f –50% when spot drilling on inclined surfaces.
 > 4 × D_c: Cutting speed v_c –30%, feed f –40% when spot drilling.

The specified cutting data are average standard values.
For specific applications, adjustment is recommended.

Indexable insert geometry												Cutting material grade Outer insert [P484.P..]											
Starting values for feed f [in/rev]												Starting values for cutting speed v _c [sfm]											
E 57						E 67						HC											
Size 1	Size 2	Size 3	Size 4	Size 5 Size 6	Size 7 Size 8	Size 1	Size 2	Size 3	Size 4	Size 5 Size 6	Size 7 Size 8	WKP255 f [in/rev]			WKP355 f [in/rev]			WSP45 f [in/rev]			WSP456 f [in/rev]		
D _c [in]						D _c [in]																	
0.531– 0.646	0.650– 0.803	0.807– 0.961	0.965– 1.161	1.161– 1.669	1.673– 2.339	0.531– 0.646	0.650– 0.803	0.807– 0.961	0.965– 1.157	1.161– 1.669	1.673– 2.339	0.002	0.004	0.006	0.002	0.004	0.006	0.002	0.004	0.006	0.002	0.004	0.006
0.002	0.002	0.002	0.004	0.005	0.005	0.002	0.002	0.002	0.004	0.005	0.005	1150	1050		980	890		820	720		820	730	
0.002	0.003	0.003	0.004	0.007	0.007	0.002	0.003	0.003	0.004	0.007	0.007	850	790	720	720	660	590	560	530	490	560	530	500
0.002	0.003	0.003	0.004	0.007	0.007							790	720	660	660	590	490	490	460	430	500	460	430
0.002	0.003	0.003	0.004	0.007	0.007							720	660	590	590	490	460	460	430	390	460	430	400
0.002	0.003	0.003	0.004	0.007	0.007							620	560	490	490	430	390	430	390	360	430	400	370
0.002	0.003	0.003	0.004	0.007	0.007							720	660	590	590	490	460	460	430	390	460	430	400
0.002	0.003	0.004	0.005	0.007	0.008	0.002	0.003	0.004	0.006	0.008	0.008	850	790	720	720	660	590	560	530	530	560	530	530
0.002	0.003	0.003	0.004	0.006	0.006							750	690	620	620	560	460	460	430	390	460	430	400
0.002	0.003	0.003	0.004	0.006	0.006							690	620	560	590	530	430	460	390	360	460	400	370
0.002	0.002	0.002	0.004	0.004	0.005							620	560	530	560	460	430	460	390	360	460	400	370
0.002	0.003	0.004	0.005	0.007	0.007	0.002	0.003	0.004	0.005	0.006	0.007	720	660	590	660	560	490	460	430	390	460	430	400
0.002	0.003	0.003	0.004	0.006	0.006							660	560	490	590	460	430	430	390	360	430	400	370
0.002	0.002	0.003	0.004	0.005	0.006							620	530	460	560	430	390	390	360	330	400	370	330
0.002	0.003	0.003	0.004	0.006	0.006	0.002	0.003	0.003	0.004	0.006	0.006				620	560	490	460	430	390	460	430	400
0.002	0.002	0.003	0.004	0.005	0.006	0.002	0.002	0.003	0.004	0.005	0.006				490	430	390	390	360	330	400	370	330
0.002	0.003	0.003	0.004	0.005	0.006	0.002	0.003	0.004	0.005	0.006	0.006				720	660	590	590	560	490	600	560	500
0.002	0.003	0.003	0.004	0.005	0.006	0.002	0.003	0.004	0.005	0.006	0.006				490	430	360	430	360	330	430	370	330
0.002	0.003	0.003	0.004	0.005	0.006	0.002	0.003	0.004	0.005	0.006	0.006				390	330	260	330	260	230	330	270	230
0.003	0.004	0.004	0.006	0.008	0.009	0.003	0.004	0.004	0.006	0.008	0.009	690	620	560	620	590	530	560	460	390	560	460	400
0.002	0.003	0.003	0.004	0.007	0.007	0.002	0.003	0.004				620	460	390	430	390	360	430	390	360	430	400	370
0.003	0.004	0.005	0.006	0.009	0.009	0.003	0.004	0.005	0.006	0.009	0.009	720	660	590	660	620	560	590	530	430	600	530	430
0.002	0.003	0.004	0.005	0.007	0.008							590	490	430	490	430	360	490	430	360	500	430	370
0.003	0.004	0.005	0.006	0.009	0.009	0.003	0.004	0.005	0.006	0.009	0.009	490	460	430	460	390	360	490	430	390	500	430	400
0.002	0.003	0.004	0.005	0.009	0.009	0.002	0.003					460	430	390	390	360	330	390	360	360	400	370	370
0.003	0.004	0.004	0.006	0.008	0.009	0.003	0.004	0.004	0.006	0.008	0.009	590	490	430	490	430	360	490	430	360	500	430	370
0.003	0.004	0.004	0.005	0.007	0.007	0.003	0.004	0.004	0.005	0.007	0.007							1480	1480	1480	1480	1480	1480
0.003	0.004	0.005	0.006	0.007	0.007	0.003	0.004	0.005	0.006	0.007	0.007							980	980	980	990	990	990
0.003	0.004	0.005	0.006	0.007	0.007	0.003	0.004	0.005	0.006	0.007	0.007							820	820	820	820	820	820
0.003	0.004	0.005	0.006	0.007	0.007	0.003	0.004	0.005	0.006	0.007	0.007							660	660	660	660	660	660
0.003	0.004	0.005	0.006	0.007	0.007	0.003	0.004	0.005	0.006	0.007	0.007							980	980	980	990	990	990
0.004	0.005	0.006	0.007	0.009	0.009	0.004	0.005	0.006	0.007	0.009	0.009							980	820	660	990	820	660
0.004	0.005	0.006	0.007	0.009	0.009	0.004	0.005	0.006	0.007	0.009	0.009							1150	980	820	1150	990	820
0.002	0.003	0.003	0.004	0.005	0.006	0.002	0.003	0.004	0.005	0.006	0.006				490	430	360	430	360	330	430	370	330
0.002	0.002	0.003	0.004	0.005	0.006	0.002	0.002	0.003	0.004	0.005	0.006	330	330		330	330		300	300		300	300	
0.002	0.002	0.002	0.004	0.004	0.005	0.002	0.002	0.002	0.004	0.004	0.005	260	260		260	260		230	230		230	230	
0.002	0.002	0.003	0.004	0.005	0.005	0.002	0.002	0.003	0.004	0.005	0.005	200	200		200	200		160	160		170	170	
0.002	0.002	0.002	0.004	0.004	0.005	0.002	0.002	0.002	0.004	0.004	0.005	160	160		160	160		130	130		140	140	
0.002	0.002	0.002	0.004	0.004	0.005	0.002	0.002	0.002	0.004	0.004	0.005	160	160		160	160		130	130		140	140	
0.002	0.002	0.003	0.004	0.005	0.005	0.002	0.002	0.003	0.004	0.005	0.005				160	160		160	160		170	150	
0.002	0.002	0.002	0.004	0.004	0.005	0.002	0.002	0.002	0.004	0.004	0.005				160	160		130	130		140	140	
0.002	0.002	0.002	0.004	0.004	0.005	0.002	0.002	0.002	0.004	0.004	0.005	230	200										
0.002	0.002	0.002	0.004	0.004	0.005	0.002	0.002	0.002	0.004	0.004	0.005	230	200										
0.002	0.002	0.002	0.004	0.004	0.004							230	200	160									
0.002	0.002	0.002	0.004	0.004	0.004							200	160	160									
0.002	0.002	0.002	0.004	0.004	0.004							200	160	160									
0.006	0.007	0.008	0.010	0.012	0.012	0.006	0.007	0.008	0.010	0.012	0.012				1310	1310	1310	1310	1310	1310	1310	1320	1320
0.002	0.002	0.007	0.008	0.010	0.010	0.005	0.006	0.007	0.008	0.010	0.010	980	980	980	980	980	980	980	980	980	990	990	990
0.003	0.004	0.004	0.006	0.008	0.009							980	820	660	820	660	490	820	660	490	820	660	500

HC = Coated carbide

Cutting data for D3120

= Wet machining (E = emulsion, O = oil)
 = Dry machining is possible (M = MQL, L = dry)
The cutting data must be selected from Walter GPS

* The classification of the machining groups can be found in the material group comparison table

B 1

Material group	 = Wet machining (E = emulsion, O = oil)  = Dry machining is possible (M = MQL, L = dry) The cutting data must be selected from Walter GPS * The classification of the machining groups can be found in the material group comparison table									Indexable insert geometry							
										Starting values for feed f [in/rev]							
										A 57							
										Size 1	Size 2	Size 3	Size 4	Size 5			
Overview of the main material groups and code letters													D _c [in]				
													0.630-0.787	0.827-0.984	1.024-1.181	1.220-1.417	1.457-1.654
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	62	P1	●●			0.002	0.002	0.002	0.004	0.005			
		C > 0.25% to ≤ 0.55%	Annealed	190	93	P2	●●			0.003	0.004	0.004	0.005	0.007			
		C > 0.25% to ≤ 0.55%	Heat-treated	210	103	P3	●●			0.003	0.004	0.004	0.005	0.007			
		C > 0.55%	Annealed	190	93	P4	●●			0.003	0.004	0.004	0.005	0.007			
		C > 0.55%	Heat-treated	300	146	P5	●●			0.003	0.004	0.004	0.005	0.007			
		Free-machining steel (short-chipping)	Annealed	220	109	P6	●●	●		0.003	0.004	0.004	0.005	0.007			
	Low-alloy steel	Annealed		175	86	P7	●●			0.003	0.004	0.005	0.006	0.008			
		Heat-treated		285	139	P8	●●			0.003	0.004	0.004	0.005	0.006			
		Heat-treated		380	186	P9	●●			0.003	0.004	0.004	0.005	0.006			
		Heat-treated		430	215	P10	●●			0.002	0.002	0.002	0.004	0.005			
	High-alloy steel and high-alloy tool steel	Annealed		200	99	P11	●●			0.003	0.004	0.005	0.006	0.007			
		Hardened and tempered		300	146	P12	●●			0.003	0.004	0.004	0.005	0.006			
		Hardened and tempered		380	186	P13	●●			0.002	0.003	0.004	0.005	0.006			
	Stainless steel	Ferritic/martensitic, annealed		200	99	P14	●●			0.003	0.004	0.004	0.005	0.006			
		Martensitic, heat-treated		330	161	P15	●●			0.002	0.003	0.004	0.005	0.006			
M	Stainless steel	Austenitic, quench hardened		200	99	M1	●●			0.002	0.003	0.003	0.004	0.005			
		Austenitic, precipitation hardened (PH)		300	146	M2	●●			0.002	0.003	0.003	0.004	0.005			
		Austenitic/ferritic, duplex		230	113	M3	●●			0.002	0.003	0.003	0.004	0.005			
K	Malleable cast iron	Ferritic		200	58	K1	●●	●		0.004	0.005	0.006	0.007	0.009			
		Pearlitic		260	102	K2	●●	●		0.003	0.004	0.004	0.006	0.007			
	Grey cast iron	Low tensile strength		180	29	K3	●●	●		0.004	0.005	0.006	0.007	0.009			
		High tensile strength/austenitic		245	51	K4	●●	●		0.003	0.004	0.005	0.006	0.008			
	Cast iron with spheroidal graphite	Ferritic		155	58	K5	●●	●		0.004	0.005	0.006	0.007	0.009			
		Pearlitic		265	102	K6	●●			0.003	0.004	0.005	0.007	0.009			
	GGV (CGI)			230	58	K7	●●	●		0.004	0.005	0.006	0.007	0.009			
N	Wrought aluminium alloys	Not hardenable		30	—	N1											
		Hardenable, hardened		100	49	N2	●●										
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	38	N3	●●										
		≤ 12% Si, hardenable, hardened		90	45	N4	●●										
		> 12% Si, not hardenable		130	65	N5	●●	●									
	Magnesium-based alloys			70	36	N6	●●										
		Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper		100	49	N7										
			Brass, bronze, red brass		90	45	N8	●●									
Cu alloys, short-chipping				110	55	N9	●●	●									
High tensile, Ampco			300	146	N10	●●	●		0.002	0.003	0.003	0.004	0.005				
S	Heat-resistant alloys	Fe-based	Annealed	200	99	S1	●●										
			Hardened	280	136	S2	●●										
		Ni- or Co-based	Annealed	250	122	S3	●●										
			Hardened	350	171	S4	●●										
			Cast	320	157	S5	●●										
	Titanium alloys	Pure titanium		200	99	S6											
		α and β alloys, hardened		375	183	S7	●●										
		β alloys		410	203	S8	●●										
Tungsten alloys			300	146	S9	●●			0.002	0.002	0.002	0.004	0.004				
Molybdenum alloys			300	146	S10	●●			0.002	0.002	0.002	0.004	0.004				
H	Hardened steel	Hardened and tempered		50 HRC	—	H1	●●			0.002	0.002	0.002	0.004	0.004			
		Hardened and tempered		55 HRC	—	H2	●●			0.002	0.002	0.002	0.004	0.004			
		Hardened and tempered		60 HRC	—	H3											
	Hardened cast iron	Hardened and tempered		55 HRC	—	H4	●●			0.002	0.002	0.002	0.004	0.004			
O	Thermoplastics	Without abrasive fillers				O1	●●	●									
	Thermosets	Without abrasive fillers				O2	●●	●									
	Plastic, glass-fibre-reinforced	GFRP				O3											
	Plastic, carbon-fibre-reinforced	CFRP				O4											
	Plastic, aramid-fibre-reinforced	AFRP				O5											
	Graphite (technical)			80 Shore		O6	●●	●		0.004	0.005	0.006	0.007	0.009			

- Recommended application (the specified cutting data is regarded as starting values for the recommended application)
- Possible application. Limited to 2 × D_c drilling depth. MQL (minimum quantity lubrication) or compressed air is recommended.

When using drills > 3 × D_c, the following reductions are recommended:
> 3 × D_c: Cutting speed v_c –20%, feed f –30% when spot drilling, feed f –50% when spot drilling on inclined surfaces.
> 4 × D_c: Cutting speed v_c –30%, feed f –40% when spot drilling.

The specified cutting data are average standard values.
For specific applications, adjustment is recommended.

	Indexable insert geometry										Cutting material grade																	
	Starting values for feed f [in/rev]										Starting values for cutting speed v _c [sfm]																	
	E 57					E 67					HC												HW					
Size 1	Size 2	Size 3	Size 4	Size 5	Size 1	Size 2	Size 3	Size 4	Size 5	WKP25S f [in/rev]			WKP35S f [in/rev]			WSP45S f [in/rev]			WSP45G f [in/rev]			WXP40 f [in/rev]			WK40 f [in/rev]			
D _c [in]					D _c [in]																							
0.630- 0.787	0.827- 0.984	1.024- 1.181	1.220- 1.417	1.457- 1.654	0.630- 0.787	0.827- 0.984	1.024- 1.181	1.220- 1.417	1.457- 1.654	0.002	0.004	0.006	0.002	0.004	0.006	0.002	0.004	0.006	0.002	0.004	0.006	0.002	0.004	0.006	0.002	0.004	0.006	
	0.002	0.002	0.002	0.004	0.005	0.002	0.002	0.002	0.004	0.005	1150	1050		980	890		820	720		820	730		660	590	520			
	0.002	0.003	0.003	0.004	0.007	0.002	0.003	0.003	0.004	0.007	850	790	720	720	660	590	560	520	490	560	530	500	490	460	430			
	0.002	0.003	0.003	0.004	0.007						790	720	660	660	590	490	490	460	430	500	460	430	490	460	390			
	0.002	0.003	0.003	0.004	0.007						720	660	590	590	490	460	460	430	390	460	430	400	490	460	430			
	0.002	0.003	0.003	0.004	0.007						620	560	490	490	430	390	430	390	360	430	400	370	390	360	330			
	0.002	0.003	0.003	0.004	0.007						720	660	590	590	490	460	460	430	390	460	430	400	390	360	430			
	0.002	0.003	0.004	0.005	0.007	0.002	0.003	0.004	0.006	0.008	850	790	720	720	660	590	560	520	520	560	530	530	490	460	430			
	0.002	0.003	0.003	0.004	0.006						750	690	620	620	560	460	460	430	390	460	430	400	460	390	360			
	0.002	0.003	0.003	0.004	0.006						690	620	560	590	520	430	460	390	360	460	400	370	460	390	300			
	0.002	0.002	0.002	0.004	0.004						620	560	520	560	460	430	460	390	360	460	400	370	390	360	260			
	0.002	0.003	0.004	0.005	0.007	0.002	0.003	0.004	0.005	0.006	720	660	590	660	560	490	460	430	390	460	430	400	430	390	360			
	0.002	0.003	0.003	0.004	0.006						660	560	490	590	460	430	430	390	360	430	400	370	390	360	330			
	0.002	0.002	0.003	0.004	0.005						620	520	460	560	430	390	390	360	330	400	370	330	360	330	260			
	0.002	0.003	0.003	0.004	0.006	0.002	0.003	0.003	0.004	0.006				620	560	490	460	430	390	460	430	400	430	390	360			
	0.002	0.002	0.003	0.004	0.005	0.002	0.002	0.003	0.004	0.005				490	430	390	390	360	330	400	370	330	360	330	300			
	0.002	0.003	0.003	0.004	0.005	0.002	0.003	0.004	0.005	0.006				720	660	590	590	560	490	600	560	500	520	490	390			
	0.002	0.003	0.003	0.004	0.005	0.002	0.003	0.004	0.005	0.006				490	430	360	430	360	330	430	370	330	360	330	250			
	0.002	0.003	0.003	0.004	0.005	0.002	0.003	0.004	0.005	0.006				390	330	260	330	260	230	330	270	230	260	230	200			
	0.003	0.004	0.004	0.006	0.008	0.003	0.004	0.004	0.006	0.008	690	620	560	620	590	520	560	460	390	560	460	400	520	460	460			
	0.002	0.003	0.003	0.004	0.007	0.002	0.003	0.004			620	460	390	430	390	360	430	390	360	430	400	370	430	390	390			
	0.003	0.004	0.005	0.006	0.009	0.003	0.004	0.005	0.006	0.009	720	660	590	660	620	560	590	520	430	600	530	430	520	460	390			
	0.002	0.003	0.004	0.005	0.007						590	490	430	490	430	360	490	430	360	500	430	370	430	390	330			
	0.003	0.004	0.005	0.006	0.009	0.003	0.004	0.005	0.006	0.009	490	460	430	460	390	360	490	430	390	500	430	400	430	390	360			
	0.002	0.003	0.004	0.005	0.009	0.002	0.003				460	430	390	390	360	330	390	360	360	400	370	370	360	330	330			
	0.003	0.004	0.004	0.006	0.008	0.003	0.004	0.004	0.006	0.008	590	490	430	490	430	360	490	430	360	500	430	370	430	390	330			
																										1640	1640	
	0.003	0.004	0.004	0.005	0.007	0.003	0.004	0.004	0.005	0.007							1480	1480	1480	1480	1480	1480					1480	1310
	0.003	0.004	0.005	0.006	0.007	0.003	0.004	0.005	0.006	0.007							980	980	980	990	990	990					1310	1310
	0.003	0.004	0.005	0.006	0.007	0.003	0.004	0.005	0.006	0.007							820	820	820	820	820	820					980	980
	0.003	0.004	0.005	0.006	0.007	0.003	0.004	0.005	0.006	0.007							660	660	660	660	660	660					660	660
	0.003	0.004	0.005	0.006	0.007	0.003	0.004	0.005	0.006	0.007							980	980	980	990	990	990						
																											980	850
	0.004	0.005	0.006	0.007	0.009	0.004	0.005	0.006	0.007	0.009							980	820	660	990	820	660					980	850
	0.004	0.005	0.006	0.007	0.009	0.004	0.005	0.006	0.007	0.009							1150	980	820	1150	990	820					1310	1150
	0.002	0.003	0.003	0.004	0.005	0.002	0.003	0.004	0.005	0.006				490	430	360	430	360	330	430	370	330						
	0.002	0.002	0.003	0.004	0.005	0.002	0.002	0.003	0.004	0.005	330	330		330	330		300	300		300	300		260	260	230	230	230	
	0.002	0.002	0.002	0.004	0.004	0.002	0.002	0.002	0.004	0.004	260	260		260	260		230	230		230	230		200	200	160	160	160	
	0.002	0.002	0.003	0.004	0.005	0.002	0.002	0.003	0.004	0.005	200	200		200	200		160	160		170	170		160	160	130	130	130	
	0.002	0.002	0.002	0.004	0.004	0.002	0.002	0.002	0.004	0.004	160	160		160	160		130	130		140	140		130	130	110	100	100	
	0.002	0.002	0.002	0.004	0.004	0.002	0.002	0.002	0.004	0.004	160	160		160	160		130	130		140	140		130	130	110	100	100	
	0.002	0.002	0.003	0.004	0.005	0.002	0.002	0.003	0.004	0.005				160	160		160	150		170	150							
	0.002	0.002	0.002	0.004	0.004	0.002	0.002	0.002	0.004	0.004				160	160		130	130		140	140							
	0.002	0.002	0.002	0.004	0.004	0.002	0.002	0.002	0.004	0.004	230	200																
	0.002	0.002	0.002	0.004	0.004	0.002	0.002	0.002	0.004	0.004	230	200																
	0.002	0.002	0.002	0.004	0.004						230	200	160															
	0.002	0.002	0.002	0.004	0.004						200	160	160															

Cutting data for B321.

B 1

Material group	= Wet machining (E = emulsion, O = oil) = Dry machining is possible (M = MQL, L = dry) The cutting data must be selected from Walter GPS * The classification of the machining groups can be found in the material group comparison table		Brinell hardness HB	Tensile strength R_m psix1000	Machining group *			Indexable insert geometry			
								Starting values for feed f [in/rev]			
								LCMX ... -B57			
								D _c [in]			
Overview of the main material groups and code letters								0.394–0.472	0.476–0.709		
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	62	P1	••		0.002	0.002	
		C > 0.25% to ≤ 0.55%	Annealed	190	93	P2	••		0.002	0.003	
		C > 0.25% to ≤ 0.55%	Heat-treated	210	103	P3	••				
		C > 0.55%	Annealed	190	93	P4	••				
		C > 0.55%	Heat-treated	300	146	P5	••				
		Free-machining steel (short-chipping)	Annealed	220	109	P6	••	•			
	Low-alloy steel	Annealed		175	86	P7	••		0.002	0.003	
		Heat-treated		285	139	P8	••				
		Heat-treated		380	186	P9	••				
		Heat-treated		430	215	P10	••				
	High-alloy steel and high-alloy tool steel	Annealed		200	99	P11	••				
		Hardened and tempered		300	146	P12	••				
		Hardened and tempered		380	186	P13	••				
	Stainless steel	Ferritic/martensitic, annealed		200	99	P14	••				
		Martensitic, heat-treated		330	161	P15	••				
M	Stainless steel	Austenitic, quench hardened		200	99	M1	••		0.002	0.002	
		Austenitic, precipitation hardened (PH)		300	146	M2	••		0.002	0.002	
		Austenitic/ferritic, duplex		230	113	M3	••		0.002	0.002	
K	Malleable cast iron	Ferritic		200	58	K1	••	•	0.004	0.004	
		Pearlitic		260	102	K2	••	•	0.003	0.003	
	Grey cast iron	Low tensile strength		180	29	K3	••	•	0.004	0.004	
		High tensile strength/austenitic		245	51	K4	••	•	0.003	0.003	
	Cast iron with spheroidal graphite	Ferritic		155	58	K5	••	•	0.003	0.004	
		Pearlitic		265	102	K6	••		0.002	0.003	
	GGV (CGI)			230	58	K7	••	•	0.004	0.004	
N	Wrought aluminium alloys	Not hardenable		30	—	N1					
		Hardenable, hardened		100	49	N2	••				
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	38	N3	••				
		≤ 12% Si, hardenable, hardened		90	45	N4	••				
		> 12% Si, not hardenable		130	65	N5	••	•			
	Magnesium-based alloys			70	36	N6	••				
		Unalloyed, electrolytic copper		100	49	N7					
		Brass, bronze, red brass		90	45	N8	••				
S	Heat-resistant alloys	Fe-based	Annealed	200	99	S1	••		0.002	0.002	
			Hardened	280	136	S2	••				
		Ni- or Co-based	Annealed	250	122	S3	••				
			Hardened	350	171	S4	••				
			Cast	320	157	S5	••				
				200	99	S6					
	Titanium alloys	Pure titanium		375	183	S7	••		0.002	0.002	
		α and β alloys, hardened		410	203	S8	••		0.002	0.002	
		β alloys		300	146	S9	••				
	Tungsten alloys			300	146	S10	••				
H	Hardened steel	Hardened and tempered		50 HRC	—	H1	••				
		Hardened and tempered		55 HRC	—	H2	••				
		Hardened and tempered		60 HRC	—	H3					
	Hardened cast iron	Hardened and tempered		55 HRC	—	H4	••				
O	Thermoplastics	Without abrasive fillers				O1	••	•			
	Thermosets	Without abrasive fillers				O2	••	•			
	Plastic, glass-fibre-reinforced	GFRP				O3					
	Plastic, carbon-fibre-reinforced	CFRP				O4					
	Plastic, aramid-fibre-reinforced	AFRP				O5					
	Graphite (technical)			80 Shore		O6	••	•	0.003	0.004	

- Recommended application (the specified cutting data is regarded as starting values for the recommended application)
- Possible application. Limited to 2 × D_c drilling depth. MQL (minimum quantity lubrication) or compressed air is recommended.

When using drills > 3 × D_c, the following reductions are recommended:

> 3 × D_c: Cutting speed v_c –20%, feed f –30% when spot drilling, feed f –50% when spot drilling on inclined surfaces.

The specified cutting data are average standard values.
For specific applications, adjustment is recommended.

B 1

	Indexable insert geometry				Cutting material grades									
	Starting values for feed f [in/rev]				Starting values for cutting speed v _c [sfm]									
	LCMX...-D57		LCMX...-E57		HC									
	D _c [in]		D _c [in]		WKP25S f [in/rev]		WKP35S f [in/rev]		WSP45S f [in/rev]		WSP45G f [in/rev]		WXP40 f [in/rev]	
	0.394– 0.472	0.476– 0.709	0.394– 0.472	0.476– 0.709	0.002	0.004	0.002	0.004	0.002	0.004	0.002	0.004	0.002	0.004
	0.002	0.003	0.003	0.004	950	850	850	790	720	660	730	660	660	590
	0.002	0.003	0.003	0.005	850	790	720	660	530	490	530	500	490	460
	0.002	0.003	0.003	0.005	850	790	720	660	530	490	530	500	490	460
	0.002	0.003	0.003	0.005	850	790	720	660	530	490	530	500	490	460
	0.002	0.002	0.003	0.004	660	590	490	430	430	390	430	400	390	360
	0.002	0.002	0.003	0.004	660	590	490	430	430	390	430	400	390	360
	0.003	0.003	0.003	0.005	850	790	720	660	590	560	600	560	490	460
	0.003	0.003	0.003	0.004	720	660	620	560	490	430	500	430	460	390
	0.003	0.003	0.003	0.004	720	660	620	560	490	430	500	430	460	390
	0.002	0.002	0.002	0.003	660	590	490	430	430	390	430	400	390	360
	0.002	0.003	0.003	0.004	720	660	590	560	460	430	460	430	430	390
	0.002	0.003	0.002	0.003	590	560	490	460	430	390	430	400	390	360
	0.002	0.003	0.003	0.004	560	530	460	430	390	360	400	370	360	330
	0.002	0.003	0.003	0.004			590	560	460	430	460	430	430	390
	0.002	0.003	0.003	0.004	560	530	460	430	390	360	400	370	360	330
	0.002	0.003					720	660	590	530	600	530	530	490
	0.002	0.003					490	430	430	360	430	370	360	330
	0.002	0.003					390	330	330	260	330	270	260	230
	0.004	0.005	0.004	0.006	790	720	720	660	560	490	560	500	530	460
	0.003	0.004	0.003	0.005	590	560	590	490	460	430	460	430	430	390
	0.004	0.005	0.004	0.006	790	720	720	660	560	490	560	500	530	460
	0.003	0.004	0.003	0.005	590	560	590	490	460	430	460	430	430	390
	0.003	0.004	0.004	0.005	560	490	490	460	460	430	460	430	430	390
	0.003	0.003	0.003	0.004	460	430	460	430	390	360	400	370	360	330
	0.004	0.005	0.004	0.006	590	560	590	490	460	430			430	390
	0.003	0.004							1480	1480	1480	1480		
	0.003	0.004							980	980	990	990		
	0.003	0.004							820	820	820	820		
	0.003	0.004							660	660	660	660		
	0.003	0.004							980	980	980	980		
	0.003	0.004	0.003	0.004										
	0.003	0.004	0.003	0.004										
	0.002	0.003												
	0.002	0.002	0.002	0.002			330	330					260	260
	0.002	0.002	0.002	0.002			260	260					200	200
	0.002	0.002	0.002	0.002			200	200					160	160
	0.002	0.002	0.002	0.002			160	160					130	130
	0.002	0.002	0.002	0.002			160	160					130	130
	0.002	0.002							160	130	170	140		
	0.002	0.002					160	160	130	130	130	130		
	0.002	0.002			230	200								
	0.002	0.002			230	200								
	0.002	0.002			230	200								
	0.002	0.002			200	160								
	0.002	0.002			200	160								
	0.005	0.006	0.005	0.006			1310	1310	1310	1310	1320	1320	1310	1310
	0.004	0.005	0.004	0.005	980	980	980	980	980	980	980	980	980	980
	0.002	0.003	0.002	0.003	980	820	820	660	820	660	820	660	820	660

HC = Coated carbide

Cutting tool material application charts – drilling and boring

Grades for drilling from solid

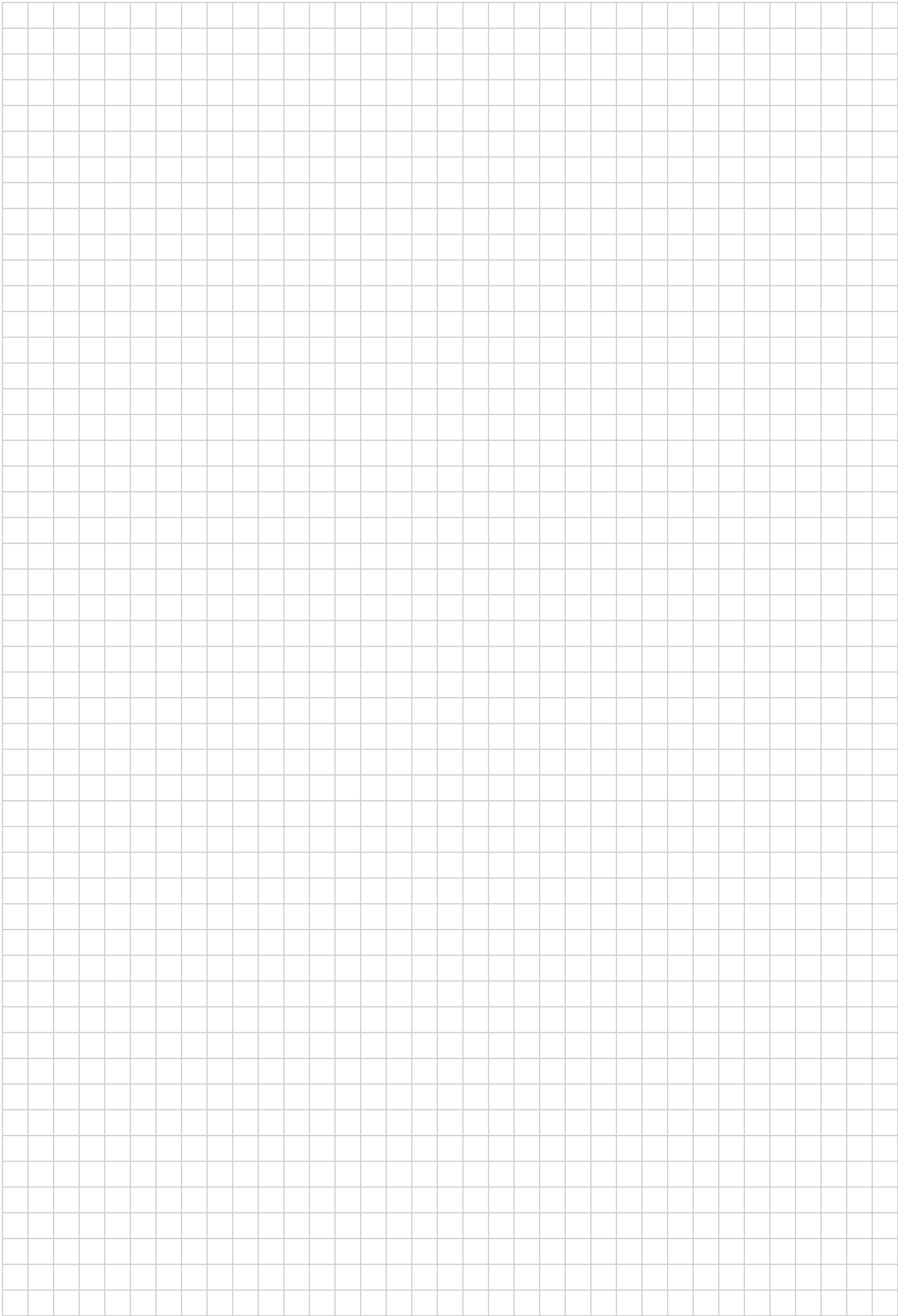
Walter grade designation	Standard designation	Material group							Range of applications								Coating process	Coating composition	Indexable insert example	
		P	M	K	N	S	H	O	01	05	10	15	20	25	30	35	40			
		Steel	Stainless steel	Cast iron	NF metals	Materials with difficult cutting properties	Hard materials	Other												
WKP25S	HC – P 25	●●																CVD	TiCN + Al ₂ O ₃ (+TiCN)	
	HC – K 25			●●																
WKP35S	HC – P 35	●●																CVD	TiCN + Al ₂ O ₃ (+TiCN)	
	HC – K 35			●●																
WSP45S	HC – P 45	●●																PVD	TiAlN + Al ₂ O ₃ (+Al)	
	HC – M 45		●●																	
	HC – S 45					●●														
WSP45	HC – P 45	●●																PVD	TiAlN + Al ₂ O ₃ (+ZrN)	
	HC – M 45		●●																	
	HC – S 45					●●														
	HC – N 30				●															
WSP45G	HC – P 45	●●																PVD	TiAlN + Al ₂ O ₃ (+ZrN)	
	HC – M 45		●●																	
	HC – S 45					●●														
	HC – N 30				●															
WXP40	HC – P 40	●●																PVD	TiCN	
	HC – M 30		●●																	
	HC – K 40			●●																
	HC – S 30					●														
WXP30	HC – P 30	●●																PVD	TiAlN / TiSiN	
	HC – M 30		●																	
	HC – K 30			●●																
	HC – N 30				●															
	HC – S 30					●														
WPP45C	HC – P 45	●●																PVD	TiAlN / TiAl	
	HC – K 45			●																
WKK45C	HC – P 45	●																PVD	TiAlN / TiSiAlCrN / TiSiN	
	HC – K 45			●●																
WMP35	HC – P 35	●●																PVD	TiAlN	
	HC – M 35		●●																	
	HC – S 35					●●														
WNN25	HC – N 25				●●													PVD	ta-C (DLC)	
	HC – O 25							●												

HC = Coated carbide

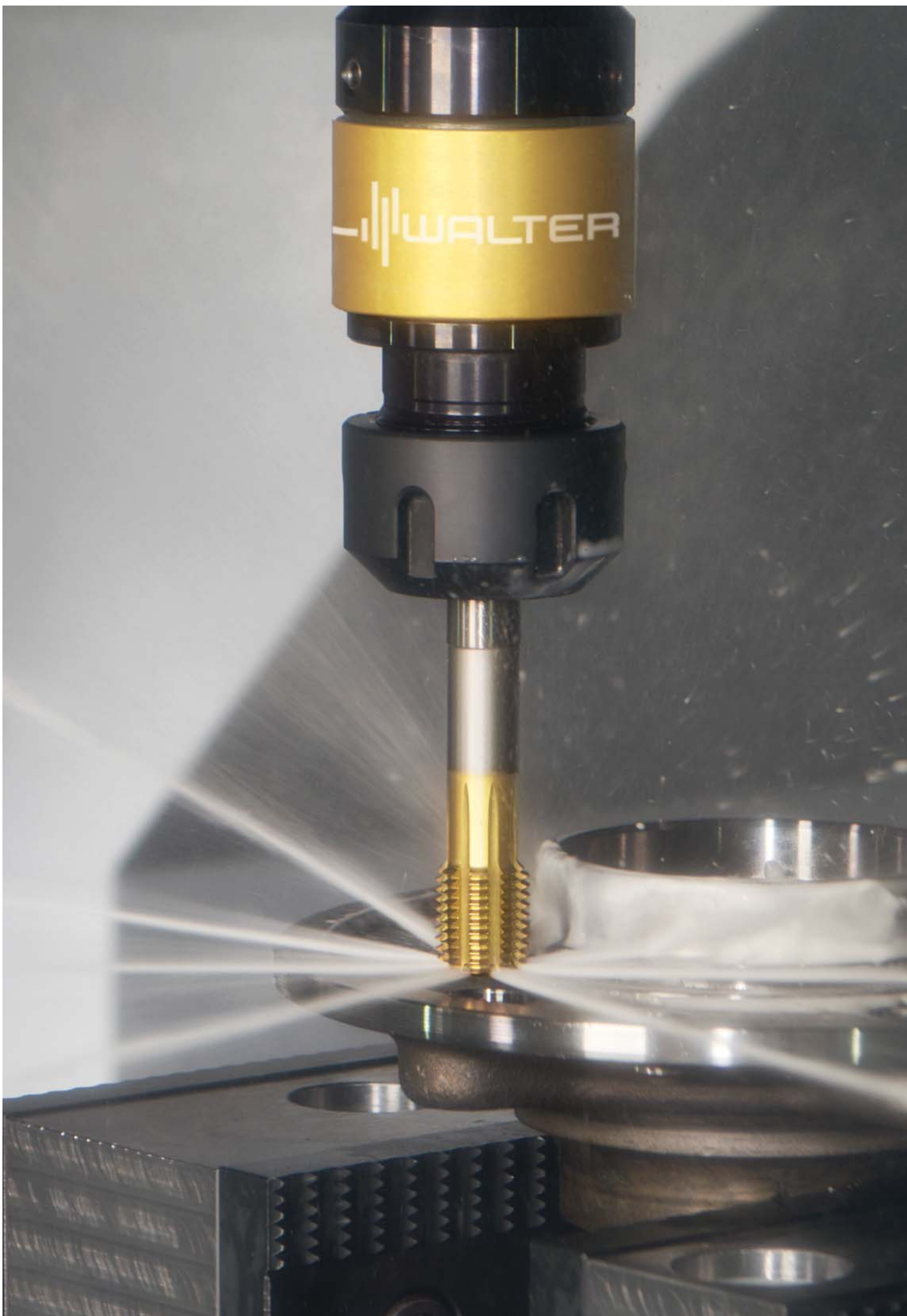
HW = Uncoated carbide

●● Primary application

● Additional application



B 1



Tapping – B3

HSS-E taps	Product range overview	128
	UNF	129

Thread forming – B4

HSS-E-PM thread formers	Product range overview	131
	Designation key	132
	M – Metric thread	133
	MF – Metric fine-pitch thread	139

Thread milling – B5

Thread milling cutters	Product range overview	140
	Designation key	141
	Indexable insert thread milling cutter	142

Technical information – B3–B5

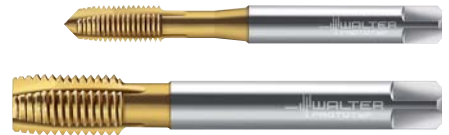
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Radius correction values	160
Tool application	161

Product range overview of HSS-E taps UNF

Machining		
Thread depth	3.5 x D _N	3 x D _N
Designation	TC216 Perform	TC115 Perform
Dimension range	UNF 6-40– UNF 1/2-20	UNF 6-40– UNF 1/2-20
Tolerance	2B	2B
Coolant supply	External	External
Chamfer form	B	C
Coating/grade	WY80AA	WY80AA
Version length	M	M
Page	129	130
		

HSS-E machine taps

TC216 Perform mm



– For long-chipping materials



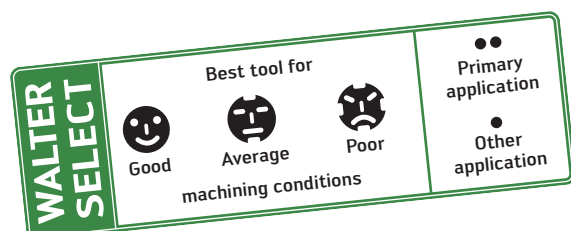
	P	M	K	N	S	H	O
WY80AA	●	●	●	●			

DIN 371	Designation	D _N -P	D _N mm	l ₁ h9 mm	L _c mm	l ₃ mm	d ₁ mm	□ mm	l _g mm	N	WY80AA
	TC216-UNF6-C0-	UNF 6-40	3.505	56	11	20	4	3	6	3	✱
	TC216-UNF10-C0-	UNF 10-32	4.826	70	13	25	6	4.9	8	3	✱
	TC216-UNF1/4-C0-	UNF 1/4-28	6.35	80	15	30	7	5.5	8	3	✱
	TC216-UNF5/16-C0-	UNF 5/16-24	7.938	90	18	35	8	6.2	9	3	✱
	TC216-UNF3/8-C0-	UNF 3/8-24	9.525	100	20	39	10	8	11	3	✱

Ordering example for the WY80AA grade: TC216-UNF6-C0-WY80AA

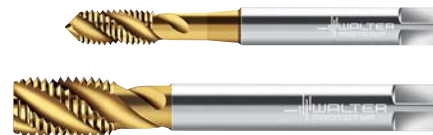
DIN 376	Designation	D _N -P	D _N mm	l ₁ h9 mm	L _c mm	l ₃ mm	d ₁ mm	□ mm	l _g mm	N	WY80AA
	TC216-UNF7/16-L0-	UNF 7/16-20	11.113	100	20	76	8	6.2	9	3	✱
	TC216-UNF1/2-L0-	UNF 1/2-20	12.7	100	21	73	9	7	10	4	✱

Ordering example for the WY80AA grade: TC216-UNF7/16-L0-WY80AA

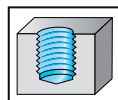


HSS-E machine taps TC115 Perform

mm



– For long-chipping materials



	P	M	K	N	S	H	O
WY80AA	●	●	●	●	●	●	●

DIN 371

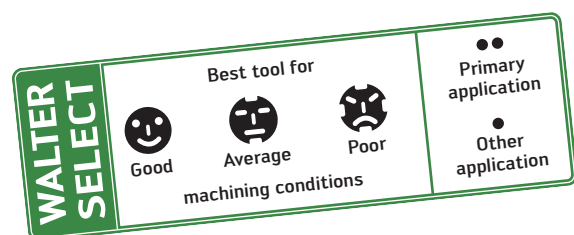
Designation	D _N -P	D _N mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	□ mm	l ₉ mm	N	WY80AA
TC115-UNF6-C0-	UNF 6-40	3.505	56	6.5	20	4	3	6	3	✱
TC115-UNF10-C0-	UNF 10-32	4.826	70	8	25	6	4.9	8	3	✱
TC115-UNF1/4-C0-	UNF 1/4-28	6.35	80	10	30	7	5.5	8	3	✱
TC115-UNF5/16-C0-	UNF 5/16-24	7.938	90	12	35	8	6.2	9	3	✱
TC115-UNF3/8-C0-	UNF 3/8-24	9.525	100	15	39	10	8	11	3	✱

Ordering example for the WY80AA grade: TC115-UNF6-C0-WY80AA

DIN 376

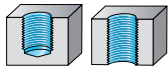
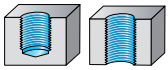
Designation	D _N -P	D _N mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	□ mm	l ₉ mm	N	WY80AA
TC115-UNF7/16-L0-	UNF 7/16-20	11.113	100	15	76	8	6.2	9	3	✱
TC115-UNF1/2-L0-	UNF 1/2-20	12.7	100	13	73	9	7	10	4	✱

Ordering example for the WY80AA grade: TC115-UNF7/16-L0-WY80AA

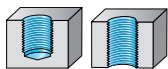


Product range overview of HSS-E-PM thread formers

M – Metric thread

Machining				
Thread depth	3 x D _N	3.5 x D _N	3.5 x D _N	3.5 x D _N
Designation	TC430 Supreme	TC420 Supreme	TC430 Supreme	TC430 Supreme
Dimension range	M 3–M 10	M 5–M 24	M 5–M 16	M 5–M 16
Tolerance	6HX	6HX / 6GX	6HX	6HX
Coolant supply	External	Axial/radial	Radial	Axial
Chamfer form	C	E / C	C	C
Coating/grade	WW60EL	WW60AD / WW60BA	WW60AD / WW60EL	WW60AD / WW60EL
Cutting tool material	HSS-E-PM	HSS-E-PM	HSS-E-PM	HSS-E-PM
Page	136	133	136	137
				

MF – Metric fine-pitch thread

Machining		
Thread depth	3.5 x D _N	3.5 x D _N
Designation	TC430 Supreme	TC430 Supreme
Dimension range	MF 8x1– MF 16x1.5	MF 8x1– MF 16x1.5
Tolerance	6HX	6HX
Coolant supply	Radial	Axial
Chamfer form	C	C
Coating/grade	WW60AD / WW60EL	WW60AD / WW60EL
Cutting tool material	HSS-E-PM	HSS-E-PM
Page	139	139
		

Designation key for HSS-E(-PM) and solid carbide thread formers

Example:

T	C	4	20	–	M10	–	C	1	–	W	W	60	AD
1	2	3	4	5	6		7	8		Grade			

1	2	3	4
Tool group	Generation	Tool type	Tool type
T Threading		4 Thread former	10 Universal, Advance 20 Universal, Supreme 30 ISO P, Supreme 70 ISO P, Supreme

5	6	7	8
1. Delimiters	Thread dimensions	Tolerance/shank type	Modification
– Metric · DIN/ANSI		C 6HX, 2BX Reinforced shank E 6GX Reinforced shank F 7GX Reinforced shank L 6HX, 2BX Reduced shank N 6GX Reduced shank P 7GX Reduced shank	0 External coolant without lubrication grooves 1 Axial internal coolant, without lubrication grooves 2 Radial internal coolant 5 Axial internal coolant, with lubrication grooves 6 External coolant with lubrication grooves D Chamfer form D E Chamfer form E F Chamfer form E, axial internal coolant without lubrication grooves L Left-hand thread H Extended shank XL

Grade designation key for solid carbide and HSS-E(-PM) cutting tool materials

Example:

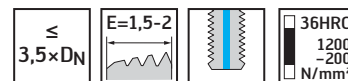
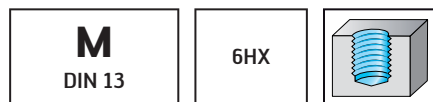
W	W	60	AD
Walter	1	2	3

1	2	3
Substrate	Range of applications	Coating
G VHM W HSS-E-PM Y HSS-E		AD TiN BA TiCN EL AlCrN

HSS-E-PM machine thread formers

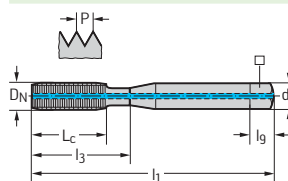
TC420 Supreme 

– For long-chipping materials



	P	M	K	N	S	H	O
WW60AD	●	●	●	●	●	●	●
WW60BA	●	●	●	●	●	●	●

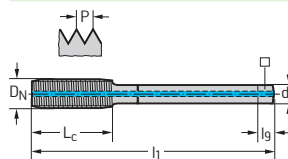
DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60AD	WW60BA
TC420-M5-CF-	M 5	0.8	70	8	25	6	4.9	8	5	✖	✖
TC420-M6-CF-	M 6	1	80	10	30	6	4.9	8	5	✖	✖
TC420-M8-CF-	M 8	1.25	90	12	35	8	6.2	9	5	✖	✖
TC420-M10-CF-	M 10	1.5	100	15	39	10	8	11	6	✖	✖

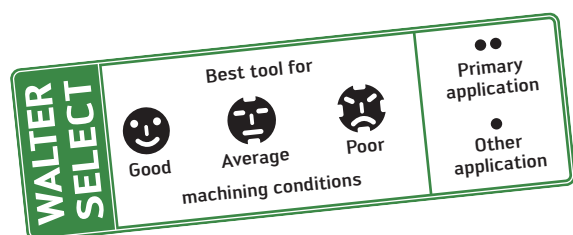
Ordering example for the WW60AD grade: TC420-M5-CF-WW60AD

DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60AD	WW60BA
TC420-M12-LF-	M 12	1.75	110	16	83	9	7	10	6	✖	
TC420-M16-LF-	M 16	2	110	20	68	12	9	12	6	✖	

Ordering example for the WW60AD grade: TC420-M12-LF-WW60AD



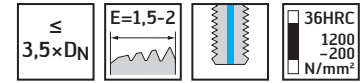
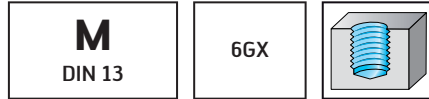
✖ / ★ New addition to the product range

HSS-E-PM machine thread formers

TC420 Supreme

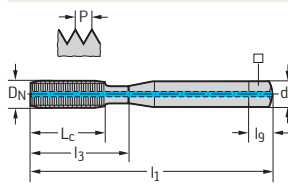


– For long-chipping materials



	P	M	K	N	S	H	O
WW60AD	●	●	●	●	●	●	●
WW60BA	●	●	●	●	●	●	●

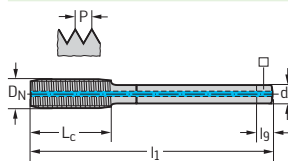
DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60AD	WW60BA
TC420-M5-EF-	M 5	0.8	70	8	25	6	4.9	8	5	✖	✖
TC420-M6-EF-	M 6	1	80	10	30	6	4.9	8	5	✖	✖
TC420-M8-EF-	M 8	1.25	90	12	35	8	6.2	9	5	✖	✖
TC420-M10-EF-	M 10	1.5	100	15	39	10	8	11	6	✖	✖

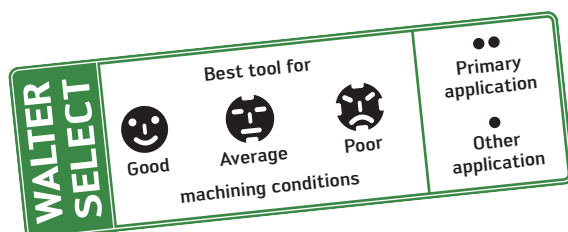
Ordering example for the WW60AD grade: TC420-M5-EF-WW60AD

DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60AD	WW60BA
TC420-M12-NF-	M 12	1.75	110	16	83	9	7	10	6	✖	
TC420-M16-NF-	M 16	2	110	20	68	12	9	12	6	✖	

Ordering example for the WW60AD grade: TC420-M12-NF-WW60AD



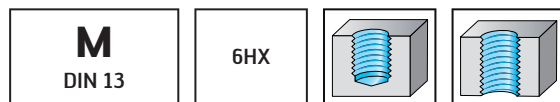
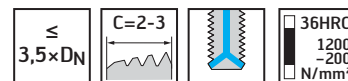
HSS-E-PM machine thread formers

TC420 Supreme

mm

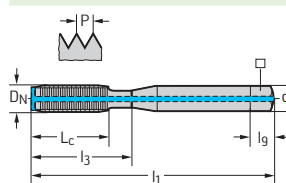


– For long-chipping materials



	P	M	K	N	S	H	O
WW60AD	●	●	●	●	●		
WW60BA	●	●	●	●	●		

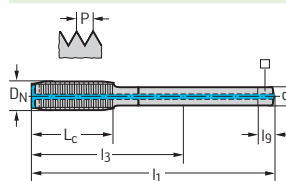
DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60AD	WW60BA
TC420-M5-C2-	M 5	0.8	70	8	25	6	4.9	8	5	✱	✱
TC420-M6-C2-	M 6	1	80	10	30	6	4.9	8	5	✱	✱
TC420-M8-C2-	M 8	1.25	90	12	35	8	6.2	9	5	✱	✱
TC420-M10-C2-	M 10	1.5	100	15	39	10	8	11	6	✱	✱

Ordering example for the WW60AD grade: TC420-M5-C2-WW60AD

DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60AD	WW60BA
TC420-M12-L2-	M 12	1.75	110	16	83	9	7	10	6	✱	✱
TC420-M14-L2-	M 14	2	110	20	81	11	9	12	6	✱	✱
TC420-M16-L2-	M 16	2	110	20	68	12	9	12	6	✱	✱
TC420-M20-L2-	M 20	2.5	140	25	95	16	12	15	7	✱	✱
TC420-M24-L2-	M 24	3	160	30	113	18	14.5	17	8	✱	✱

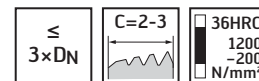
Ordering example for the WW60AD grade: TC420-M12-L2-WW60AD

HSS-E-PM machine thread formers

TC430 Supreme

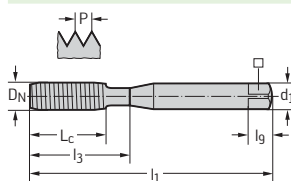


- For long-chipping materials
- ISO-M with oil only



	P	M	K	N	S	H	O
WW60EL	●	●	●	●	●	●	●

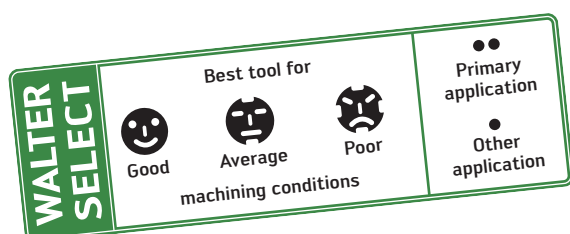
DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60EL
TC430-M3-C0-	M 3	0.5	56	6	18	3.5	2.7	6	4	✖
TC430-M4-C0-	M 4	0.7	63	7	21	4.5	3.4	6	5	✖
TC430-M5-C0-	M 5	0.8	70	8	25	6	4.9	8	5	✖
TC430-M6-C0-	M 6	1	80	10	30	6	4.9	8	5	✖
TC430-M8-C0-	M 8	1.25	90	12	35	8	6.2	9	6	✖
TC430-M10-C0-	M 10	1.5	100	15	39	10	8	11	7	✖

Ordering example for the WW60EL grade: TC430-M3-C0-WW60EL

B4



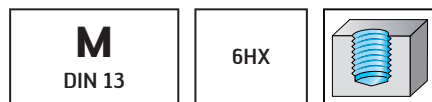
HSS-E-PM machine thread formers

TC430 Supreme 

- For long-chipping materials
- ISO-M with oil only

 $\leq 3,5 \times D_N$

C=2-3


 36HRC
 1200
 – 200
 N/mm²


	P	M	K	N	S	H	O
WW60EL	●	●	●	●	●	●	●
WW60AD	●	●	●	●	●	●	●

DIN 2174

Designation	D _N	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60EL	WW60AD
TC430-M5-C1-	M 5	0.8	70	8	25	6	4.9	8	5	✖	
TC430-M6-C1-	M 6	1	80	10	30	6	4.9	8	5	✖	
TC430-M8-C1-	M 8	1.25	90	12	35	8	6.2	9	6	✖	✖
TC430-M10-C1-	M 10	1.5	100	15	39	10	8	11	7	✖	✖

Ordering example for the WW60AD grade: TC430-M8-C1-WW60AD

DIN 2174

Designation	D _N	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60EL	WW60AD
TC430-M12-L1-	M 12	1.75	110	16	83	9	7	10	8	✖	✖
TC430-M16-L1-	M 16	2	110	20	68	12	9	12	8	✖	✖

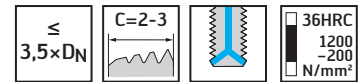
Ordering example for the WW60AD grade: TC430-M12-L1-WW60AD

HSS-E-PM machine thread formers

TC430 Supreme mm

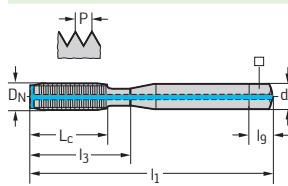


- For long-chipping materials
- ISO-M with oil only



	P	M	K	N	S	H	O
WW60EL	●	●	●	●	●	●	●
WW60AD	●	●	●	●	●	●	●

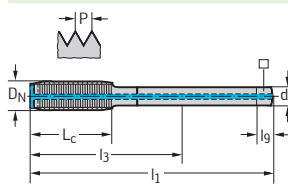
DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60EL	WW60AD
TC430-M5-C2-	M 5	0.8	70	8	25	6	4.9	8	5	✖	
TC430-M6-C2-	M 6	1	80	10	30	6	4.9	8	5	✖	
TC430-M8-C2-	M 8	1.25	90	12	35	8	6.2	9	6	✖	✖
TC430-M10-C2-	M 10	1.5	100	15	39	10	8	11	7	✖	✖

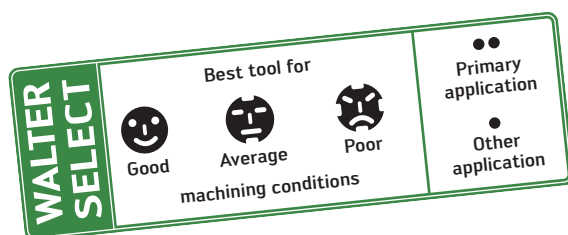
Ordering example for the WW60AD grade: TC430-M8-C2-WW60AD

DIN 2174



Designation	DN	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	mm	l _g mm	N	WW60EL	WW60AD
TC430-M12-L2-	M 12	1.75	110	16	83	9	7	10	8	✖	✖
TC430-M16-L2-	M 16	2	110	20	68	12	9	12	8	✖	✖

Ordering example for the WW60AD grade: TC430-M12-L2-WW60AD

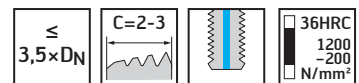
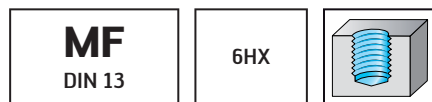


HSS-E-PM machine thread formers

TC430 Supreme



- For long-chipping materials
- ISO-M with oil only



	P	M	K	N	S	H	O
WW60EL	●	●	●	●			
WW60AD	●	●	●	●			

DIN 2174

Designation	D _N	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	□ mm	l _g mm	N	WW60EL	WW60AD
TC430-M8X1-L1-	MF 8x1	1	90	12	67	6	4.9	8	6	✗	✗
TC430-M10X1-L1-	MF 10x1	1	90	12	67	7	5.5	8	7	✗	✗
TC430-M10X1.25-L1-	MF 10x1.25	1.25	100	15	77	7	5.5	8	7	✗	✗
TC430-M12X1-L1-	MF 12x1	1	100	13	73	9	7	10	8	✗	✗
TC430-M12X1.25-L1-	MF 12x1.25	1.25	100	13	73	9	7	10	8	✗	✗
TC430-M12X1.5-L1-	MF 12x1.5	1.5	100	13	73	9	7	10	8	✗	✗
TC430-M14X1.5-L1-	MF 14x1.5	1.5	100	15	71	11	9	12	8	✗	✗
TC430-M16X1.5-L1-	MF 16x1.5	1.5	100	15	58	12	9	12	8	✗	✗

Ordering example for the WW60AD grade: TC430-M8X1-L1-WW60AD

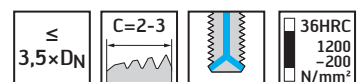
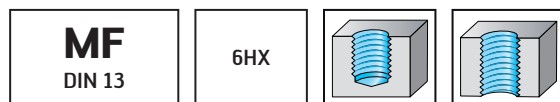
B4

HSS-E-PM machine thread formers

TC430 Supreme



- For long-chipping materials
- ISO-M with oil only



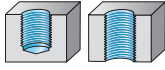
	P	M	K	N	S	H	O
WW60EL	●	●	●	●			
WW60AD	●	●	●	●			

DIN 2174

Designation	D _N	P mm	l ₁ mm	L _c mm	l ₃ mm	d ₁ h9 mm	□ mm	l _g mm	N	WW60EL	WW60AD
TC430-M8X1-L2-	MF 8x1	1	90	12	67	6	4.9	8	6	✗	✗
TC430-M10X1-L2-	MF 10x1	1	90	12	67	7	5.5	8	7	✗	✗
TC430-M10X1.25-L2-	MF 10x1.25	1.25	100	15	77	7	5.5	8	7	✗	✗
TC430-M12X1-L2-	MF 12x1	1	100	13	73	9	7	10	8	✗	✗
TC430-M12X1.25-L2-	MF 12x1.25	1.25	100	13	73	9	7	10	8	✗	✗
TC430-M12X1.5-L2-	MF 12x1.5	1.5	100	13	73	9	7	10	8	✗	✗
TC430-M14X1.5-L2-	MF 14x1.5	1.5	100	15	71	11	9	12	8	✗	✗
TC430-M16X1.5-L2-	MF 16x1.5	1.5	100	15	58	12	9	12	8	✗	✗

Ordering example for the WW60AD grade: TC430-M8X1-L2-WW60AD

Product range overview of thread milling cutters

Machining	Universal 				
Thread depth	1.5 × D _N	2.0 × D _N	2.5 × D _N		3.0 × D _N
Designation	T2710	T2711	T2712		T2713
Description	Multi-row thread milling cutter with indexable inserts	Multi-row thread milling cutter with indexable inserts	Multi-row thread milling cutter with indexable inserts	Single-row thread milling cutter with indexable inserts	Single-row thread milling cutter with indexable inserts
Coolant supply	Axial/radial	Axial/radial	Axial/radial	Axial/radial	Axial/radial
Coating/grade	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S
Shank	DIN 1835 B	DIN 1835 B	DIN 1835 B	DIN 1835 B	DIN 1835 B / Walter Capto™
Thread type Page	M / MF 142 UNC / UNF / UN 144	M / MF 146 UNC / UNF / UN 148	M / MF 150 UNC / UNF / UN 152	M / MF 154 UNC / UNF / UN 154	M / MF 156 UNC / UNF / UN 156
					

Designation key for indexable insert thread milling cutters

Tool:

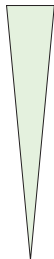
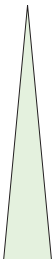
T	2	7	11	–	29	-	W	32	-	3	-	09	-	3	-	24
1	2	3	4	5	6		7	8		9		10		11		12

1	2	3	4	5	6
Tool group	Generation	Tool type	Tool type	1. Delimiters	Cutting diameter
T Threading		7 Indexable insert thread milling cutter	10 Universal with triangular insert 1.5 × D _N 11 Universal with triangular insert 2.0 × D _N 12 Universal with triangular insert 2.5 × D _N 13 Universal with triangular insert 3.0 × D _N /modular	– Metric • Inch	
7	8	9	10	11	12
Boring bar/adaptor type	Boring bar/adaptor size	Number of teeth	Insert size	Number of cutting rows	Cutting row spacing
W Weldon shank C Walter Capto™					

Indexable insert:

P26300	-	09	02	-	D	6	7	W	SM	37	S
1		2	3		4	5	6	Walter	7	8	9

1	2	3	4	5
Family	Insert size	Insert radius/thread specification	Chip breaker groove	Cutting edge
P26300 Triangular positive thread milling cutter insert P26310 Triangular positive thread milling cutter insert, for single-row tools	06 09 11 14 22	01 = 0.1 mm 02 = 0.2 mm 04 = 0.4 mm G11 = G thread, 11 TPI	 D = 10°	 6

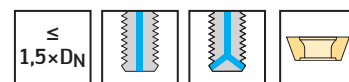
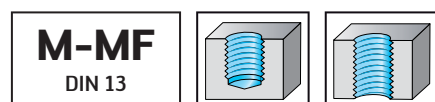
6	7	8	9
Flank face design	Application	ISO range of applications	Generation
 1  7	SM Can be used universally with ISO P, M, K, N, S and H materials	Wear resistance  37 Toughness  Cutting tool materials for: 7 thread milling	S Tiger-tec® Silver

B5

Indexable insert thread milling cutter

T2710 mm


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information



	P	M	K	N	S	H	O
T2710	●	●	●	●	●	●	●

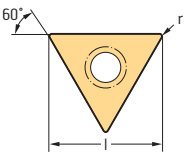
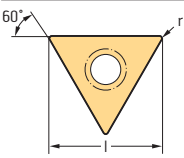
Tool	Designation	D _N	P _{max} mm	D _c mm	l ₂₁ mm	l ₃ mm	l ₁ mm	d ₁ mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B	★ T2710-17-W16-3-06-2-15	M 20	2.50	16.5	15	33	88	16	3	6	P26300-06 ..
Shank DIN 1835 B	★ T2710-19-W20-3-06-3-12	M 24	3.00	19	12	39.1	98	20	3	9	P26300-06 ..
	★ T2710-24-W25-3-09-3-14	M 30	3.50	24	14	49.5	117	25	3	9	P26300-09 ..
	★ T2710-29-W32-3-09-3-16	M 36	4.00	29	16	58.5	131	32	3	9	P26300-09 ..
	★ T2710-35-W32-3-11-3-18	M 42	4.50	35	18	68.5	139	32	3	9	P26300-11 ..
	★ T2710-40-W40-3-14-3-20	M 48	5.00	40	20	79	163	40	3	9	P26300-11 ..
	★ T2710-44-W40-3-14-3-22	M 56	5.50	44	22	91	174	40	3	9	P26300-14 ..
	★ T2710-52-W40-4-14-3-24	M 64	6.00	52	24	103	185	40	4	12	P26300-14 ..

Variable coolant supply: Remove the face-side coolant screw for blind hole machining
Bodies and assembly parts are included in the scope of delivery.

Assembly parts	D _c [mm]	16,5–19	24–29	35	40–52
	Clamping screw for indexable insert	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)	FS2061 (Torx 7IP)	FS1457 (Torx 9IP)
	Tightening torque	0.6 Nm	0.9 Nm	0.9 Nm	2.0 Nm
	Coolant screw	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)	FS2061 (Torx 7IP)	FS1457 (Torx 9IP)
	Tightening torque	0.6 Nm	0.9 Nm	0.9 Nm	2.0 Nm

Accessories	D _c [mm]	16,5–19	24–35	40–52
	Torque screwdriver, analogue	FS2001	FS2001	FS2003
	Tightening torque	0.4–1.2 Nm	0.4–1.2 Nm	1.5–5.0 Nm
	Torque screwdriver, digital			FS2248
	Tightening torque			1.0–6.0 Nm
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2013 (Torx 9IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1484 (Torx 9IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O				
								HC	HC	HC	HC	HC	HC	HC				
	P26300-0601-D67	6	0.1	1.40–2.90	18–9	6.73	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0602-D67	6	0.2	3.00–3.20	8	6.58	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1102-D67	11	0.2	3.00–4.50	8–6	10.71	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1401-D67	14	0.1	1.40–2.90	18–9	13.87	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1402-D67	14	0.2	3.00–5.20	8–5	13.72	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1404-D67	14	0.4	5.50–6.40	4.5–4	13.43	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0601-D61	6	0.1	1.40–2.90	18–9	6.73	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0602-D61	6	0.2	3.00–3.20	8	6.58	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1101-D61	11	0.1	1.40–2.90	18–9	10.85	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1102-D61	11	0.2	3.00–4.50	8–6	10.71	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1401-D61	14	0.1	1.40–2.90	18–9	13.87	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1402-D61	14	0.2	3.00–5.20	8–5	13.72	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-1404-D61	14	0.4	5.50–6.40	4.5–4	13.43	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				

HC = Coated carbide

Tool selection

B5

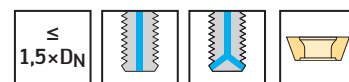
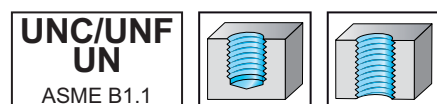
Metric thread		Coarse-pitch thread								Fine-pitch thread											
										P [mm]											
		Body designation	l ₃ [mm]	M20/ M22	M24/ M27	M30/ M33	M36/ M39	M42/ M45	M48/ M52	M56/ M59	M64/ M68	D _N [mm]	1.5	2	2.5	3	3.5	4	4.5	5	5.5
T2710-17-W16-3-06-2-15	33.0	0601									≥ 20	0601			0601						
T2710-19-W20-3-06-3-12	39.1		0602								≥ 24	0601	0601		0602						
T2710-24-W25-3-09-3-14	49.5			0902							≥ 30		0901			0902					
T2710-29-W32-3-09-3-16	58.5				0902						≥ 36		0901				0902				
T2710-35-W32-3-11-3-18	68.5					1102					≥ 42	1101	1101		1102			1102			
T2710-40-W40-3-14-3-20	79.0						1402				≥ 48		1401	1401			1402		1402		
T2710-44-W40-3-14-3-22	91.0							1404			≥ 56		1401							1404	
T2710-52-W40-4-14-3-24	103.0								1404		≥ 64	1401	1401		1402		1402				1404

Example: With the T2710-35-W32-3-11-3-18 body and the size 11 indexable insert with 0.2 mm radius (1102 -> P26300-1102..), an M42 or M45 thread can be produced. Additionally, this body/indexable insert combination can be used to produce fine-pitch threads with a pitch of 3 and 4.5 mm, when the nominal diameter is ≥ 42 mm.

Indexable insert thread milling cutter

T2710 mm


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information



	P	M	K	N	S	H	O
T2710	●	●	●	●	●	●	●

Tool	Designation	D _N	P _{max} TPI	D _c mm	l ₂₁ mm	l ₃ mm	l ₁ mm	d ₁ mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B	★ T2710-18-W16-3-06-2-11.3	UNC 7/8-9	9	18	11.3	36.5	92	16	3	6	P26300-06 ..
Shank DIN 1835 B	★ T2710-20-W20-3-06-3-12.7	UNC 1-8	8	20	12.7	41.1	100	20	3	9	P26300-06 ..
	★ T2710-26-W25-3-09-3-12.7	UN 1.1/4-8	8	26	12.7	52.2	119	25	3	9	P26300-09 ..
	★ T2710-31-W32-3-09-3-19.1	UN 1.1/2-8	8	31	19.05	63.7	135	32	3	9	
	★ T2710-43-W40-4-09-3-25.4	UN 2-6	6	43	25.4	80.7	160	40	4	12	

Variable coolant supply: Remove the face-side coolant screw for blind hole machining
Bodies and assembly parts are included in the scope of delivery.

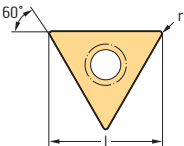
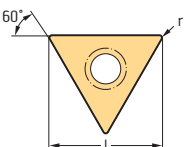
Assembly parts

	D _c [mm]	18–20	26–43
	Clamping screw for indexable insert	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)
	Tightening torque	0.6 Nm	0.9 Nm
	Coolant screw	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)
	Tightening torque	0.6 Nm	0.9 Nm

Accessories

	D _c [mm]	18–20	26–43
	Torque screwdriver, analogue	FS2001	FS2001
	Tightening torque	0.4–1.2 Nm	0.4–1.2 Nm
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O				
								HC	HC	HC	HC	HC	HC	HC				
	P26300-0601-D67	6	0.1	1.40–2.90	18–9	6.73	3											
	P26300-0602-D67	6	0.2	3.00–3.20	8	6.58	3											
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3											
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3											
	P26300-0601-D61	6	0.1	1.40–2.90	18–9	6.73	3											
	P26300-0602-D61	6	0.2	3.00–3.20	8	6.58	3											
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3											
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3											

HC = Coated carbide

B5

Tool selection

UN threads		UNC		UNF				UN						
Body designation	l ₃ [mm]	7/8 –9	1–8	1 1/8 –12	1 1/4 –12	1 3/8 –12	1 1/2 –12	D _N	TPI					
									18*	16	14	12	8	6
T2710-18-W16-3-06-2-11.3	36.5	0601						≥ 0.87"	0601					
T2710-20-W20-3-06-3-12.7	41.1		0602	0601	0601	0601	0601	≥ 1.00"	0601	0601	0601	0601	0602	
T2710-26-W25-3-09-3-12.7	52.2				0601	0601	0601	≥ 1.25"	0901	0901	0901	0901	0902	
T2710-31-W32-3-09-3-19.1	63.7						0601	≥ 1.50"		0901		0901	0902	
T2710-43-W40-4-09-3-25.4	80.7							≥ 2.00"	0901	0901	0901	0901	0902	0902

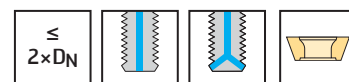
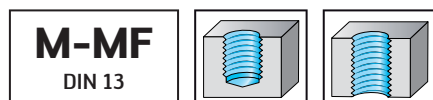
Example: With the T2710-20-W20-3-06-3-12.7 body and the size 06 indexable insert with 0.2 mm radius (0602 -> P26300-0602.), a UNC 1" thread can be produced. Additionally, this body/indexable insert combination can be used to produce UN threads with 8 TPI, when their nominal diameter is ≥ 1".

* = UNEF

Indexable insert thread milling cutter

T2711 mm


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information



	P	M	K	N	S	H	O
T2711	●	●	●	●	●	●	●

Tool	Designation	D _N	P _{max} mm	D _c mm	l ₂₁ mm	l ₃ mm	l ₁ mm	d ₁ mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B 	★ T2711-17-W16-3-06-2-20	M 20	2.50	16.5	20	43	98	16	3	6	P26300-06 ..
	T2711-19-W20-3-06-2-24	M 24	3.00	19	24	51	110	20	3	6	P26300-09 ..
	T2711-24-W25-3-09-2-31.5	M 30	3.50	24	31.5	64.5	132	25	3	6	P26300-14 ..
	T2711-52-W40-4-14-2-60	M 64	6.00	52	60	135	217	40	4	8	P26300-14 ..
Shank DIN 1835 B 	T2711-29-W32-3-09-3-24	M 36	4.00	29	24	76.5	149	32	3	9	P26300-09 ..
	T2711-35-W32-3-11-3-27	M 42	4.50	35	27	89.5	160	32	3	9	P26300-11 ..
	T2711-40-W40-3-14-3-30	M 48	5.00	40	30	103	187	40	3	9	P26300-14 ..
	T2711-44-W40-3-14-3-33	M 56	5.50	44	33	119	202	40	3	9	P26300-14 ..

Variable coolant supply: Remove the face-side coolant screw for blind hole machining
Bodies and assembly parts are included in the scope of delivery.

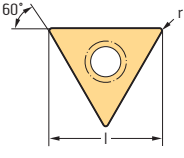
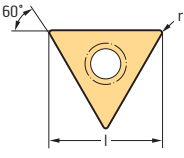
Assembly parts

D _c [mm]	16.5–19	24–29	35	40–52
Clamping screw for indexable insert	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)	FS2061 (Torx 7IP)	FS1457 (Torx 9IP)
Tightening torque	0.6 Nm	0.9 Nm	0.9 Nm	2.0 Nm
Coolant screw	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)	FS2061 (Torx 7IP)	FS1457 (Torx 9IP)
Tightening torque	0.6 Nm	0.9 Nm	0.9 Nm	2.0 Nm

Accessories

D _c [mm]	16.5–19	24–35	40–52
Torque screwdriver, analogue	FS2001	FS2001	FS2003
Tightening torque	0.4–1.2 Nm	0.4–1.2 Nm	1.5–5.0 Nm
Torque screwdriver, digital			FS2248
Tightening torque			1.0–6.0 Nm
Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2013 (Torx 9IP)
Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1484 (Torx 9IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O					
								HC	HC	HC	HC	HC	HC	HC					
	P26300-0601-D67	6	0.1	1.40–2.90	18–9	6.73	3												
	P26300-0602-D67	6	0.2	3.00–3.20	8	6.58	3												
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3												
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3												
	P26300-1102-D67	11	0.2	3.00–4.50	8–6	10.71	3												
	P26300-1401-D67	14	0.1	1.40–2.90	18–9	13.87	3												
	P26300-1402-D67	14	0.2	3.00–5.20	8–5	13.72	3												
	P26300-1404-D67	14	0.4	5.50–6.40	4.5–4	13.43	3												
	P26300-0601-D61	6	0.1	1.40–2.90	18–9	6.73	3												
	P26300-0602-D61	6	0.2	3.00–3.20	8	6.58	3												
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3												
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3												
	P26300-1101-D61	11	0.1	1.40–2.90	18–9	10.85	3												
	P26300-1102-D61	11	0.2	3.00–4.50	8–6	10.71	3												
	P26300-1401-D61	14	0.1	1.40–2.90	18–9	13.87	3												
	P26300-1402-D61	14	0.2	3.00–5.20	8–5	13.72	3												
	P26300-1404-D61	14	0.4	5.50–6.40	4.5–4	13.43	3												

HC = Coated carbide

Tool selection

B5

Metric thread		Coarse-pitch thread								Fine-pitch thread										
		M20/ M22	M24/ M27	M30/ M33	M36/ M39	M42/ M45	M48/ M52	M56/ M59	M64/ M68	D _N [mm]	P [mm]									
1.5	2										2.5	3	3.5	4	4.5	5	5.5	6		
Body designation	l ₃ [mm]																			
T2711-17-W16-3-06-2-20	43	0601								≥ 20		0601	0601							
T2711-19-W20-3-06-2-24	51		0602							≥ 24	0601	0601		0602						
T2711-24-W25-3-09-2-31.5	64.5			0902						≥ 30	0901				0902					
T2711-29-W32-3-09-3-24	76.5				0902					≥ 36	0901	0901		0902		0902				
T2711-35-W32-3-11-3-27	89.5					1102				≥ 42	1101			1102			1102			
T2711-40-W40-3-14-3-30	103						1402			≥ 48	1401	1401	1401	1402				1402		
T2711-44-W40-3-14-3-33	119							1404		≥ 56	1401			1402					1404	
T2711-52-W40-4-14-2-60	135								1404	≥ 64	1401	1401	1401	1402		1402		1402		1404

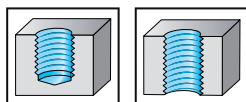
Example: With the T2711-29-W32-3-09-3-24 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902..), an M36 or M39 thread can be produced. Additionally, this body/indexable insert combination can be used to produce fine-pitch threads with a pitch of 3 or 4 mm, when the nominal diameter is ≥ 36 mm.

Indexable insert thread milling cutter

T2711 mm


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information

**UNC/UNF
UN**
ASME B1.1


 $\leq 2 \times D_N$


	P	M	K	N	S	H	O
T2711	●	●	●	●	●	●	●

Tool	Designation	D_N	P_{max} TPI	D_c mm	l_{21} mm	l_3 mm	l_1 mm	d_1 mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B 	★ T2711-18-W16-3-06-2-25.4	UNC 7/8-9	9	18	25.4	47.5	103	16	3	6	P26300-06 ..
	T2711-20-W20-3-06-2-25.4	UNC 1-8	8	20	25.4	53.9	113	20	3	6	P26300-06 ..
	T2711-26-W25-3-09-2-32.7	UNC 1.1/4-7	7	26	32.66	68	135	25	3	6	P26300-09 ..
Shank DIN 1835 B 	T2711-31-W32-3-09-3-25.4	UNC 1.1/2-6	6	31	25.4	80.7	153	32	3	9	P26300-09 ..

Variable coolant supply: Remove the face-side coolant screw for blind hole machining
Bodies and assembly parts are included in the scope of delivery.

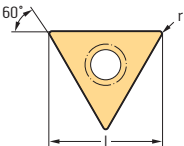
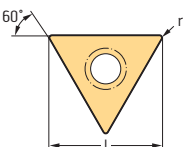
Assembly parts

	D _c [mm]	18–20	26–31
	Clamping screw for indexable insert	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)
	Tightening torque	0.6 Nm	0.9 Nm
	Coolant screw	FS2147 (Torx 6IP)	FS2111 (Torx 7IP)
	Tightening torque	0.6 Nm	0.9 Nm

Accessories

	D _c [mm]	18–20	26–31
	Torque screwdriver, analogue	FS2001	FS2001
	Tightening torque	0,4–1,2 Nm	0,4–1,2 Nm
	Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)
	Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O				
								HC	HC	HC	HC	HC	HC	HC				
	P26300-0601-D67	6	0.1	1.40–2.90	18–9	6.73	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0602-D67	6	0.2	3.00–3.20	8	6.58	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0601-D61	6	0.1	1.40–2.90	18–9	6.73	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0602-D61	6	0.2	3.00–3.20	8	6.58	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S	WSM37S				

HC = Coated carbide

B5

Tool selection

UN threads		UNC				UNF						UN						
Body designation	l ₃ [mm]											TPI						
		7/8 –9	1–8	1 1/4 –7	1 1/2 –6	7/8 –14	1–12	1 1/8 –12	1 1/4 –12	1 3/8 –12	1 1/2 –12	D _N	18*	16	14	12	8	6
T2711-18-W16-3-06-2-25.4	47.5	0601				0601	0601	0601	0601	0601	0601	≥ 0.87"	0601	0601	0601	0601		
T2711-20-W20-3-06-2-25.4	53.9		0602				0601	0601	0601	0601	0601	≥ 1.00"	0601	0601	0601	0601	0602	
T2711-26-W25-3-09-2-32.7	68			0902								≥ 1.25"			0901			
T2711-31-W32-3-09-3-25.4	80.7				0902						0901	≥ 1.50"	0901	0901	0901	0901	0902	0902

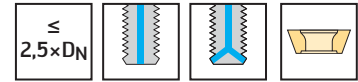
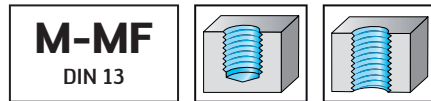
* = UNEF

Example: With the T2711-31-W32-3-09-3-25.4 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902.), a UNC 1 1/2" thread can be produced. Additionally, this body/indexable insert combination can be used to produce UN threads with 8 and 6 TPI, when their nominal diameter is ≥ 1.5".

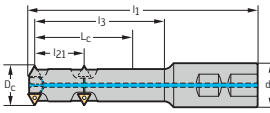
Indexable insert thread milling cutter

T2712


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information



	P	M	K	N	S	H	O
T2712	●	●	●	●	●	●	●

Tool	Designation	D _N	P _{max} mm	D _C mm	l ₂₁ mm	L _C mm	l ₃ mm	l ₁ mm	d ₁	Z	No. of indexable inserts	Type
Shank DIN 1835 B 	T2712-24-W25-3-09-2-31.5	M 30	3.50	24	31.5	63	79.5	147	25	3	6	P26300-09 ..
	T2712-29-W32-3-09-2-36	M 36	4.00	29	36	72	94.5	167	32	3	6	P26300-11 ..
	T2712-35-W32-3-11-2-40.5	M 42	4.50	35	40.5	81	110.5	180	32	3	6	P26300-11 ..
	T2712-40-W40-3-14-2-50	M 48	5.00	40	50	100	127	211	40	3	6	P26300-14 ..

Variable coolant supply: Remove the face-side coolant screw for blind hole machining
 Bodies and assembly parts are included in the scope of delivery.

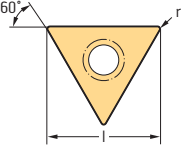
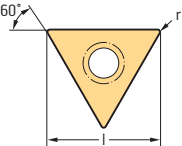
Assembly parts

D _c [mm]	24–29	35	40
 Clamping screw for indexable insert Tightening torque	FS2111 (Torx 7IP) 0.9 Nm	FS2061 (Torx 7IP) 0.9 Nm	FS1457 (Torx 9IP) 2.0 Nm
Coolant screw Tightening torque	FS2111 (Torx 7IP) 0.9 Nm	FS2061 (Torx 7IP) 0.9 Nm	FS1457 (Torx 9IP) 2.0 Nm

Accessories

D _c [mm]	24–35	40
 Torque screwdriver, analogue Tightening torque	FS2001 0.4–1.2 Nm	FS2003 1.5–5.0 Nm
 Torque screwdriver, digital Tightening torque		FS2248 1.0–6.0 Nm
 Interchangeable blade	FS2011 (Torx 7IP)	FS2013 (Torx 9IP)
 Screwdriver	FS2088 (Torx 7IP)	FS1484 (Torx 9IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O				
								HC	HC	HC	HC	HC	HC	HC				
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3											
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3											
	P26300-1102-D67	11	0.2	3.00–4.50	8–6	10.71	3											
	P26300-1401-D67	14	0.1	1.40–2.90	18–9	13.87	3											
	P26300-1402-D67	14	0.2	3.00–5.20	8–5	13.72	3											
	P26300-1404-D67	14	0.4	5.50–6.40	4.5–4	13.43	3											
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3											
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3											
	P26300-1101-D61	11	0.1	1.40–2.90	18–9	10.85	3											
	P26300-1102-D61	11	0.2	3.00–4.50	8–6	10.71	3											
	P26300-1401-D61	14	0.1	1.40–2.90	18–9	13.87	3											
	P26300-1402-D61	14	0.2	3.00–5.20	8–5	13.72	3											

HC = Coated carbide

Tool selection

Metric thread		Coarse-pitch thread				Fine-pitch thread									
Body designation	l ₃ [mm]	M30 / M33	M36 / M39	M42 / M45	M48 / M52	D _N [mm]	P [mm]								
							1.5	2	2.5	3	3.5	4	4.5	5	
T2712-24-W25-3-09-2-31.5	79.5	0902				≥ 30	0901				0902				
T2712-29-W32-3-09-2-36	94.5		0902			≥ 36	0901	0901		0902		0902			
T2712-35-W32-3-11-2-40.5	110.5			1102		≥ 42	1101						1102		
T2712-40-W40-3-14-2-50	127				1402	≥ 48		1401	1401					1402	

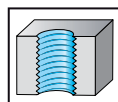
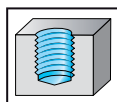
Example: With the T2712-29-W32-3-09-2-36 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902...), an M36 or M39 thread can be produced. Additionally, this body/indexable insert combination can be used to produce fine-pitch threads with a pitch of 3 or 4 mm, when the nominal diameter is ≥ 36 mm.

Indexable insert thread milling cutter

T2712


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information

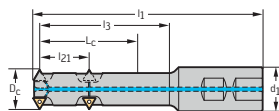
**UNC/UNF
UN**
ASME B1.1


 $\leq 2,5 \times D_N$


	P	M	K	N	S	H	O
T2712	●	●	●	●	●	●	●

Tool

	Designation	D_N	P_{max} TPI	D_c mm	l_{21} mm	L_c mm	l_3 mm	l_1 mm	d_1 mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B	T2712-26-W25-3-09-2-32.7	UNC 1 1/4-7	7	26	32.66	65.32	84	151	25	3	6	P26300-09 ..
	T2712-31-W32-3-09-2-38.1	UNC 1 1/2-6	6	31	38.1	76.2	99.8	172	32	3	6	



Variable coolant supply: Remove the face-side coolant screw for blind hole machining
Bodies and assembly parts are included in the scope of delivery.

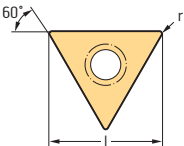
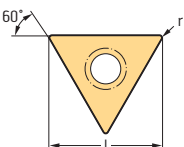
Assembly parts

D _c [mm]		26–31
	Clamping screw for indexable insert	FS2111 (Torx 7IP)
	Tightening torque	0.9 Nm
	Coolant screw	FS2111 (Torx 7IP)
	Tightening torque	0.9 Nm

Accessories

D _c [mm]		26–31
	Torque screwdriver, analogue	FS2001
	Tightening torque	0,4–1,2 Nm
	Interchangeable blade	FS2011 (Torx 7IP)
	Screwdriver	FS2088 (Torx 7IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O				
								HC	HC	HC	HC	HC	HC	HC				
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3											
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3											
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3											
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3											

HC = Coated carbide

B5

Tool selection

UN threads		UNC		UNF	UN						
Body designation	l ₃ [mm]	1 1/4–7	1 1/2–6	1 1/2–12	D _N	18*	16	TPI			
								14	12	8	6
T2712-26-W25-3-09-2-32.7	84	0902			≥ 1.25"			0901			
T2712-31-W32-3-09-2-38.1	99.8		0902	0901	≥ 1.50"	0901	0901	0901	0901	0902	0902

Example: With the T2712-31-W32-3-09-2-38.1 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902.), a UNC 1 1/2" thread can be produced. Additionally, this body/indexable insert combination can be used to produce UN threads with 8 and 6 TPI, when their nominal diameter is ≥ 1.5".

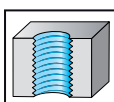
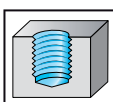
* UNEF

Indexable insert thread milling cutter

T2712 mm


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information

M-MF
DIN 13

**UNC/UNF
UN**
ASME B1.1

 $\leq 2,5 \times D_N$


	P	M	K	N	S	H	O
T2712	●	●	●	●	●	●	●

Tool	Designation	D _N [mm]	D _N [inch]	P _{max} mm	P _{max} TPI	D _c mm	l ₃ mm	l ₁ mm	d ₁ mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B 	★ T2712-17-W16-3-06	M 20	0.87"	2.50	9	16.5	53	108	16	3	3	P26300-06 ..
	T2712-19-W20-3-06	M 24	1.00"	3.00	8	19	63	123	20	3	3	
	T2712-24-W25-3-09	M 30	1.25"	3.50	7	24	79.5	148	25	3	3	P263 . 0-09 ..
	T2712-29-W32-3-09	M 36	1.50"	4.00	6	29	94.5	167	32	3	3	
	T2712-35-W32-3-11	M 42	1.75"	4.50	6	35	110.5	181	32	3	3	P26300-11 ..
	T2712-40-W40-3-14	M 48	2.00"	5.00	5	40	127	211	40	3	3	
	T2712-44-W40-3-14	M 56	2.25"	5.50	4.5	44	147	230	40	3	3	P263 . 0-14 ..
	T2712-52-W40-4-14	M 64	2.75"	6.00	4	52	167	249	40	4	4	

Variable coolant supply: Remove the face-side coolant screw for blind hole machining

G (BSP) threads are presented on a separate double page in the Product Innovations catalogue 2020.

Bodies and assembly parts are included in the scope of delivery.

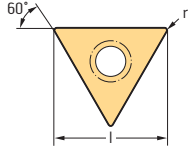
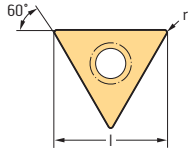
Assembly parts

D _c [mm]	16.5–19	24–29	35	40–52
Clamping screw for indexable insert Tightening torque	FS2147 (Torx 6IP) 0.6 Nm	FS2111 (Torx 7IP) 0.9 Nm	FS2061 (Torx 7IP) 0.9 Nm	FS1457 (Torx 9IP) 2.0 Nm
Coolant screw Tightening torque	FS2147 (Torx 6IP) 0.6 Nm	FS2111 (Torx 7IP) 0.9 Nm	FS2061 (Torx 7IP) 0.9 Nm	FS1457 (Torx 9IP) 2.0 Nm

Accessories

D _c [mm]	16.5–19	24–35	40–52
Torque screwdriver, analogue Tightening torque	FS2001 0.4–1.2 Nm	FS2001 0.4–1.2 Nm	FS2003 1.5–5.0 Nm
Torque screwdriver, digital Tightening torque			FS2248 1.0–6.0 Nm
Interchangeable blade	FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2013 (Torx 9IP)
Screwdriver	FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1484 (Torx 9IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O					
								HC	HC	HC	HC	HC	HC	HC					
	P26300-0601-D67	6	0.1	1.40–2.90	18–9	6.73	3												
	P26300-0602-D67	6	0.2	3.00–3.20	8	6.58	3												
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3												
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3												
	P26300-1102-D67	11	0.2	3.00–4.50	8–6	10.71	3												
	P26300-1401-D67	14	0.1	1.40–2.90	18–9	13.87	3												
	P26300-1402-D67	14	0.2	3.00–5.20	8–5	13.72	3												
	P26300-1404-D67	14	0.4	5.50–6.40	4.5–4	13.43	3												
	P26300-0601-D61	6	0.1	1.40–2.90	18–9	6.73	3												
	P26300-0602-D61	6	0.2	3.00–3.20	8	6.58	3												
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3												
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3												
	P26300-1101-D61	11	0.1	1.40–2.90	18–9	10.85	3												
	P26300-1102-D61	11	0.2	3.00–4.50	8–6	10.71	3												
	P26300-1401-D61	14	0.1	1.40–2.90	18–9	13.87	3												
	P26300-1402-D61	14	0.2	3.00–5.20	8–5	13.72	3												
	P26300-1404-D61	14	0.4	5.50–6.40	4.5–4	13.43	3												

HC = Coated carbide

Tool selection

Metric thread		Coarse-pitch thread								Fine-pitch thread								
										D _N [mm]	P [mm]							
		Body designation	l ₃ [mm]	M20/ M22	M24 / M27	M30 / M33	M36 / M39	M42 / M45	M48 / M52		M56 / M59	M64 / M68	1.5–2.5	3	3.5	4	4.5	5
T2712-17-W16-3-06	53									0601								
T2712-19-W20-3-06	63		0602								≥ 24	0601	0602					
T2712-24-W25-3-09	79.5			0902							≥ 30	0901	0902					
T2712-29-W32-3-09	94.5				0902						≥ 36	0901	0902					
T2712-35-W32-3-11	110.5					1102					≥ 42	1101	1102					
T2712-40-W40-3-14	127						1402				≥ 48	1401	1402					
T2712-44-W40-3-14	147							1404			≥ 56	1401	1402				1404	
T2712-52-W40-4-14	167								1404		≥ 64	1401	1402				1404	

Example: With the T2712-29-W32-3-09-2-36 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902...), an M36 or M39 thread can be produced. Additionally, this body/indexable insert combination can be used to produce fine-pitch threads with a pitch of 3 or 4 mm, when the nominal diameter is ≥ 36 mm.

UN threads		UNC						UNF						UN							
Body designation	l ₃ [mm]	7/8-9	1-8	1 1/4-7	1 1/2-6	2 1/4-4.5	≥ 2 3/4-4	7/8-14	1-12	1 1/8-12	1 1/4-12	1 3/8-12	1 1/2-12	D _N	TPI						
															18-9	8	6	5	4.5	4	
T2712-17-W16-3-06	53	0601						0601	0601	0601	0601	0601	0601	≥ 0.87"	0601						
T2712-19-W20-3-06	63		0602						0601	0601	0601	0601	0601	≥ 1.00"	0601	0602					
T2712-24-W25-3-09	79.5			0902						0901	0901	0901	0901	≥ 1.25"	0901	0902					
T2712-29-W32-3-09	94.5				0902							0901	0901	≥ 1.50"	0901	0902					
T2712-35-W32-3-11	110.5													≥ 1.75"	1101	1102					
T2712-40-W40-3-14	127													≥ 2.00"	1401	1402					
T2712-44-W40-3-14	147					1404								≥ 2.25"	1401	1402			1404		
T2712-52-W40-4-14	167						1404							≥ 2.75"	1401	1402				1404	

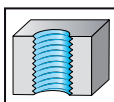
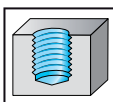
Example: With the T2712-29-W32-3-09 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902...), a UNC 1 1/2" thread can be produced. Additionally, this body/indexable insert combination can be used to produce UN threads with 8 and 6 TPI, when their nominal diameter is ≥ 1.5".

Indexable insert thread milling cutter

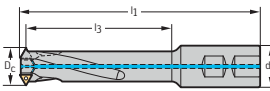
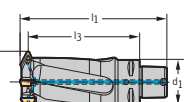
T2713 mm


- Universal indexable insert thread milling cutter
- Radius correction values: Walter GPS/Technical information

M-MF
DIN 13

**UNC/UNF
UN**
ASME B1.1

 $\leq 3 \times D_N$


	P	M	K	N	S	H	O
T2713	●	●	●	●	●	●	●

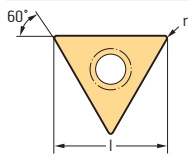
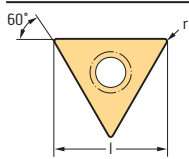
Tool	Designation	D _N [mm]	D _N [inch]	P _{max} mm	P _{max} TPI	D _c mm	l ₃ mm	l ₁ mm	d ₁ mm	Z	No. of indexable inserts	Type
Shank DIN 1835 B 	★ T2713-17-W16-3-06	M 20	0.87"	2.50	9	16.5	63	118	16	3	3	P26300-06 ..
	T2713-19-W20-3-06	M 24	1.00"	3.00	8	19	75	135	20	3	3	P263 . 0-09 ..
	T2713-24-W25-3-09	M 30	1.25"	3.50	7	24	94.5	163	25	3	3	P26300-09 ..
	T2713-29-W32-3-09	M 36	1.50"	4.00	6	29	112.5	185	32	3	3	P26300-09 ..
	T2713-35-W32-3-11	M 42	1.75"	4.50	6	35	131.5	202	32	3	3	P26300-11 ..
	T2713-40-W40-3-14	M 48	2.00"	5.00	5	40	151	235	40	3	3	P263 . 0-14 ..
	T2713-44-W40-3-14	M 56	2.25"	5.50	4.5	44	175	258	40	3	3	
	T2713-52-W40-4-14	M 64	2.75"	6.00	4	52	199	281	40	4	4	
Walter Capto™ in acc. with ISO 26623 	T2713-60-C5-4-14	M 72	3.00"	6.00	4	60	115	152	50	4	4	P263 . 0-14 ..
	T2713-73-C6-5-14	M 85	3.50"	6.00	4	73	125	170	63	5	5	
	T2713-94-C8-5-22	M 125	5.00"	10.00	3	94	140	199	80	5	5	P26300-22 ..

Variable coolant supply: Remove the face-side coolant screw for blind hole machining
G (BSP) threads are presented on a separate double page in the Product Innovations catalogue 2020.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts		D _c [mm]	16.5–19	24–29	35	40–73	94
	Clamping screw for indexable insert		FS2147 (Torx 6IP)	FS2111 (Torx 7IP)	FS2061 (Torx 7IP)	FS1457 (Torx 9IP)	FS1495 (Torx 20IP)
	Tightening torque		0.6 Nm	0.9 Nm	0.9 Nm	2.0 Nm	5.0 Nm
	Coolant screw		FS2147 (Torx 6IP)	FS2111 (Torx 7IP)	FS2061 (Torx 7IP)	FS1457 (Torx 9IP)	FS1495 (Torx 20IP)
	Tightening torque		0.6 Nm	0.9 Nm	0.9 Nm	2.0 Nm	5.0 Nm

Accessories		D _c [mm]	16.5–19	24–35	40–73	94
	Torque screwdriver, analogue		FS2001	FS2001	FS2003	FS2003
	Tightening torque		0.4–1.2 Nm	0.4–1.2 Nm	1.5–5.0 Nm	1.5–5.0 Nm
	Torque screwdriver, digital				FS2248	
	Tightening torque				1.0–6.0 Nm	
	Interchangeable blade		FS2085 (Torx 6IP)	FS2011 (Torx 7IP)	FS2013 (Torx 9IP)	FS2015 (Torx 20IP)
	Screwdriver		FS2086 (Torx 6IP)	FS2088 (Torx 7IP)	FS1484 (Torx 9IP)	FS1486 (Torx 20IP)

Thread milling cutter inserts P26300

	Designation	Size	r mm	Pitch P mm	Pitch P TPI	l mm	Number of cutting edges	P	M	K	N	S	H	O					
								HC	HC	HC	HC	HC	HC	HC					
	P26300-0601-D67	6	0.1	1.40–2.90	18–9	6.73	3												
	P26300-0602-D67	6	0.2	3.00–3.20	8	6.58	3												
	P26300-0901-D67	9	0.1	1.40–2.90	18–9	9.48	3												
	P26300-0902-D67	9	0.2	3.00–4.30	8–6	9.34	3												
	P26300-1102-D67	11	0.2	3.00–4.50	8–6	10.71	3												
	P26300-1401-D67	14	0.1	1.40–2.90	18–9	13.87	3												
	P26300-1402-D67	14	0.2	3.00–5.20	8–5	13.72	3												
	P26300-1404-D67	14	0.4	5.50–6.40	4.5–4	13.43	3												
	P26300-2204-D61	22	0.4	5.50–10.00	4.5–4	21.41	3												
	P26300-0601-D61	6	0.1	1.40–2.90	18–9	6.73	3												
	P26300-0602-D61	6	0.2	3.00–3.20	8	6.58	3												
	P26300-0901-D61	9	0.1	1.40–2.90	18–9	9.48	3												
	P26300-0902-D61	9	0.2	3.00–4.30	8–6	9.34	3												
	P26300-1101-D61	11	0.1	1.40–2.90	18–9	10.85	3												
	P26300-1102-D61	11	0.2	3.00–4.50	8–6	10.71	3												
	P26300-1401-D61	14	0.1	1.40–2.90	18–9	13.87	3												
	P26300-1402-D61	14	0.2	3.00–5.20	8–5	13.72	3												
	P26300-2204-D61	22	0.4	5.50–10.00	4.5–4	21.41	3												

HC = Coated carbide

Tool selection

Metric thread		Coarse-pitch thread								Fine-pitch thread									
Body designation	l ₃ [mm]									P [mm]									
		M20 / M22	M24 / M27	M30 / M33	M36 / M39	M42 / M45	M48 / M52	M56 / M59	M64 / M68	D _N [mm]	1.5– 2.5	3	3.5	4	4.5	5	5.5	6	7–10
T2713-17-W16-3-06	63	0601								≥ 20	0601								
T2713-19-W20-3-06	75		0602							≥ 24	0601	0602							
T2713-24-W25-3-09	94.5			0902						≥ 30	0901	0902							
T2713-29-W32-3-09	112.5				0902					≥ 36	0901	0902							
T2713-35-W32-3-11	131.5					1102				≥ 42	1101	1102							
T2713-40-W40-3-14	151						1402			≥ 48	1401	1402							
T2713-44-W40-3-14	175							1404		≥ 56	1401	1402					1404		
T2713-52-W40-4-14	199								1404	≥ 64	1401	1402					1404		
T2713-60-C5-4-14	115									≥ 72	1401	1402					1404		
T2713-73-C6-5-14	125									≥ 85	1401	1402					1404		
T2713-94-C8-5-22	140									≥ 125								2204	

Example: With the T2713-29-W32-3-09 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902...), an M36 or M39 thread can be produced. Additionally, this body/indexable insert combination can be used to produce fine-pitch threads with a pitch of 3 or 4 mm, when the nominal diameter is ≥ 36 mm.

UN threads		UNC								UNF				UN						
Body designation	l ₃ [mm]													TPI						
		7/8-9	1-8	1 1/4- 7	1 1/2- 6	2 1/4- 4.5	2 3/4- 4	≥ 3-4	≥ 3 1/2- 4	7/8-14	1-12	≥ 1 1/8- 12	≥ 1 3/8-12	D _N	18-9	8	6	5	4.5	4
T2713-17-W16-3-06	63	0601								0601	0601	0601	0601	≥ 0.87"	0601					
T2713-19-W20-3-06	75		0602								0601	0601	0601	≥ 1.00"	0601	0602				
T2713-24-W25-3-09	94.5			0902								0901	0901	≥ 1.25"	0901	0902				
T2713-29-W32-3-09	112.5				0902								0901	≥ 1.50"	0901	0902				
T2713-35-W32-3-11	131.5													≥ 1.75"	1101	1102				
T2713-40-W40-3-14	151													≥ 2.00"	1401	1402				
T2713-44-W40-3-14	175					1404								≥ 2.25"	1401	1402		1404		
T2713-52-W40-4-14	199						1404	1404	1404					≥ 2.75"	1401	1402		1404		
T2713-60-C5-4-14	115							1404	1404					≥ 3.00"	1401	1402		1404		
T2713-73-C6-5-14	125								1404					≥ 3.50"	1401	1402		1404		
T2713-94-C8-5-22	140													≥ 5.00"					2204	

Example: With the T2713-29-W32-3-09 body and the size 09 indexable insert with 0.2 mm radius (0902 -> P26300-0902...), a UNC 1 1/2" thread can be produced. Additionally, this body/indexable insert combination can be used to produce UN threads with 8 to 6 TPI, when the nominal diameter is ≥ 1.5".

Cutting data

Thread forming

The specified cutting data are average standard values.
For specific applications, adjustment is recommended.

Material group	 = Coolant recommended E = Emulsion O = Oil v_c = Cutting speed Overview of the main material groups and code letters			Brinell hardness HB	Tensile strength R _m N/mm ²	Machining group ¹	HSS-E-(PM) thread formers			
							Coated			
								v _c [sfm]		
								1.5 × D _N	2 × D _N	2.5 × D _N
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	430	P1	E	151	121	105
		C > 0.25% to ≤ 0.55%	Annealed	190	640	P2	E	154	125	108
		C > 0.25% to ≤ 0.55%	Heat-treated	210	710	P3	E	95	75	66
		C > 0.55%	Annealed	190	640	P4	E	95	75	66
		C > 0.55%	Heat-treated	300	1010	P5	E	56	46	39
		Free-machining steel (short-chipping)	Annealed	220	750	P6	E	95	75	66
	Low-alloy steel	Annealed		175	590	P7	E	154	125	108
		Heat-treated		285	960	P8	E	49	39	36
		Heat-treated		380	1280	P9				
		Heat-treated		430	1480	P10				
	High-alloy steel and high-alloy tool steel	Annealed		200	680	P11	E	95	75	66
		Hardened and tempered		300	1010	P12	E	56	46	39
		Hardened and tempered		380	1280	P13				
	Stainless steel	Ferritic/martensitic, annealed		200	680	P14	E O	43	33	30
		Martensitic, heat-treated		330	1110	P15	O	16	13	10
M	Stainless steel	Austenitic, quench hardened		200	680	M1	E O	49	39	36
		Austenitic, precipitation hardened (PH)		300	1010	M2	O	16	13	13
		Austenitic/ferritic, duplex		230	780	M3	E O	16	13	13
K	Malleable cast iron	Ferritic		200	400	K1				
		Pearlitic		260	700	K2				
	Grey cast iron	Low tensile strength		180	200	K3				
		High tensile strength/austenitic		245	350	K4				
	Cast iron with spheroidal graphite	Ferritic		155	400	K5	E	95	75	66
		Pearlitic		265	700	K6	E	46	39	33
	GGV (CGI)			230	400	K7				
N	Wrought aluminium alloys	Not hardenable		30	–	N1	E	184	148	128
		Hardenable, hardened		100	340	N2	E	171	141	121
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	260	N3	E	157	128	112
		≤ 12% Si, hardenable, hardened		90	310	N4	E	157	128	112
		> 12% Si, not hardenable		130	450	N5				
	Magnesium-based alloys			70	250	N6				
		Unalloyed, electrolytic copper		100	340	N7	E	69	56	49
	Copper and copper alloys (bronze/brass)	Brass, bronze, red brass		90	310	N8				
Cu alloys, short-chipping			110	380	N9					
High tensile, Ampco			300	1010	N10					
S		Heat-resistant alloys	Fe-based	Annealed	200	680	S1	E	26	20
	Fe-based		Hardened	280	940	S2				
	Ni- or Co-based		Annealed	250	840	S3	O	26	20	16
			Hardened	350	1180	S4				
			Cast	320	1080	S5				
	Titanium alloys	Pure titanium		200	680	S6				
		α and β alloys, hardened		375	1260	S7				
		β alloys		410	1400	S8				
	Tungsten alloys			300	1010	S9				
	Molybdenum alloys			300	1010	S10				
H	Hardened steel	Hardened and tempered		50 HRC	–	H1				
		Hardened and tempered		55 HRC	–	H2				
		Hardened and tempered		60 HRC	–	H3				
	Hardened cast iron	Hardened and tempered		55 HRC	–	H4				
O	Thermoplastics	Without abrasive fillers				O1				
	Thermosets	Without abrasive fillers				O2				
	Plastic, glass-fibre-reinforced	GFRP				O3				
	Plastic, carbon-fibre-reinforced	CFRP				O4				
	Plastic, aramid-fibre-reinforced	AFRP				O5				
	Graphite (technical)		80 Shore		O6					

¹ The classification of the machining groups can be found from starting on page B 1329 in the Walter General Catalog 2018.

³ Water-miscible coolants must not be used when machining magnesium-based alloys.

*For materials with a hardness of more than 63 HRC, reduce the cutting speed by 50–75%.

Cutting data

Indexable insert thread milling

Material group	 = Coolant recommended E = Emulsion M = MQL A = Compressed air v_c = Cutting speed [m/min] f_z = Feed per tooth [mm]		Overview of the main material groups and code letters		Brinell hardness HB	Tensile strength R _m N/mm ²	Machining group ¹		T2710 / T2711 / T2712 / T2713		
									f _z [in]		
									v _c [sfm]	Insert size	
										06	09/11/14/22
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	430	P1	E M	656	0.012	0.016	
		C > 0.25% to ≤ 0.55%	Annealed	190	640	P2	E M	656	0.012	0.016	
		C > 0.25% to ≤ 0.55%	Heat-treated	210	710	P3	E M	656	0.012	0.016	
		C > 0.55%	Annealed	190	640	P4	E M	656	0.012	0.016	
		C > 0.55%	Heat-treated	300	1010	P5	E M	656	0.012	0.016	
		Free-machining steel (short-chipping)	Annealed	220	750	P6	E M	656	0.012	0.016	
	Low-alloy steel	Annealed		175	590	P7	E M	656	0.012	0.016	
		Heat-treated		285	960	P8	E M	656	0.012	0.016	
		Heat-treated		380	1280	P9	E M	492	0.010	0.014	
		Heat-treated		430	1480	P10	E M	328	0.008	0.012	
	High-alloy steel and high-alloy tool steel	Annealed		200	680	P11	E M	656	0.012	0.016	
		Hardened and tempered		300	1010	P12	E M	656	0.012	0.016	
		Hardened and tempered		380	1280	P13	E M	492	0.012	0.016	
	Stainless steel	Ferritic/martensitic, annealed		200	680	P14	E M	656	0.010	0.014	
		Martensitic, heat-treated		330	1110	P15	E M	492	0.010	0.014	
M	Stainless steel	Austenitic, quench hardened		200	680	M1	E	656	0.008	0.012	
		Austenitic, precipitation hardened (PH)		300	1010	M2	E	492	0.008	0.012	
		Austenitic/ferritic, duplex		230	780	M3	E	262	0.008	0.012	
K	Malleable cast iron	Ferritic		200	400	K1	E M	656	0.012	0.016	
		Pearlitic		260	700	K2	E M	656	0.012	0.016	
	Grey cast iron	Low tensile strength		180	200	K3	E M	820	0.012	0.016	
		High tensile strength/austenitic		245	350	K4	E M	656	0.012	0.016	
	Cast iron with spheroidal graphite	Ferritic		155	400	K5	E M	656	0.012	0.016	
		Pearlitic		265	700	K6	E M	656	0.012	0.016	
	GGV (CGI)			230	400	K7	E M	656	0.012	0.016	
N	Wrought aluminium alloys	Not hardenable		30	–	N1	E M	656	0.012	0.016	
		Hardenable, hardened		100	340	N2	E M	656	0.012	0.016	
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	260	N3	E M	656	0.012	0.016	
		≤ 12% Si, hardenable, hardened		90	310	N4	E M	656	0.012	0.016	
		> 12% Si, not hardenable		130	450	N5	E M	656	0.012	0.016	
	Magnesium-based alloys ³			70	250	N6	A	820	0.012	0.016	
				100	340	N7	E M	656	0.012	0.016	
				90	310	N8	E M	656	0.012	0.016	
				110	380	N9	E M	656	0.012	0.016	
				300	1010	N10	E M	164	0.012	0.016	
S	Heat-resistant alloys	Fe-based	Annealed	200	680	S1	E	131	0.010	0.010	
			Hardened	280	940	S2	E	82	0.006	0.006	
		Ni- or Co-based	Annealed	250	840	S3	E	131	0.010	0.010	
			Hardened	350	1180	S4	E	82	0.006	0.006	
			Cast	320	1080	S5	E	98	0.008	0.008	
	Titanium alloys	Pure titanium		200	680	S6	E	131	0.010	0.010	
		α and β alloys, hardened		375	1260	S7	E	131	0.010	0.010	
		β alloys		410	1400	S8	E	98	0.008	0.008	
	Tungsten alloys			300	1010	S9	E	131	0.010	0.010	
	Molybdenum alloys			300	1010	S10	E	131	0.010	0.010	
H	Hardened steel	Hardened and tempered		50 HRC	–	H1	M A	148	0.008	0.012	
		Hardened and tempered		55 HRC	–	H2	M	–	–	–	
		Hardened and tempered		60 HRC	–	H3	M	–	–	–	
	Hardened cast iron	Hardened and tempered		55 HRC	–	H4	M A	148	0.008	0.012	
O	Thermoplastics	Without abrasive fillers				O1	E M	656	0.012	0.016	
	Thermosets	Without abrasive fillers				O2	E M	492	0.012	0.016	
	Plastic, glass-fibre-reinforced	GFRP				O3	E M	164	0.012	0.016	
	Plastic, carbon-fibre-reinforced	CFRP				O4	E M	164	0.012	0.016	
	Plastic, aramid-fibre-reinforced	AFRP				O5	E M	164	0.012	0.016	
	Graphite (technical)			80 Shore		O6	E M	656	0.012	0.016	

B3

B4

B5

¹ The classification of the machining groups can be found starting on page B 1329 in the Walter General Catalog 2018.

³ Water-miscible coolants must not be used when machining magnesium-based alloys.

Machining must be performed synchronously. The specified cutting data are target values under good machining conditions.

Remedy for vibration:

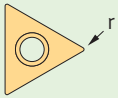
- Use indexable inserts with D61 geometry
- Reduce v_c by 25–50% and/or increase f_z by 25–50%
- Radial cutting pass

T2710/T2711/T2712: One radial cut is recommended

T2713: Radial cutting pass may be required.

Radius correction values for thread milling Walter T2710/T2711/T2712/T2713

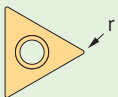
Metric thread in accordance with DIN 13

Thread nominal diameter D_N [mm]			Radius correction		
			Minimum dimension for H tolerances	Middle of the tolerance range for a 6H tolerance	Middle of the tolerance range for a 6G tolerance
	[mm]	[mm]	[mm]	[mm]	[mm]
≥ 20	1.5	0.1	-0.05	-0.10	-0.12
	2	0.1	-0.10	-0.15	-0.17
	2.5	0.1	-0.15	-0.20	-0.22
	3	0.2	-0.10	-0.16	-0.19
	3.5	0.2	-0.15	-0.22	-0.24
	4	0.2	-0.20	-0.27	-0.30
	4.5	0.2	-0.25	-0.33	-0.36
	5*	0.2	-0.30	-0.38	-0.42
		0.4	-0.10	-0.18	-0.22
	5.5	0.4	-0.15	-0.24	-0.27
	6	0.4	-0.20	-0.29	-0.33
	8	0.4	-0.40	-0.51	-0.56
	10	0.4	-0.59	-0.71	-

Based on the pitch diameter tolerances in accordance with DIN ISO 965-1. Valid from M20.

* IMPORTANT: For P = 5 mm, we recommend an insert radius $r = 0.2$ mm. Please take this into account when selecting the radius correction values.

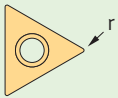
UN/UNC/UNF/UNEF thread in accordance with ASME B1.1

Thread nominal diameter D_N [inches]			Radius correction		
			Minimum dimension	Middle of the tolerance range for a 2B tolerance	Middle of the tolerance range for a 3B tolerance
	[TPI]	[mm]	[in]	[in]	[in]
≥ 7/8"	18	0.1	-0.002	-0.003	-0.003
	16	0.1	-0.002	-0.004	-0.004
	14	0.1	-0.003	-0.005	-0.004
	12	0.1	-0.004	-0.006	-0.006
	9	0.1	-0.007	-0.009	-0.009
	8	0.2	-0.005	-0.007	-0.006
	7	0.2	-0.006	-0.009	-0.008
	6	0.2	-0.009	-0.011	-0.011
	5*	0.2	-0.012	-0.015	-0.014
		0.4	-0.004	-0.007	-0.006
	4.5	0.4	-0.006	-0.009	-0.009
	4	0.4	-0.009	-0.013	-0.012

Based on the pitch diameter tolerances in accordance with ASME B1.1. Valid from UNC 7/8.

* IMPORTANT: For P = 5 TPI, we recommend an insert radius $r = 0.2$ mm. Please take this into account when selecting the radius correction values.

Pipe thread G (BSP) in accordance with DIN EN ISO 228

Thread nominal diameter D_N [inches]			Radius correction	
			Minimum dimension	Middle of the tolerance range
	[TPI]	[mm]	[in]	[in]
≥ 1" and < 2 1/4"	11	0.2	-0.004	-0.006
≥ 2 1/4"	11	0.2	-0.004	-0.007

Based on the pitch diameter tolerances in accordance with DIN ISO 228. Valid from $D_N 1"$.

If the measured tool radius is reduced by the value stated in the "Minimum dimension" column, the thread is still in the lower tolerance range after machining and is usually too narrow. If the thread has to be milled to bring it to the middle of the tolerance range, the measured tool radius must be reduced by the value stated in the "Middle of the tolerance range" column. The thread is generally true to gauge after machining. Radius correction values can also be determined in Walter GPS.

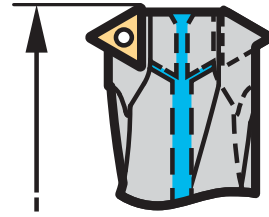
Example of an M36 - 6H thread	P	4 mm
	r	0.2 mm
Measured tool radius	14.53 mm	
Radius correction in the middle of the 6H tolerance range	- 0.27 mm	
Tool radius to be used	= 14.26 mm	

Tool application

Walter T2710/T2711/T2712/T2713

TOOL GAUGING

If the CNC program is created using Walter GPS, the tool must be gauged as shown in the diagram on the right. The thread depth that was entered is then reached.

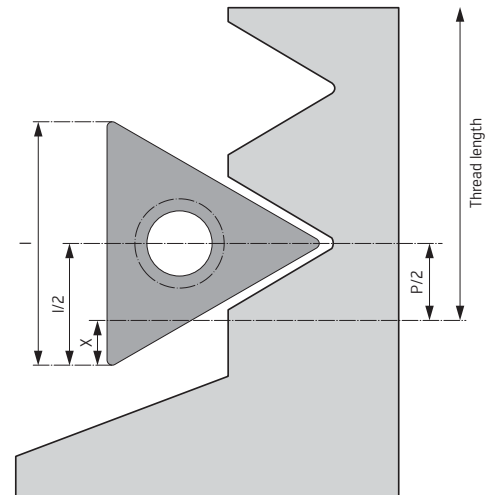


UNUSABLE LENGTH

The thread length includes the last thread ridge plus half a pitch. Since $l/2$ is greater than $P/2$, this results in an "unusable length" (X), which must be taken into consideration during programming. This is calculated as half of the insert length ($l/2$) minus half of the thread pitch ($P/2$). When creating CNC programs, Walter GPS takes the "unusable length" into account.

Example: M36 with P26300-0902.. thread milling cutter insert.

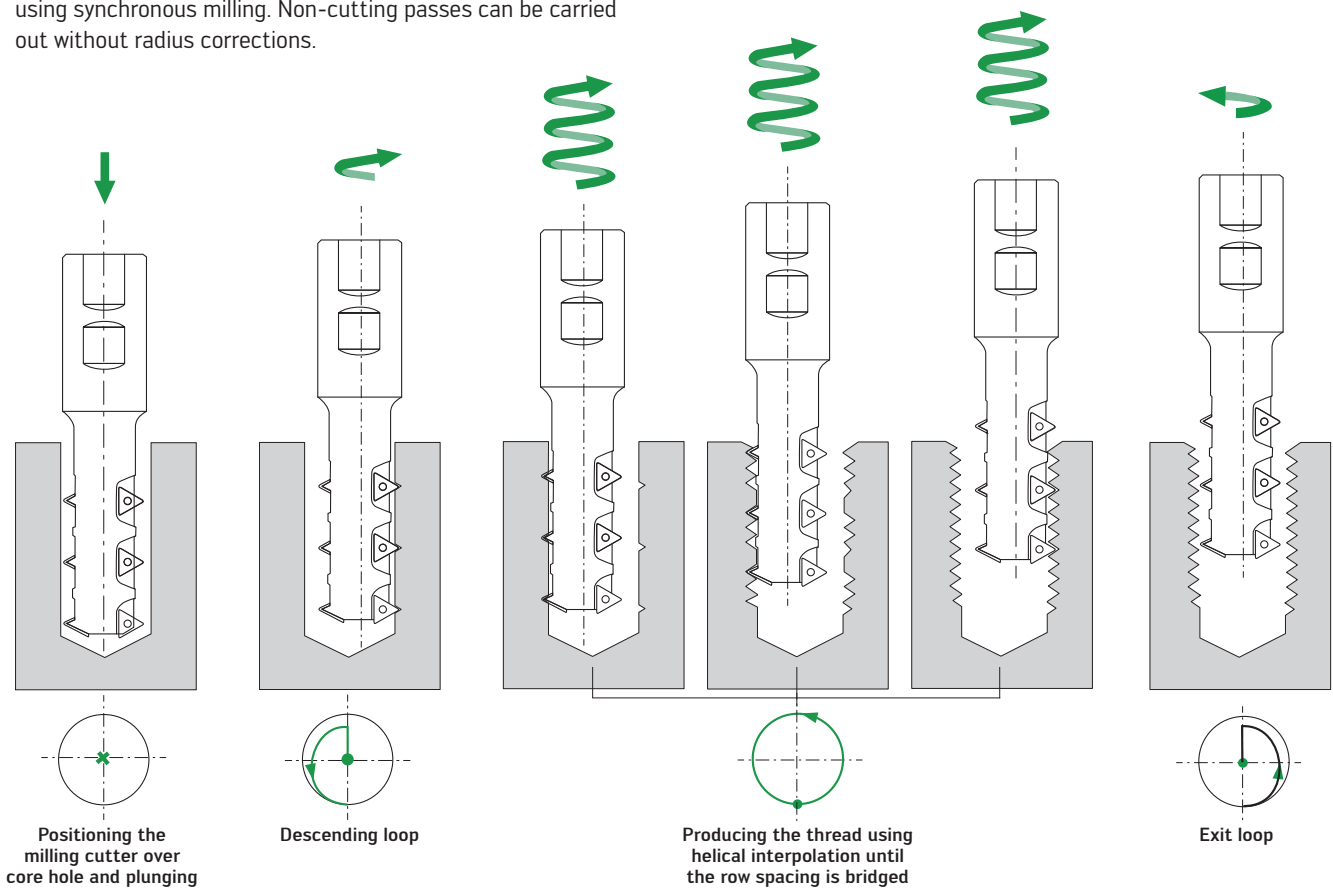
$$\text{Unusable length } X = l/2 - P/2 = \frac{9.34 \text{ mm}}{2} - \frac{4 \text{ mm}}{2} = 2.67 \text{ mm}$$



The unusable length of the T271.. families is less than the chamfer length of a tap.

THE STRATEGY

It is recommended that the thread be produced with a radial cut using synchronous milling. Non-cutting passes can be carried out without radius corrections.



B 3

B 4

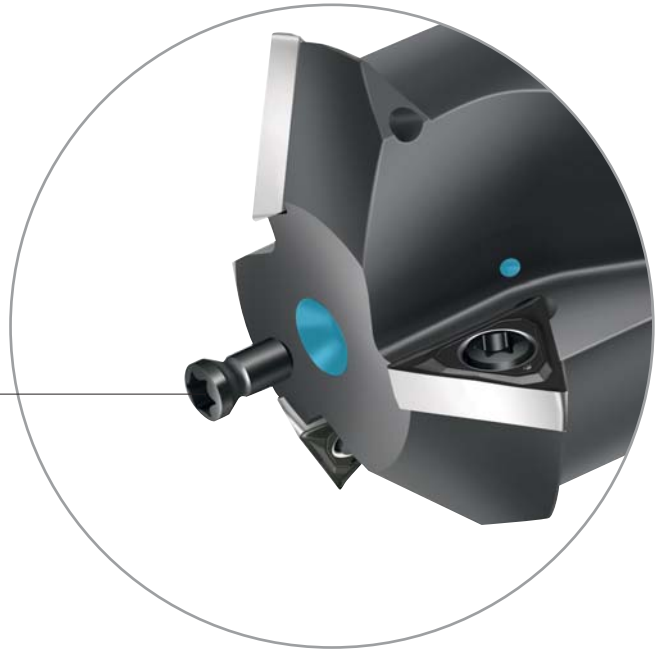
B 5

Application information

Adjustable coolant supply

In order to ensure optimal chip evacuation during blind-hole machining, the coolant screw should be removed. If through-hole threads are being produced, the axial coolant outlet can be closed. This ensures that all the coolant exits through the radial outlets and the chips are flushed downwards, out of the bore.

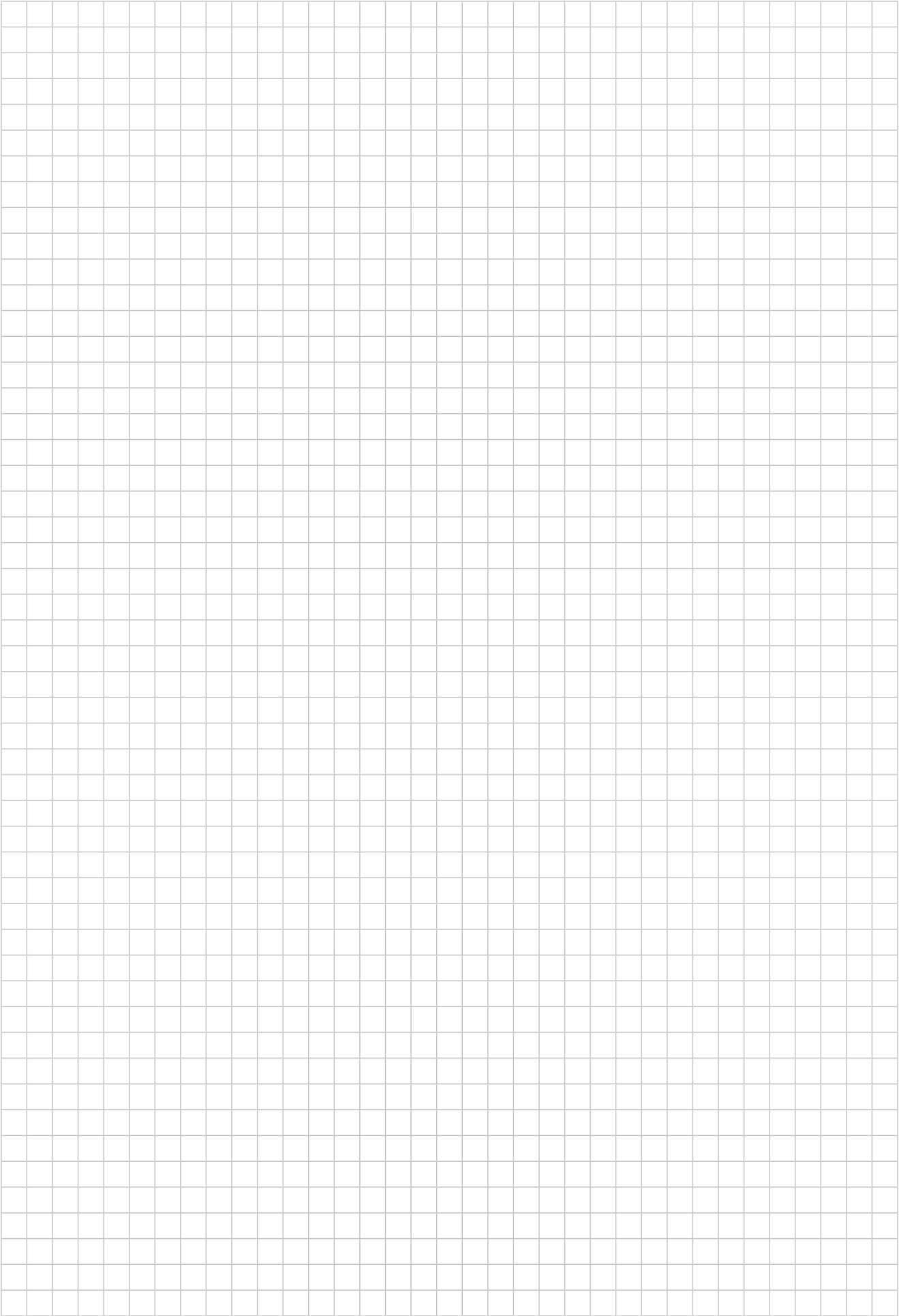
Coolant screw



B3

B4

B5



B 3

B 4

B 5



Solid carbide milling tools – C1

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Product range overview of solid carbide milling tools

Shoulder milling cutters

Machining		
Helix angle	50°	
Designation	MD128 Supreme	MC128 Advance
Diameter range [mm]/[inch]	6–25	2–25 / 1/4–3/4
Z	6–8	4–8
Corner radius [mm]/[inch]	0–4	0–4 / 0–0.25
Page	169	170
		

Shoulder/slot milling cutters

Machining		
Helix angle	40°	
Designation	MD377 Supreme	MC377 Advance
Dia. range [mm]	6–25	2–25
Z	5	3–4
Corner radius [mm]	0.5–6.35	0.2–4
Page	172	173
		

Circle segment milling cutters

Machining		
Helix angle	30°	
Designation	MD838 Supreme	MD839 Supreme
Dia. range [mm]	6–16	6–16
Z	4–8	4
Corner radius [mm]	0.5–4	1–4
Page	174	175
		

Designation key – Solid carbide milling tools

Example:

M	C	3	26	–	12.0	A	4	B	200	A	–	W	K	40	TF
1	2	3	4	5	6	7	8	9	10	11		Grade			

1	2	3	4
Tool group	Generation	Tool type	Tool type
M Milling		0 Face milling cutter, high-feed milling cutter 1 Shoulder milling cutter 2 Shoulder/slot/helical milling cutter Helix angle $\leq 39^\circ$ 3 Shoulder/slot/helical milling cutter Helix angle $\geq 40^\circ$ 4 Ball nose mill/copy milling cutter 5 Profiling cutter 7 Routing cutter/circular interpolation mill 8 Conical / circle segment milling cutter	00 Universal 0° helix angle, 60° chamfer milling cutter 01 Universal 0° helix angle, 90° chamfer milling cutter 02 Universal 0° helix angle, 120° chamfer milling cutter 03 Universal 0° helix angle, quadrant profiling cutter 04 Universal 0° helix angle, front/back deburrer 11 Universal 30° helix angle, type N 12 Universal 30° helix angle, type HSC 13 Universal 30° helix angle, type HSC, long version 16 Universal 30° helix angle, type 30 19 Universal 40° helix angle, knurled profile with internal coolant 20 Universal 40° helix angle, knurled profile 21 Universal 45° helix angle, short version 22 Universal 45° helix angle, type N 24 Universal 45° helix angle, type 45 25 Universal 50° helix angle, high-feed 26 Universal 50° helix angle, unequal groove depth, differential pitch 28 Universal 50° helix angle, type N, multipurpose cutter 29 Universal 60° helix angle, type N, multipurpose cutter 32 Universal 35° helix angle 33 Universal 35° helix angle + chip breaker 38 Universal 30° helix angle, conical circle segment milling cutter 39 Universal 30° helix angle, tangential circle segment milling cutter 41 ISO P 50° helix angle, HPC, differential pitch 51 ISO M 35°/38° helix angle, without internal coolant 65 ISO N 30° helix angle, AI geometry, RAPAX G30 roughing profile, axial internal coolant 66 ISO N 30° helix angle, AI geometry, axial internal coolant 77 ISO S 40° helix angle, titanium 80 ISO H 30° helix angle, HSC, type H = 30° helix angle, HSC, type H 81 ISO H 30° helix angle, mini HSC T, type H = 30° helix angle, mini HSC T, type H 82 ISO H 30° helix angle, mini HSC R, type H = 30° helix angle, mini HSC R, type H 83 ISO H 30° helix angle, multi-flute, type H = 30° helix angle, multi-flute, type H 87 ISO H 50° helix angle, multi-flute, type H = 50° helix angle, multi-flute, type H 88 ISO H 50° helix angle, HPC, type H = 50° helix angle, HPC, type H 89 ISO H 50° helix angle, high-feed, type H = 50° helix angle, high-feed, type H
5	6	7	
Delimiters	Cutting diameter	Shank type	
– Metric · Inch		A Parallel shank E ConeFit W Weldon shank	
8	9	10	11
Number of teeth	Design standard	Corner radius	Variant
	A DIN 6527 K B DIN 6527 L C ANSI stub D ANSI standard L P standard L M P standard mini P P standard S P standard S X P standard XL		A I3 XS B I3 S / $2 \times D_C^*$ C I3 M / $3 \times D_C^*$ D I3 L / $4 \times D_C^*$ E I3 XL / $5 \times D_C^*$ F I3 XXL / $6 \times D_C^*$ G I3 XXXL / $8 \times D_C^*$ H I3 XXXXL / $10 \times D_C^*$ J Lc S / $3 \times D_C^*$ K Lc M / $4 \times D_C^*$ L Lc L / $5 \times D_C^*$ V Conical neck $\alpha \leq 3^\circ$ W Conical neck $\alpha \leq 6^\circ$ X Conical neck $\alpha \leq 12^\circ$

* Standard values

Grade designation key for solid carbide cutting tool materials

Example:

W K 40 TF			
Walter	1	2	3

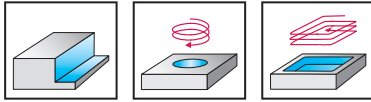
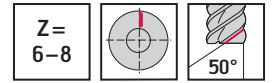
1	2	3
Substrate	Range of applications	Coating
Solid carbide B J K	Wear resistance 5 10 15 20 25 30 35 40 45 50 Toughness	TF TiAlN UU Uncoated CA CrN RC TiAlN + AlTi TZ AlTiN + ZrN ED AlCRN TG TiAlSiN RD AlTiN + ZrN RA TiAlN + TiAl EA AlCN

Solid carbide shoulder milling cutters

MD128 Supreme



– Type N 50



	P	M	K	N	S	H	O
WJ30RA		●●			●●		
WJ30RD	●●		●				

PROTOTYP TOOLS STANDARD

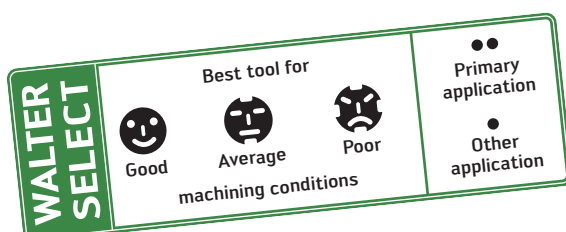
	Designation	D _c h10 mm	L _c mm	l ₁ mm	l ₄ mm	d ₁ h6 mm	Z	WJ30RA	WJ30RD
Shank DIN 6535 HA 	MD128-06.0A6LJ-	6	18	65	29	6	6	☺	☺
	MD128-08.0A6LJ-	8	24	68	32	8	6	☺	☺
	MD128-10.0A6LJ-	10	30	80	40	10	6	☺	☺
	MD128-12.0A6LJ-	12	36	93	48	12	6	☺	☺
	MD128-16.0A6LJ-	16	48	115	67	16	6	☺	☺
	MD128-20.0A8LJ-	20	60	125	75	20	8	☺	☺
	MD128-25.0A8LJ-	25	75	150	94	25	8	☺	☺

Ordering example for the WJ30RA grade: MD128-06.0A6LJ-WJ30RA

PROTOTYP TOOLS STANDARD

	Designation	D _c h9 mm	R mm	L _c mm	l ₁ mm	l ₄ mm	d ₁ h6 mm	Z	WJ30RA	WJ30RD
Shank DIN 6535 HA 	MD128-06.0A6L050J-	6	0.5	18	65	29	6	6	☺	☺
	MD128-08.0A6L050J-	8	0.5	24	68	32	8	6	☺	☺
	MD128-10.0A6L050J-	10	0.5	30	80	40	10	6	☺	☺
	MD128-10.0A6L100J-	10	1	30	80	40	10	6	☺	☺
	MD128-12.0A6L050J-	12	0.5	36	93	48	12	6	☺	☺
	MD128-12.0A6L100J-	12	1	36	93	48	12	6	☺	☺
	MD128-12.0A6L200J-	12	2	36	93	48	12	6	☺	☺
	MD128-16.0A6L050J-	16	0.5	48	115	67	16	6	☺	☺
	MD128-16.0A6L100J-	16	1	48	115	67	16	6	☺	☺
	MD128-16.0A6L200J-	16	2	48	115	67	16	6	☺	☺
	MD128-20.0A8L100J-	20	1	60	125	75	20	8	☺	☺
	MD128-20.0A8L400J-	20	4	60	125	75	20	8	☺	☺
	MD128-25.0A8L100J-	25	1	75	150	94	25	8	☺	☺
	MD128-25.0A8L400J-	25	4	75	150	94	25	8	☺	☺

Ordering example for the WJ30RA grade: MD128-06.0A6L050J-WJ30RA



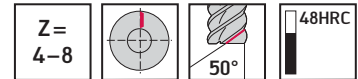
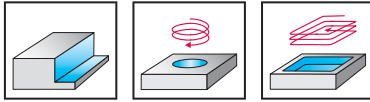
☺☺☺ / ★ New addition to the product range

Solid carbide shoulder milling cutters

MC128 Advance /

MC128 Advance


– Type N 50



	P	M	K	N	S	H	O
WJ30TF	●	●	●	●	●	●	●

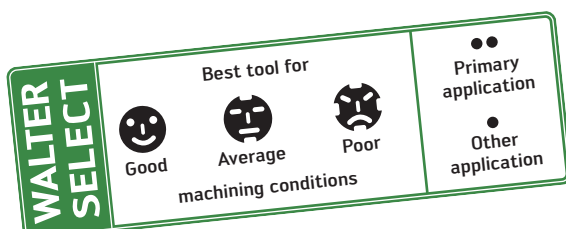
DIN 6527 L		D _c h10 mm	L _c mm	l ₁ mm	l ₄ mm	d ₁ h6 mm	Z	WJ30TF
Shank DIN 6535 HA								
	MC128-02.0A4B-	2	7	57	21	6	4	●
	MC128-03.0A4B-	3	8	57	21	6	4	●
	MC128-04.0A4B-	4	11	57	21	6	4	●
	MC128-05.0A5B-	5	13	57	21	6	5	●
	MC128-06.0A6B-	6	13	57	21	6	6	●
	MC128-08.0A6B-	8	19	63	27	8	6	●
	MC128-10.0A6B-	10	22	72	32	10	6	●
	MC128-12.0A6B-	12	26	83	38	12	6	●
	MC128-16.0A6B-	16	32	92	44	16	6	●
	MC128-20.0A8B-	20	38	104	54	20	8	●
	MC128-25.0A8B-	25	45	121	65	25	8	●

Ordering example for the WJ30TF grade: MC128-02.0A4B-WJ30TF

DIN 6527 L		D _c h9 mm	R mm	L _c mm	l ₁ mm	l ₄ mm	d ₁ h6 mm	Z	WJ30TF
Shank DIN 6535 HA									
	MC128-06.0A6B050-	6	0.5	13	57	21	6	6	●
	MC128-08.0A6B050-	8	0.5	19	63	27	8	6	●
	MC128-08.0A6B100-	8	1	19	63	27	8	6	●
	MC128-10.0A6B050-	10	0.5	22	72	32	10	6	●
	MC128-10.0A6B100-	10	1	22	72	32	10	6	●
	MC128-10.0A6B200-	10	2	22	72	32	10	6	●
	MC128-12.0A6B050-	12	0.5	26	83	38	12	6	●
	MC128-12.0A6B100-	12	1	26	83	38	12	6	●
	MC128-12.0A6B200-	12	2	26	83	38	12	6	●
	MC128-12.0A6B300-	12	3	26	83	38	12	6	●
	MC128-16.0A6B050-	16	0.5	32	92	44	16	6	●
	MC128-16.0A6B100-	16	1	32	92	44	16	6	●
	MC128-16.0A6B200-	16	2	32	92	44	16	6	●
	MC128-16.0A6B300-	16	3	32	92	44	16	6	●
	MC128-20.0A8B100-	20	1	38	104	54	20	8	●
	MC128-20.0A8B200-	20	2	38	104	54	20	8	●
	MC128-20.0A8B300-	20	3	38	104	54	20	8	●
	MC128-20.0A8B400-	20	4	38	104	54	20	8	●

Ordering example for the WJ30TF grade: MC128-06.0A6B050-WJ30TF

Continued



Continued

STANDARD		D _c h10 Inch/No.	L _c inch	l ₁ inch	l ₄ inch	d ₁ h6 inch	Z	WJ30TF
Shank DIN 6535 HA	MC128.6.35A6C-	1/4"	0.500	2.500	1.083	0.250	6	
	MC128.9.53A6C-	3/8"	0.500	2.500	0.937	0.375	6	
Shank DIN 6535 HA	MC128.9.53A6D-	3/8"	1.000	3.000	1.437	0.375	6	
	MC128.12.7A6DI-	1/2"	1.000	3.500	1.717	0.500	6	
	MC128.12.7A6D-	1/2"	1.250	3.500	1.717	0.500	6	
	MC128.15.9A6DI-	5/8"	1.250	4.000	2.094	0.625	6	
	MC128.15.9A6D-	5/8"	1.625	4.000	2.094	0.625	6	
	MC128.19.1A8D-	3/4"	1.625	4.500	2.469	0.750	8	
Shank DIN 6535 HA	MC128.6.35A6L-	1/4"	1.000	3.000	1.583	0.250	6	
	MC128.19.1A8L-	3/4"	2.250	5.000	2.969	0.750	8	

Ordering example for the WJ30TF grade: MC128.6.35A6C-WJ30TF

STANDARD		D _c h9 Inch/No.	R inch	L _c inch	l ₁ inch	l ₄ inch	d ₁ h6 inch	Z	WJ30TF
Shank DIN 6535 HA	MC128.6.35A6D038-	1/4"	0.015	0.625	2.500	1.083	0.250	6	
	MC128.6.35A6D076-	1/4"	0.030	0.625	2.500	1.083	0.250	6	
	MC128.9.53A6D038-	3/8"	0.015	1.000	3.000	1.437	0.375	6	
	MC128.9.53A6D076-	3/8"	0.030	1.000	3.000	1.437	0.375	6	
	MC128.12.7A6D076-	1/2"	0.030	1.250	3.500	1.717	0.500	6	
	MC128.12.7A6D152-	1/2"	0.060	1.250	3.500	1.717	0.500	6	
	MC128.12.7A6D228-	1/2"	0.090	1.250	3.500	1.717	0.500	6	
	MC128.12.7A6D318-	1/2"	0.125	1.250	3.500	1.717	0.500	6	
	MC128.15.9A6D076-	5/8"	0.030	1.625	4.000	2.094	0.625	6	
	MC128.15.9A6D152-	5/8"	0.060	1.625	4.000	2.094	0.625	6	
	MC128.19.1A8D076-	3/4"	0.030	1.750	4.500	2.469	0.750	8	
	MC128.19.1A8D318-	3/4"	0.125	1.750	4.500	2.469	0.750	8	
	MC128.19.1A8D635-	3/4"	0.250	1.750	4.500	2.469	0.750	8	

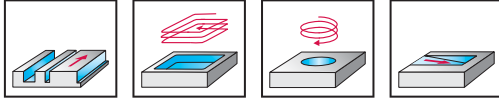
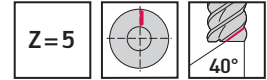
Ordering example for the WJ30TF grade: MC128.6.35A6D038-WJ30TF

Solid carbide shoulder/slot milling cutters

MD377 Supreme



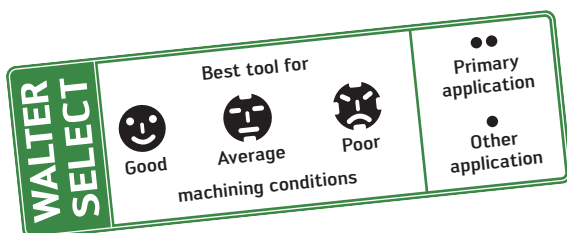
- Long reach
- Type HPC Ti40



	P	M	K	N	S	H	O
WK40TZ		●			●●		

DIN 6527 L		D _c h9 mm	R mm	L _c mm	l ₃ mm	d ₂ mm	l ₁ mm	l ₄ mm	d ₁ h5 mm	Z	WK40TZ
Shank DIN 6535 HA	Designation										
	MD377-06.0A5B050C-	6	0.5	13	19	5.7	57	21	6	5	●●
	MD377-06.0A5B100C-	6	1	13	19	5.7	57	21	6	5	●●
	MD377-08.0A5B050C-	8	0.5	19	25	7.6	63	27	8	5	●●
	MD377-08.0A5B100C-	8	1	19	25	7.6	63	27	8	5	●●
	MD377-10.0A5B050C-	10	0.5	22	30	9.5	72	32	10	5	●●
	MD377-10.0A5B100C-	10	1	22	30	9.5	72	32	10	5	●●
	MD377-12.0A5B050C-	12	0.5	26	36	11.4	83	38	12	5	●●
	MD377-12.0A5B100C-	12	1	26	36	11.4	83	38	12	5	●●
	MD377-12.0A5B200C-	12	2	26	36	11.4	83	38	12	5	●●
	MD377-12.0A5B300C-	12	3	26	36	11.4	83	38	12	5	●●
	MD377-16.0A5B300C-	16	3	32	42	15.2	92	44	16	5	●●
	MD377-16.0A5B400C-	16	4	32	42	15.2	92	44	16	5	●●
	MD377-20.0A5B300C-	20	3	38	52	19	104	54	20	5	●●
	MD377-20.0A5B400C-	20	4	38	52	19	104	54	20	5	●●
Shank DIN 6535 HB	MD377-25.0A5B300C-	25	3	45	63	23.75	121	65	25	5	●●
	MD377-25.0A5B400C-	25	4	45	63	23.75	121	65	25	5	●●
	MD377-25.0A5B635C-	25	6.35	45	63	23.75	121	65	25	5	●●
	MD377-16.0W5B300C-	16	3	32	42	15.2	92	44	16	5	●●
	MD377-16.0W5B400C-	16	4	32	42	15.2	92	44	16	5	●●
	MD377-20.0W5B300C-	20	3	38	52	19	104	54	20	5	●●
	MD377-20.0W5B400C-	20	4	38	52	19	104	54	20	5	●●
	MD377-25.0W5B300C-	25	3	45	63	23.75	121	65	25	5	●●
	MD377-25.0W5B400C-	25	4	45	63	23.75	121	65	25	5	●●

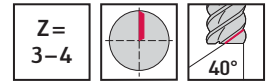
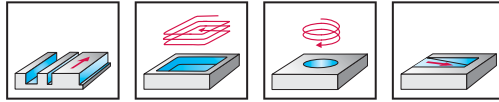
Ordering example for the WK40TZ grade: MD377-06.0A5B050C-WK40TZ



Solid carbide shoulder/slot milling cutters

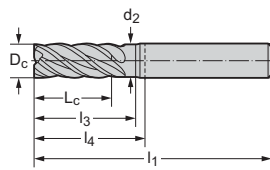
MC377 Advance mm

- Long reach
- Type Ti 40



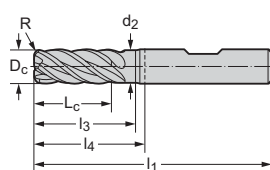
	P	M	K	N	S	H	O
WK40EA	●	●	●	●	●	●	●

DIN 6527 L		D _c h9 mm	L _c mm	l ₃ mm	d ₂ mm	l ₁ mm	l ₄ mm	d ₁ h5 mm	Z	WK40EA
Shank DIN 6535 HA	Designation									
	MC377-02.0A3BC-	2	6	10	1.9	57	21	6	3	●
	MC377-03.0A4BC-	3	8	10	2.9	57	21	6	4	●
	MC377-04.0A4BC-	4	11	15	3.8	57	21	6	4	●
	MC377-05.0A4BC-	5	13	16	4.8	57	21	6	4	●
	MC377-06.0A4BC-	6	13	19	5.7	57	21	6	4	●
	MC377-08.0A4BC-	8	19	25	7.6	63	27	8	4	●
	MC377-10.0A4BC-	10	22	30	9.5	72	32	10	4	●
	MC377-12.0A4BC-	12	26	36	11.4	83	38	12	4	●



Ordering example for the WK40EA grade: MC377-02.0A3BC-WK40EA

DIN 6527 L		D _c h9 mm	R mm	L _c mm	l ₃ mm	d ₂ mm	l ₁ mm	l ₄ mm	d ₁ h5 mm	Z	WK40EA
Shank DIN 6535 HA	Designation										
	MC377-02.0A3B020C-	2	0.2	6	10	1.92	57	21	6	3	●
	MC377-03.0A4B030C-	3	0.3	8	10	2.9	57	21	6	4	●
	MC377-04.0A4B050C-	4	0.5	11	15	3.8	57	21	6	4	●
	MC377-05.0A4B050C-	5	0.5	13	16	4.75	57	21	6	4	●
	MC377-06.0A4B050C-	6	0.5	13	19	5.7	57	21	6	4	●
	MC377-06.0A4B080C-	6	0.8	13	19	5.7	57	21	6	4	●
	MC377-06.0A4B100C-	6	1	13	19	5.7	57	21	6	4	●
	MC377-08.0A4B050C-	8	0.5	19	25	7.6	63	27	8	4	●
	MC377-08.0A4B100C-	8	1	19	25	7.6	63	27	8	4	●
	MC377-10.0A4B050C-	10	0.5	22	30	9.5	72	32	10	4	●
	MC377-10.0A4B100C-	10	1	22	30	9.5	72	32	10	4	●
	MC377-12.0A4B050C-	12	0.5	26	36	11.4	83	38	12	4	●
	MC377-12.0A4B100C-	12	1	26	36	11.4	83	38	12	4	●
	MC377-12.0A4B200C-	12	2	26	36	11.4	83	38	12	4	●
	MC377-12.0A4B300C-	12	3	26	36	11.4	83	38	12	4	●
	MC377-16.0A4B100C-	16	1	32	42	15.2	92	44	16	4	●
	MC377-16.0A4B300C-	16	3	32	42	15.2	92	44	16	4	●
	MC377-16.0A4B400C-	16	4	32	42	15.2	92	44	16	4	●
Shank DIN 6535 HB	MC377-20.0A4B300C-	20	3	38	52	19	104	54	20	4	●
	MC377-20.0A4B400C-	20	4	38	52	19	104	54	20	4	●
	MC377-25.0A4B300C-	25	3	45	63	23.75	121	65	25	4	●
	MC377-25.0A4B400C-	25	4	45	63	23.75	121	65	25	4	●
	MC377-16.0W4B300C-	16	3	32	42	15.2	92	44	16	4	●
	MC377-16.0W4B400C-	16	4	32	42	15.2	92	44	16	4	●
	MC377-20.0W4B300C-	20	3	38	52	19	104	54	20	4	●
	MC377-20.0W4B400C-	20	4	38	52	19	104	54	20	4	●
	MC377-25.0W4B300C-	25	3	45	63	23.75	121	65	25	4	●
	MC377-25.0W4B400C-	25	4	45	63	23.75	121	65	25	4	●



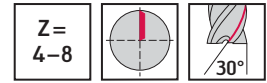
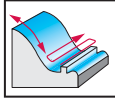
Ordering example for the WK40EA grade: MC377-02.0A3B020C-WK40EA

Solid carbide circle segment milling cutters

MD838 Supreme



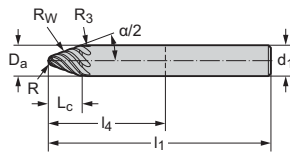
– Conical



	P	M	K	N	S	H	O
WJ30RA		●●		●	●●		
WJ30RD	●●		●				

PROTOTYP TOOLS STANDARD

Shank DIN 6535 HA



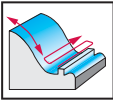
Designation	$\alpha/2$	D_a mm	R mm	R_w mm	R_3 mm	L_c mm	l_1 mm	d_1 h5 mm	Z	WJ30RA	WJ30RD
MD838-06A4P050250-	20°	6	0.5	250	3	7.79	65	6	4	☺	☺
MD838-06A4P100250-	20°	6	1	250	3	6.83	65	6	4	☺	☺
MD838-08A4P050300-	20°	8	0.5	300	3	10.55	80	8	4	☺	☺
MD838-08A4P100300-	20°	8	1	300	3	9.57	80	8	4	☺	☺
MD838-10A4P200400-	20°	10	2	400	3	10.42	90	10	4	☺	☺
MD838-10A8P200400-	20°	10	2	400	3	10.42	90	10	8	☺	☺
MD838-12A4P200500-	20°	12	2	500	3	13.15	100	12	4	☺	☺
MD838-12A8P200500-	20°	12	2	500	3	13.15	100	12	8	☺	☺
MD838-12A4P300500-	20°	12	3	500	3	11.23	100	12	4	☺	☺
MD838-12A8P300500-	20°	12	3	500	3	11.23	100	12	8	☺	☺
MD838-16A4P301000-	20°	16	3	1000	5	17.07	115	16	4	☺	☺
MD838-16A4P401000-	20°	16	4	1000	5	15.17	115	16	4	☺	☺

Ordering example for the WJ30RD grade: MD838-06A4P050250-WJ30RD

Solid carbide circle segment milling cutters
MD839 Supreme mm



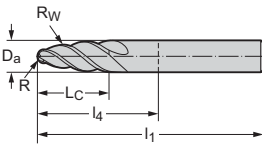
– Tangential



	P	M	K	N	S	H	O
WJ30RA		●●		●	●●		
WJ30RD	●●		●				

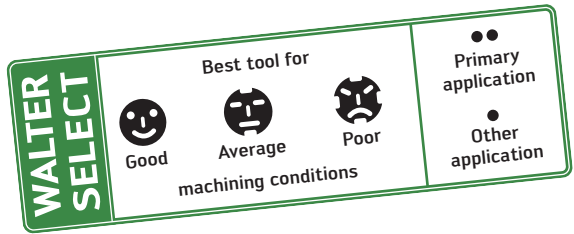
PROTOTYP TOOLS
STANDARD

Shank DIN 6535 HA



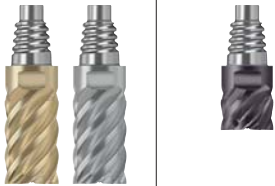
Designation	D _a mm	R mm	R _w mm	L _c mm	l ₁ mm	d ₁ h5 mm	Z	WJ30RA	WJ30RD
MD839-06A4P10100-	6	1	100	20.8	65	6	4	☺	☹
MD839-08A4P15100-	8	1,5	100	23.55	80	8	4	☺	☹
MD839-10A4P20100-	10	2	100	26.06	90	10	4	☺	☹
MD839-12A4P20100-	12	2	100	29.71	100	12	4	☺	☹
MD839-12A4P30100-	12	3	100	26.94	100	12	4	☺	☹
MD839-16A4P30100-	16	3	100	33.74	115	16	4	☺	☹
MD839-16A4P40100-	16	4	100	31.42	115	16	4	☺	☹

Ordering example for the WJ30RD grade: MD839-06A4P10100-WJ30RD



Solid carbide milling tools with ConeFit interface product range overview

Shoulder milling cutters

Machining		
Helix angle	50°	
Designation	MD128	MC128
Dia. range [mm]	10–25	10–25
Z	6–8	6–8
Corner radius [mm]	0–4	0–4
Page	177	178
		

Solid carbide milling tools with ConeFit interface product range overview

Circle segment milling cutters

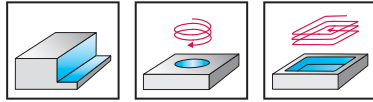
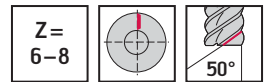
Machining	
Helix angle	30°
Designation	MD838
Dia. range [mm]	16
Z	8
Corner radius [mm]	2–4
Page	179
	

Solid carbide shoulder milling cutters

MD128 mm



– Type N 50



	P	M	K	N	S	H	O
WJ30RA		●●			●●		
WJ30RD	●●		●				

PROTOTYP TOOLS STANDARD

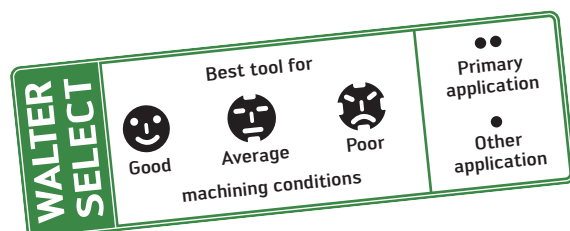
	Designation	D _c h10 mm	L _c mm	d ₂ mm	l ₁ mm	l ₄ mm	SW mm	d ₁ mm	Z	WJ30RA	WJ30RD
ConeFit	MD128-10.0E6X-	10	15	9.7	33.1	21.9	8	E10	6	☺	☹
	MD128-12.0E6X-	12	18	11.7	39.8	26	10	E12	6	☺	☹
	MD128-16.0E6X-	16	24	15.5	51.2	34.2	12	E16	6	☺	☹
	MD128-20.0E8X-	20	30	19.3	59.8	40.3	16	E20	8	☺	☹
	MD128-25.0E8X-	25	37.5	24.2	73.6	49.8	20	E25	8	☺	☹

Ordering example for the WJ30RA grade: MD128-10.0E6X-WJ30RA

PROTOTYP TOOLS STANDARD

	Designation	D _c h9 mm	R mm	L _c mm	d ₂ mm	l ₁ mm	l ₄ mm	SW mm	d ₁ mm	Z	WJ30RA	WJ30RD
ConeFit	MD128-10.0E6X050-	10	0.5	15	9.7	33.1	21.9	8	E10	6	☺	☹
	MD128-10.0E6X100-	10	1	15	9.7	33.1	21.9	8	E10	6	☺	☹
	MD128-12.0E6X050-	12	0.5	18	11.7	39.8	26	10	E12	6	☺	☹
	MD128-12.0E6X100-	12	1	18	11.7	39.8	26	10	E12	6	☺	☹
	MD128-12.0E6X200-	12	2	18	11.7	39.8	26	10	E12	6	☺	☹
	MD128-16.0E6X050-	16	0.5	24	15.5	51.2	34.2	12	E16	6	☺	☹
	MD128-16.0E6X100-	16	1	24	15.5	51.2	34.2	12	E16	6	☺	☹
	MD128-16.0E6X200-	16	2	24	15.5	51.2	34.2	12	E16	6	☺	☹
	MD128-20.0E8X100-	20	1	30	19.3	59.8	40.3	16	E20	8	☺	☹
	MD128-20.0E8X400-	20	4	30	19.3	59.8	40.3	16	E20	8	☺	☹
	MD128-25.0E8X100-	25	1	37.5	24.2	73.6	49.8	20	E25	8	☺	☹
	MD128-25.0E8X400-	25	4	37.5	24.2	73.6	49.8	20	E25	8	☺	☹

Ordering example for the WJ30RA grade: MD128-10.0E6X050-WJ30RA

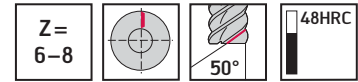
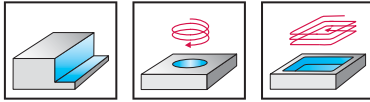


☺☹☹ / ★ New addition to the product range

Solid carbide shoulder milling cutters

MC128


– Type N 50



	P	M	K	N	S	H	O
WJ30TF	●	●	●	●	●	●	●

PROTOTYP TOOLS STANDARD

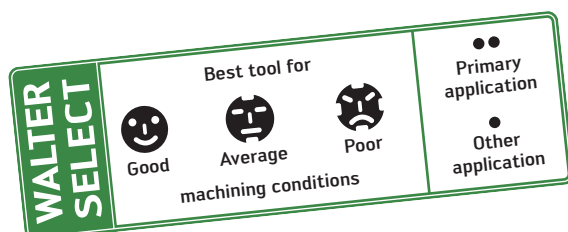
	Designation	D _c h10 mm	L _c mm	d ₂ mm	l ₁ mm	l ₄ mm	SW mm	d ₁ mm	Z	WJ30TF
ConeFit	MC128-10.0E6P-	10	5.5	9.7	23.6	12.4	8	E10	6	●
	MC128-12.0E6P-	12	6.5	11.7	28.3	14.5	10	E12	6	●
	MC128-16.0E6P-	16	8.5	15.5	35.7	18.7	12	E16	6	●
	MC128-20.0E8P-	20	11	19.3	40.8	21.3	16	E20	8	●
	MC128-25.0E8P-	25	13.5	24.2	49.6	25.6	20	E25	8	●

Ordering example for the WJ30TF grade: MC128-10.0E6P-WJ30TF

PROTOTYP TOOLS STANDARD

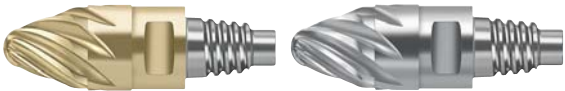
	Designation	D _c h9 mm	R mm	L _c mm	d ₂ mm	l ₁ mm	l ₄ mm	SW mm	d ₁ mm	Z	WJ30TF
ConeFit	MC128-10.0E6P050-	10	0.5	5.5	9.7	23.6	12.4	8	E10	6	●
	MC128-10.0E6P100-	10	1	5.5	9.7	23.6	12.4	8	E10	6	●
	MC128-12.0E6P050-	12	0.5	6.5	11.7	28.3	14.5	10	E12	6	●
	MC128-12.0E6P100-	12	1	6.5	11.7	28.3	14.5	10	E12	6	●
	MC128-12.0E6P150-	12	1.5	6.5	11.7	28.3	14.5	10	E12	6	●
	MC128-12.0E6P200-	12	2	6.5	11.7	28.3	14.5	10	E12	6	●
	MC128-16.0E6P050-	16	0.5	8.5	15.5	35.7	18.7	12	E16	6	●
	MC128-16.0E6P100-	16	1	8.5	15.5	35.7	18.7	12	E16	6	●
	MC128-16.0E6P150-	16	1.5	8.5	15.5	35.7	18.7	12	E16	6	●
	MC128-16.0E6P200-	16	2	8.5	15.5	35.7	18.7	12	E16	6	●
	MC128-20.0E8P100-	20	1	11	19.3	40.8	21.3	16	E20	8	●
	MC128-20.0E8P200-	20	2	11	19.3	40.8	21.3	16	E20	8	●
	MC128-20.0E8P400-	20	4	11	19.3	40.8	21.3	16	E20	8	●
	MC128-25.0E8P100-	25	1	13.5	24.2	49.6	25.6	20	E25	8	●
	MC128-25.0E8P200-	25	2	13.5	24.2	49.6	25.6	20	E25	8	●
	MC128-25.0E8P400-	25	4	13.5	24.2	49.6	25.6	20	E25	8	●

Ordering example for the WJ30TF grade: MC128-10.0E6P050-WJ30TF

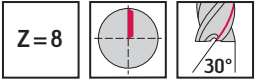
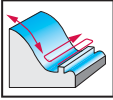


Solid carbide circle segment milling cutters

MD838 mm



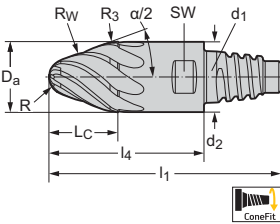
– Conical



	P	M	K	N	S	H	O
WJ30RA		●●		●	●●		
WJ30RD	●●		●				

PROTOTYP TOOLS STANDARD

ConeFit



Designation	$\alpha/2$	D_a mm	R mm	R_w mm	R_3 mm	L_c mm	l_4 mm	l_1 mm	SW mm	d_1 mm	Z	WJ30RA	WJ30RD
MD838-16E8P201000-	20°	16	2	1000	5	18.99	34.2	51.2	12	E16	8	☹	☹
MD838-16E8P301000-	20°	16	3	1000	5	17.07	34.2	51.2	12	E16	8	☹	☹
MD838-16E8P401000-	20°	16	4	1000	5	15.17	34.2	51.2	12	E16	8	☹	☹

Ordering example for the WJ30RD grade: MD838-16E8P201000-WJ30RD

Cutting data for solid carbide shoulder/slot milling

							Product family		λ	
							MD128 Supreme MD128 ConeFit		50°	
Material group	Overview of the main material groups and code letters				Brinell hardness HB	Tensile strength R _m N/mm²	Machining group ¹	Ø 6–25 mm		
								Z = 6–8		
								WJ30RD		
								Starting values for cutting speed v _c [sfm]		
		3 × D _c		f _z 3 × D _c						
		PHIS [°]		VC		[in] per tooth				
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	428	P1	40	738	0.004	
		C > 0.25% to ≤ 0.55%	Annealed	190	639	P2	40	1164	0.004	
		C > 0.25% to ≤ 0.55%	Heat-treated	210	708	P3	40	1164	0.004	
		C > 0.55%	Annealed	190	639	P4	40	984	0.004	
		C > 0.55%	Heat-treated	300	1013	P5	40	705	0.004	
		Free-machining steel (short-chipping)	Annealed	220	745	P6	40	984	0.004	
	Low-alloy steel	Annealed		175	591	P7	40	984	0.004	
		Heat-treated		300	1013	P8	35	722	0.004	
		Heat-treated		380	1282	P9	40	590	0.003	
		Heat-treated		430	1477	P10	35	525	0.005	
	High-alloy steel and high-alloy tool steel	Annealed		200	675	P11	35	1017	0.004	
		Hardened and tempered		300	1013	P12	30	787	0.004	
		Hardened and tempered		400	1361	P13	30	640	0.004	
	Stainless steel	Ferritic/martensitic, annealed		200	675	P14				
		Martensitic, heat-treated		330	1114	P15				
M	Stainless steel	Austenitic, quench hardened		200	675	M1				
		Austenitic, precipitation hardened (PH)		300	1013	M2				
		Austenitic/ferritic, duplex		230	778	M3				
K	Malleable cast iron	Ferritic		200	675	K1	40	853	0.004	
		Pearlitic		260	867	K2	35	689	0.004	
	Grey cast iron	Low tensile strength		180	602	K3	40	853	0.004	
		High tensile strength/austenitic		245	825	K4	35	738	0.004	
	Cast iron with spheroidal graphite	Ferritic		155	518	K5	40	853	0.004	
		Pearlitic		265	885	K6	30	722	0.004	
	GGV (CGI)			200	675	K7	40	574	0.004	
N	Wrought aluminium alloys	Not hardenable		30	–	N1				
		Hardenable, hardened		100	343	N2				
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	260	N3				
		≤ 12% Si, hardenable, hardened		90	314	N4				
		> 12% Si, not hardenable		130	447	N5				
	Magnesium-based alloys			70	250	N6				
				100	343	N7				
	Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper		90	314	N8				
		Brass, bronze, red brass		110	382	N9				
		Cu alloys, short-chipping		300	1013	N10				
High tensile, Ampco										
S	Heat-resistant alloys	Fe-based	Annealed	200	675	S1				
			Hardened	280	943	S2				
		Ni- or Co-based	Annealed	250	839	S3				
			Hardened	350	1177	S4				
			Cast	320	1076	S5				
	Titanium alloys	Pure titanium		200	675	S6				
		α and β alloys, hardened		375	1262	S7				
		β alloys		410	1396	S8				
	Tungsten alloys			300	1013	S9				
	Molybdenum alloys			300	1013	S10				
H	Hardened steel	Hardened and tempered		50 HRC	–	H1				
		Hardened and tempered		55 HRC	–	H2				
		Hardened and tempered		60 HRC	–	H3				
	Hardened cast iron	Hardened and tempered		55 HRC	–	H4				
O	Thermoplastics	Without abrasive fillers				O1				
	Thermosets	Without abrasive fillers				O2				
	Plastic, glass-fibre-reinforced	GFRP				O3				
	Plastic, carbon-fibre-reinforced	CFRP				O4				
	Plastic, aramid-fibre-reinforced	AFRP				O5				
	Graphite (technical)			80 Shore		O6				

¹ The classification of the machining groups can be found in the General Catalogue from page C671 onwards.

C 1

Cutting data for solid carbide circle segment milling cutters

							Product family			λ		
							MD838 Supreme MD838 ConeFit			30°		
Material group	Overview of the main material groups and code letters				Brinell hardness HB	Tensile strength R _m N/mm²	Machining group ¹	Ø 6–16 mm				
								Z = 4–8				
								WJ30RD				
								Starting values for cutting speed v _c [sfm]			VT	
								1/5	a _e / D _c 1/20	1/50		
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	428	P1	754	1082	1279	A		
		C > 0.25% to ≤ 0.55%	Annealed	190	639	P2	754	1017	1246	A		
		C > 0.25% to ≤ 0.55%	Heat-treated	210	708	P3	689	918	1017	A		
		C > 0.55%	Annealed	190	639	P4	689	918	1017	A		
		C > 0.55%	Heat-treated	300	1013	P5	558	656	722	A		
		Free-machining steel (short-chipping)	Annealed	220	745	P6	689	918	1082	A		
	Low-alloy steel	Annealed		175	591	P7	689	918	1082	A		
		Heat-treated		300	1013	P8	558	656	787	A		
		Heat-treated		380	1282	P9	459	558	656	A		
		Heat-treated		430	1477	P10	394	492	558	A		
	High-alloy steel and high-alloy tool steel	Annealed		200	675	P11	689	918	1082	A		
		Hardened and tempered		300	1013	P12	558	656	787	A		
		Hardened and tempered		400	1361	P13	394	492	558	A		
	Stainless steel	Ferritic/martensitic, annealed		200	675	P14	295	361	394	A		
		Martensitic, heat-treated		330	1114	P15	230	262	328	A		
M	Stainless steel	Austenitic, quench hardened		200	675	M1						
		Austenitic, precipitation hardened (PH)		300	1013	M2						
		Austenitic/ferritic, duplex		230	778	M3						
K	Malleable cast iron	Ferritic		200	675	K1	590	787	951	A		
		Pearlitic		260	867	K2	492	623	722	A		
	Grey cast iron	Low tensile strength		180	602	K3	590	787	951	A		
		High tensile strength/austenitic		245	825	K4	492	656	787	A		
	Cast iron with spheroidal graphite	Ferritic		155	518	K5	590	787	951	A		
		Pearlitic		265	885	K6	492	623	722	A		
	GGV (CGI)			200	675	K7	426	525	623	A		
N	Wrought aluminium alloys	Not hardenable		30	–	N1						
		Hardenable, hardened		100	343	N2						
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	260	N3						
		≤ 12% Si, hardenable, hardened		90	314	N4						
		> 12% Si, not hardenable		130	447	N5						
	Magnesium-based alloys		70	250	N6							
	Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper		100	343	N7						
		Brass, bronze, red brass		90	314	N8						
Cu alloys, short-chipping		110	382	N9								
High tensile, Ampco		300	1013	N10								
S	Heat-resistant alloys	Fe-based	Annealed	200	675	S1						
			Hardened	280	943	S2						
		Ni- or Co-based	Annealed	250	839	S3						
			Hardened	350	1177	S4						
			Cast	320	1076	S5						
	Titanium alloys	Pure titanium		200	675	S6						
		α and β alloys, hardened		375	1262	S7						
		β alloys		410	1396	S8						
	Tungsten alloys			300	1013	S9						
Molybdenum alloys			300	1013	S10							
H	Hardened steel	Hardened and tempered		50 HRC	–	H1						
		Hardened and tempered		55 HRC	–	H2						
		Hardened and tempered		60 HRC	–	H3						
		Hardened cast iron		55 HRC	–	H4						
O	Thermoplastics	Without abrasive fillers					O1					
	Thermosets	Without abrasive fillers					O2					
	Plastic, glass-fibre-reinforced	GFRP					O3					
	Plastic, carbon-fibre-reinforced	CFRP					O4					
	Plastic, aramid-fibre-reinforced	AFRP					O5					
	Graphite (technical)			80 Shore			O6					

¹ The classification of the machining groups can be found in the General Catalogue from page C671 onwards.

C 1

Feed determination

The specified feed rates are average standard values.
For specific applications, adjustment is recommended.

A Material groups ISO P, ISO K and titanium alloys

a _e [inch]*	Feed per tooth f _z inch													
	Dia. 1/64	Dia. 1/32	Dia. 1/16	Dia. 1/8	Dia. 3/16	Dia. 1/4	Dia. 5/16	Dia. 3/8	Dia. 1/2	Dia. 9/16	Dia. 5/8	Dia. 11/16	Dia. 3/4	Dia. 1
0.0005	0.0008	0.0012	0.0024	0.0035	0.0047	0.0059	0.0059	0.0079						
0.0020	0.0006	0.0010	0.0016	0.0028	0.0039	0.0047	0.0059	0.0079						
0.0040	0.0005	0.0008	0.0014	0.0020	0.0031	0.0039	0.0059	0.0079	0.0079	0.0079	0.0079			
0.0080	0.0004	0.0006	0.0012	0.0016	0.0024	0.0031	0.0059	0.0071	0.0079	0.0079	0.0079	0.0079	0.0098	
0.0156	0.0004	0.0005	0.0010	0.0012	0.0020	0.0028	0.0047	0.0059	0.0059	0.0059	0.0059	0.0079	0.0098	0.0098
0.0312		0.0004	0.0010	0.0012	0.0016	0.0024	0.0035	0.0047	0.0047	0.0047	0.0047	0.0059	0.0079	0.0098
0.0625			0.0008	0.0012	0.0012	0.0020	0.0031	0.0043	0.0047	0.0047	0.0047	0.0059	0.0079	0.0079
0.1250				0.0008	0.0010	0.0018	0.0030	0.0041	0.0047	0.0047	0.0047	0.0053	0.0069	0.0079
0.1875					0.0008	0.0016	0.0028	0.0039	0.0047	0.0047	0.0047	0.0047	0.0059	0.0079
0.2500						0.0012	0.0024	0.0031	0.0039	0.0039	0.0047	0.0047	0.0059	0.0079
0.3125							0.0020	0.0028	0.0035	0.0039	0.0047	0.0047	0.0059	0.0079
0.3750								0.0024	0.0031	0.0039	0.0047	0.0047	0.0055	0.0063
0.5000									0.0028	0.0035	0.0043	0.0047	0.0055	0.0063
0.5625										0.0031	0.0039	0.0047	0.0051	0.0059
0.6250											0.0035	0.0039	0.0047	0.0059
0.6875												0.0039	0.0043	0.0051
0.7500													0.0039	0.0047
1.0000														0.0039

A Material groups ISO P, ISO K and titanium alloys

a _e [mm]*	Feed per tooth f _z [mm]																						
	Dia. 0.3 mm	Dia. 0.5 mm	Dia. 1 mm	Dia. 2 mm	Dia. 3 mm	Dia. 4 mm	Dia. 6 mm	Dia. 8 mm	Dia. 10 mm	Dia. 12 mm	Dia. 14 mm	Dia. 16 mm	Dia. 18 mm	Dia. 20 mm	Dia. 25 mm	Dia. 32 mm	Dia. 40 mm	Dia. 50 mm	Dia. 63 mm	Dia. 80 mm	Dia. 100 mm	Dia. 160 mm	Dia. 200 mm
0.01	0.02	0.02	0.03	0.06	0.09	0.12	0.15	0.15	0.20														
0.05	0.01	0.01	0.02	0.04	0.07	0.10	0.12	0.15	0.20														
0.1	0.01	0.01	0.02	0.03	0.05	0.08	0.10	0.15	0.20	0.20	0.20	0.20											
0.2	0.01	0.01	0.01	0.03	0.04	0.06	0.08	0.15	0.18	0.20	0.20	0.20	0.20	0.25									
0.5		0.01	0.01	0.02	0.03	0.05	0.07	0.12	0.15	0.15	0.15	0.15	0.20	0.25	0.25								
1			0.01	0.02	0.03	0.04	0.06	0.09	0.12	0.12	0.12	0.12	0.15	0.20	0.25	0.25	0.30	0.30	0.30	0.40	0.40	0.50	0.50
2				0.02	0.03	0.03	0.05	0.08	0.11	0.12	0.12	0.12	0.15	0.20	0.20	0.25	0.25	0.25	0.30	0.30	0.40	0.40	0.40
3					0.02	0.02	0.04	0.07	0.10	0.12	0.12	0.12	0.14	0.18	0.20	0.20	0.25	0.25	0.25	0.30	0.30	0.40	0.40
5						0.02	0.04	0.07	0.10	0.12	0.12	0.12	0.12	0.15	0.20	0.20	0.20	0.25	0.25	0.25	0.30	0.30	0.30
6							0.03	0.06	0.08	0.10	0.10	0.12	0.12	0.15	0.20	0.20	0.20	0.20	0.25	0.25	0.25	0.30	0.30
8								0.05	0.07	0.09	0.10	0.12	0.12	0.15	0.20	0.20	0.20	0.20	0.25	0.25	0.25	0.25	0.30
10									0.06	0.08	0.10	0.12	0.12	0.14	0.16	0.20	0.20	0.20	0.20	0.20	0.25	0.25	0.25
12										0.07	0.09	0.11	0.12	0.14	0.16	0.16	0.20	0.20	0.20	0.20	0.20	0.25	0.25
14											0.08	0.10	0.12	0.13	0.15	0.16	0.16	0.20	0.20	0.20	0.20	0.20	0.25
16												0.09	0.10	0.12	0.15	0.15	0.16	0.16	0.20	0.20	0.20	0.20	0.20
18													0.10	0.11	0.13	0.15	0.15	0.16	0.16	0.20	0.20	0.20	0.20
20														0.10	0.12	0.13	0.15	0.15	0.16	0.16	0.20	0.20	0.20
25															0.10	0.12	0.13	0.15	0.15	0.16	0.16	0.20	0.20
32																0.10	0.12	0.13	0.15	0.15	0.16	0.16	0.20
40																	0.10	0.12	0.13	0.15	0.15	0.16	0.16
50																		0.10	0.12	0.13	0.15	0.15	0.16
63																			0.10	0.12	0.13	0.15	0.15
80																				0.10	0.12	0.13	0.15
100																					0.10	0.12	0.13
160																						0.10	0.12
200																							0.10

The specified feed rates are average standard values.
For specific applications, adjustment is recommended.

B Material groups ISO M. ISO H. heat-resistant alloys. tungsten alloys and molybdenum alloys

a _e [inch]*	Feed per tooth f _z inch													
	Dia. 1/64	Dia. 1/32	Dia. 1/16	Dia. 1/8	Dia. 3/16	Dia. 1/4	Dia. 5/16	Dia. 3/8	Dia. 1/2	Dia. 9/16	Dia. 5/8	Dia. 11/16	Dia. 3/4	Dia. 1
0.0005	0.0006	0.0012	0.0020	0.0031	0.0039	0.0047	0.0047	0.0063						
0.0020	0.0005	0.0008	0.0016	0.0024	0.0031	0.0039	0.0047	0.0063						
0.0040	0.0004	0.0006	0.0012	0.0016	0.0024	0.0031	0.0047	0.0063	0.0063	0.0063	0.0063			
0.0080	0.0003	0.0005	0.0010	0.0014	0.0020	0.0024	0.0047	0.0055	0.0063	0.0063	0.0063	0.0063	0.0079	
0.0156	0.0003	0.0004	0.0008	0.0010	0.0016	0.0024	0.0039	0.0047	0.0047	0.0047	0.0047	0.0063	0.0079	0.0079
0.0312		0.0004	0.0008	0.0010	0.0012	0.0019	0.0031	0.0039	0.0039	0.0039	0.0039	0.0047	0.0063	0.0079
0.0625			0.0006	0.0008	0.0010	0.0020	0.0028	0.0035	0.0039	0.0039	0.0039	0.0047	0.0063	0.0063
0.1250				0.0006	0.0009	0.0018	0.0026	0.0033	0.0039	0.0039	0.0039	0.0043	0.0055	0.0063
0.1875					0.0008	0.0016	0.0024	0.0031	0.0039	0.0039	0.0039	0.0039	0.0047	0.0063
0.2500						0.0012	0.0020	0.0028	0.0031	0.0031	0.0039	0.0039	0.0047	0.0063
0.3125							0.0016	0.0024	0.0031	0.0031	0.0039	0.0039	0.0047	0.0063
0.3750								0.0020	0.0028	0.0031	0.0039	0.0039	0.0047	0.0055
0.5000									0.0024	0.0028	0.0035	0.0039	0.0047	0.0055
0.5625										0.0028	0.0031	0.0039	0.0047	0.0055
0.6250											0.0028	0.0031	0.0039	0.0047
0.6875												0.0031	0.0039	0.0047
0.7500													0.0031	0.0039
1.0000														0.0039

B Material groups ISO M. ISO H. heat-resistant alloys. tungsten alloys and molybdenum alloys

a _e [mm]*	Feed per tooth f _z [mm]																							
	Dia. 0.3 mm	Dia. 0.5 mm	Dia. 1 mm	Dia. 2 mm	Dia. 3 mm	Dia. 4 mm	Dia. 6 mm	Dia. 8 mm	Dia. 10 mm	Dia. 12 mm	Dia. 14 mm	Dia. 16 mm	Dia. 18 mm	Dia. 20 mm	Dia. 25 mm	Dia. 32 mm	Dia. 40 mm	Dia. 50 mm	Dia. 63 mm	Dia. 80 mm	Dia. 100 mm	Dia. 160 mm	Dia. 200 mm	
0.01	0.02	0.02	0.02	0.05	0.07	0.10	0.12	0.12	0.16															
0.05	0.01	0.01	0.02	0.03	0.06	0.08	0.10	0.12	0.16															
0.1	0.01	0.01	0.02	0.03	0.04	0.06	0.08	0.12	0.16	0.16	0.16	0.16												
0.2	0.01	0.01	0.01	0.02	0.03	0.05	0.06	0.12	0.14	0.16	0.16	0.16	0.16	0.20										
0.5		0.01	0.01	0.02	0.02	0.04	0.06	0.10	0.12	0.12	0.12	0.12	0.16	0.20	0.20									
1			0.01	0.02	0.02	0.03	0.05	0.07	0.10	0.10	0.10	0.10	0.12	0.16	0.20	0.20	0.24	0.24	0.24	0.32	0.32	0.40	0.40	
2				0.02	0.02	0.02	0.04	0.06	0.09	0.10	0.10	0.10	0.12	0.16	0.16	0.20	0.20	0.20	0.24	0.24	0.32	0.32	0.32	
3					0.02	0.02	0.04	0.06	0.08	0.10	0.10	0.10	0.11	0.14	0.16	0.16	0.20	0.20	0.20	0.24	0.24	0.32	0.32	
5						0.02	0.03	0.06	0.08	0.10	0.10	0.10	0.10	0.12	0.16	0.16	0.16	0.20	0.20	0.20	0.24	0.24	0.24	
6							0.02	0.05	0.06	0.08	0.08	0.10	0.10	0.12	0.16	0.16	0.16	0.16	0.20	0.20	0.20	0.24	0.24	
8								0.04	0.06	0.07	0.08	0.10	0.10	0.12	0.16	0.16	0.16	0.16	0.16	0.20	0.20	0.20	0.20	
10									0.05	0.06	0.08	0.10	0.10	0.11	0.13	0.16	0.16	0.16	0.16	0.16	0.20	0.20	0.20	
12										0.06	0.07	0.09	0.10	0.11	0.13	0.13	0.16	0.16	0.16	0.16	0.16	0.20	0.20	
14											0.06	0.08	0.10	0.10	0.12	0.13	0.13	0.16	0.16	0.16	0.16	0.20	0.20	
16												0.07	0.08	0.10	0.12	0.12	0.13	0.13	0.16	0.16	0.16	0.16	0.16	
18													0.08	0.09	0.10	0.12	0.12	0.13	0.13	0.16	0.16	0.16	0.16	
20														0.08	0.10	0.10	0.12	0.12	0.13	0.13	0.16	0.16	0.16	
25															0.08	0.10	0.10	0.12	0.12	0.13	0.13	0.16	0.16	
32																0.08	0.10	0.10	0.12	0.12	0.13	0.13	0.16	
40																	0.08	0.10	0.10	0.12	0.12	0.13	0.13	
50																		0.08	0.10	0.10	0.12	0.12	0.13	
63																			0.08	0.10	0.10	0.12	0.12	
80																				0.08	0.10	0.10	0.12	
100																					0.08	0.10	0.10	
160																						0.08	0.10	
200																							0.08	

C 1

Feed determination

(continued)

The specified feed rates are average standard values.
For specific applications, adjustment is recommended.

C

Material groups ISO N and ISO O

a _e [inch]*	Feed per tooth f _z inch													
	Dia. 1/64	Dia. 1/32	Dia. 1/16	Dia. 1/8	Dia. 3/16	Dia. 1/4	Dia. 5/16	Dia. 3/8	Dia. 1/2	Dia. 9/16	Dia. 5/8	Dia. 11/16	Dia. 3/4	Dia. 1
0.0005	0.0016	0.0024	0.0039	0.0063	0.0079	0.0098	0.0098	0.0098						
0.0020	0.0012	0.0020	0.0031	0.0047	0.0071	0.0079	0.0098	0.0098						
0.0040	0.0010	0.0016	0.0024	0.0039	0.0055	0.0071	0.0098	0.0098	0.0098	0.0098	0.0098			
0.0080	0.0008	0.0012	0.0020	0.0031	0.0039	0.0055	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	
1/64	0.0008	0.0008	0.0020	0.0024	0.0035	0.0047	0.0079	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098
1/32		0.0006	0.0020	0.0024	0.0028	0.0039	0.0063	0.0087	0.0087	0.0087	0.0087	0.0098	0.0098	0.0098
1/16			0.0016	0.0020	0.0024	0.0031	0.0055	0.0087	0.0087	0.0087	0.0087	0.0098	0.0098	0.0098
1/8				0.0016	0.0020	0.0030	0.0051	0.0087	0.0087	0.0087	0.0087	0.0093	0.0098	0.0098
3/16					0.0016	0.0028	0.0047	0.0087	0.0087	0.0087	0.0087	0.0087	0.0098	0.0098
1/4						0.0020	0.0039	0.0055	0.0071	0.0079	0.0087	0.0087	0.0098	0.0098
5/16							0.0035	0.0063	0.0079	0.0087	0.0087	0.0087	0.0098	0.0098
3/8								0.0039	0.0055	0.0071	0.0087	0.0087	0.0098	0.0098
1/2									0.0047	0.0063	0.0079	0.0087	0.0098	0.0098
9/16										0.0055	0.0071	0.0087	0.0098	0.0098
5/8											0.0063	0.0071	0.0087	0.0098
11/16												0.0071	0.0079	0.0098
3/4													0.0071	0.0079
1														0.0079

C

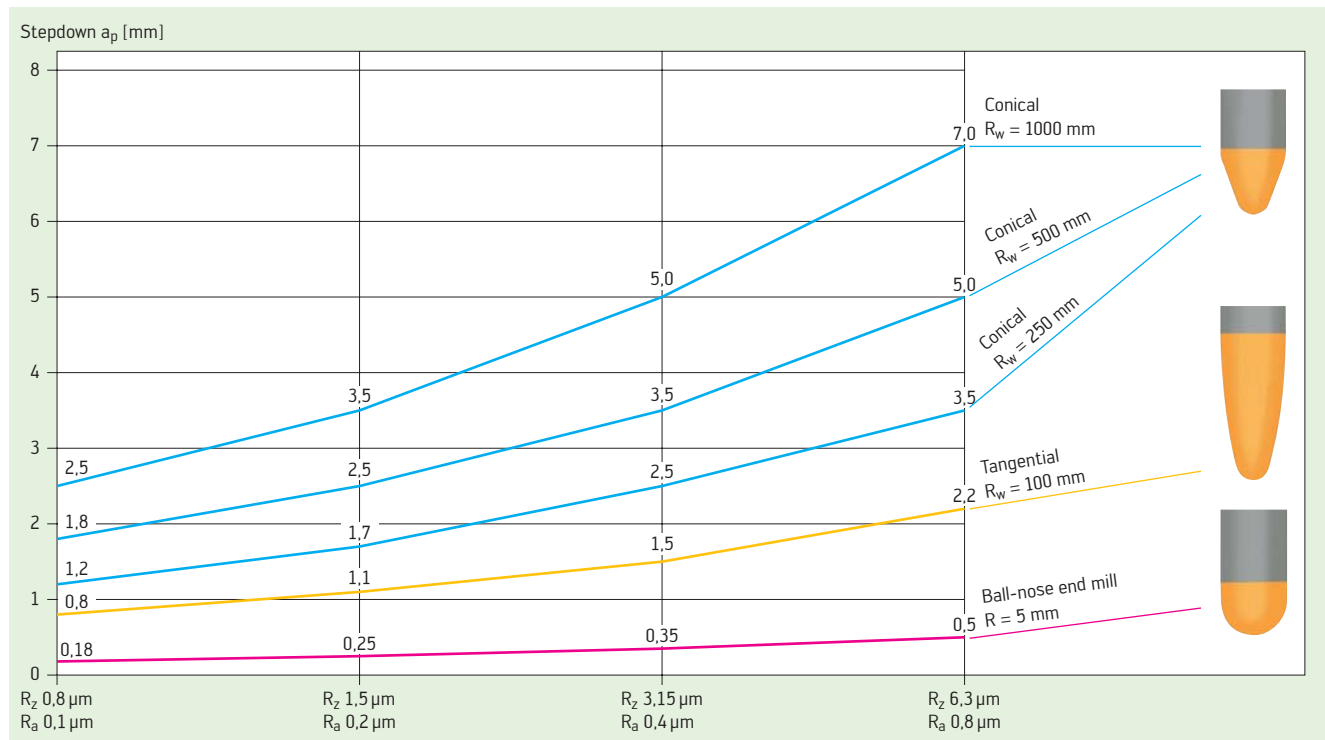
Material groups ISO N and ISO O

a _e [mm]*	Feed per tooth f _z [mm]																						
	Dia. 0.3 mm	Dia. 0.5 mm	Dia. 1 mm	Dia. 2 mm	Dia. 3 mm	Dia. 4 mm	Dia. 6 mm	Dia. 8 mm	Dia. 10 mm	Dia. 12 mm	Dia. 14 mm	Dia. 16 mm	Dia. 18 mm	Dia. 20 mm	Dia. 25 mm	Dia. 32 mm	Dia. 40 mm	Dia. 50 mm	Dia. 63 mm	Dia. 80 mm	Dia. 100 mm	Dia. 160 mm	Dia. 200 mm
0.01	0.04	0.04	0.07	0.13	0.20	0.26	0.33	0.33	0.44														
0.05	0.03	0.03	0.06	0.09	0.15	0.22	0.26	0.33	0.44														
0.1	0.02	0.03	0.04	0.08	0.11	0.18	0.22	0.33	0.44	0.44	0.44	0.44											
0.2	0.02	0.02	0.03	0.07	0.09	0.13	0.18	0.33	0.40	0.44	0.44	0.44	0.50										
0.5		0.02	0.03	0.06	0.07	0.11	0.15	0.26	0.33	0.33	0.33	0.33	0.44	0.50	0.50								
1			0.02	0.06	0.07	0.09	0.13	0.20	0.26	0.26	0.26	0.26	0.33	0.44	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
2				0.04	0.07	0.07	0.11	0.18	0.24	0.26	0.26	0.26	0.33	0.44	0.44	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
3					0.04	0.06	0.10	0.17	0.23	0.26	0.26	0.26	0.30	0.39	0.44	0.44	0.50	0.50	0.50	0.50	0.50	0.50	0.50
5						0.04	0.09	0.15	0.22	0.26	0.26	0.26	0.26	0.33	0.44	0.44	0.44	0.50	0.50	0.50	0.50	0.50	0.50
6							0.07	0.13	0.18	0.22	0.22	0.26	0.26	0.33	0.44	0.44	0.44	0.44	0.50	0.50	0.50	0.50	0.50
8								0.11	0.15	0.20	0.22	0.26	0.26	0.33	0.44	0.44	0.44	0.44	0.44	0.55	0.55	0.55	0.55
10									0.13	0.18	0.22	0.26	0.26	0.31	0.35	0.44	0.44	0.44	0.44	0.44	0.50	0.55	0.55
12										0.15	0.20	0.24	0.26	0.31	0.35	0.35	0.44	0.44	0.44	0.44	0.50	0.55	0.55
14											0.18	0.22	0.26	0.29	0.33	0.35	0.35	0.44	0.44	0.44	0.44	0.50	0.50
16												0.20	0.22	0.26	0.33	0.33	0.35	0.35	0.44	0.44	0.44	0.44	0.44
18													0.22	0.24	0.29	0.33	0.33	0.35	0.35	0.44	0.44	0.44	0.44
20														0.22	0.26	0.29	0.33	0.33	0.35	0.35	0.44	0.44	0.44
25															0.22	0.26	0.29	0.33	0.33	0.35	0.35	0.44	0.44
32																0.22	0.26	0.29	0.33	0.33	0.35	0.35	0.44
40																	0.22	0.26	0.29	0.33	0.33	0.35	0.35
50																		0.22	0.26	0.29	0.33	0.33	0.35
63																			0.22	0.26	0.29	0.33	0.33
80																				0.22	0.26	0.29	0.33
100																					0.22	0.26	0.29
160																						0.22	0.26
200																							0.22

C1

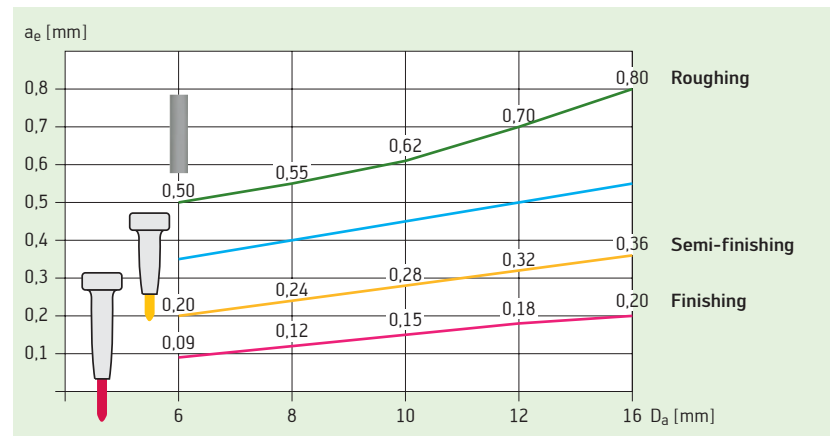
Recommendations for the use of circle segment milling cutters

Standard values for axial depth of cut a_p [mm] depending on the tool type and depth of surface roughness



Example using feed b_f/a_p of 5 mm
With lower a_p , higher a_e is possible
due to the effect of force.

Standard values a_e [mm] depending on the outer diameter D_a [mm] and projection length



Standard values for cutting speed and feed per tooth

	Material designation	Tensile strength/hardness	v_c [m/min]	f_z [mm]
ISO P	S2335	800 N/mm ²	300	0.07
	42CrMo4	1000 N/mm ²	220	0.06
		1400 N/mm ²	180	0.05
ISO M	1.4301		200	0.07
	1.4571		180	0.05
ISO K			350	0.15
ISO S	TiAl6V4		110	0.08
	Inconel 718		50	0.035
ISO N			400	0.2
ISO H	1.2344	Up to 54 HRC	150	0.03

Indexable inserts for milling product range overview

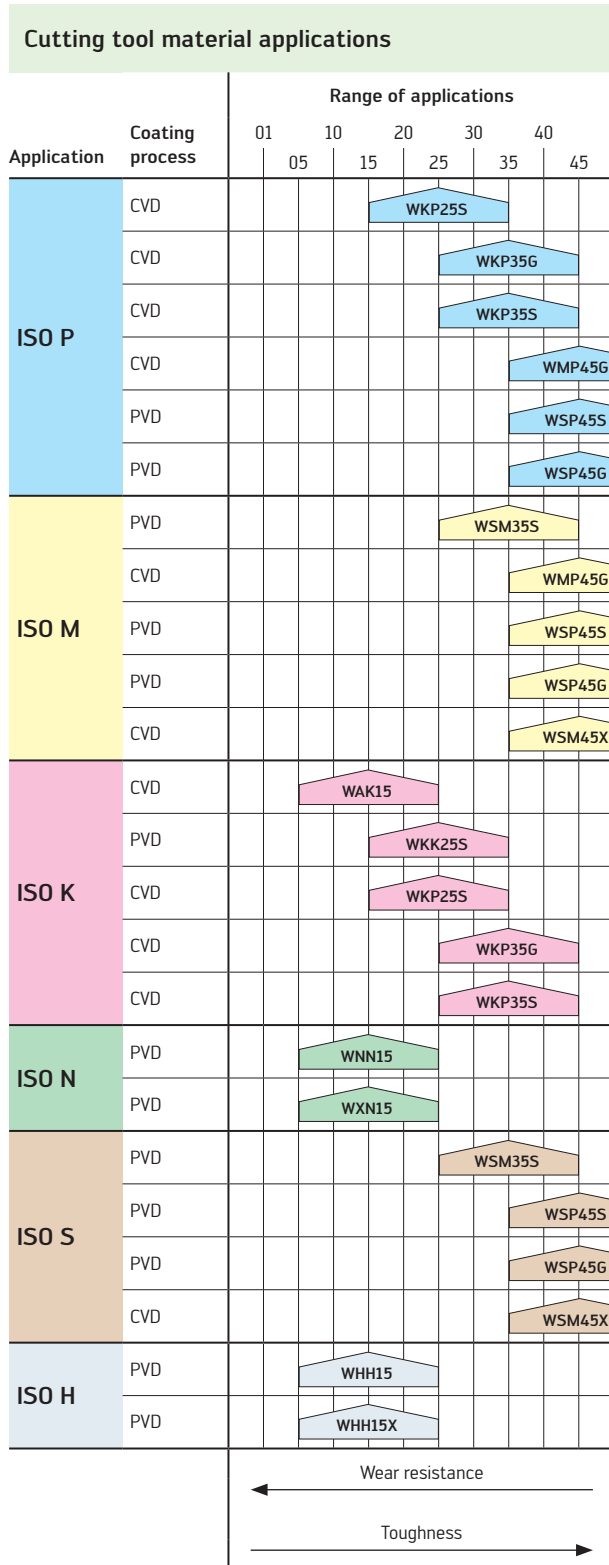


Insert shape		Description	Page
	A	Positive rhombic for Xtra-tec® XT	190
	B	Positive rhombic for Xtra-tec® XT	192
	E	Double-sided rhombic for Xtra-tec® XT	205
	L	Double-sided rhombic for Xtra-tec®	205
		Tangential rhombic for Walter BLAXX	214
	M	Positive rhombic	194
	O	Positive octagonal for Xtra-tec®	194
		Finishing inserts	203
		Double-sided octagonal	206
	R	Positive round	197
	S	Positive square	199
		Double-sided square for Xtra-tec®/Xtra-tec® XT	211
	T	Double-sided triangular for Xtra-tec® XT	209

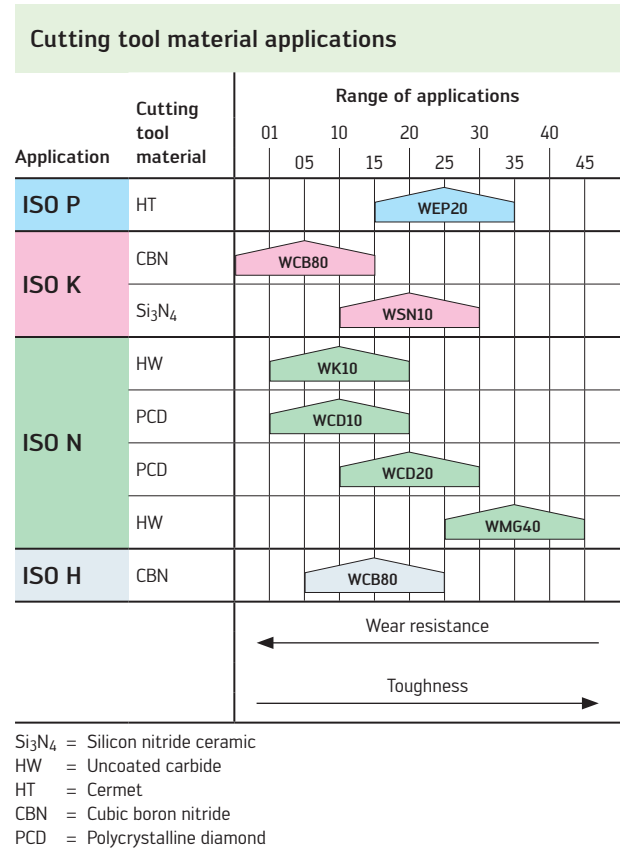
Insert shape		Description	Page
	X	Double-sided heptagon for Walter BLAXX	210
	X	Tangential for Walter BLAXX	215
	X	Positive form inserts for copy milling cutters	202
	P 236 . .	Double-sided triangular for Xtra-tec® high-feed milling cutters	206
	P 263 . .	Positive triangular for high-feed milling cutters for copy milling cutters	195
	P 32 . .	Indexable inserts for profile milling cutters	196
	P 29 . .	Positive finishing inserts	204
		Double-sided finishing inserts	

Cutting tool materials for milling product range overview

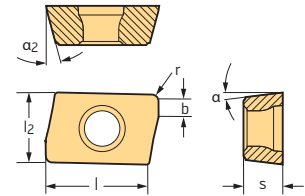
Cutting tool materials:
Coated carbide



Cutting tool materials:
Uncoated carbide, cermet, ceramic, CBN and PCD



Positive rhombic ACMT Tiger-tec® Gold

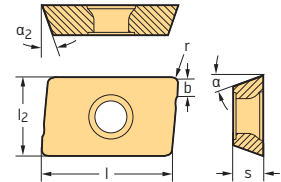


Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	α ₂	r in	b in	P HC				M HC		K HC				S HC					
											WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
	ACMT060202R-G55	M	2	0.173	0.264	0.094	7°	15°	0.008	0.039																
	ACMT060204R-G55	M	2	0.173	0.264	0.094	7°	15°	0.016	0.035																
	ACMT060208R-G55	M	2	0.173	0.264	0.094	7°	15°	0.031	0.031																
	ACMT060212R-G55	M	2	0.173	0.264	0.094	7°	15°	0.047	0.024																
	ACMT060216R-G55	M	2	0.173	0.264	0.094	7°	15°	0.063	0.004																

HC = Coated carbide

Positive rhombic ADMT Tiger-tec® Gold



Indexable inserts

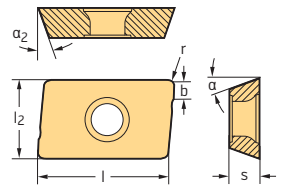
Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	α ₂	r in	b in	P				M				K				S				
										HC				HC				HC				HC				
										WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WSM35S	WSM45X	WSP45S
	ADMT080302R-F56	M	2	0.266	0.375	0.132	15°	20°	0.008	0.047																
	ADMT080304R-F56	M	2	0.266	0.375	0.132	15°	20°	0.016	0.047																
	ADMT080304L-F56	M	2	0.266	0.375	0.132	15°	20°	0.016	0.047																
	ADMT080308R-F56	M	2	0.266	0.375	0.132	15°	20°	0.031	0.047																
	ADMT080308L-F56	M	2	0.266	0.375	0.132	15°	20°	0.031	0.047																
	ADMT080312R-F56	M	2	0.266	0.375	0.132	15°	20°	0.047	0.039																
	ADMT080316R-F56	M	2	0.266	0.375	0.132	15°	20°	0.063	0.039																
	ADMT080320R-F56	M	2	0.266	0.375	0.132	15°	20°	0.079	0.039																
	ADMT10T304R-F56	M	2	0.285	0.445	0.150	15°	15°	0.016	0.047																
	ADMT10T308R-F56	M	2	0.285	0.445	0.150	15°	15°	0.031	0.047																
	ADMT10T312R-F56	M	2	0.285	0.445	0.150	15°	15°	0.047	0.047																
	ADMT10T316R-F56	M	2	0.285	0.445	0.150	15°	15°	0.063	0.047																
	ADMT10T320R-F56	M	2	0.285	0.445	0.150	15°	15°	0.079	0.039																
	ADMT10T325R-F56	M	2	0.285	0.445	0.150	15°	15°	0.098	0.039																
	ADMT10T330R-F56	M	2	0.285	0.445	0.150	15°	15°	0.118	0.031																
	ADMT10T332R-F56	M	2	0.285	0.445	0.150	15°	15°	0.126	0.031																
	ADMT120404R-F56	M	2	0.331	0.535	0.187	15°	20°	0.016	0.047																
	ADMT120408R-F56	M	2	0.331	0.535	0.187	15°	20°	0.031	0.047																
	ADMT120408L-F56	M	2	0.331	0.535	0.187	15°	20°	0.031	0.047																
	ADMT120412R-F56	M	2	0.331	0.535	0.187	15°	20°	0.047	0.047																

HC = Coated carbide

/ ★ New addition to the product range

Positive rhombic ADMT

Tiger-tec® Gold

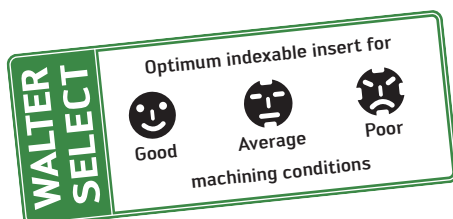


Indexable inserts



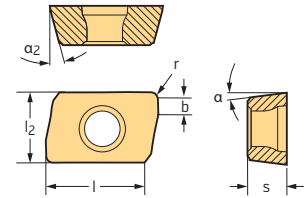
Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	α ₂	r in	b in	P					M				K				S				
										HC					HC				HC				HC				
										WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WSM35S	WSM45X	WSP45S	WSP45G
ADMT120416R-F56	M	2	0.331	0.535	0.187	15°	20°	0.063	0.039	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120416L-F56	M	2	0.331	0.535	0.187	15°	20°	0.063	0.039	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120420R-F56	M	2	0.331	0.535	0.187	15°	20°	0.079	0.039	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120425R-F56	M	2	0.331	0.535	0.187	15°	20°	0.098	0.031	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120425L-F56	M	2	0.331	0.535	0.187	15°	20°	0.098	0.031	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120430R-F56	M	2	0.331	0.535	0.187	15°	20°	0.118	0.031	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120430L-F56	M	2	0.331	0.535	0.187	15°	20°	0.118	0.031	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120432R-F56	M	2	0.331	0.535	0.187	15°	20°	0.126	0.031	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120440R-F56	M	2	0.331	0.535	0.187	15°	20°	0.157	0.016	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT120440L-F56	M	2	0.331	0.535	0.187	15°	20°	0.157	0.016	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160608R-F56	M	2	0.425	0.689	0.242	15°	20°	0.031	0.063	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
ADMT160608L-F56	M	2	0.425	0.689	0.242	15°	20°	0.031	0.063	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160612R-F56	M	2	0.425	0.689	0.242	15°	20°	0.047	0.063	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160616R-F56	M	2	0.425	0.689	0.242	15°	20°	0.063	0.055	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160616L-F56	M	2	0.425	0.689	0.242	15°	20°	0.063	0.055	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160620R-F56	M	2	0.425	0.689	0.242	15°	20°	0.079	0.055	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160625R-F56	M	2	0.425	0.689	0.242	15°	20°	0.098	0.047	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160625L-F56	M	2	0.425	0.689	0.242	15°	20°	0.098	0.047	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160630R-F56	M	2	0.425	0.689	0.242	15°	20°	0.118	0.047	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160630L-F56	M	2	0.425	0.689	0.242	15°	20°	0.118	0.047	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160632R-F56	M	2	0.425	0.689	0.242	15°	20°	0.126	0.047	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160640R-F56	M	2	0.425	0.689	0.242	15°	20°	0.157	0.039	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160640L-F56	M	2	0.425	0.689	0.242	15°	20°	0.157	0.039	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160650R-F56	M	2	0.425	0.689	0.242	15°	20°	0.197		☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT160660R-F56	M	2	0.425	0.689	0.242	15°	20°	0.236		☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
ADMT180712R-F56	M	2	0.571	0.748	0.277	15°	17°	0.047	0.071	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺

HC = Coated carbide



Positive rhombic BCGT / BCHT / BCMT

Tiger-tec® Gold



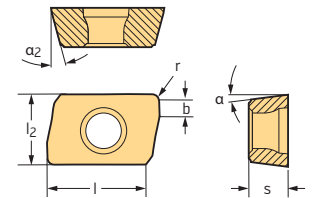
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	α ₂	r in	b in	P					M			K				N		S						
											HC					HC			HC				HC				HC	HW	HC		
											WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKP25S	WKP35G	WKP35S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G			
	BCGT090304R-G55	G	2	0.248	0.406	0.126	7°	15°	0.016	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCGT120408R-G55	G	2	0.299	0.543	0.189	7°	15°	0.031	0.051	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCGT160508R-G55	G	2	0.390	0.681	0.226	7°	15°	0.031	0.079	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCGT090304R-K85	G	2	0.248	0.406	0.126	7°	15°	0.016	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
											☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120408R-K85	H	2	0.299	0.543	0.189	7°	15°	0.031	0.051	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120412R-K85	H	2	0.299	0.543	0.189	7°	15°	0.047	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120416R-K85	H	2	0.299	0.543	0.189	7°	15°	0.063	0.043	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120420R-K85	H	2	0.299	0.543	0.189	7°	15°	0.079	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120425R-K85	H	2	0.299	0.543	0.189	7°	15°	0.098	0.039	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120430R-K85	H	2	0.299	0.543	0.189	7°	15°	0.118	0.028	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT120440R-K85	H	2	0.299	0.543	0.189	7°	15°	0.157	0.016	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160508R-K85	H	2	0.390	0.681	0.226	7°	15°	0.031	0.079	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160512R-K85	H	2	0.390	0.681	0.226	7°	15°	0.047	0.067	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160516R-K85	H	2	0.390	0.681	0.226	7°	15°	0.063	0.067	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160520R-K85	H	2	0.390	0.681	0.226	7°	15°	0.079	0.059	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160525R-K85	H	2	0.390	0.681	0.226	7°	15°	0.098	0.055	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160530R-K85	H	2	0.390	0.681	0.226	7°	15°	0.118	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCHT160540R-K85	H	2	0.390	0.681	0.226	7°	15°	0.157	0.043	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCMT090304R-F55	M	2	0.248	0.406	0.126	7°	15°	0.016	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCMT120408R-F55	M	2	0.299	0.543	0.189	7°	15°	0.031	0.051	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				
	BCMT160508R-F55	M	2	0.390	0.681	0.226	7°	15°	0.031	0.079	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺				

HC = Coated carbide
HW = Uncoated carbide

Positive rhombic BCGT / BCHT / BCMT

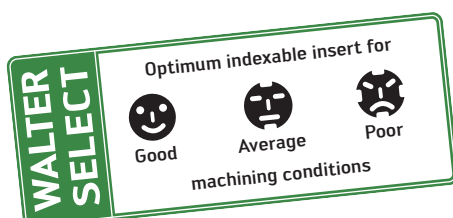
Tiger-tec® Gold



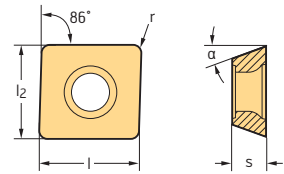
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	α ₂	r in	b in	P				M		K				N		S					
											HC				HC		HC		HC		HC		HC					
											WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	BCMT090302R-G55	M	2	0.248	0.406	0.126	7°	15°	0.008	0.055																		
	BCMT090304R-G55	M	2	0.248	0.406	0.126	7°	15°	0.016	0.047																		
	BCMT090308R-G55	M	2	0.248	0.406	0.126	7°	15°	0.031	0.031																		
	BCMT090312R-G55	M	2	0.248	0.406	0.126	7°	15°	0.047	0.016																		
	BCMT090316R-G55	M	2	0.248	0.406	0.126	7°	15°	0.063	0.016																		
	BCMT090320R-G55	M	2	0.248	0.406	0.126	7°	15°	0.079	0.016																		
	BCMT120404R-G55	M	2	0.299	0.543	0.189	7°	15°	0.016	0.051																		
	BCMT120408R-G55	M	2	0.299	0.543	0.189	7°	15°	0.031	0.051																		
	BCMT120412R-G55	M	2	0.299	0.543	0.189	7°	15°	0.047	0.047																		
	BCMT120416R-G55	M	2	0.299	0.543	0.189	7°	15°	0.063	0.043																		
	BCMT120420R-G55	M	2	0.299	0.543	0.189	7°	15°	0.079	0.047																		
	BCMT120425R-G55	M	2	0.299	0.543	0.189	7°	15°	0.098	0.039																		
	BCMT120430R-G55	M	2	0.299	0.543	0.189	7°	15°	0.118	0.028																		
	BCMT120432R-G55	M	2	0.299	0.543	0.189	7°	15°	0.126	0.020																		
	BCMT120440R-G55	M	2	0.299	0.543	0.189	7°	15°	0.157	0.016																		
	BCMT160508R-G55	M	2	0.390	0.681	0.226	7°	15°	0.031	0.079																		
	BCMT160512R-G55	M	2	0.390	0.681	0.226	7°	15°	0.047	0.067																		
	BCMT160516R-G55	M	2	0.390	0.681	0.226	7°	15°	0.063	0.059																		

HC = Coated carbide
HW = Uncoated carbide



Positive rhombic MPMX / MPMT Tiger-tec® Gold

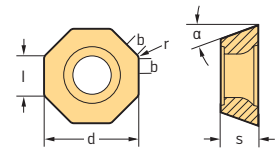


Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	r in	P HC					M HC			K HC			S HC		
									WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
	MPMX060304-F57	M	2	0.250	0.250	0.125	11°	0.016	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
	MPMX080305-F57	M	2	0.327	0.327	0.125	11°	0.020	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖
	MPMT120408-F57	M	2	0.500	0.500	0.187	11°	0.031	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖	✖

HC = Coated carbide

Positive octagonal ODHT / ODMT Tiger-tec® Gold



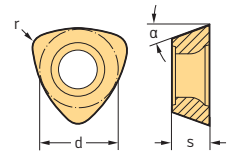
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l in	d in	s in	α	r in	b in	P HC					M HC				K HC				S HC				
										WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WKP25S	WKP25S	WKP35G	WKP35S	WSM35S	WSM45X	WSP45S	WSP45G	
	ODHT050408-F57	H	8	0.207	0.500	0.187	15°	0.031			✖	✖	✖	✖	✖			✖	✖			✖	✖			✖	✖
	ODHT060512-F57	H	8	0.259	0.625	0.219	15°	0.047			✖	✖	✖	✖	✖			✖	✖			✖	✖			✖	✖
	ODHT0504ZZN-F57	H	8	0.207	0.500	0.187	15°	0.031	0.047	✖	✖	✖	✖	✖	✖	✖		✖	✖	✖	✖	✖	✖	✖		✖	✖
	ODHT0605ZZN-F57	H	8	0.259	0.625	0.219	15°	0.031	0.063	✖	✖	✖	✖	✖	✖	✖	✖		✖	✖	✖	✖	✖	✖		✖	✖
	ODMT050408-D57	M	8	0.207	0.500	0.187	15°	0.031			✖	✖	✖	✖	✖	✖		✖	✖	✖	✖	✖	✖	✖		✖	✖
	ODMT060512-D57	M	8	0.259	0.625	0.219	15°	0.047			✖	✖	✖	✖	✖	✖		✖	✖	✖	✖	✖	✖	✖		✖	✖
	ODMT0504ZZN-D57	M	8	0.207	0.500	0.187	15°	0.031	0.047	✖	✖	✖	✖	✖	✖	✖	✖		✖	✖	✖	✖	✖	✖	✖	✖	✖
	ODMT0605ZZN-D57	M	8	0.259	0.625	0.219	15°	0.031	0.063	✖	✖	✖	✖	✖	✖	✖	✖	✖		✖	✖	✖	✖	✖	✖	✖	✖

HC = Coated carbide

Positive triangular P26335 / P26339

Tiger-tec® Gold



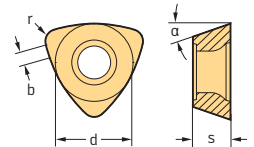
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	s in	α	r in	P HC					M HC			K HC			S HC		
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
	P26335R10	M	3	0.266	0.125	14°	0.031														
	P26335R14	M	3	0.375	0.156	14°	0.047														
	P26335R25	M	3	0.512	0.219	14°	0.079														
	P26339R10	M	3	0.266	0.125	14°	0.031														
	P26339R14	M	3	0.375	0.156	14°	0.047														
	P26339R25	M	3	0.512	0.219	14°	0.079														

HC = Coated carbide

Positive triangular P26379

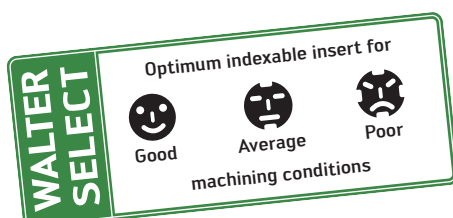
Tiger-tec® Gold



Indexable inserts

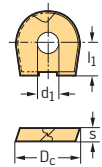
	Designation	Tolerance class	Number of cutting edges	d in	s in	α	r in	b in	P					M			K			S					
									HC								HC			HC			HC		
									WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G			
	P26379-R10	M	3	0.266	0.125	14°	0.031	0.035																	
	P26379-R14	M	3	0.375	0.156	14°	0.047	0.039																	
	P26379-R25	M	3	0.512	0.219	14°	0.079	0.043																	
																									

HC = Coated carbide



Profile milling inserts P3204 / P3201

Tiger-tec®



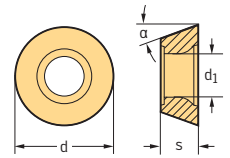
Indexable inserts

Designation	Tolerance class	Number of cutting edges	$D_c^{-0.03}$ in	s in	l_1 in	d_1 in	P						M				K				S				H	
							HC						HC				HC				HC				HC	
							WKP25S	WKP25	WKP35S	WKP35	WSP45S	WSP46	WSM35S	WSM36	WSP45S	WSP46	WKP25	WKP25S	WKP35S	WKP35	WSM35S	WSM36	WSP45S	WSP46	WHH15	WHH15X
 P3204-D07.94	H	2	0.313	0.079	0.118	0.118																				
P3204-D08	H	2	0.315	0.079	0.118	0.118																				
P3204-D09.52	H	2	0.375	0.098	0.157	0.157																				
P3204-D10	H	2	0.394	0.098	0.157	0.157																				
P3204-D12	H	2	0.472	0.098	0.197	0.197																				
P3204-D12.7	H	2	0.500	0.098	0.197	0.197																				
P3204-D15.87	H	2	0.625	0.118	0.197	0.197																				
P3204-D16	H	2	0.630	0.118	0.197	0.197																				
P3204-D19.05	H	2	0.750	0.118	0.197	0.197																				
P3204-D20	H	2	0.787	0.118	0.197	0.197																				
P3204-D25	H	2	0.984	0.157	0.236	0.236																				
P3204-D25.4	H	2	1.000	0.157	0.236	0.236																				
P3204-D30	H	2	1.181	0.197	0.315	0.315																				
P3204-D31.75	H	2	1.250	0.197	0.315	0.315																				
P3204-D32	H	2	1.260	0.197	0.315	0.315																				
 P3201-D07.94	H	2	0.313	0.079	0.118	0.118																				
P3201-D08	H	2	0.315	0.079	0.118	0.118																				
P3201-D09.52	H	2	0.375	0.098	0.157	0.157																				
P3201-D10	H	2	0.394	0.098	0.157	0.157																				
P3201-D12	H	2	0.472	0.098	0.197	0.197																				
P3201-D12.7	H	2	0.500	0.098	0.197	0.197																				
P3201-D15.87	H	2	0.625	0.118	0.197	0.197																				
P3201-D16	H	2	0.630	0.118	0.197	0.197																				
P3201-D19.05	H	2	0.750	0.118	0.197	0.197																				
P3201-D20	H	2	0.787	0.118	0.197	0.197																				
P3201-D25	H	2	0.984	0.157	0.236	0.236																				
P3201-D25.4	H	2	1.000	0.157	0.236	0.236																				
P3201-D30	H	2	1.181	0.197	0.315	0.315																				
P3201-D31.75	H	2	1.250	0.197	0.315	0.315																				
P3201-D32	H	2	1.260	0.197	0.315	0.315																				

HC = Coated carbide

Positive round ROHX / ROMX

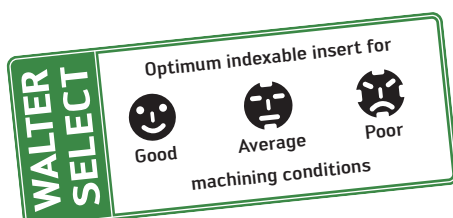
Tiger-tec® Gold



Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	s in	α	d ₁ in	P HC					M HC					K HC			S HC			
								WKP25S	WKP35G	WKP35S	WMP45G	WSP45S	WSP45G	WMP45G	WSM35S	WSM45X	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSM45X	WSP45S
	ROHX0803M0-D57	H	4	0.315	0.125	11°	0.134																	
	ROHX10T3M0-D57	H	4	0.394	0.156	11°	0.173																	
	ROHX1204M0-D57	H	4	0.472	0.187	11°	0.173																	
	ROHX1605M0-D57	H	6	0.630	0.219	15°	0.217																	
	ROHX2006M0-D57	H	8	0.787	0.250	15°	0.256																	
	ROHX0803M0-D67	H	4	0.315	0.125	11°	0.134																	
	ROHX10T3M0-D67	H	4	0.394	0.156	11°	0.173																	
	ROHX1204M0-D67	H	4	0.472	0.187	11°	0.173																	
	ROHX1605M0-D67	H	6	0.630	0.219	15°	0.217																	
	ROHX10T3M0-F67	H	4	0.394	0.156	11°	0.173																	
	ROHX1204M0-F67	H	4	0.472	0.187	11°	0.173																	
																								
	ROMX0803M0-D57	M	4	0.315	0.125	11°	0.134																	
	ROMX10T3M0-D57	M	4	0.394	0.156	11°	0.173																	
	ROMX1204M0-D57	M	4	0.472	0.187	11°	0.173																	
	ROMX1605M0-D57	M	6	0.630	0.219	15°	0.217																	
	ROMX2006M0-D57	M	8	0.787	0.250	15°	0.256																	

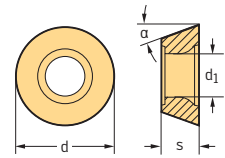
HC = Coated carbide



Positive round

RDMT

Tiger-tec® Gold



Indexable inserts

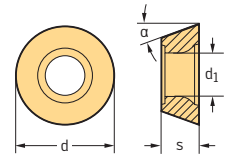
	Designation	Tolerance class	d in	s in	α	d ₁ in	P					M		K			S			
							HC					HC		HC			HC			
							WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
	RDMT0803M0-D57	M	0.315	0.125	15°	0.134			🔒	🔒	🔒	🔒	🔒	🔒			🔒	🔒	🔒	🔒
	RDMT10T3M0-D57	M	0.394	0.156	15°	0.173	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒			🔒	🔒	🔒
	RDMT1204M0-D57	M	0.472	0.187	15°	0.173	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒			🔒	🔒	🔒
	RDMT1605M0-D57	M	0.630	0.219	15°	0.217	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒			🔒	🔒
	RDMT2006M0-D57	M	0.787	0.250	15°	0.256	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒	🔒			🔒	🔒

HC = Coated carbide

Positive round

RDHX / RDGX / RDMX

Tiger-tec® Gold



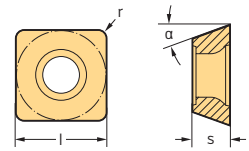
Indexable inserts

Designation	Tolerance class	d in	s in	α	d ₁ in	P					M		K		N	S		H			
						HC					HC		HC		HW	HC		HC			
						WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WK10	WSM35S	WSP45S	WSP45G	WHH15
	RDHX0501M0-A57	H	0.197	0.059	15°	0.087															
	RDHX07T1M0-A57	H	0.276	0.078	15°	0.110															
	RDHX0702M0-A57	H	0.276	0.093	15°	0.110															
	RDHX1003M0-A57	H	0.394	0.125	15°	0.173															
	RDHX12T3M0-A57	H	0.472	0.156	15°	0.173															
	RDHX1604M0-A57	H	0.630	0.187	15°	0.217															
	RDHX2006M0-A57	H	0.787	0.236	15°	0.217															
	RDGX0501M0-G88	G	0.197	0.059	15°	0.087															
	RDGX07T1M0-G88	G	0.276	0.078	15°	0.110															
	RDGX1003M0-G88	G	0.394	0.125	15°	0.173															
	RDGX12T3M0-G88	G	0.472	0.156	15°	0.173															
	RDGX1604M0-G88	G	0.630	0.187	15°	0.217															
	RDGX2006M0-G88	G	0.787	0.236	15°	0.217															
	RDGX2006M0-G88	G	0.787	0.236	15°	0.217															
	RDMX0501M0-D57	M	0.197	0.059	15°	0.087															
	RDMX07T1M0-D57	M	0.276	0.078	15°	0.110															
	RDMX1003M0-D57	M	0.394	0.125	15°	0.173															
	RDMX12T3M0-D57	M	0.472	0.156	15°	0.173															
	RDMX1604M0-D57	M	0.630	0.187	15°	0.217															
	RDMX2006M0-D57	M	0.787	0.236	15°	0.217															
	RDMX2006M0-D57	M	0.787	0.236	15°	0.217															

HC = Coated carbide
HW = Uncoated carbide

Positive square SDMW / SDMT

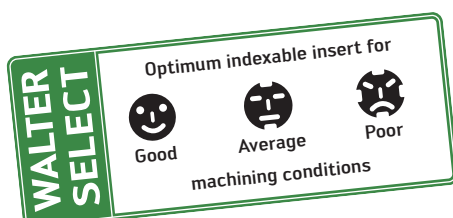
Tiger-tec® Gold



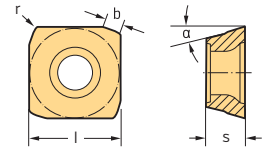
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l in	s in	α	r in	P					M				K					S			
								HC					HC				HC					HC			
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WSM35S	WSM45X	WSP45S	WSP45G
	SDMW06T204-A57	M	4	0.250	0.109	15°	0.016	☺	☺	☺								☺	☺	☺	☺				
	SDMW09T308-A57	M	4	0.375	0.156	15°	0.031	☺	☺	☺								☺	☺	☺	☺				
	SDMW09T320-A57	M	4	0.375	0.156	15°	0.079	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SDMW120408-A57	M	4	0.500	0.187	15°	0.031	☺	☺	☺								☺	☺	☺	☺				
	SDMW120425-A57	M	4	0.500	0.187	15°	0.098	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SDMT06T204-D51	M	4	0.250	0.109	15°	0.016	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT09T308-D51	M	4	0.375	0.156	15°	0.031	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT120408-D51	M	4	0.500	0.187	15°	0.031	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT06T204-D57	M	4	0.250	0.109	15°	0.016	☺	☺	☺	☺	☺	☺		☺	☺		☺	☺	☺	☺			☺	☺
	SDMT09T308-D57	M	4	0.375	0.156	15°	0.031	☺	☺	☺	☺	☺	☺		☺	☺		☺	☺	☺	☺			☺	☺
	SDMT120408-D57	M	4	0.500	0.187	15°	0.031	☺	☺	☺	☺	☺	☺		☺	☺		☺	☺	☺	☺			☺	☺
	SDMT06T204-F57	M	4	0.250	0.109	15°	0.016	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SDMT06T208-F57	M	4	0.250	0.109	15°	0.031	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT06T212-F57	M	4	0.250	0.109	15°	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺
	SDMT09T304-F57	M	4	0.375	0.156	15°	0.016	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT09T308-F57	M	4	0.375	0.156	15°	0.031	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SDMT09T312-F57	M	4	0.375	0.156	15°	0.047	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT09T316-F57	M	4	0.375	0.156	15°	0.063	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT09T320-F57	M	4	0.375	0.156	15°	0.079	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺	☺	☺	☺	☺
	SDMT120408-F57	M	4	0.500	0.187	15°	0.031	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SDMT120412-F57	M	4	0.500	0.187	15°	0.047	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT120416-F57	M	4	0.500	0.187	15°	0.063	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT120420-F57	M	4	0.500	0.187	15°	0.079	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺			☺	☺
	SDMT120425-F57	M	4	0.500	0.187	15°	0.098	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺	☺	☺	☺	☺

HC = Coated carbide



Positive square SDMT Tiger-tec® Gold

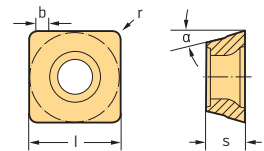


Indexable inserts

Designation	Tolerance class	Number of cutting edges	l in	s in	α	r in	b in	P HC					M HC			K HC			S HC		
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
 SDMT06T2ZDR-D57	M	4	0.250	0.109	15°	0.016	0.047														
SDMT09T3ZDR-D57	M	4	0.375	0.156	15°	0.031	0.047														
SDMT1204ZDR-D57	M	4	0.500	0.187	15°	0.031	0.071														

HC = Coated carbide

Positive square SDGT Tiger-tec® Gold



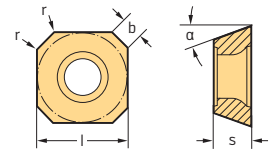
Indexable inserts

Designation	Tolerance class	Number of cutting edges	l in	s in	α	r in	b in	P HC					M HC			K HC			S HC		
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
 SDGT06T2PDR-D57	G	4	0.250	0.109	15°	0.016	0.047														
SDGT09T3PDR-D57	G	4	0.375	0.156	15°	0.031	0.047														
SDGT1204PDR-D57	G	4	0.500	0.187	15°	0.031	0.063														

HC = Coated carbide

Positive square SDMT / SDGT

Tiger-tec® Gold



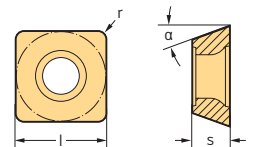
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l in	s in	α	r in	b in	P					M				K					S			
									HC					HC				HC					HC			
									WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WSM35S	WSM45X	WSP45S	WSP45G
	SDMT09T3AZN-D57	M	4	0.375	0.156	15°	0.012	0.047	☺	☺	☺	☺	☹	☺	☹	☹		☺	☺	☺	☺	☺		☹	☹	
	SDMT1204AZN-D57	M	4	0.500	0.187	15°	0.012	0.055	☺	☺	☺	☺	☹	☺	☹	☹		☺	☺	☺	☺	☺	☺	☹	☹	
	SDMT09T3AZN-F57	M	4	0.375	0.156	15°	0.012	0.055	☺	☺	☺	☺	☹		☹	☹			☺	☺	☺			☹	☹	
	SDMT1204AZN-F57	M	4	0.500	0.187	15°	0.012	0.071	☺	☺	☺	☺	☹		☹	☹			☺	☺	☺			☹	☹	
	SDGT09T3AZN-F57	G	4	0.375	0.156	15°	0.012	0.055	☺	☺	☺	☺	☹	☺		☹	☹	☺	☺	☺	☺	☺		☹	☹	
	SDGT1204AZN-F57	G	4	0.500	0.187	15°	0.012	0.071	☺	☺	☺	☺	☹	☺		☹	☹	☺	☺	☺	☺	☺		☹	☹	
	SDGT09T3AZN-G77	G	4	0.375	0.156	15°	0.012	0.047				☺	☹		☺	☹								☹	☹	
	SDGT1204AZN-G77	G	4	0.500	0.187	15°	0.012	0.055				☺	☹		☺	☹								☹	☹	

HC = Coated carbide

Positive square SPMT

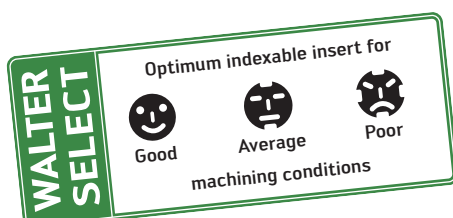
Tiger-tec® Gold



Indexable inserts

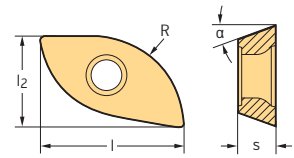
	Designation	Tolerance class	Number of cutting edges	l in	s in	α	r in	P HC					M HC			K HC				S HC		
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45G
								☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SPMT060304-F55	M	4	0.250	0.125	11°	0.016	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SPMT09T308-F55	M	4	0.375	0.156	11°	0.031	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	SPMT120408-F55	M	4	0.500	0.187	11°	0.031	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺

HC = Coated carbide



Positive form inserts XDMT

Tiger-tec® Gold



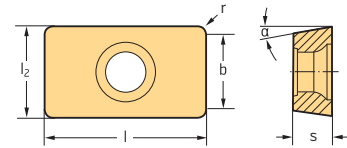
Indexable inserts

Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	R in	P HC				M HC		K HC			S HC		
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S
								WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S
 XDMT1303080R-F55	M	2	0.335	0.517	0.118	15°	0.315	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
XDMT16T3100R-F55	M	2	0.354	0.627	0.147	15°	0.394	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
XDMT2004125R-F55	M	2	0.445	0.785	0.184	15°	0.492	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
XDMT2405150R-F55	M	2	0.531	0.943	0.221	15°	0.591	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
XDMT2506160R-F55	M	2	0.567	1.006	0.236	15°	0.630	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
XDMT3207200R-F55	M	2	0.709	1.258	0.295	15°	0.787	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
XDMT4009250R-F55	M	2	0.886	1.573	0.370	15°	0.984	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺

HC = Coated carbide

Positive rhombic BCGX

Tiger-tec®



Indexable inserts

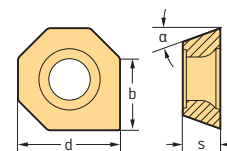
Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	α	r in	b in	P HC		M HC		K HC		S HC		H HC		O HC
									WKP25S	WKP35S	WSP45S	WSM35S	WSP45S	WAK15	WKP25S	WKP35S	WSM35S	WSP45S	WHH15
									WKP35S	WSP45S	WSM35S	WSP45S	WAK15	WKP25S	WKP35S	WSM35S	WSP45S	WHH15	WHH15X
 BCGX0903PDR-G55	G	2	0.248	0.406	0.126	7°	0.016	0.197	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
BCGX1605PDR-G55	G	2	0.390	0.681	0.229	7°	0.031	0.315	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
									☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺

HC = Coated carbide

Finishing inserts

ODHX

Tiger-tec® Gold



Indexable inserts

		Tolerance class	Number of cutting edges	d in	s in	α	b in	P				M		K			S		H		O	
								HC				HC		HC			HC		HC		HC	HC
								WKP25S	WKP35G	WKP35S	WSP45S	WSM35S	WSP45S	WAK15	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WHH15	WHH15X	WXM15
	Designation																					
	ODHX0504ZZR-A57	H	1	0.500	0.187	15°	0.283	☹	☹	☹			☹	☹	☹			☹	☹			
	ODHX0605ZZR-A57	H	1	0.625	0.219	15°	0.370	☹	☹	☹			☹	☹	☹			☹	☹			
	ODHX0605ZZN-A57	H	8	0.625	0.219	15°	0.236						☹					☹	☹			
	ODHX0605ZZN-A88	H	8	0.625	0.219	15°	0.236						☹					☹	☹	☹		

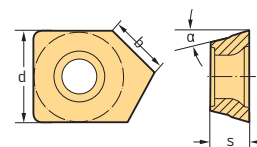
* ZZN for κ = 45° only

HC = Coated carbide

Positive square

SDHX

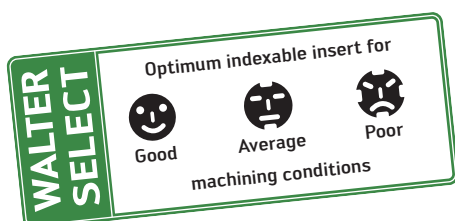
Tiger-tec®



Indexable inserts

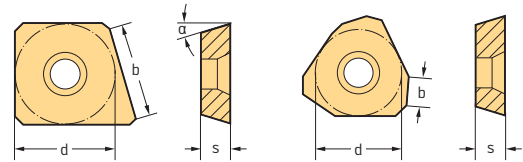
	Designation	Tolerance class	Number of cutting edges	d in	s in	α	b in	P			M		K			S		H		O
								HC			HC		HC			HC		HC		HC
								WKP25S	WKP35S	WSP45S	WSM35S	WSP45S	WAK15	WKP25S	WKP35S	WSM35S	WSP45S	WHH15	WHH15X	WXM15
	SDHX09T3AZR-A88	H	1	0.375	0.156	15°	0.220						☹					☹	☹	☹
	SDHX1204AZR-A88	H	1	0.500	0.187	15°	0.295						☹					☹	☹	☹

HC = Coated carbide



Finishing inserts P2901 / P2903 / P2905

Tiger-tec®



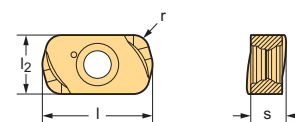
Indexable inserts

Designation		Tolerance class	Number of cutting edges	d in	s in	α	b in	P			M		K		N	S	H	O
								HC			HC		HC		HW	HC	HC	HC
								WKP25S	WKP35S	WSP45S	WSM35S	WSP45S	WAK15	WKP25S	WKP35S	WK10	WSM35S	WSP45S
	P2901-1R	H	1	0.500	0.187	11°	0.433						☺		☺		☺	☺
																	☺	☺
	P2903-2R	A	3	0.375	0.187	11°	0.138						☺		☺		☺	☺
																	☺	☺
	P2905-1	F	4	0.500	0.187	11°	0.394						☺		☺		☺	☺
																	☺	☺

HC = Coated carbide
HW = Uncoated carbide

Negative rhombic ENMX

Tiger-tec® Gold



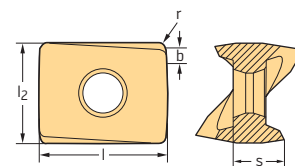
Indexable inserts

		Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	P					M			K					N		S			H	
								HC					HC			HC					HC	HW	HC			HC	
Designation								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X
	ENMX08T316R-D27	M	4	0.236	0.433	0.142	0.063	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺	☺	☺	☺
	ENMX08T316R-F47	M	4	0.236	0.433	0.142	0.063	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺	☺	☺	☺

HC = Coated carbide
HW = Uncoated carbide

Negative rhombic LNGX

Tiger-tec® Gold

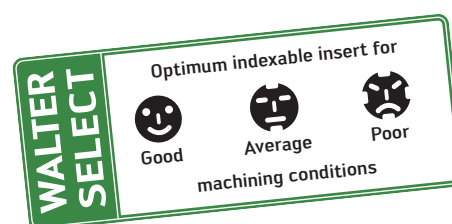


Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	b in	P					M			K					N		S		
									HC					HC			HC				HC		HC	HW	HC	
									WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
									☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺
	LNGX130708R-L55	G	4	0.433	0.539	0.305	0.031	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺
	LNGX130712R-L55	G	4	0.433	0.539	0.305	0.047	0.039	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺			☺	☺
	LNGX130716R-L55	G	4	0.433	0.539	0.305	0.063	0.035	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺			☺	☺
	LNGX130720R-L55	G	4	0.433	0.539	0.305	0.079	0.028	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺	☺			☺	☺
	LNGX130725R-L55	G	4	0.433	0.539	0.305	0.098	0.024	☺	☺	☺			☺					☺	☺	☺	☺			☺	☺
	LNGX130730R-L55	G	4	0.433	0.539	0.305	0.118	0.028	☺	☺	☺								☺	☺	☺	☺				

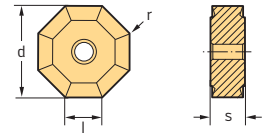
HC = Coated carbide
HW = Uncoated carbide

C 2



Negative octagonal ONHF

Tiger-tec® Silver



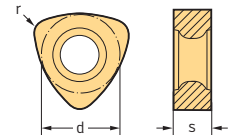
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	l in	s in	r in	P				M			K			N		S		H			
								HC				HC			HC			HC		HC		HC			
								WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X
	ONHF050408-F67	H	16	0.500	0.207	0.187	0.031																		

HC = Coated carbide
HW = Uncoated carbide

Negative triangular P23696

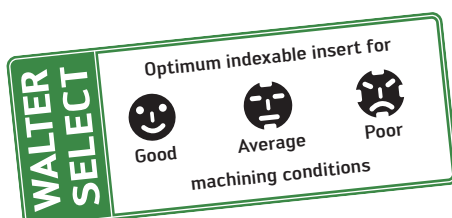
Tiger-tec® Gold



Indexable inserts

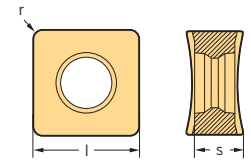
	Designation	Tolerance class	Number of cutting edges	d in	s in	r in	P					M			K				N		S			
							HC					HC			HC				HC		HC			
							WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
							🔧	🔧	🔧	🔧	🔧	🔧	🔧	🔧	🔧		🔧	🔧	🔧	🔧			🔧	🔧
	P23696-1.0	M	6	0.354	0.209	0.047	🔧	🔧	🔧	🔧	🔧	🔧	🔧	🔧			🔧	🔧	🔧			🔧	🔧	🔧
	P23696-2.0	M	6	0.531	0.292	0.063	🔧	🔧	🔧	🔧	🔧	🔧	🔧				🔧	🔧	🔧			🔧	🔧	🔧
							🔧	🔧	🔧	🔧	🔧	🔧	🔧											

HC = Coated carbide
HW = Uncoated carbide



Negative square SNGX / SNMX

Tiger-tec® Gold



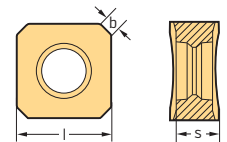
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l in	s in	r in	P				M			K				N		S			
							HC				HC			HC				HC	HW	HC			
							WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S
	SNGX120512-F57	G	8	0.500	0.220	0.047	☺	☺	☺	☺	☺	☺	☺						☺	☺	☺		
	SNMX090408-F57	M	8	0.375	0.191	0.031	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺	☺
	SNMX120512-F57	M	8	0.500	0.217	0.047	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺	☺
	SNMX120520-F57	M	8	0.500	0.217	0.079	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺	☺
	SNMX160620-F57	M	8	0.630	0.251	0.079	☺	☺	☺	☺		☺			☺	☺	☺	☺			☺		
	SNMX160640-F57	M	8	0.630	0.251	0.157		☺									☺	☺					
	SNMX090408-F67	M	8	0.375	0.192	0.031	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺			☺	☺	☺
	SNMX120512-F67	M	8	0.500	0.222	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺			☺	☺	

HC = Coated carbide
HW = Uncoated carbide

Negative square SNGX / SNMX

Tiger-tec® Gold



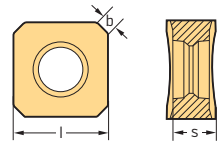
Indexable inserts

Designation		Number of cutting edges	l in	s in	b in	P					M		K					N		S		
						HC					HC		HC					HC	HW	HC		
						WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S
	SNGX0904ANN-F57	8	0.375	0.185	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	
	SNGX1205ANN-F57	8	0.500	0.218	0.059	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	
	SNGX1606ANN-F57	8	0.630	0.248	0.071		☺	☺	☺		☺	☺		☺	☺	☺			☺	☺	☺	
	SNGX0904ANN-F67	8	0.375	0.186	0.047	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	
	SNGX1205ANN-F67	8	0.500	0.218	0.059	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	

HC = Coated carbide
HW = Uncoated carbide

Negative square SNGX / SNMX

Tiger-tec® Gold



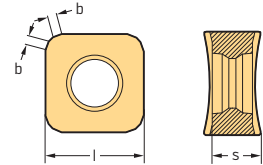
Indexable inserts

	Designation	Number of cutting edges	l in	s in	b in	P					M			K				N		S			
						HC					HC			HC				HC	HW	HC			
						WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	SNMX0904ANN-F57	8	0.375	0.185	0.047	⊕	⊕	⊕	⊗	⊗		⊗	⊗		⊕	⊕	⊕	⊕				⊗	⊗
	SNMX1205ANN-F57	8	0.500	0.218	0.059	⊕	⊕	⊕							⊕	⊕	⊕	⊕					
	SNMX0904ANN-F67	8	0.375	0.186	0.047	⊕	⊕	⊕	⊗	⊗		⊗	⊗	⊕		⊕	⊕	⊕				⊗	⊗
	SNMX1205ANN-F67	8	0.500	0.218	0.059	⊕	⊕	⊕						⊕		⊕	⊕	⊕					

HC = Coated carbide
HW = Uncoated carbide

Negative square SNGX

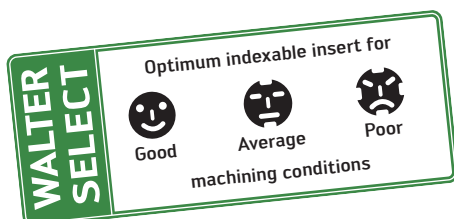
Tiger-tec® Gold



Indexable inserts

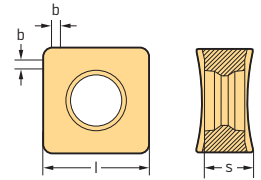
	Designation	Number of cutting edges	l in	s in	b in	P					M				K				N		S		
						HC					HC				HC				HC	HW	HC		
						WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	SNGX1205ENN-F57	8	0.500	0.221	0.047																		

HC = Coated carbide
HW = Uncoated carbide



Negative square SNGX / SNMX

Tiger-tec® Gold



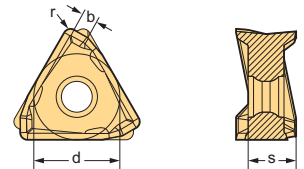
Indexable inserts

Designation		Number of cutting edges	l in	s in	b in	P					M		K					N		S		
						HC					HC		HC					HC	HW	HC		
						WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S
	SNGX0904ZNN-F57	8	0.375	0.193	0.039	☺	☺	☺	☺	☹	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	SNGX1205ZNN-F57	8	0.500	0.227	0.047	☺	☺	☺	☺	☹	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	SNGX0904ZNN-F67	8	0.375	0.194	0.039	☺	☺	☺	☺	☹	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	SNGX1205ZNN-F67	8	0.500	0.228	0.047	☺	☺	☺	☺	☹	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
	SNMX0904ZNN-F57	8	0.375	0.193	0.039	☺	☺	☺	☺	☹	☺	☹	☹		☺	☺	☺			☺	☺	☹
	SNMX0904ZNN-F67	8	0.375	0.194	0.039	☺	☺	☺	☺	☹	☺	☹	☹	☺	☺	☺				☺	☺	☹

HC = Coated carbide
HW = Uncoated carbide

Negative triangular TNMU

Tiger-tec® Gold



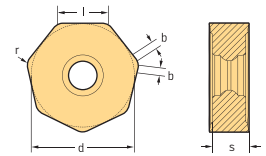
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	r in	P					M			K				N		S			
								HC					HC			HC				HC HW		HC			
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
								☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺					☺	☺
	TNMT160508R-G57	M	6	0.378	0.211	0.063	0.031																		

HC = Coated carbide
HW = Uncoated carbide

Negative heptagonal XNMU

Tiger-tec® Gold



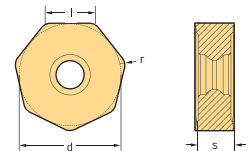
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	l in	s in	r in	b in	P					M			K				N		S			
									HC					HC			HC				HC HW		HC			
									WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	XNMU0705ANN-F57	M	14	0.571	0.275	0.197	0.031	0.043	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	
	XNMU0906ANN-F57	M	14	0.750	0.361	0.231	0.031	0.055	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	

HC = Coated carbide
HW = Uncoated carbide

Negative heptagonal XNMU

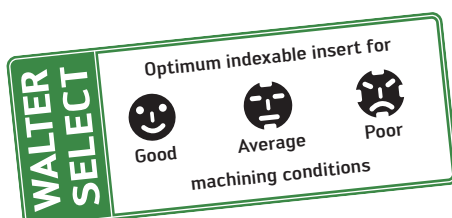
Tiger-tec® Gold



Indexable inserts

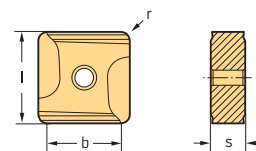
	Designation	Tolerance class	Number of cutting edges	d in	l in	s in	r in	P					M			K				N		S			
								HC					HC			HC				HC HW		HC			
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
								☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
	XNMU070508-F57	M	14	0.571	0.275	0.197	0.031	☺	☺	☺	☺	☺	☺	☺			☺	☺	☺			☺		☺	
	XNMU090612-F57	M	14	0.750	0.361	0.231	0.047	☺	☺	☺	☺		☺				☺	☺	☺					☺	

HC = Coated carbide
HW = Uncoated carbide



Finishing inserts SNEX

Tiger-tec®



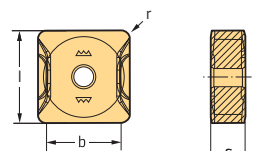
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l in	s in	r in	b in	P				M		K			N		S		H		
								HC				HC		HC			HC	HW	HC		HC		
								WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	SNEX1204PNR-B67	E	4	0.500	0.187	0.031	0.425							☹								☹	☹

HC = Coated carbide
HW = Uncoated carbide

Finishing inserts SNEX

Tiger-tec®



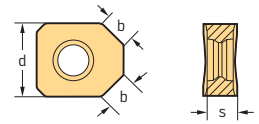
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l in	s in	r in	b in	P				M			K			N		S		H		
								HC				HC			HC			HC HW		HC		HC		
								WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15
	SNEX1204PNN-A27	E	4	0.500	0.187	0.047	0.406								☹								☹	☹

HC = Coated carbide
HW = Uncoated carbide

Finishing inserts XNGX

Tiger-tec®



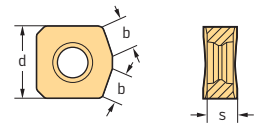
Indexable inserts

Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M		K			N		S		H		O
						HC				HC		HC			HC	HW	HC	HC	HC	HC	HC
						WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
XNGX0904ANN-F67	G	2	0.375	0.184	0.197																
XNGX1205ANN-F67	G	2	0.500	0.212	0.185																

HC = Coated carbide
HW = Uncoated carbide

Finishing inserts XNGX

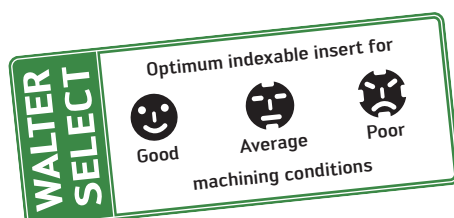
Tiger-tec®



Indexable inserts

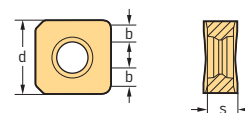
	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M		K			N		S			H		O		
							HC				HC		HC			HC		HC	HW	HC		HC		HC	HC
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X	WXM15
	XNGX1205ENN-F67	G	2	0.500	0.213	0.177							☺								☺	☺	☺		

HC = Coated carbide
HW = Uncoated carbide



Finishing inserts XNGX

Tiger-tec®



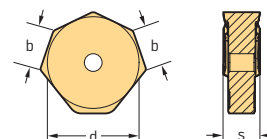
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M			K				N		S		H		O
							HC				HC			HC				HC		HC		HC		
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	
	XNGX0904ZNN-F67	G	2	0.375	0.190	0.138								☺								☺	☺	☺
	XNGX1205ZNN-F67	G	2	0.500	0.221	0.157								☺								☺	☺	☺

HC = Coated carbide
HW = Uncoated carbide

Finishing inserts XNHX

Tiger-tec®



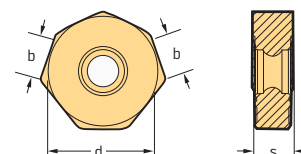
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M			K				N		S		H		
							HC				HC			HC				HC		HC		HC		
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X
	XNHX0705ANN-D67	H	2	0.571	0.196	0.228							☺									☺	☹	
	XNHX0906ANN-D67	H	2	0.750	0.219	0.295							☺									☺	☹	

HC = Coated carbide
HW = Uncoated carbide

Finishing inserts XNGX

Tiger-tec®



Indexable inserts

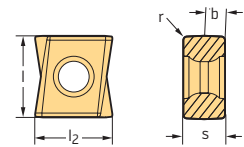
	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M			K				N		S		H		O	
							HC				HC			HC				HC		HC		HC			
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15		WHH15X
							WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15	WKM15		WKM15
	XNGX0705ANN-F67	G	2	0.571	0.197	0.224							☺									☺	☺	☺	

HC = Coated carbide
HW = Uncoated carbide

☹ ☹ ☹ / ★ New addition to the product range

Tangential rhombic LNHU / LNMU

Tiger-tec® Gold



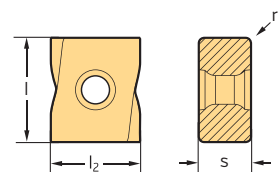
Indexable inserts

Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	b in	P HC					M HC			K HC				N HC HW		S HC			
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WKN15	WK10	WSM35S	WSP45S	WSP45G
	LNHU090404R-L55T	H	4	0.335	0.354	0.177	0.016	0.059	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕
	LNHU090408R-L55T	H	4	0.335	0.354	0.177	0.031	0.043	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕
	LNHU090412R-L55T	H	4	0.335	0.354	0.177	0.047	0.031		⊕	⊕	⊕	⊕		⊕	⊕			⊕	⊕			⊕	⊕	
	LNHU090416R-L55T	H	4	0.335	0.354	0.177	0.063			⊕	⊕	⊕	⊕		⊕	⊕			⊕	⊕			⊕	⊕	
	LNHU090420R-L55T	H	4	0.335	0.354	0.177	0.079			⊕	⊕	⊕	⊕		⊕	⊕			⊕	⊕			⊕	⊕	
	LNHU130608R-L55T	H	4	0.472	0.512	0.268	0.031	0.087	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕
	LNHU130612R-L55T	H	4	0.472	0.512	0.268	0.047	0.075		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕
	LNHU130616R-L55T	H	4	0.472	0.512	0.268	0.063	0.059		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕
	LNHU130620R-L55T	H	4	0.472	0.512	0.268	0.079	0.047		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕
	LNHU130625R-L55T	H	4	0.472	0.512	0.268	0.098	0.028		⊕	⊕	⊕	⊕		⊕	⊕			⊕	⊕			⊕	⊕	
	LNHU130630R-L55T	H	4	0.472	0.512	0.268	0.118	0.091		⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕			⊕	⊕	⊕
	LNHU130632R-L55T	H	4	0.472	0.512	0.268	0.126			⊕	⊕	⊕	⊕		⊕	⊕			⊕	⊕			⊕	⊕	
LNHU160708R-L55T	H	4	0.610	0.630	0.283	0.031	0.091	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕	⊕	⊕	
	LNMU090404R-L55T	M	4	0.335	0.354	0.177	0.016	0.059	⊕	⊕	⊕	⊕	⊕	⊕		⊕	⊕	⊕	⊕	⊕				⊕	⊕
	LNMU130608R-L55T	M	4	0.472	0.512	0.268	0.031	0.087	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕				⊕	⊕
	LNHU090404R-L65T	H	4	0.335	0.354	0.177	0.016	0.059					⊕	⊕	⊕									⊕	⊕
	LNHU130608R-L65T	H	4	0.472	0.512	0.268	0.031	0.087					⊕	⊕	⊕	⊕								⊕	⊕
	LNHU160708R-L65T	H	4	0.610	0.630	0.283	0.031	0.091					⊕		⊕									⊕	

HC = Coated carbide
HW = Uncoated carbide

Tangential rhombic LNMX

Tiger-tec® Gold



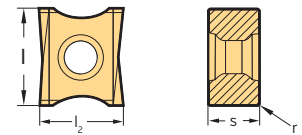
Indexable inserts

	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	P HC					M HC			K HC				N HC HW		S HC			
								WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
								⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
	LNMX201012R-F57T	M	4	0.671	0.787	0.394	0.047	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕				⊕	

HC = Coated carbide
HW = Uncoated carbide

Tangential rhombic LNHX

Tiger-tec® Gold



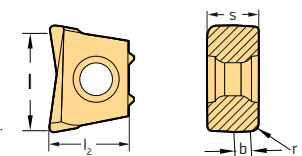
Indexable inserts

Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	P				M				K				N		S			
							HC				HC				HC				HC HW		HC			
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSM45X	WSP45S	WSP45G
LNHX120604R-L65T	H	4	0.433	0.500	0.268	0.016																		

HC = Coated carbide
HW = Uncoated carbide

Tangential rhombic XNHX

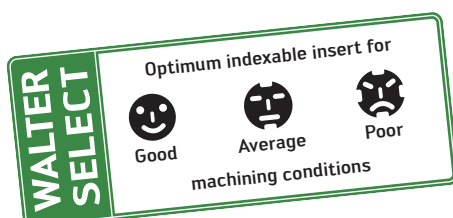
Tiger-tec® Gold



Indexable inserts

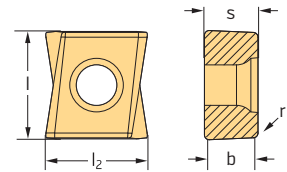
Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	b in	P				M				K				N		S			
								HC				HC				HC				HC HW		HC			
								WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSM45X	WSP45S	WSP45G
XNHX130608R-L65T	H	2	0.413	0.551	0.268	0.031	0.079																		
XNHX130612R-L65T	H	2	0.413	0.551	0.268	0.047	0.079																		
XNHX130616R-L65T	H	2	0.413	0.551	0.268	0.063	0.079																		
XNHX130620R-L65T	H	2	0.413	0.551	0.268	0.079	0.079																		
XNHX130624R-L65T	H	2	0.413	0.551	0.268	0.094	0.079																		
XNHX130630R-L65T	H	2	0.413	0.551	0.268	0.118	0.055																		
XNHX130632R-L65T	H	2	0.413	0.551	0.268	0.126	0.051																		
XNHX130640R-L65T	H	2	0.413	0.551	0.268	0.157	0.020																		

HC = Coated carbide
HW = Uncoated carbide



Finishing inserts LNHX

Tiger-tec®



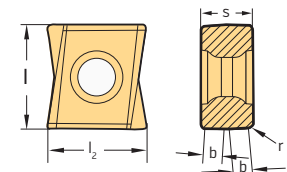
Indexable inserts

Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	b in	P				M				K				N		S			H		O
								HC				HC				HC				HC HW		HC			HC		
								WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X	WXM15	
	LNHX0904PDR-L55T	H	2	0.335	0.354	0.177	0.016	0.138																			
	LNHX1306PDR-L55T	H	2	0.472	0.512	0.268	0.024	0.197																			

HC = Coated carbide
HW = Uncoated carbide

Finishing inserts LNHX

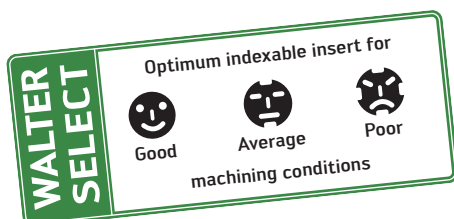
Tiger-tec®



Indexable inserts

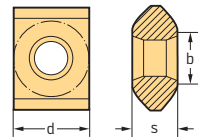
	Designation	Tolerance class	Number of cutting edges	l ₂ in	l in	s in	r in	b in	P				M				K			N		S			H		O
									HC				HC				HC			HC HW		HC			HC		
									WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X	WXM15
	LNHX130608R-L55T	H	4	0.472	0.512	0.268	0.031	0.087																			

HC = Coated carbide
HW = Uncoated carbide



Finishing inserts P45420

Tiger-tec®



Indexable inserts

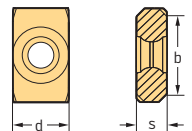
	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M				K				N		S			H		O		
							HC				HC				HC				HC		HC		HC			HC		HC
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X	WXM15			
	P45420-G67	H	4	0.375	0.187	0.276								☹									☹	☹	☹			

HC = Coated carbide

HW = Uncoated carbide

Finishing inserts P45424

Tiger-tec®



Indexable inserts

	Designation	Tolerance class	Number of cutting edges	d in	s in	b in	P				M			K			N		S		H			
							HC				HC			HC			HC		HC	HW	HC		HC	
							WKP25S	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X
	P45424-1-G67	G	4	0.472	0.197	0.315								☹								☹	☹	
	P45424-2-G67	G	4	0.787	0.256	0.591								☹								☹	☹	

HC = Coated carbide

HW = Uncoated carbide

Indexable insert milling cutters product range overview

Shoulder milling cutters

Machining		
Lead angle κ	90°	
Designation	M5130 Xtra-tec® XT	M5137
D _c [mm]	16–63	
D _c [inch]	0.625–2.480	2.000–4.000
Page	220	226
		

Slot milling cutters

Machining	
Lead angle κ	90°
Designation	M4791
D _c [mm]	
D _c [inch]	0.750–1.750
Page	228
	

Copy milling cutters

Machining			
Lead angle κ			
Designation	F2239	F2239B	F2339
D _c [mm]	20–32	20–40	16–32
D _c [inch]	0.787–1.260	0.787–1.575	0.625–1.260
Page	230	230	232
			

Profiling cutters

Machining	
Lead angle κ	30° + 60°
Designation	M4574
D _c [mm]	8–20
D _c [inch]	0.750
Page	236
	

Designation key for Walter milling tools

Example:

M	4	1	32	–	063	–	B	22	–	07	–	09	–	
1	2	3	4	5	6		7	8		9		10		11

1	2	3	4	
Tool group	Generation	Tool type	Type	
M Milling	2 3 Walter BLAXX 4 M4000 5 Xtra-tec® XT	0 Face milling cutter 1 Shoulder milling cutter 2 Shoulder/slot/helical milling cutter 3 Other milling cutters 4 Copy milling cutter 5 Profiling cutter 7 Routing cutter	02 High-feed face milling cutter κ = 15°, radial, positive, four cutting edges per indexable insert 03 Face milling cutter κ = 45°, radial, positive, four cutting edges per indexable insert 08 High-feed milling cutter κ = 17°, radial, double-sided, four cutting edges per indexable insert 09 Face milling cutter κ = 45°, radial, double-sided, eight cutting edges per indexable insert 12 Face milling cutter κ = 88°, radial, double-sided, eight cutting edges per indexable insert 16 Heavy-duty cutter κ = 60°, tangential, double-sided, four cutting edges per indexable insert 24 Heptagon face milling cutter κ = 45°, radial, double-sided, 14 cutting edges per indexable insert, screw clamping 25 Octagon face milling cutter for finishing κ = 42°, radial, double-sided, 16 cutting edges per indexable insert, finishing face milling cutter 26 Octagon face milling cutter for finishing κ = 42°, radial, double-sided, 16 cutting edges per indexable insert 30 Shoulder milling cutter κ = 90°, radial, positive, two cutting edges per indexable insert 31 Ramping milling cutter κ = 90°, radial, positive, two cutting edges per indexable insert	32 Shoulder milling cutter κ = 89°45', radial, positive, four cutting edges per indexable insert 37 Shoulder milling cutter κ = 90°, radial double-sided, six cutting edges per indexable insert 55 Helical milling cutter κ = 90°, tangential, double-sided, two or four cutting edges per indexable insert 56 Helical milling cutter κ = 90°, radial, positive, two or four cutting edges per indexable insert 57 Helical milling cutter κ = 90°, radial, positive, two or four cutting edges per indexable insert 58 Helical milling cutter κ = 90°, radial, positive, two or four cutting edges per indexable insert 74 Chamfer milling cutter κ = 30°, 45°, 60°, radial, positive, four cutting edges per indexable insert 75 T-slot milling cutter κ = 90°, radial, positive, four cutting edges per indexable insert 91 Routing cutter κ = 90°, radial, positive, four cutting edges per indexable insert 92 Routing cutter κ = 90°, radial, positive, two or four cutting edges per indexable insert

5	6	7
1. Delimiters	Cutting diameter	Adaptor type
– Metric · Inch		A Parallel shank B Bore adaption T ScrewFit TC Cylindrical-modular interface W Weldon shank H HSK

8	9	10
Adaptor size	Number of teeth	Depth of cut

11
Version acc. to length or manufacturer-specific adaptors
S Short version L Long version D Dörries Scharmann machines M Makino machines

Shoulder milling cutters

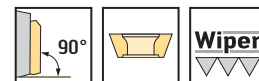
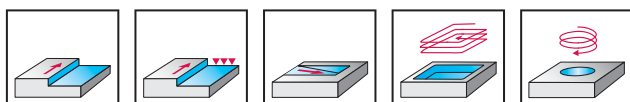
M5130 mm

BC .. 0903 .. R

Xtra-tec® XT



– Two cutting edges per indexable insert



	P	M	K	N	S	H	O
M5130	●	●	●	●	●	●	●

Tool	Designation	D _c mm	d ₁ mm	l ₄ mm	L _c mm	l ₁ mm	Z	kg	No. of indexable inserts	Type
ScrewFit 	★ M5130-016-T14-02-09	16	T14	25	9		2	0.03	2	BC .. 0903 .. R
	★ M5130-020-T18-02-09	20	T18	30	9		2	0.05	2	
	★ M5130-020-T18-03-09	20	T18	30	9		3	0.05	3	
	★ M5130-025-T22-03-09	25	T22	35	9		3	0.09	3	
	★ M5130-025-T22-04-09	25	T22	35	9		4	0.09	4	
	★ M5130-032-T28-04-09	32	T28	40	9		4	0.18	4	
	★ M5130-032-T28-05-09	32	T28	40	9		5	0.19	5	
Cylindrical, modular 	★ M5130-016-TC08-02-09	16	M8	25	9		2	0.03	2	BC .. 0903 .. R
	★ M5130-020-TC10-02-09	20	M10	30	9		2	0.05	2	
	★ M5130-020-TC10-03-09	20	M10	30	9		3	0.05	3	
	★ M5130-025-TC12-03-09	25	M12	35	9		3	0.09	3	
	★ M5130-025-TC12-04-09	25	M12	35	9		4	0.09	4	
	★ M5130-032-TC16-04-09	32	M16	40	9		4	0.17	4	
	★ M5130-032-TC16-05-09	32	M16	40	9		5	0.18	5	
Shank DIN 1835 B 	★ M5130-016-W16-02-09	16	16	41	9	90	2	0.12	2	BC .. 0903 .. R
	★ M5130-020-W20-03-09	20	20	39	9	90	3	0.18	3	
	★ M5130-025-W25-04-09	25	25	43	9	100	4	0.31	4	
	★ M5130-032-W32-05-09	32	32	49	9	110	5	0.57	5	
Parallel shank 	★ M5130-016-A16-02-09	16	16	41	9	180	2	0.25	2	BC .. 0903 .. R
	★ M5130-018-A16-02-09	18	16	41	9	180	2	0.26	2	
	★ M5130-020-A20-02-09	20	20	39	9	200	2	0.44	2	
	★ M5130-020-A20-03-09	20	20	39	9	200	3	0.44	3	
	★ M5130-022-A20-03-09	22	20	39	9	200	3	0.44	3	
	★ M5130-025-A25-03-09	25	25	43	9	200	3	0.68	3	
	★ M5130-025-A25-04-09	25	25	43	9	200	4	0.68	4	

Bodies and assembly parts are included in the scope of delivery.

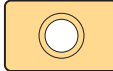
Assembly parts

	D _c [mm]	16–32
	Clamping screw for indexable insert Tightening torque	FS2576 (Torx 8IP) 1.2 Nm

Accessories

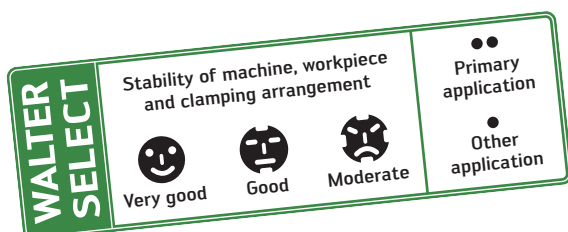
	D _c [mm]	16–32
	Torque screwdriver, analogue Tightening torque	FS2001 0.4–1.2 Nm
	Torque screwdriver, digital Tightening torque	FS2248 1.0–6.0 Nm
	Interchangeable blade	FS2012 (Torx 8IP)
	Screwdriver	FS1483 (Torx 8IP)

Indexable inserts

	Designation	r mm	b mm	P					M		K				N		S		H		O
				HC					HC		HC				HC	HW	HC	HC	HC	HC	
				WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	BCGT090304R-G55	0.4	1.2	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕			
	BCGT090304R-K85	0.4	1.2												⊕	⊕					
	BCMT090302R-G55	0.2	1.4		⊕	⊕		⊕				⊕		⊕	⊕						
	BCMT090304R-F55	0.4	1.2	⊕	⊕	⊕		⊕		⊕	⊕		⊕	⊕	⊕				⊕		
	BCMT090304R-G55	0.4	1.2	⊕	⊕	⊕		⊕	⊕	⊕	⊕		⊕	⊕	⊕				⊕		
	BCMT090304R-K55	0.4	1.2		⊕	⊕	⊕	⊕	⊕	⊕	⊕		⊕	⊕	⊕		⊕		⊕		
	BCMT090308R-G55	0.8	0.8		⊕	⊕		⊕			⊕		⊕	⊕	⊕				⊕		
	BCMT090312R-G55	1.2	0.4		⊕	⊕		⊕			⊕		⊕	⊕	⊕				⊕		
	BCMT090316R-G55	1.6	0.4		⊕	⊕		⊕			⊕		⊕	⊕	⊕				⊕		
	BCMT090320R-G55	2	0.4		⊕	⊕		⊕			⊕		⊕	⊕	⊕				⊕		
	BCGX0903PDR-G55	0.4	5								⊕								⊕	⊕	⊕

HC = Coated carbide

HW = Uncoated carbide



Shoulder milling cutters

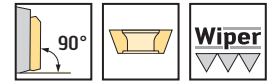
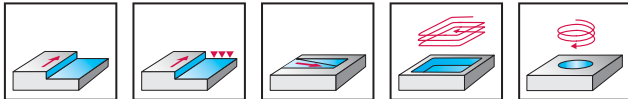
M5130

BC .. 0903 .. R

Xtra-tec® XT



– Two cutting edges per indexable insert



	P	M	K	N	S	H	O
M5130	●	●	●	●	●	●	●

Tool	Designation	D _c mm	d ₁ mm	l ₄ mm	L _c mm	l ₁ mm	Z	kg	No. of indexable inserts	Type
Parallel bore DIN 138 transverse keyway	★ M5130-032-B16-03-09	32	16	40	9		3	0.12	3	BC .. 0903 .. R
	★ M5130-032-B16-06-09	32	16	40	9		6	0.12	6	
	★ M5130-040-B16-04-09	40	16	40	9		4	0.19	4	
	★ M5130-040-B16-07-09	40	16	40	9		7	0.21	7	
	★ M5130-050-B22-05-09	50	22	40	9		5	0.32	5	
	★ M5130-050-B22-08-09	50	22	40	9		8	0.34	8	
	★ M5130-063-B22-07-09	63	22	40	9		7	0.50	7	
	★ M5130-063-B22-11-09	63	22	40	9		11	0.51	11	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [mm]	32–63
	Clamping screw for indexable insert Tightening torque	FS2576 (Torx 8IP) 1.2 Nm

Accessories

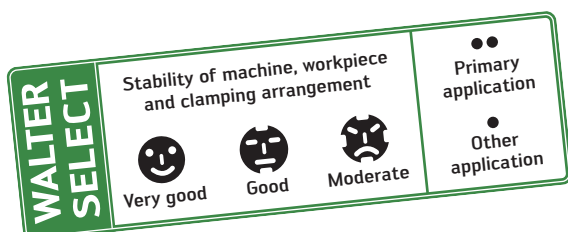
	D _c [mm]	32–63
	Torque screwdriver, analogue Tightening torque	FS2001 0.4–1.2 Nm
	Torque screwdriver, digital Tightening torque	FS2248 1.0–6.0 Nm
	Interchangeable blade	FS2012 (Torx 8IP)
	Screwdriver	FS1483 (Torx 8IP)

Indexable inserts

	Designation	r mm	b mm	P					M		K				N		S		H		O			
				HC					HC		HC				HC	HW	HC		HC	HC	HC			
				WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X	WXM15
	BCGT090304R-G55	0.4	1.2	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕			
	BCGT090304R-K85	0.4	1.2															⊕	⊕					
	BCMT090302R-G55	0.2	1.4		⊕	⊕	⊕	⊕			⊕				⊕	⊕	⊕							
	BCMT090304R-F55	0.4	1.2	⊕	⊕	⊕	⊕	⊕		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕					⊕		
	BCMT090304R-G55	0.4	1.2	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕					⊕		
	BCMT090304R-K55	0.4	1.2		⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕			⊕		⊕		
	BCMT090308R-G55	0.8	0.8		⊕	⊕	⊕	⊕			⊕				⊕	⊕	⊕					⊕		
	BCMT090312R-G55	1.2	0.4		⊕	⊕	⊕	⊕			⊕				⊕	⊕	⊕					⊕		
	BCMT090316R-G55	1.6	0.4		⊕	⊕	⊕	⊕			⊕				⊕	⊕	⊕					⊕		
	BCMT090320R-G55	2	0.4		⊕	⊕	⊕	⊕			⊕				⊕	⊕	⊕					⊕		
	BCGX0903PDR-G55	0.4	5									⊕										⊕	⊕	⊕

HC = Coated carbide

HW = Uncoated carbide



Shoulder milling cutters

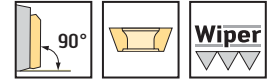
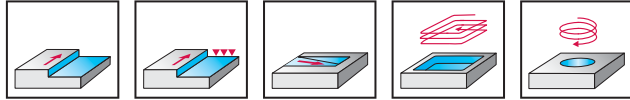
M5130 inch

BC .. 0903 .. R

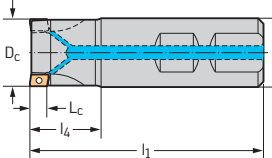
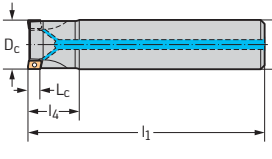
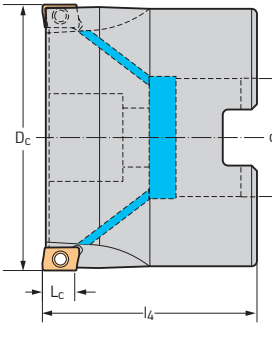
Xtra-tec® XT



– Two cutting edges per indexable insert



	P	M	K	N	S	H	O
M5130	●	●	●	●	●	●	●

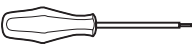
Tool	Designation	D _c inch	d ₁ inch	l ₄ inch	l ₁ inch	L _c inch	Z	lbs	No. of indexable inserts	Type
Shank DIN 1835 B 	★ M5130.015-W15-02-09	0.625	0.625	0.945	2.851	0.354	2	0.2	2	BC .. 0903 .. R
	★ M5130.019-W19-03-09	0.750	0.750	1.535	3.567	0.354	3	0.4	3	
	★ M5130.026-W26-04-09	1.000	1.000	1.181	3.462	0.354	4	0.6	4	
	★ M5130.026-W26-03-09	1.000	1.000	1.181	3.462	0.354	3	0.6	3	
Parallel shank 	★ M5130.015-A15-02-09	0.625	0.625	1.630		0.354	2	0.5	2	BC .. 0903 .. R
	★ M5130.019-A19-02-09	0.750	0.750	1.630		0.354	2	0.9	2	
	★ M5130.026-A26-03-09	1.000	1.000	1.750		0.354	3	1.6	3	
Parallel bore DIN 138 transverse keyway 	★ M5130.051-B19-05-09	2.000	0.750	1.575		0.354	5	0.8	5	BC .. 0903 .. R
	★ M5130.051-B19-08-09	2.000	0.750	1.575		0.354	8	0.8	8	

Bodies and assembly parts are included in the scope of delivery.

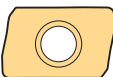
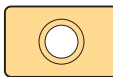
Assembly parts

	D _c [inch]	0.625–1.000	2.000
	Clamping screw for indexable insert Tightening torque	FS2576 (Torx 8IP) 1.2 Nm	FS2576 (Torx 8IP) 1.2 Nm
	Clamping screw for arbour-mounted tools		FS1523

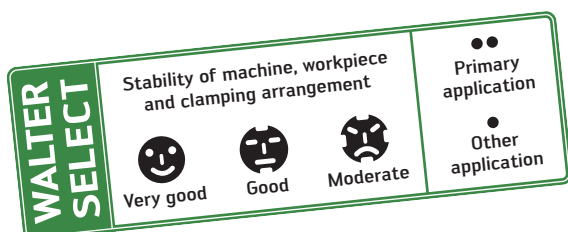
Accessories

	D _c [inch]	0.625–2.000
	Torque screwdriver, analogue Tightening torque	FS2002 0.4–1.2 Nm
	Torque screwdriver, digital Tightening torque	FS2248 1.0–6.0 Nm
	Interchangeable blade	FS2012 (Torx 8IP)
	Screwdriver	FS1483 (Torx 8IP)

Indexable inserts

	Designation	r mm	b mm	P					M		K				N		S			H		O		
				HC					HC		HC				HC	HW	HC		HC	HC				
				WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G	WHH15	WHH15X	WXM15
	BCGT090304R-G55	0,4	1,2	⊕	⊕	⊕		⊕	⊕		⊕	⊕		⊕	⊕	⊕		⊕			⊕			
	BCGT090304R-K85	0,4	1,2														⊕	⊕						
	BCMT090302R-G55	0,2	1,4		⊕	⊕		⊕			⊕				⊕	⊕	⊕	⊕						
	BCMT090304R-F55	0,4	1,2	⊕	⊕	⊕		⊕			⊕	⊕		⊕	⊕	⊕	⊕				⊕			
	BCMT090304R-G55	0,4	1,2	⊕	⊕	⊕		⊕	⊕		⊕	⊕	⊕	⊕	⊕	⊕	⊕				⊕			
	BCMT090304R-K55	0,4	1,2		⊕	⊕		⊕	⊕		⊕		⊕	⊕	⊕	⊕	⊕		⊕		⊕			
	BCMT090308R-G55	0,8	0,8		⊕	⊕		⊕			⊕			⊕	⊕	⊕	⊕				⊕			
	BCMT090312R-G55	1,2	0,4		⊕	⊕		⊕			⊕				⊕	⊕	⊕				⊕			
	BCMT090316R-G55	1,6	0,4		⊕	⊕		⊕			⊕				⊕	⊕	⊕				⊕			
	BCMT090320R-G55	2	0,4		⊕	⊕		⊕			⊕				⊕	⊕	⊕				⊕			
	BCGX0903PDR-G55	0,4	5									⊕										⊕	⊕	⊕

HC = Coated carbide
HW = Uncoated carbide



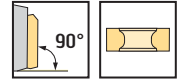
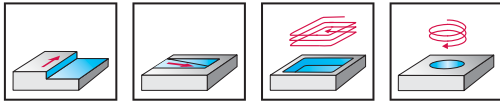
Shoulder milling cutters

M5137 inch

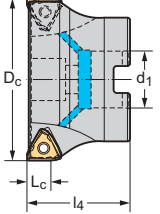
TNMMU160508R



– Six cutting edges per indexable insert



	P	M	K	N	S	H	O
M5137	●●	●●	●●	●●	●●	●●	●●

Tool	Designation	D _c inch	d ₁ inch	l ₄ inch	L _c inch	Z	 lbs	No. of indexable inserts	Type
Parallel bore DIN 138 transverse keyway 	★ M5137.051-B19-04-08	2.000	0.750	1.500	0.315	4	0.64	4	TNMMU160508R
	★ M5137.064-B26-05-08	2.500	1.000	1.500	0.315	5	1.06	5	
	★ M5137.076-B26-07-08	3.000	1.000	2.000	0.315	7	1.81	7	
	★ M5137.102-B38-08-08	4.000	1.500	2.500	0.315	8	5.47	8	

Bodies and assembly parts are included in the scope of delivery.

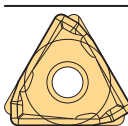
Assembly parts

D _c [inch]		2.000	2.500–3.500	4.000
	Clamping screw for indexable insert Tightening torque		FS2079 (Torx 9IP) 2.0 Nm	
	Clamping screw for arbour-mounted tools	FS1518	FS1519	FS1583

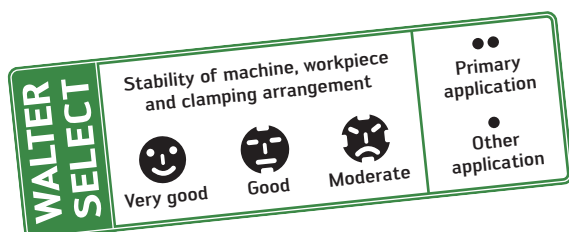
Accessories

D _c [inch]		2.000–4.000
	Torque screwdriver, analogue Tightening torque	FS2004 1.5–5.0 Nm
	Torque screwdriver, digital Tightening torque	FS2248 1.0–6.0 Nm
	Interchangeable blade	FS2013 (Torx 9IP)
	Screwdriver	FS1484 (Torx 9IP)

Indexable inserts

	Designation	b mm	r mm	P					M			K				N		S			
				HC					HC			HC				HC	HW	HC			
				WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSP45S	WSP45G
	TNMU160508R-G57	1.6	0.8																		

HC = Coated carbide
HW = Uncoated carbide

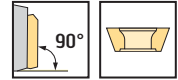
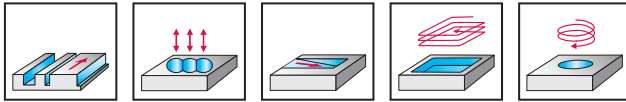


Routing cutters

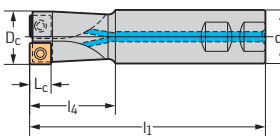
M4791 inch



– Four cutting edges per indexable insert



	P	M	K	N	S	H	O
M4791	●	●	●	●	●	●	●

Tool	Designation	D _c inch	d ₁ inch	l ₄ inch	l ₁ inch	L _c inch	Z	lbs	No. of indexable inserts	Type
 Shank DIN 1835 B	M4791.019-W19-01-06	0.750	0.750	1.529	3.560	0.220	1	0.3	2	SD .. 06T204
	M4791.026-W26-01-09	1.000	1.000	2.844	5.125	0.331	1	0.9	2	SD .. 09T30 ..
	★ M4791.028-W19-01-09	1.125	0.750	1.250	3.310	0.331	1	0.3	2	SD .. 120408
	M4791.031-W31-01-12	1.250	1.250	3.219	5.500	0.457	1	1.4	2	
	★ M4791.035-W31-01-12	1.375	1.250	1.500	3.820	0.457	1	1.0	2	
	M4791.038-W31-01-12	1.500	1.250	3.219	5.500	0.457	1	1.5	2	
	★ M4791.044-W31-01-12	1.750	1.250	2.000	5.500	0.457	1	1.6	2	

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

Type	SD .. 06T204	SD .. 09T30 ..	SD .. 120408
 Clamping screw for indexable insert Tightening torque	FS2084 (Torx 7IP) 0.9 Nm	FS2266 (Torx 10IP) 2.0 Nm	FS1453 (Torx 15IP) 3.5 Nm

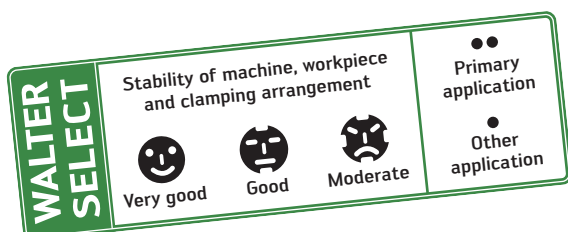
Accessories

Type	SD .. 06T204	SD .. 09T30 ..	SD .. 120408
 Torque screwdriver, analogue Tightening torque	FS2002 0.4–1.2 Nm	FS2004 1.5–5.0 Nm	FS2004 1.5–5.0 Nm
 Torque screwdriver, digital Tightening torque		FS2248 1.0–6.0 Nm	FS2248 1.0–6.0 Nm
 Interchangeable blade	FS2011 (Torx 7IP)	FS2268 (Torx 10IP)	FS2014 (Torx 15IP)
 Screwdriver	FS2088 (Torx 7IP)	FS2267 (Torx 10IP)	FS1485 (Torx 15IP)

Indexable inserts

Designation	r mm	P					M				K				N		S			
		HC					HC				HC				HC	HW	HC			
		WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKP25S	WKP35G	WKP35S	WKN15	WK10	WSM35S	WSM45X	WSP45S	WSP45G
 SDHT06T204-G88	0.4														☺	☺				
SDMT06T204-D51	0.4	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺				☺	☺
SDMT06T204-D57	0.4	☺	☺	☺	☺	☺	☺		☺	☺		☺	☺	☺	☺		☺		☺	☺
SDMT06T204-F57	0.4	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺
SDMW06T204-A57	0.4	☺	☺	☺								☺	☺	☺						
SDHT09T304-G88	0.4														☺	☺				
SDHT09T308-G88	0.8														☺	☺				
SDMT09T308-D51	0.8	☺	☺	☺	☺	☺			☺	☺		☺	☺	☺	☺				☺	☺
SDMT09T308-D57	0.8	☺	☺	☺	☺	☺	☺		☺	☺	☺	☺	☺	☺	☺		☺		☺	☺
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SDMW09T308-A57	0.8	☺	☺	☺								☺	☺	☺						
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SDMW120408-A57	0.8	☺	☺	☺								☺	☺	☺						

HC = Coated carbide
HW = Uncoated carbide

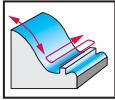


Copy milling cutters

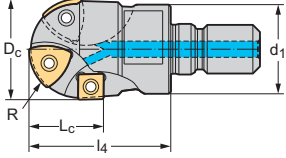
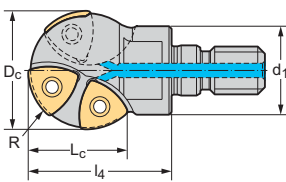
F2239 / F2239B



- With peripheral cutting edges
- Three or four cutting edges per indexable insert



	P	M	K	N	S	H	O
F2239	●	●	●	●	●	●	●
F2239B	●	●	●	●	●	●	●

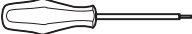
Tool	Designation	D _c mm	R mm	d ₁ mm	l ₄ mm	L _c mm	Z	kg	No. of indexable inserts	Type
Cylindrical, modular	★ F2239.TC10.020.Z01.15	20	10	M10	30	15	1	0.0	1 2	SP .. 060304 P26315R10
	★ F2239.TC12.025.Z01.18	25	12.5	M12	35	18	1	0.1	1 2	SP .. 060304 P26315R12
	★ F2239.TC16.030.Z01.23	30	15	M16	40	23	1	0.1	1 2	SP .. 09T308 P26315R15
	★ F2239.TC16.032.Z01.24	32	16	M16	40	24	1	0.1	1 2	SP .. 09T308 P26315R16
Cylindrical, modular	★ F2239B.TC08.020.Z01.10	20	10	M8	25	15	1	0.0	3	P26315R10
	★ F2239B.TC10.025.Z01.12	25	12.5	M10	30	20	1	0.1	3	P26315R12
	★ F2239B.TC12.030.Z01.15	30	15	M12	40	24	1	0.1	3	P26315R15
	★ F2239B.TC12.032.Z01.16	32	16	M12	40	26	1	0.1	3	P26315R16
	★ F2239B.TC16.040.Z01.20	40	20	M16	45	32	1	0.2	3	P26315R20

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

D _c [mm]	20	25	30-32	40
 Clamping screw for indexable insert Tightening torque	FS1129 (Torx 8) 0.8 Nm	FS923 (Torx 8) 1.2 Nm	FS359 (Torx 15) 2.5 Nm	FS1030 (Torx 20) 5.0 Nm

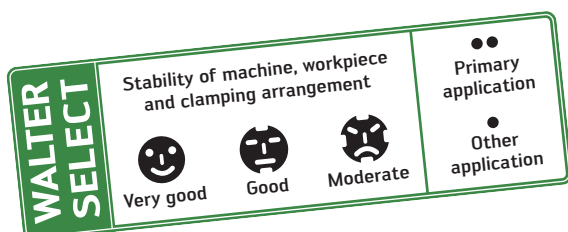
Accessories

D _c [mm]	20-25	30-32	40
 Screwdriver for indexable insert	FS230 (Torx 8)	FS229 (Torx 15)	FS228 (Torx 20)

Indexable inserts

	Designation	R mm	r mm	P						M				K				N		S				
				HC						HC				HC				HC	HW	HC				
				WKP25S	WKP35G	WKP35S	WSP45S	WSP45	WSP45G	WSM35S	WSM35	WSP45S	WSP45	WSP45G	WAK15	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSM35	WSP45S	WSP45
	P26315R10	10		☺		☹	☹						☹			☹	☹	☹				☹		
	P26315R12	12.5		☺		☹	☹						☹			☹	☹	☹				☹		
	P26315R15	15		☺		☹	☹						☹			☹	☹	☹				☹		
	P26315R16	16		☺		☹	☹						☹			☹	☹	☹				☹		
	P26315R20	20		☺		☹	☹						☹			☹	☹	☹				☹		
	SPHT060304-G88		0.4															☺	☹					
	SPMT060304-D51		0.4	☺		☹	☹	☹		☹	☹	☹	☹			☹	☹	☹			☹	☹	☹	☹
	SPMT060304-F55		0.4	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☺	☹	☹	☹			☹	☹	☹	☹
	SPMW060304-A57		0.4	☹		☹									☺	☹	☹	☹						
	SPMW060304T-A27		0.4	☹		☹									☹	☹	☹	☹						
	SPHT09T308-G88		0.8															☺	☹					
	SPMT09T308-D51		0.8	☺		☹	☹	☹		☹	☹	☹	☹			☹	☹	☹			☹	☹	☹	☹
	SPMT09T308-F55		0.8	☺	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☺	☹	☹	☹			☹	☹	☹	☹
	SPMW09T308-A57		0.8	☹		☹									☺	☹	☹	☹						
	SPMW09T308T-A27		0.8	☹		☹									☹	☹	☹	☹						

HC = Coated carbide
HW = Uncoated carbide

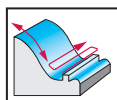


Copy milling cutters

F2339 mm



- With anti-twist protection
- Two cutting edges per indexable insert



	P	M	K	N	S	H	O
F2339	●	●	●	●	●	●	●

Tool	Designation	D _c mm	R mm	d ₁ mm	l ₄ mm	L _c mm	Z	kg	No. of indexable inserts	Type
Cylindrical, modular	★ F2339.TC08.016.Z02.11	16	8	M8	25	11	2	0.0	2	XD . T1303080R
	★ F2339.TC10.020.Z02.15	20	10	M10	30	15	2	0.0	2	XD . T16T3100R
	★ F2339.TC12.025.Z02.20	25	12.5	M12	35	20	2	0.1	2	XD . T2004125R
	★ F2339.TC16.030.Z02.24	30	15	M16	40	24	2	0.1	2	XD . T2405150R
	★ F2339.TC16.032.Z02.25	32	16	M16	40	25	2	0.1	2	XD . T2506160R

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

D _c [mm]	16	20	25	30-32
 Clamping screw for indexable insert Tightening torque	FS1454 (Torx 8IP) 1.2 Nm	FS1013 (Torx 8) 1.0 Nm	FS378 (Torx 15) 3.0 Nm	FS1165 (Torx 20) 6.0 Nm

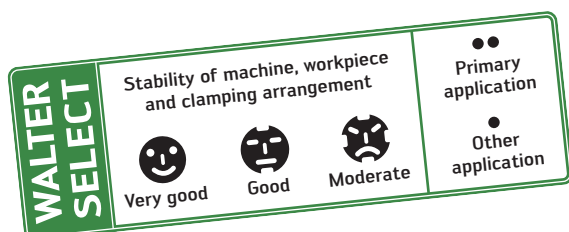
Accessories

D _c [mm]	16	20	25	30-32
 Handle key				FS1173 (Torx 20)
 Screwdriver for indexable insert	FS1483 (Torx 8IP)	FS230 (Torx 8)	FS229 (Torx 15)	

Indexable inserts

	Designation	R mm	P HC					M HC				K HC			S HC				
			WKP25S	WKP35G	WKP35S	WSP45S	WSP45	WSP45G	WSM35S	WSP45S	WSP45	WSP45G	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S	WSP45	WSP45G
	XDGT1303080R-D57	8			☑	☑			☑					☑		☑			
	XDMT1303080R-F55	8	☑	☑	☑	☑		☑	☑		☑	☑	☑	☑	☑	☑		☑	
	XDGT16T3100R-D57	10			☑	☑			☑					☑		☑			
	XDMT16T3100R-F55	10	☑	☑	☑	☑		☑			☑	☑	☑	☑	☑	☑		☑	
	XDGT2004125R-D57	12.5			☑	☑			☑					☑		☑			
	XDMT2004125R-F55	12.5	☑	☑	☑	☑		☑			☑	☑	☑	☑	☑	☑		☑	
	XDGT2405150R-D57	15			☑	☑			☑					☑		☑			
	XDMT2405150R-F55	15	☑	☑	☑	☑	☑		☑	☑		☑	☑	☑	☑	☑	☑		
	XDGT2506160R-D57	16			☑	☑			☑					☑		☑			
	XDMT2506160R-F55	16	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	

HC = Coated carbide

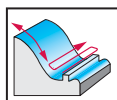


Copy milling cutters

F2339 inch



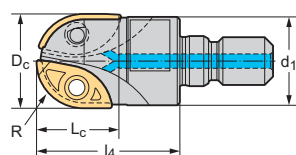
- With anti-twist protection
- Two cutting edges per indexable insert



	P	M	K	N	S	H	O
F2339	●	●	●	●	●	●	●

Tool	Designation	D _c inch	R inch	d ₁ inch	l ₄ inch	L _c inch	Z	 lbs	No. of indexable inserts	Type
Cylindrical, modular	★ F2339.UTC08.015.Z02.11	0.625	0.313	M8	0.984	0.433	2	0.1	2	XDMT1303079R
	★ F2339.UTC10.019.Z02.15	0.750	0.375	M10	1.181	0.591	2	0.1	2	XD . T16T3095R
	★ F2339.UTC12.026.Z02.20	1.000	0.500	M12	1.378	0.787	2	0.2	2	XD . T2004127R
	★ F2339.UTC16.031.Z02.25	1.250	0.625	M16	1.575	0.984	2	0.3	2	XD . T2506159R

Bodies and assembly parts are included in the scope of delivery.



Assembly parts

D _c [inch]	0.625	0.750	1.000	1.250
 Clamping screw for indexable insert Tightening torque	FS1454 (Torx 8IP) 1.2 Nm	FS1013 (Torx 8) 1.0 Nm	FS378 (Torx 15) 3.0 Nm	FS1165 (Torx 20) 6.0 Nm

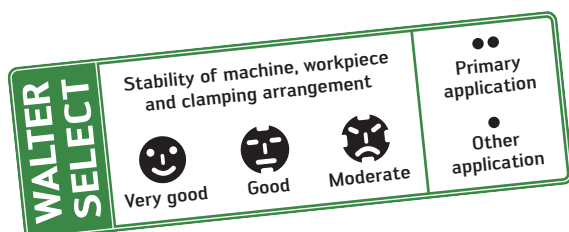
Accessories

D _c [inch]	0.625	0.750	1.000	1.250
 Handle key for indexable insert				FS1173 (Torx 20)
 Screwdriver for indexable insert	FS1483 (Torx 8IP)	FS230 (Torx 8)	FS229 (Torx 15)	

Indexable inserts

	Designation	R mm	P				M		K			S	
			HC				HC		HC			HC	
			WKP25S	WKP35G	WKP35S	WSP45S	WSM35S	WSP45S	WKP25S	WKP35G	WKP35S	WSM35S	WSP45S
	XDMT1303079R-F55	7.92											
	XDGT16T3095R-D57	9.53											
	XDMT16T3095R-F55	9.53											
	XDGT2004127R-D57	12.7											
	XDMT2004127R-F55	12.7											
	XDGT2506159R-D57	15.88											
	XDMT2506159R-F55	15.88											

HC = Coated carbide

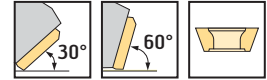
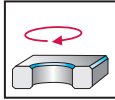


Chamfer milling cutters

M4574 mm



– Four cutting edges per indexable insert



	P	M	K	N	S	H	O
M4574	●	●	●	●	●		

Tool	Designation	D _c mm	D _a mm	d ₁ mm	l ₄ mm	l ₁ mm	L _c mm	κ	Z	kg	No. of indexable inserts	Type
Parallel shank 	★ M4574-008-A12-01-03-30	8	18.4	12	30	120	2.7	30°	1	0.10	1	
	★ M4574-012-A16-02-03-30	12	22.4	16	40	160	2.7	30°	2	0.23	2	SD .. 06T204
	★ M4574-016-A16-03-03-30	16	26.4	16	40	160	2.7	30°	3	0.24	3	
	★ M4574-020-A20-02-05-30*	20	35.3	20	40	200	4	30°	2	0.48	2	SD .. 09T308
Parallel shank 	★ M4574-008-A12-01-03-60	8	14.3	12	30	120	4.8	60°	1	0.09	1	
	★ M4574-012-A16-02-03-60	12	18.3	16	40	160	4.8	60°	2	0.22	2	SD .. 06T204
	★ M4574-016-A16-03-03-60	16	22.3	16	40	160	4.8	60°	3	0.23	3	
	★ M4574-020-A20-02-05-60*	20	29.5	20	40	200	6.8	60°	2	0.46	2	SD .. 09T308

Bodies and assembly parts are included in the scope of delivery.

* Without internal coolant supply

Assembly parts

Type	SD .. 06T204	SD .. 09T308
 Clamping screw for indexable insert Tightening torque	FS2084 (Torx 7IP) 0.9 Nm	FS2266 (Torx 10IP) 2.0 Nm

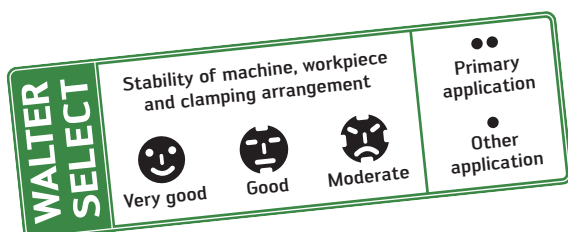
Accessories

Type	SD .. 06T204	SD .. 09T308
 Torque screwdriver, analogue Tightening torque	FS2001 0.4–1.2 Nm	FS2003 1.5–5.0 Nm
 Torque screwdriver, digital Tightening torque		FS2248 1.0–6.0 Nm
 Interchangeable blade	FS2011 (Torx 7IP)	FS2268 (Torx 10IP)
 Screwdriver	FS2088 (Torx 7IP)	FS2267 (Torx 10IP)

Indexable inserts

Designation	r mm	P					M				K					N		S				
		HC					HC				HC					HC	HW	HC				
		WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSM45X	WSP45S	WSP45G	
	SDHT06T204-G88														☺	☺						
	SDMT06T204-D51	☹	☹	☹	☹	☹			☹	☹			☹	☹	☹					☹	☹	
	SDMT06T204-D57	☹	☹	☹	☹	☹	☹		☹	☹		☹	☹	☹	☹			☹		☹	☹	
	SDMT06T204-F57	☹	☹	☹	☹	☹	☹		☹	☹	☹	☹	☹	☹	☹			☹	☹	☹	☹	
	SDMW06T204-A57	☹	☹	☹								☹	☹	☹	☹							
	SDHT09T308-G88														☺	☺						
	SDMT09T308-D51	☹	☹	☹	☹	☹			☹	☹			☹	☹	☹					☹	☹	
	SDMT09T308-D57	☹	☹	☹	☹	☹	☹		☹	☹	☹	☹	☹	☹			☹		☹	☹		
	SDMT09T308-F57	☹	☹	☹	☹	☹	☹		☹	☹	☹	☹	☹	☹			☹	☹	☹	☹		
	SDMW09T308-A57	☹	☹	☹								☹	☹	☹								

HC = Coated carbide
HW = Uncoated carbide



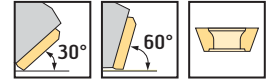
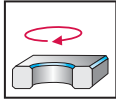
Chamfer milling cutters

M4574 inch

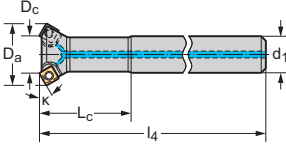
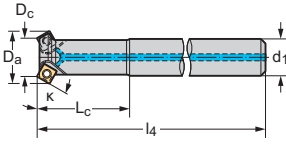
SD .. 09T308



– Four cutting edges per indexable insert



	P	M	K	N	S	H	O
M4574	●	●	●	●	●		

Tool	Designation	D _c inch	D _a inch	d ₁ inch	l ₄ inch	l ₁ inch	L _c inch	κ	Z	 lbs	No. of indexable inserts	Type
Parallel shank	★ M4574.019-A19-02-05-30	0.750	1.353	0.750	1.575	7.874	0.157	30°	2	0.97	2	SD .. 09T308
												
Parallel shank	★ M4574.019-A19-02-05-60	0.750	1.124	0.750	1.575	7.874	0.268	60°	2	0.93	2	SD .. 09T308
												

Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	D _c [inch]	0.750
	Clamping screw for indexable insert Tightening torque	FS2266 (Torx 10IP) 2.0 Nm

Accessories

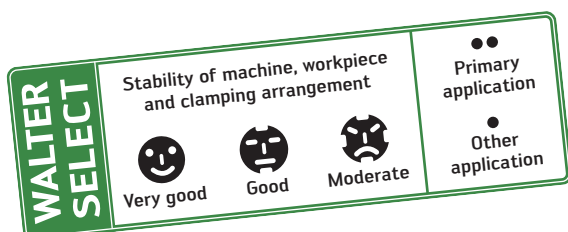
	D _c [inch]	0.750
	Torque screwdriver, analogue Tightening torque	FS2003 1.5–5.0 Nm
	Torque screwdriver, digital Tightening torque	FS2248 1.0–6.0 Nm
	Interchangeable blade	FS2268 (Torx 10IP)
	Screwdriver	FS2267 (Torx 10IP)

Indexable inserts

	Designation	r mm	P					M				K				N		S			
			HC					HC				HC				HC	HW	HC			
			WKP25S	WKP35G	WKP35S	WSP45S	WSP45G	WSM35S	WSM45X	WSP45S	WSP45G	WAK15	WKK25S	WKP25S	WKP35G	WKP35S	WXN15	WK10	WSM35S	WSM45X	WSP45S
	SDHT09T308-G88	0.8														☺	☺				
	SDMT09T308-D51	0.8	☺	☺	☺	☺	☺			☺	☺			☺	☺	☺				☺	☺
	SDMT09T308-D57	0.8	☺	☺	☺	☺	☺	☺		☺	☺		☺	☺	☺	☺		☺		☺	☺
	SDMT09T308-F57	0.8	☺	☺	☺	☺	☺	☺		☺	☺	☺		☺	☺	☺		☺	☺	☺	☺
	SDMW09T308-A57	0.8	☺	☺	☺								☺	☺	☺						

HC = Coated carbide

HW = Uncoated carbide



Cutting data for roughing WSP45G/WHH15X

Material group	Overview of the main material groups and code letters			Brinell hardness HB	Tensile strength R_m N/mm ²	Machining group ¹			Cutting material grades		
									Starting values for cutting speed v_c [sfm]		
									HC Face/shoulder milling		
									WSP45G a_g / D_c^*		
									1/1 1/2	1/5	
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	428	P1	●	●●	754	951	
		C > 0.25% to ≤ 0.55%	Annealed	190	639	P2	●	●●	623	820	
		C > 0.25% to ≤ 0.55%	Heat-treated	210	708	P3	●	●●	590	754	
		C > 0.55%	Annealed	190	639	P4	●	●●	623	820	
		C > 0.55%	Heat-treated	300	1013	P5	●	●●	426	410	
		Free-machining steel (short-chipping)	Annealed	220	745	P6	●	●●	574	738	
	Low-alloy steel	Annealed		175	591	P7	●	●●	623	787	
		Heat-treated		300	1013	P8	●	●●	426	476	
		Heat-treated		380	1282	P9	●	●●	328	361	
		Heat-treated		430	1477	P10	●	●●	262	295	
	High-alloy steel and high-alloy tool steel	Annealed		200	675	P11	●	●●	377	459	
		Hardened and tempered		300	1013	P12	●	●●	246	295	
		Hardened and tempered		400	1361	P13	●	●●	213	262	
	Stainless steel	Ferritic/martensitic, annealed		200	675	P14	●	●●	377	459	
		Martensitic, heat-treated		330	1114	P15	●	●●	262	328	
M	Stainless steel	Austenitic, quench hardened		200	675	M1	●●	●	361	426	
		Austenitic, precipitation hardened (PH)		300	1013	M2	●●	●	295	328	
		Austenitic/ferritic, duplex		230	778	M3	●●	●	328	394	
K	Malleable cast iron	Ferritic		200	675	K1	●	●●			
		Pearlitic		260	867	K2	●	●●			
	Grey cast iron	Low tensile strength		180	602	K3	●	●●			
		High tensile strength/austenitic		245	825	K4	●	●●			
	Cast iron with spheroidal graphite	Ferritic		155	518	K5	●	●●			
		Pearlitic		265	885	K6	●	●●			
	GGV (CGI)			200	675	K7	●	●●			
N	Wrought aluminium alloys	Not hardenable		30	–	N1	●●				
		Hardenable, hardened		100	343	N2	●●				
	Cast aluminium alloys	≤ 12% Si, not hardenable		75	260	N3	●●				
		≤ 12% Si, hardenable, hardened		90	314	N4	●●				
		> 12% Si, not hardenable		130	447	N5	●●				
	Magnesium-based alloys ³			70	250	N6	●●				
		Unalloyed, electrolytic copper		100	343	N7	●●				
		Brass, bronze, red brass		90	314	N8	●●				
S	Heat-resistant alloys	Fe-based	Annealed	200	675	S1	●●		213	230	
			Hardened	280	943	S2	●●		148	164	
		Ni- or Co-based	Annealed	250	839	S3	●●		164	180	
			Hardened	350	1177	S4	●●		98	115	
			Cast	320	1076	S5	●●		131	148	
	Titanium alloys	Pure titanium		200	675	S6	●●		213	230	
		α and β alloys, hardened		375	1262	S7	●●		98	115	
		β alloys		410	1396	S8	●●		98	115	
	Tungsten alloys			300	1013	S9	●●		230	262	
	Molybdenum alloys			300	1013	S10	●●		230	262	
H	Hardened steel	Hardened and tempered		50 HRC	–	H1		●●			
		Hardened and tempered		55 HRC	–	H2		●●			
		Hardened and tempered		60 HRC	–	H3		●●			
	Hardened cast iron	Hardened and tempered		55 HRC	–	H4		●●			
O	Thermoplastics	Without abrasive fillers				O1	●●	●	1312	1312	
	Thermosets	Without abrasive fillers				O2	●●	●	984	984	
	Plastic, glass-fibre-reinforced	GFRP				O3					
	Plastic, carbon-fibre-reinforced	CFRP				O4					
	Plastic, aramid-fibre-reinforced	AFRP				O5					
	Graphite (technical)			80 Shore		O6		●●			

- Recommended application (the specified cutting data is regarded as starting values for the recommended application)
- Possible application, reduce cutting data by 30–50% (increase by approx. 70–80% for ISO M)

¹ The classification of the machining groups can be found from page C 833 onwards in the Walter General Catalog 2018.

² Cutting data can also be used without coolant.

^{*} $a_g/D_c = 1/10$, $v_c = 10\%$ higher than 1/5

³ Water-miscible coolants must not be used when machining magnesium-based alloys.

Cutting material grades

[illegible]

Cutting data for semi-finishing and finishing WSP45G/WHH15X

Material group	Overview of the main material groups and code letters			Brinell hardness HB	Tensile strength R _m N/mm²	Machining group ¹			Cutting material grades								
									Starting values for cutting speed v _c [sfm]								
									HC								
									Copy milling								
			WSP45G			WHH15X											
			a _e / D _c *			a _e / D _c *			1/20								
			1/1	1/5		1/1	1/5	1/20									
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	430	P1	●	●●	345	435	545	210	280	380			
		C > 0.25% to ≤ 0.55%	Annealed	190	640	P2	●	●●	285	375	470	190	250	340			
		C > 0.25% to ≤ 0.55%	Heat-treated	210	710	P3	●	●●	235	300	375	150	200	270			
		C > 0.55%	Annealed	190	640	P4	●	●●	220	255	320	130	170	235			
		C > 0.55%	Heat-treated	300	1010	P5	●	●●	195	220	270	100	130	180			
		Free-machining steel (short-chipping)	Annealed	220	750	P6	●	●●	290	380	470	180	240	330			
	Heat-treated	285	960	P8	●	●●	220	255	320	150	200	270					
	Heat-treated	380	1280	P9	●	●●	195	220	270	140	190	250					
	Heat-treated	430	1480	P10	●	●●	150	165	205	130	170	235					
	Hardened and tempered	300	1010	P12	●	●●	115	135	170	120	160	220					
	Hardened and tempered	380	1280	P13	●	●●	110	130	150	110	150	210					
	Martensitic, heat-treated	330	1110	P15	●	●●	135	160	205	120	160	220					
	Austenitic, precipitation hardened (PH)	300	1010	M2	●●	●	130	160	210								
	Austenitic/ferritic, duplex	230	780	M3	●●	●	150	180	230								
	Pearlitic	260	700	K2	●	●●				110	150	200					
High tensile strength/austenitic	245	350	K4	●	●●				110	150	200						
Pearlitic	265	700	K6	●	●●				120	160	220						
Hardenable, hardened	100	340	N2	●●													
≤ 12% Si, hardenable, hardened	90	310	N4	●●													
> 12% Si, not hardenable	130	450	N5	●●													
Cu alloys, short-chipping	110	380	N9	●●													
High tensile, Ampco	300	1010	N10	●●													
Hardened	280	940	S2	●●		70	75	95									
Ni- or Co-based	Annealed	250	840	S3	●●		75	85	105								
	Hardened	350	1180	S4	●●		45	55	70								
	Cast	320	1080	S5	●●		60	70	90								
α and β alloys, hardened	375	1260	S7	●●		60	70	90									
β alloys	410	1400	S8	●●		50	60	80									
Hardened and tempered	55 HRC	–	H2		●●				40	50	70						
Hardened and tempered	60 HRC	–	H3		●●				40	45	60						

- Recommended application (the specified cutting data is regarded as starting values for the recommended application)
- Possible application, reduce cutting data by 30–50% (increase by approx. 70–80% for ISO M)

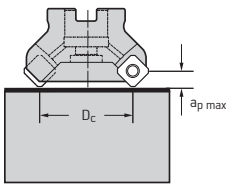
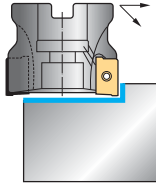
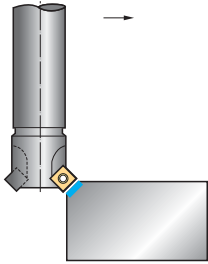
¹ The classification of the machining groups can be found from page C 833 onwards in the Walter General Catalog 2018.

² Water-miscible coolants must not be used when machining magnesium-based alloys.

* a_e/D_c = 1/50, v_c = 40% higher than 1/20

Feed determination (starting values)

The specified feed rates are average standard values.
For specific applications, adjustment is recommended.

Cutter type		M5130	M4574		
Material group					
	Feed per tooth f_{z0} for $a_e = D_c$ $a_p = a_{p \max} = L_c$	For shoulder milling operations			
	Lead angle κ	90°	30° / 45° / 60°		
	Tool diameter or diameter range [in]	f_{z0} [in]	f_{z0} [in]		
	Maximum depth of cut $a_{p \max} = L_c$ [in]	0.630–1.969	0.472–0.630	0.787–1.575	1.260–1.575
P	Non-alloyed steel ¹	0.006	0.006	0.008	0.010
	Low-alloy steel	0.004	0.005	0.006	0.008
	High-alloy steel and tool steel	0.004	0.005	0.006	0.008
	Stainless steel	0.003	0.004	0.005	0.006
M	Stainless steel ²	0.003	0.003	0.004	0.005
K	Malleable cast iron	0.005	0.006	0.008	0.010
	Grey cast iron	0.006	0.008	0.010	0.012
	Cast iron with spheroidal graphite	0.005	0.006	0.008	0.010
	GGV (CGI)	0.004	0.006	0.008	0.010
N	Wrought aluminium alloys	0.004	0.004	0.005	0.006
	Cast aluminium alloys	0.005	0.004	0.005	0.006
	Magnesium-based alloys	0.004	0.003	0.004	0.005
	Copper and copper alloys (bronze/brass)	0.003	0.003	0.004	0.005
S	Heat-resistant alloys	0.003	0.003	0.004	0.005
	Titanium alloys	0.003	0.003	0.004	0.005
	Tungsten alloys	0.003	0.003	0.004	0.005
	Molybdenum alloys	0.003	0.003	0.004	0.005
H	Hardened steel	0.003			
	Hardened cast iron	0.004			
O	Thermoplastics	0.005	0.004	0.005	0.006
	Plastic, carbon-fibre-reinforced				0.006
	Graphite (technical)	0.004	0.004	0.005	0.006
Indexable insert types		BC..0903..	SD..06T2	SD..09T3..	SD..1204..
Correction factor K_{a_e}					
		$a_e / D_c = 1/1-1/2$	0.039	0.039	0.039
		1/5	0.043	0.043	0.043
		1/10	0.047	0.047	0.047
		1/20	0.051	0.051	0.051
		1/50		0.059	0.059

¹ and cast steel

² and austenitic/ferritic

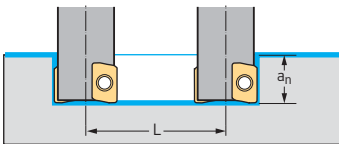
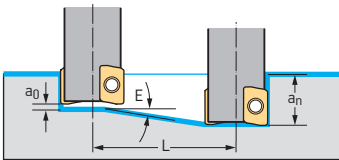
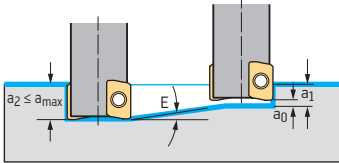
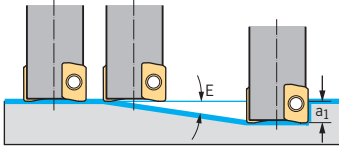
* only possible if $a_p < 0.75 \times D_c$

** only with $a_e/D_c < 1/5$

Application information for the Xtra-tec® XT M5130 shoulder milling cutter

Ramping and circular plunging into solid material

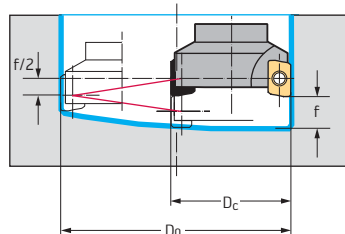
Plunging with M5130 shoulder milling cutter/plunging angle $E_{\max}$ [°]



Milling cutter dia. D_c [mm]	AC..0602.. $a_{p \max} = 9 \text{ mm}$			
	$E_{\max}$ [°]	$D_{0 \min}$ [mm]	$D_{0 \max}$ [mm]	a_0 [mm]
16	8.4	20.2	32	1.2
18	6.7	24.2	36	1.2
20	5.4	28.2	40	1.1
22	4.6	32.2	44	1.1
25	3.8	38.2	50	1.1
32	2.6	52.2	64	1.1
40	2.0	68.2	80	1.1
50	1.6	88.2	100	1.1
63	1.2	114.2	126	1.1

D_c [inch]	$a_{p \max} = 0.354 \text{ inch}$			
	$E_{\max}$ [°]	$D_{0 \min}$ [inch]	$D_{0 \max}$ [inch]	a_0 [inch]
0.625	8.5	0.785	1.250	0.047
0.750	6.1	1.035	1.500	0.047
1.000	3.7	1.535	2.000	0.043
2.000	1.5	3.535	4.000	0.043

Circular interpolation of a bore into solid material



Max. axial feed per tool revolution ("thread pitch") f [mm]

Machined drilled hole diameter D_0 [mm]	AC..0602.. D_c [mm]											
	10	12	14	16	18	20	22	25	32	40	50	63
15	1.8											
20	3.7	2.1										
30	5.0	4.7	3.3	2.3	1.6							
40	5.0	5.0	5.0	4.0	3.0	2.3	1.9					
50	5.0	5.0	5.0	5.0	4.4	3.5	2.9	2.2				
60	5.0	5.0	5.0	5.0	5.0	4.6	4.0	3.1	1.8			
70	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.9	2.5			
80	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.8	3.2	2.0		
90	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.8	2.5		
100	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5	3.0	1.9	
120	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.9	2.7	1.6
150	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.8	2.4
180	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.2
200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.8
250	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

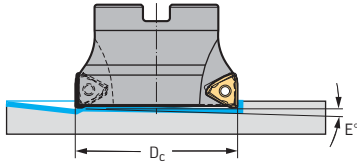
Max. axial feed per tool revolution ("thread pitch") f [inch]

Machined drilled hole diameter D_0 [inch]	AC..0602.. D_c [inch]											
	0.500	0.625	0.750	1.000	1.500	2.000	2.500	3.000				
0.591												
0.787	0.069											
1.181	0.165	0.092										
1.575	0.197	0.156	0.104									
1.969	0.197	0.197	0.154	0.085								
2.362	0.197	0.197	0.197	0.120	0.073							
2.756	0.197	0.197	0.197	0.154	0.099	0.069						
3.150	0.197	0.197	0.197	0.189	0.125	0.090						
3.543	0.197	0.197	0.197	0.197	0.151	0.112	0.059					
3.937	0.197	0.197	0.197	0.197	0.177	0.134	0.074					
4.724	0.197	0.197	0.197	0.197	0.197	0.177	0.105	0.061				
5.906	0.197	0.197	0.197	0.197	0.197	0.197	0.150	0.093				
7.087	0.197	0.197	0.197	0.197	0.197	0.197	0.195	0.126				
7.874	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.147				
9.843	0.197	0.197	0.197	0.197	0.197	0.197	0.197	0.197				

Application information for M5137 shoulder milling cutter

Ramping and circular plunging into solid material

Plunging with the Xtra-tec® M5137 shoulder milling cutter/plunging angle $E_{\max}$ [°]



Milling cutter diameter D_c [mm]	TNMU160508R.. $a_{p \max} = 8 \text{ mm}$				a_0 [mm]
	$E_{\max}$ [°]	$D_{0 \min}$ [mm]	$D_{0 \max}$ [mm]		
50	1.3	91	100		1.0
63	1.0	117	126		1.0
80	0.8	151	160		1.0
100	0.6	191	200		1.0
Milling cutter diameter D_c [in]	TNMU160508R.. $a_{p \max} = 0.315 \text{ inch}$				a_0 [in]
	$E_{\max}$ [°]	$D_{0 \min}$ [in]	$D_{0 \max}$ [in]		
2.000	1.3	3.625	4.000		0.039
2.500	1.0	4.625	5.000		0.039
3.000	0.8	5.625	6.000		0.039
4.000	0.6	7.625	8.000		0.039

Circular interpolation of a bore into solid material

Max. axial feed per tool revolution ("thread pitch") f [mm]

Machined drilled hole diameter D_0 [mm]	TNMU160508R... D_c [mm]			
	50	63	80	100
100	3.6			
120	5.0	3.1		
150	7.8	5.3	3.5	
180	8.0	6.4	4.4	
200	8.0	7.5	5.3	3.3
250	8.0	8.0	7.5	4.9
300	8.0	8.0	8.0	6.6
350	8.0	8.0	8.0	8.0
400	8.0	8.0	8.0	8.0

Circular interpolation of a bore into solid material

Max. axial feed per tool revolution ("thread pitch") f [in]

Machined drilled hole diameter D_0 [in]	TNMU160508R... D_c [in]			
	2	2.5	3	4
2.250	0.018			
2.500	0.036	0.000		
3.000	0.071	0.027	0.000	
3.500	0.107	0.055	0.022	
4.000	0.143	0.082	0.044	
5.000	0.214	0.137	0.088	0.033
6.000	0.285	0.192	0.132	0.066
7.000	0.315	0.247	0.175	0.099
8.000	0.315	0.302	0.219	0.132
10.000	0.315	0.315	0.307	0.197
12.000	0.315	0.315	0.315	0.263
14.000	0.315	0.315	0.315	0.315
16.000	0.315	0.315	0.315	0.315
18.000	0.315	0.315	0.315	0.315
20.000	0.315	0.315	0.315	0.315

Notes on high-speed cutting

- Maximum permissible speeds:
The limit values specified in the tables should not be exceeded. Otherwise correct operation and/or reliability are no longer guaranteed.
- Only use original Walter indexable inserts and assembly parts (screws, etc.). New screws should be used after having replaced the indexable inserts five times at the most.
- Observe the tightening torques specified in the catalogue.
- Balancing:
Balancing in two steps is required when milling at fast speeds (> 6000 rpm) or at circumferential speeds of > 1000 m/min:
a. Basic balancing of the tool body including indexable inserts (can be carried out by Walter if required). In this case, tool adaptors that have been balanced separately beforehand must be used.
b. Fine balancing of the tool when fully mounted on the adaptor. The fine balancing operation is strongly recommended, as even the smallest concentricity fault can seriously affect the balance status.
- Short projection lengths reduce concentricity faults or an imbalance, and increase spindle service life. The specified speeds only apply to the use of tools without additional extensions and for tools with a neck length of $\leq 2.2 \times D_c$. For tools with longer neck lengths, the speeds must be reduced upon consultation with Walter.

Part 1: Metric

$n_{\max}$ [rpm] with D													
Tool	Safety-related parts	In relation to	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20	Ø 22	Ø 25	Ø 28	Ø 32	Ø 35
M5130	AC.T0602..	D_c	40.000	40.000	40.000	40.000	40.000	40.000	40.000	40.000		36.600	
	BC..0903..	D_c				40.000	40.000	40.000	38.700	36.000		31.300	
	BC.T1204..	D_c								28.100		24.400	
	BC.T1605..	D_c								22.300	20.900	19.300	18.300

Part 2: Inch

$n_{\max}$ [rpm] with D										
Tool	Safety-related parts	In relation to	Ø 0.375	Ø 0.5	Ø 0.625	Ø 0.750	Ø 1.000	Ø 1.250	Ø 1.500	
M5130	AC.T0602..	D_c		40.000	40.000	40.000	40.000	36.800	33.400	
	BC..0903..	D_c			40.000	40.000	35.700			
	BC.T1204..	D_c				33.100	27.900	24.500	22.100	
	BC.T1605..	D_c					22.100	19.300	17.400	

6. Safety guard:

Appropriate safety guards or machine encapsulations must be used to safely collect particles which spin off, such as chips or cutting edge parts that are broken as a result of collisions.

7. Damaged tools:

The operating speed must be specified for the repair of an HSC tool. The table values only apply to tools with a condition equivalent to new condition following repair.

8. Application of standards:

Walter recommends using the balancing standard DIN 69888, which describes the balancing of tools and the requirements in the cutting area. DIN 69888 is tailored to the needs of the cutting area, and describes the tool balancing requirements in a practical way. DIN ISO 1940, which was previously often used, describes balancing for all areas of mechanical engineering.

The requirements when working at circumferential speeds of >1000 m/min are described in DIN ISO 15641.

 $n_{\max}$ [rpm] with D

	Ø 40	Ø 42	Ø 50	Ø 52	Ø 63	Ø 66	Ø 80	Ø 85	Ø 100	Ø 125	Ø 160	Ø 200	Ø 250	Ø 315
	32.500		28.900		25.700									
	27.700		24.600		21.800									
	21.500		19.100		16.900		14.800							
	16.900	16.500	14.900	14.600	13.200	12.800	11.600	11.200	10.300	9.100	8.000			

 $n_{\max}$ [rpm] with D

	Ø 2.000	Ø 2.500	Ø 3.000	Ø 4.000	Ø 5.000	Ø 6.000	Ø 8.000	Ø 10.000	Ø 12.000
	28.700	25.500							
	24.400								
	18.900	16.800	15.200						
	14.800	13.100	11.900	10.200	9.100	8.200			



Rotating boring bars/adaptors – D2

Tool body adaptors	Product range overview	252
	Accure-tec vibration-damped boring bars/adaptors	253

Product range overview of Accure-tec vibration-damped milling cutter adaptors

Tool adaptors

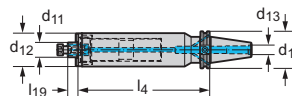
Designation	AC001.K	AC001.K
Tool type	Accure-tec boring bars/adaptors	
Machine-side	ASME B 5.50	ASME B 5.50
Tool-side	B19 / B26 / B38	B19 / B26
Page	253	253
		

CAT-V boring bar/adaptor – vibration-damped

AC001.K inch



- For milling tools with parallel bore according to DIN 138
- With preset vibration damping

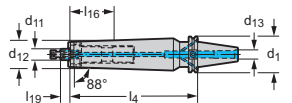
Tool	Designation	d ₁	d ₁₁ inch	d ₁₂ inch	l ₄ inch	l ₁₉ inch	d ₁₃	lbs
	★ AC001.K40-B19-191	CAT40	0,750	1,750	7,500	0,690	5/8"-11	6,83
	★ AC001.K40-B26-229	CAT40	1,000	2,250	9,000	0,690	5/8"-11	13,01
	★ AC001.K50-B19-191	CAT50	0,750	1,750	7,500	0,690	1"-8	11,02
	★ AC001.K50-B26-229	CAT50	1,000	2,250	9,000	0,690	1"-8	17,64
	★ AC001.K50-B38-349	CAT50	1,500	3,500	13,750	0,940	1"-8	44,09

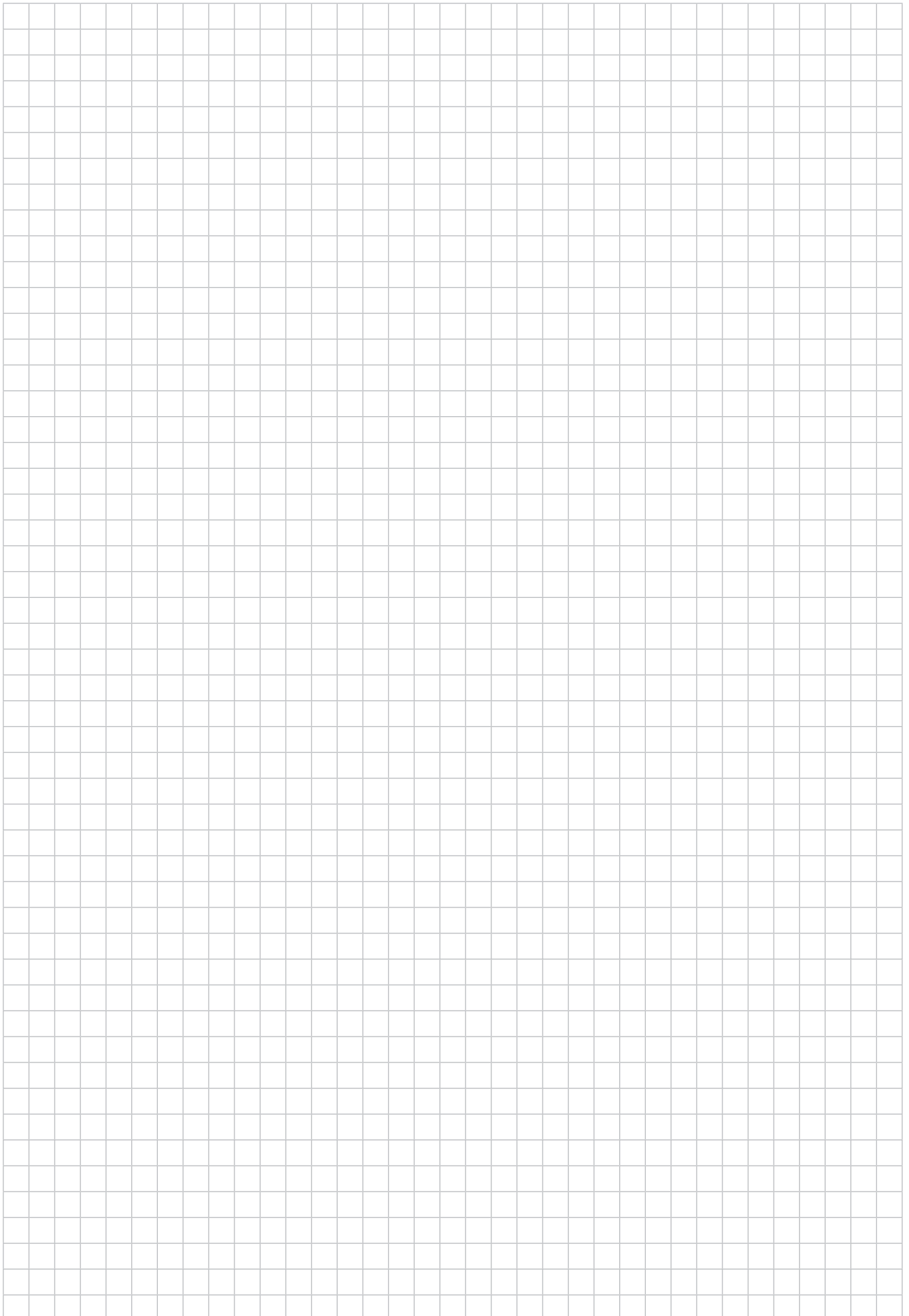
CAT-V boring bar/adaptor, conical – vibration-damped

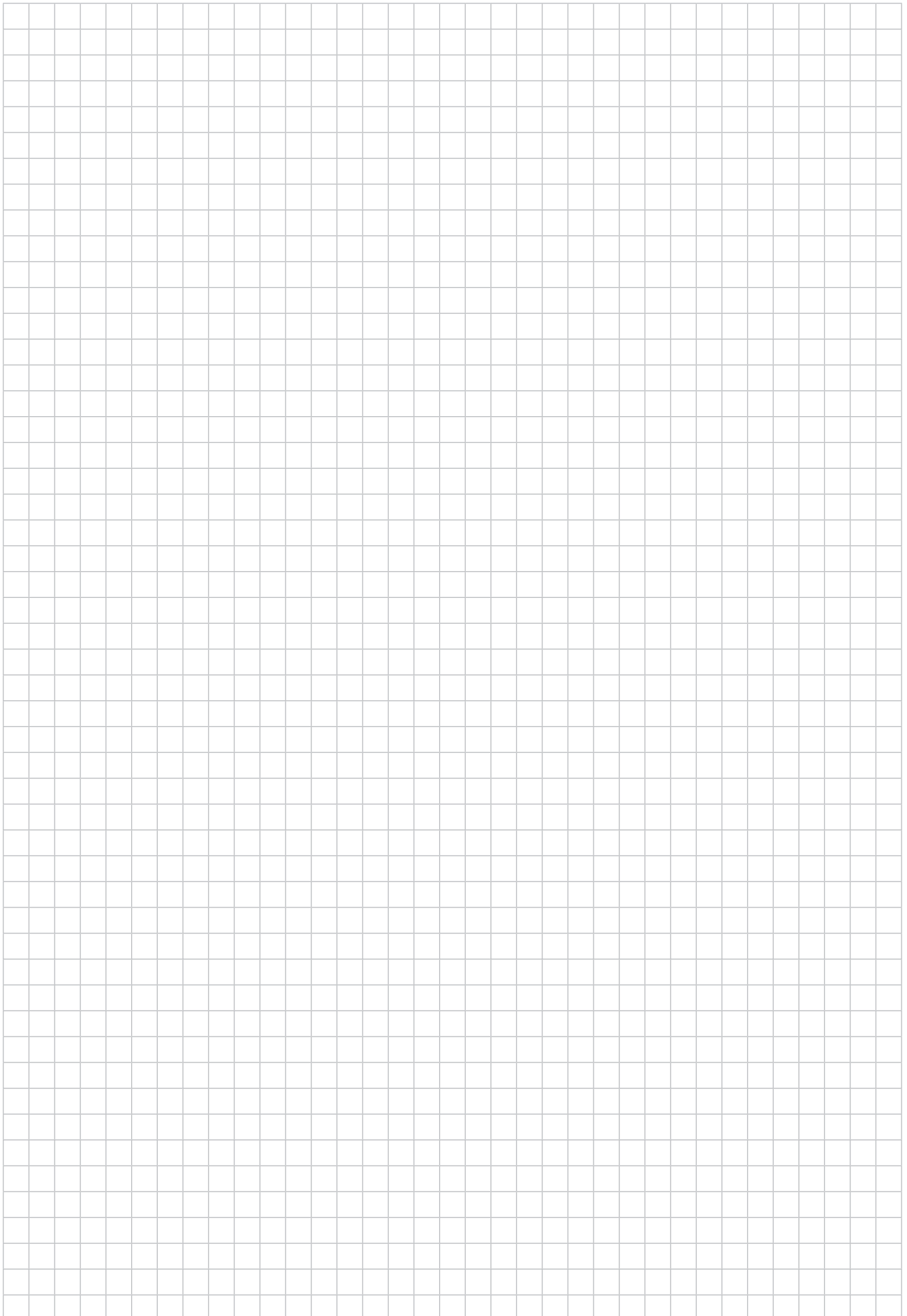
AC001.K inch



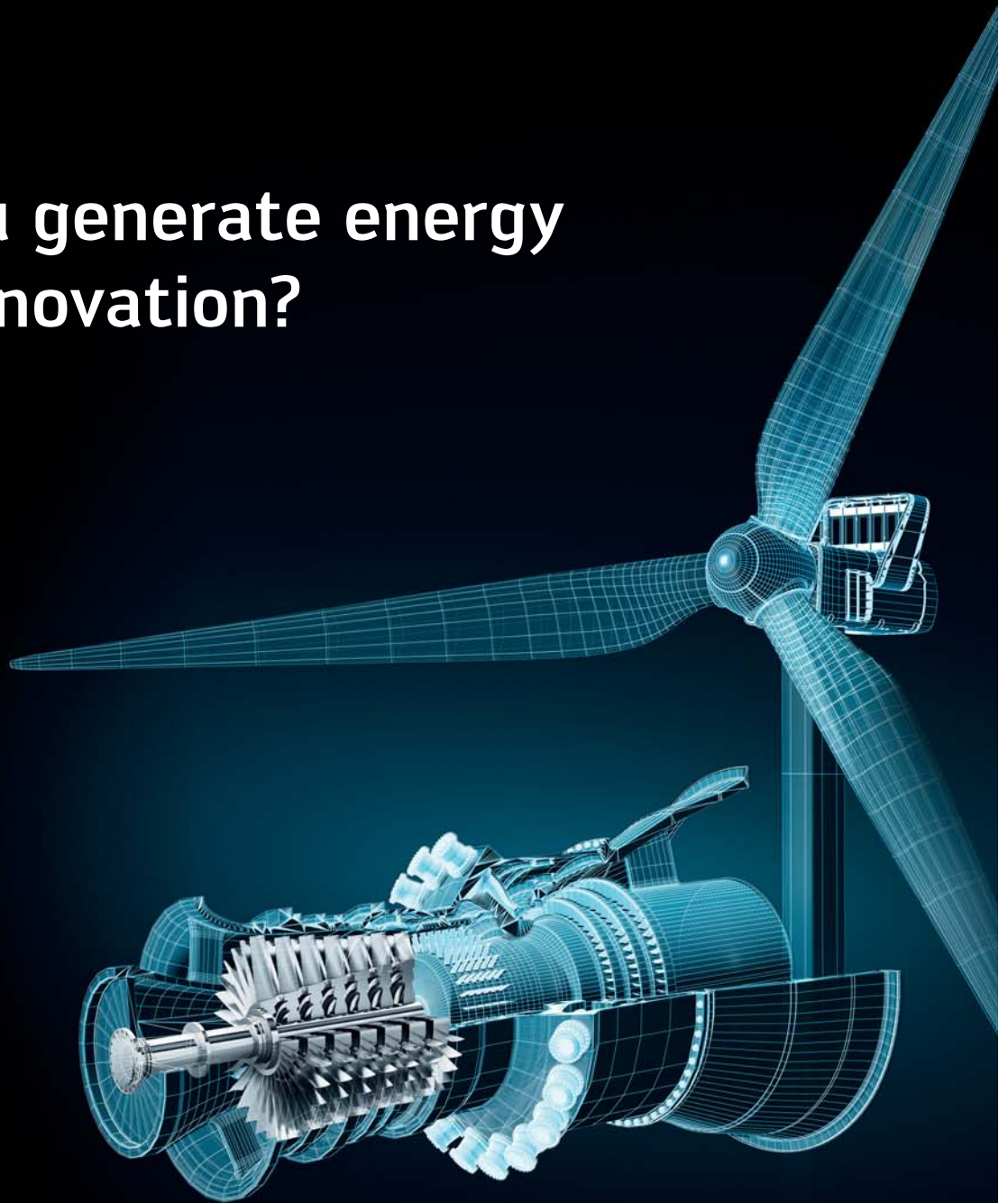
- For milling tools with parallel bore according to DIN 138
- With preset vibration damping

Tool	Designation	d ₁	d ₁₁ inch	d ₁₂ inch	l ₄ inch	l ₁₆ inch	l ₁₉ inch	d ₁₃	lbs
	★ AC001.K40-B19-229	CAT40	0,750	1,750	9,000	3,125	0,690	5/8"-11	10,10
	★ AC001.K50-B19-229	CAT50	0,750	1,750	9,000	3,125	0,690	1"-8	13,89
	★ AC001.K50-B26-305	CAT50	1,000	2,250	12,000	3,096	0,690	1"-8	24,03



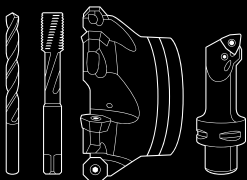


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The world's population will reach over 8 billion by 2025, leading to the energy demand rising accordingly. Achieving optimum efficiency in energy generation has therefore never been more important. Components for the energy industry need to be optimised to fulfil their maximum potential, which requires the use of new machining techniques and technologies. Having a partner that provides reliable tool solutions and a dependable service is therefore crucial.

Harnessing energy for the future: Engineering Kompetenz from Walter.



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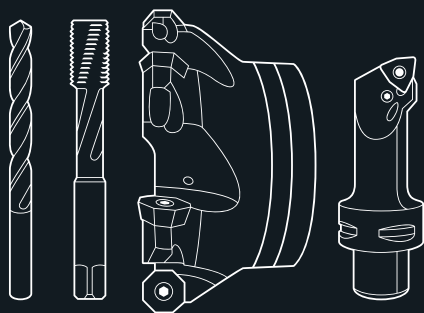
 **WALTER**
Engineering Kompetenz

Walter USA, LLC

N22W23977 RidgeView Parkway West
Waukesha, WI 53188, USA

Phone: 800-945-5554 Fax: 262-347-2500
service.us@walter-tools.com

www.walter-tools.com/us
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www.youtube.com/waltertools



Walter Canada

Mississauga, Canada
service.ca@walter-tools.com

Walter Tools S.A. de C.V.

Carr. Estatal KM 2.22 #431, Módulo 3, Interior 19 y 20
El Colorado Galindo, Municipio El Marqués,
Querétaro, C.P. 76246, México
Phone: +52 (442) 478-3500
service.mx@walter-tools.com
