Supplement to general catalogue 2009

Turning, drilling, milling

_ WALTER TURNING, DRILLING, MILLING

Tool innovations



These 2 catalogues show you the current Walter tool range



You will find the complete current range of precision tools and indexable inserts from our Walter specialist brand clearly laid out in the two catalogues shown.
The supplementary news catalogue 2008 is integrated into this 2009 catalogue and is therefore no longer valid.

We reserve the right to make technical changes in the interest of progress.



The future belongs to economic machining.
We recommend you order the current catalogues for our specialist brands **Walter Titex** and **Walter Prototyp** now.
In these catalogues you will find everything you need for productive drilling, threading and milling.

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Miscellaneous

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WALTER
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Turning

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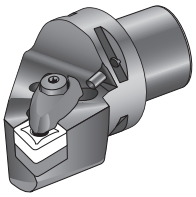
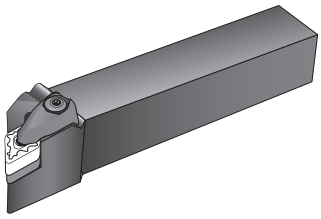
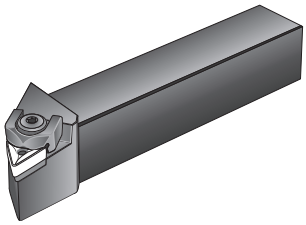
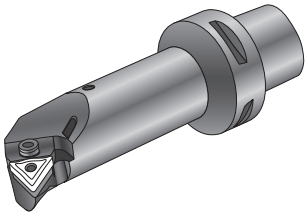
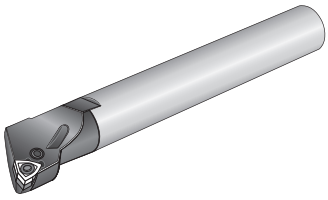
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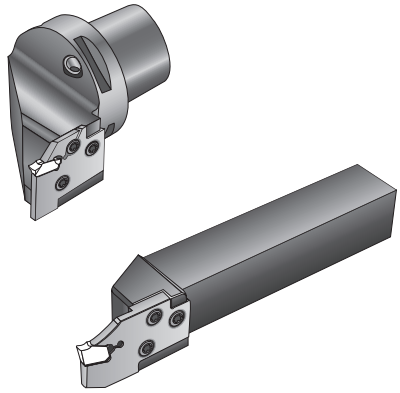
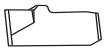
Grooving

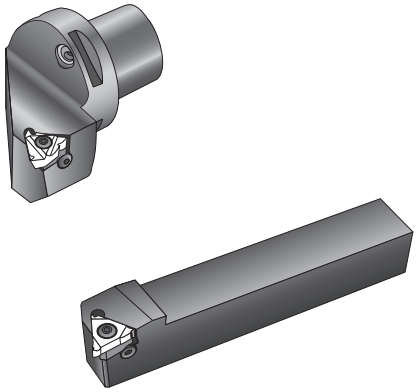
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Product range overview for indexable inserts for turning

ISO toolholders	Insert shape		Description		Page
		**C**	NEW	Negative basic shape Positive basic shape	6 19
		**D**	NEW	Negative basic shape Positive basic shape	9 21
		**R**	NEW	Positive basic shape	23
		**S**	NEW	Negative basic shape Positive basic shape	11 24
		**T**	NEW	Negative basic shape Positive basic shape	14 25
		**V**	NEW	Negative basic shape Positive basic shape	16 26
		**W**	NEW	Negative basic shape Positive basic shape	17 27

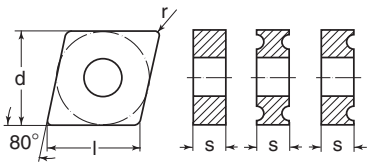
Product range overview of indexable inserts for grooving and threading

Walter Cut grooving holders	Insert shape	Description	Page
	 NEW **GX**	Walter Cut grooving inserts	30
	 NEW **FX**	Walter Cut grooving inserts	34
	 NEW **LX**	Walter Cut grooving inserts	35

Walter NTS threading holders	Insert shape	Description	Page
	 **NTS**	Walter NTS threading inserts	36

Indexable inserts for turning with negative basic shape

CNMG



HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
Wiper	CNMG 120404 – NF	12.7	12.9	4.76	0.4	△		△	△			△	△						△			
	CNMG 120408 – NF	12.7	12.9	4.76	0.8	△		△	△			△	△						△			
Wiper	CNMG 120408 – NM	12.7	12.9	4.76	0.8		△	△	△			△	△		△	△			△			
	CNMG 120412 – NM	12.7	12.9	4.76	1.2		△	△	△			△	△		△	△			△			
	CNMG 120404 – NF 3	12.7	12.9	4.76	0.4	△		△	△													
	CNMG 120408 – NF 3	12.7	12.9	4.76	0.8	△		△	△													
	CNMG 120412 – NF 3	12.7	12.9	4.76	1.2	△		△	△													
	CNMG 120404 – NF 4	12.7	12.9	4.76	0.4						△	△	△						△			
	CNMG 120408 – NF 4	12.7	12.9	4.76	0.8						△	△	△						△			
	CNMG 120412 – NF 4	12.7	12.9	4.76	1.2						△	△	△						△			
	CNMG 120404 – NS 6	12.7	12.9	4.76	0.4	△		△	△													
	CNMG 120408 – NS 6	12.7	12.9	4.76	0.8	△		△	△													
	CNMG 120412 – NS 6	12.7	12.9	4.76	1.2	△		△	△													
	CNMG 120404 – NM 4	12.7	12.9	4.76	0.4		△	△	△	△	△	△	△	△					△	△		
	CNMG 120408 – NM 4	12.7	12.9	4.76	0.8		△	△	△	△	△	△	△	△					△	△		
	CNMG 120412 – NM 4	12.7	12.9	4.76	1.2		△	△	△	△	△	△	△	△					△	△		
	CNMG 120416 – NM 4	12.7	12.9	4.76	1.6			△	△	△		△	△	△					△	△		
	CNMG 160608 – NM 4	15.875	16.1	6.35	0.8		△	△	△	△		△	△	△					△	△		
	CNMG 160612 – NM 4	15.875	16.1	6.35	1.2		△	△	△	△		△	△	△					△	△		
	CNMG 160616 – NM 4	15.875	16.1	6.35	1.6			△	△	△		△	△	△					△	△		
	CNMG 120404 – NM 5	12.7	12.9	4.76	0.4										△	△	△					
	CNMG 120408 – NM 5	12.7	12.9	4.76	0.8										△	△	△					
	CNMG 120412 – NM 5	12.7	12.9	4.76	1.2										△	△	△					
	CNMG 120416 – NM 5	12.7	12.9	4.76	1.6										△	△	△					
	CNMG 160608 – NM 5	15.875	16.1	6.35	0.8										△	△	△					
	CNMG 160612 – NM 5	15.875	16.1	6.35	1.2										△	△	△					
	CNMG 160616 – NM 5	15.875	16.1	6.35	1.6										△	△	△					
	CNMG 190612 – NM 5	19.05	19.3	6.35	1.2										△	△	△					
	CNMG 190616 – NM 5	19.05	19.3	6.35	1.6										△	△	△					
	CNMG 190624 – NM 5	19.05	19.3	6.35	2.4										△	△	△					

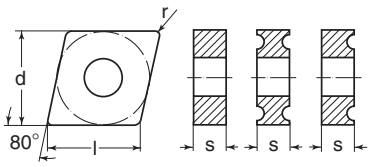
= **New addition to range**

Tiger·tec®

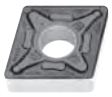
Wiper

See the general catalogue, page 218 for the achievable surface finishes and possible applications.

CNMG
CNMM

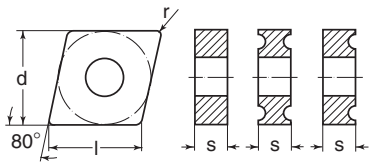


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
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	CNMG 120412 – NM 6	12.7	12.9	4.76	1.2			△	△	△							△					
	CNMG 120416 – NM 6	12.7	12.9	4.76	1.6			△	△	△							△					
	CNMG 160608 – NM 6	15.875	16.1	6.35	0.8			△	△	△												
	CNMG 160612 – NM 6	15.875	16.1	6.35	1.2			△	△	△							△					
	CNMG 160616 – NM 6	15.875	16.1	6.35	1.6			△	△	△							△					
	CNMG 190612 – NM 6	19.05	19.3	6.35	1.2			△	△	△							△					
	CNMG 190616 – NM 6	19.05	19.3	6.35	1.6			△	△	△							△					
	CNMG 190624 – NM 6	19.05	19.3	6.35	2.4			△	△	△							△					
	CNMG 120408 – NM 9	12.7	12.9	4.76	0.8		△	△	△	△												
	CNMG 120412 – NM 9	12.7	12.9	4.76	1.2		△	△	△	△												
	CNMG 120416 – NM 9	12.7	12.9	4.76	1.6		△	△	△	△												
	CNMG 160608 – NM 9	15.875	16.1	6.35	0.8			△	△	△												
	CNMG 160612 – NM 9	15.875	16.1	6.35	1.2		△	△	△	△												
	CNMG 160616 – NM 9	15.875	16.1	6.35	1.6		△	△	△	△												
	CNMG 190608 – NM 9	19.05	19.3	6.35	0.8			△	△	△												
	CNMG 190612 – NM 9	19.05	19.3	6.35	1.2		△	△	△	△												
	CNMG 190616 – NM 9	19.05	19.3	6.35	1.6		△	△	△	△												
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	CNMG 120416 – NR 4	12.7	12.9	4.76	1.6							△	△	△					△	△		
	CNMG 160608 – NR 4	15.875	16.1	6.35	0.8							△	△	△					△	△		
	CNMG 160612 – NR 4	15.875	16.1	6.35	1.2							△	△	△					△	△		
	CNMG 160616 – NR 4	15.875	16.1	6.35	1.6							△	△	△					△	△		
	CNMG 190612 – NR 4	19.05	19.3	6.35	1.2							△	△	△					△	△		
	CNMG 190616 – NR 4	19.05	19.3	6.35	1.6							△	△	△					△	△		
	CNMM 120408 – NRF	12.7	12.9	4.76	0.8		△	△	△	△												
	CNMM 120412 – NRF	12.7	12.9	4.76	1.2		△	△	△	△												
	CNMM 120416 – NRF	12.7	12.9	4.76	1.6		△	△	△	△												
	CNMM 160612 – NRF	15.875	16.1	6.35	1.2		△	△	△	△												
	CNMM 160616 – NRF	15.875	16.1	6.35	1.6		△	△	△	△												
	CNMM 160624 – NRF	15.875	16.1	6.35	2.4		△	△	△	△												
	CNMM 190612 – NRF	19.05	19.3	6.35	1.2		△	△	△	△												
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= New addition to range

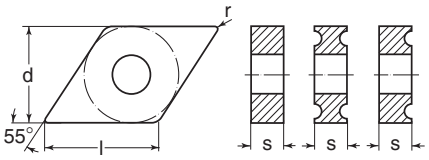
CNMM
CNMA



HC = Coated carbide
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	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	CNMM 120408 – NR 8	12.7	12.9	4.76	0.8			△	△	△												
	CNMM 120412 – NR 8	12.7	12.9	4.76	1.2			△	△	△												
	CNMM 120416 – NR 8	12.7	12.9	4.76	1.6			△	△	△												
	CNMM 160612 – NR 8	15.875	16.1	6.35	1.2			△	△	△												
	CNMM 160616 – NR 8	15.875	16.1	6.35	1.6			△	△	△												
	CNMM 190612 – NR 8	19.05	19.3	6.35	1.2			△	△	△												
	CNMM 190616 – NR 8	19.05	19.3	6.35	1.6			△	△	△												
	CNMM 190624 – NR 8	19.05	19.3	6.35	2.4			△	△	△												
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	CNMA 120408	12.7	12.9	4.76	0.8										△	△						
	CNMA 120412	12.7	12.9	4.76	1.2										△	△						
	CNMA 120416	12.7	12.9	4.76	1.6										△	△						
	CNMA 160612	15.875	16.1	6.35	1.2										△	△						
	CNMA 160616	15.875	16.1	6.35	1.6										△	△						
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	CNMA 190616	19.05	19.3	6.35	1.6										△	△						
	CNMA 190624	19.05	19.3	6.35	2.4										△	△						
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	CNMA 120412 T02020	12.7	12.9	4.76	1.2										△	△						
	CNMA 120416 T02020	12.7	12.9	4.76	1.6										△	△						
	CNMA 160612 T02020	15.875	16.1	6.35	1.2										△	△						
	CNMA 160616 T02020	15.875	16.1	6.35	1.6										△	△						
	CNMA 190612 T02020	19.05	19.3	6.35	1.2										△	△						
	CNMA 190616 T02020	19.05	19.3	6.35	1.6										△	△						
	CNMA 120408 T02020	12.7	12.9	4.76	0.8													△				
	CNMA 120412 T02020	12.7	12.9	4.76	1.2													△				
	CNMA 120416 T02020	12.7	12.9	4.76	1.6													△				
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	CNMA 120408	12.7	12.9	4.76	0.8																△	△
	CNMA 120412	12.7	12.9	4.76	1.2																△	△
	CNMA 120404–2	12.7	12.9	4.76	0.4																△	△
	CNMA 120408–2	12.7	12.9	4.76	0.8																△	△
	CNMA 120412–2	12.7	12.9	4.76	1.2																△	△

DNMG



HC = Coated carbide
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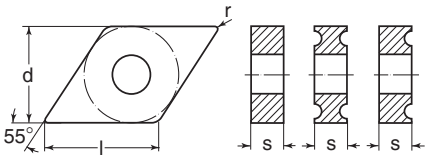
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Wiper	DNMG 110408 – NF	9.525	11.6	4.76	0.8	△		△	△			△	△						△			
	DNMG 150408 – NF	12.7	15.5	4.76	0.8	△		△	△			△	△						△			
	DNMG 150608 – NF	12.7	15.5	6.35	0.8	△		△	△			△	△						△			
Wiper	DNMG 110408 – NM	9.525	11.6	4.76	0.8		△	△	△						△	△						
	DNMG 110412 – NM	9.525	11.6	4.76	1.2		△	△	△						△	△						
	DNMG 150408 – NM	12.7	15.5	4.76	0.8		△	△	△						△	△						
	DNMG 150412 – NM	12.7	15.5	4.76	1.2		△	△	△						△	△						
	DNMG 150608 – NM	12.7	15.5	6.35	0.8		△	△	△						△	△						
	DNMG 150612 – NM	12.7	15.5	6.35	1.2		△	△	△						△	△						
	DNMG 110402 – NF 3	9.525	11.6	4.76	0.2	△		△	△													
	DNMG 110404 – NF 3	9.525	11.6	4.76	0.4	△		△	△													
	DNMG 110408 – NF 3	9.525	11.6	4.76	0.8	△		△	△													
	DNMG 110412 – NF 3	9.525	11.6	4.76	1.2	△		△	△													
	DNMG 150404 – NF 3	12.7	15.5	4.76	0.4	△		△	△													
	DNMG 150408 – NF 3	12.7	15.5	4.76	0.8	△		△	△													
	DNMG 150412 – NF 3	12.7	15.5	4.76	1.2	△		△	△													
	DNMG 150604 – NF 3	12.7	15.5	6.35	0.4	△		△	△													
	DNMG 150608 – NF 3	12.7	15.5	6.35	0.8	△		△	△													
	DNMG 150612 – NF 3	12.7	15.5	6.35	1.2	△		△	△													
	DNMG 110404 – NF 4	9.525	11.6	4.76	0.4						△	△	△						△			
	DNMG 110408 – NF 4	9.525	11.6	4.76	0.8						△	△	△						△			
	DNMG 150404 – NF 4	12.7	15.5	4.76	0.4						△	△	△						△			
	DNMG 150408 – NF 4	12.7	15.5	4.76	0.8						△	△	△						△			
	DNMG 150412 – NF 4	12.7	15.5	4.76	1.2						△	△	△						△			
	DNMG 150604 – NF 4	12.7	15.5	6.35	0.4						△	△	△						△			
	DNMG 150608 – NF 4	12.7	15.5	6.35	0.8						△	△	△						△			
	DNMG 150612 – NF 4	12.7	15.5	6.35	1.2						△	△	△						△			
	DNMG 110404 – NS 6	9.525	11.6	4.76	0.4	△		△	△													
	DNMG 110408 – NS 6	9.525	11.6	4.76	0.8	△		△	△													
	DNMG 150404 – NS 6	12.7	15.5	4.76	0.4	△		△	△													
	DNMG 150408 – NS 6	12.7	15.5	4.76	0.8	△		△	△													
	DNMG 150412 – NS 6	12.7	15.5	4.76	1.2	△		△	△													
	DNMG 150604 – NS 6	12.7	15.5	6.35	0.4	△		△	△													
	DNMG 150608 – NS 6	12.7	15.5	6.35	0.8	△		△	△													
	DNMG 150612 – NS 6	12.7	15.5	6.35	1.2	△		△	△													
	DNMG 110404 – NM 4	9.525	11.6	4.76	0.4		△	△	△	△		△	△	△					△	△		
	DNMG 110408 – NM 4	9.525	11.6	4.76	0.8		△	△	△	△		△	△	△					△	△		
	DNMG 110412 – NM 4	9.525	11.6	4.76	1.2			△	△	△		△	△	△					△	△		
	DNMG 150404 – NM 4	12.7	15.5	4.76	0.4			△	△	△		△	△	△					△	△		
	DNMG 150408 – NM 4	12.7	15.5	4.76	0.8		△	△	△	△		△	△	△					△	△		
	DNMG 150412 – NM 4	12.7	15.5	4.76	1.2		△	△	△	△		△	△	△					△	△		
	DNMG 150604 – NM 4	12.7	15.5	6.35	0.4			△	△	△		△	△	△					△	△		
	DNMG 150608 – NM 4	12.7	15.5	6.35	0.8		△	△	△	△		△	△	△					△	△		
	DNMG 150612 – NM 4	12.7	15.5	6.35	1.2		△	△	△	△		△	△	△					△	△		
	DNMG 150616 – NM 4	12.7	15.5	6.35	1.6			△	△	△												

= **New addition to range**

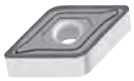
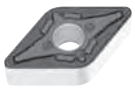
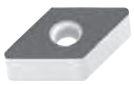
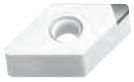
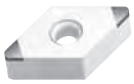
Wiper See the general catalogue, page 218 for the achievable surface finishes and possible applications.

Tiger·tec®

DNMG
DNMM
DNMA

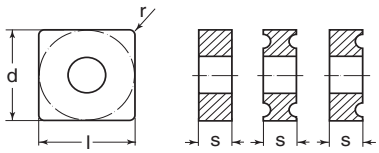


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

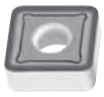
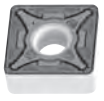
	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	DNMG 110404 – NM 5	9.525	11.6	4.76	0.4										△	△						
	DNMG 110408 – NM 5	9.525	11.6	4.76	0.8										△	△						
	DNMG 110412 – NM 5	9.525	11.6	4.76	1.2										△	△						
	DNMG 150408 – NM 5	12.7	15.5	4.76	0.8										△	△						
	DNMG 150412 – NM 5	12.7	15.5	4.76	1.2										△	△						
	DNMG 150608 – NM 5	12.7	15.5	6.35	0.8										△	△						
	DNMG 150612 – NM 5	12.7	15.5	6.35	1.2										△	△						
	DNMG 110408 – NM 9	9.525	11.6	4.76	0.8		△	△	△	△												
	DNMG 110412 – NM 9	9.525	11.6	4.76	1.2		△	△	△	△												
	DNMG 150408 – NM 9	12.7	15.5	4.76	0.8		△	△	△	△												
	DNMG 150412 – NM 9	12.7	15.5	4.76	1.2		△	△	△	△												
	DNMG 150416 – NM 9	12.7	15.5	4.76	1.6		△	△	△	△												
	DNMG 150608 – NM 9	12.7	15.5	6.35	0.8		△	△	△	△												
	DNMG 150612 – NM 9	12.7	15.5	6.35	1.2		△	△	△	△												
	DNMG 150616 – NM 9	12.7	15.5	6.35	1.6		△	△	△	△												
	DNMG 110408 – NR 4	9.525	11.6	4.76	0.8							△	△	△					△	△		
	DNMG 110412 – NR 4	9.525	11.6	4.76	1.2							△	△	△					△	△		
	DNMG 150408 – NR 4	12.7	15.5	4.76	0.8							△	△	△					△	△		
	DNMG 150412 – NR 4	12.7	15.5	4.76	1.2							△	△	△					△	△		
	DNMG 150608 – NR 4	12.7	15.5	6.35	0.8							△	△	△					△	△		
	DNMG 150612 – NR 4	12.7	15.5	6.35	1.2							△	△	△					△	△		
	DNMM 150608 – NRF	12.7	15.5	6.35	0.8			△	△	△												
	DNMM 150612 – NRF	12.7	15.5	6.35	1.2		△	△	△	△												
	DNMM 150616 – NRF	12.7	15.5	6.35	1.6		△	△	△	△												
	DNMA 110404	9.525	11.6	4.76	0.4										△	△						
	DNMA 110408	9.525	11.6	4.76	0.8										△	△						
	DNMA 150408	12.7	15.5	4.76	0.8										△	△						
	DNMA 150412	12.7	15.5	4.76	1.2										△	△						
	DNMA 150608	12.7	15.5	6.35	0.8										△	△						
	DNMA 150612	12.7	15.5	6.35	1.2										△	△						
	DNMA 150608 T02020	12.7	15.5	6.35	0.8													△				
	DNMA 150612 T02020	12.7	15.5	6.35	1.2													△				
	DNMA 150604	12.7	15.5	6.35	0.4																△	△
	DNMA 150608	12.7	15.5	6.35	0.8																△	△
	DNMA 150612	12.7	15.5	6.35	1.2																△	△
	DNMA 150604–2	12.7	15.5	6.35	0.4																△	△
	DNMA 150608–2	12.7	15.5	6.35	0.8																△	△
	DNMA 150612–2	12.7	15.5	6.35	1.2																△	△

= **New addition to range**

SNMG

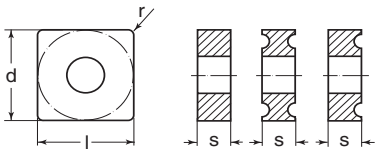


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	SNMG 120404 – NF 3	12.7	12.7	4.76	0.4	△		△	△													
	SNMG 120408 – NF 3	12.7	12.7	4.76	0.8	△		△	△													
	SNMG 120412 – NF 3	12.7	12.7	4.76	1.2	△		△	△													
	SNMG 120404 – NF 4	12.7	12.7	4.76	0.4						△	△	△						△			
	SNMG 120408 – NF 4	12.7	12.7	4.76	0.8						△	△	△						△			
	SNMG 120412 – NF 4	12.7	12.7	4.76	1.2						△	△	△						△			
	SNMG 120404 – NS 6	12.7	12.7	4.76	0.4	△		△	△													
	SNMG 120408 – NS 6	12.7	12.7	4.76	0.8	△		△	△													
	SNMG 120412 – NS 6	12.7	12.7	4.76	1.2	△		△	△													
	SNMG 120404 – NM 4	12.7	12.7	4.76	0.4							△	△	△					△	△		
	SNMG 120408 – NM 4	12.7	12.7	4.76	0.8		△	△	△	△	△	△	△	△					△	△		
	SNMG 120412 – NM 4	12.7	12.7	4.76	1.2		△	△	△	△	△	△	△	△					△	△		
	SNMG 120416 – NM 4	12.7	12.7	4.76	1.6			△	△	△		△	△	△					△	△		
	SNMG 150608 – NM 4	15.875	15.875	6.35	0.8			△	△	△												
	SNMG 150612 – NM 4	15.875	15.875	6.35	1.2			△	△	△												
	SNMG 150616 – NM 4	15.875	15.875	6.35	1.6			△	△	△												
	SNMG 120408 – NM 5	12.7	12.7	4.76	0.8										△	△	△					
	SNMG 120412 – NM 5	12.7	12.7	4.76	1.2										△	△	△					
	SNMG 120416 – NM 5	12.7	12.7	4.76	1.6										△	△	△					
	SNMG 150608 – NM 5	15.875	15.875	6.35	0.8										△	△						
	SNMG 150612 – NM 5	15.875	15.875	6.35	1.2										△	△	△					
	SNMG 150616 – NM 5	15.875	15.875	6.35	1.6										△	△	△					
	SNMG 190612 – NM 5	19.05	19.05	6.35	1.2										△	△	△					
	SNMG 190616 – NM 5	19.05	19.05	6.35	1.6										△	△	△					
	SNMG 190624 – NM 5	19.05	19.05	6.35	2.4										△	△	△					
	SNMG 120408 – NM 6	12.7	12.7	4.76	0.8			△	△	△							△					
	SNMG 120412 – NM 6	12.7	12.7	4.76	1.2			△	△	△							△					
	SNMG 120416 – NM 6	12.7	12.7	4.76	1.6			△	△	△							△					
	SNMG 150608 – NM 6	15.875	15.875	6.35	0.8			△	△	△												
	SNMG 150612 – NM 6	15.875	15.875	6.35	1.2			△	△	△							△					
	SNMG 150616 – NM 6	15.875	15.875	6.35	1.6			△	△	△							△					
	SNMG 190612 – NM 6	19.05	19.05	6.35	1.2			△	△	△							△					
	SNMG 190616 – NM 6	19.05	19.05	6.35	1.6			△	△	△							△					
	SNMG 190624 – NM 6	19.05	19.05	6.35	2.4			△	△	△							△					
	SNMG 120408 – NM 9	12.7	12.7	4.76	0.8			△	△	△												
	SNMG 120412 – NM 9	12.7	12.7	4.76	1.2		△	△	△	△												
	SNMG 120416 – NM 9	12.7	12.7	4.76	1.6		△	△	△	△												
	SNMG 150612 – NM 9	15.875	15.875	6.35	1.2			△	△	△												
	SNMG 150616 – NM 9	15.875	15.875	6.35	1.6		△	△	△	△												
	SNMG 190612 – NM 9	19.05	19.05	6.35	1.2			△	△	△												
	SNMG 190616 – NM 9	19.05	19.05	6.35	1.6			△	△	△												

= New addition to range

SNMG
SNMM
SNMA

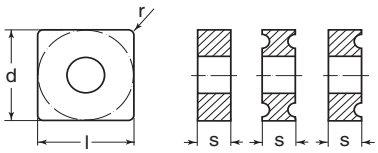


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	SNMG 120408 – NR 4	12.7	12.7	4.76	0.8							△	△	△					△	△		
	SNMG 120412 – NR 4	12.7	12.7	4.76	1.2							△	△	△					△	△		
	SNMG 120416 – NR 4	12.7	12.7	4.76	1.6							△	△	△					△	△		
	SNMG 150608 – NR 4	15.875	15.875	6.35	0.8							△	△	△					△	△		
	SNMG 150612 – NR 4	15.875	15.875	6.35	1.2							△	△	△					△	△		
	SNMG 150616 – NR 4	15.875	15.875	6.35	1.6							△	△	△					△	△		
	SNMG 190612 – NR 4	19.05	19.05	6.35	1.2							△	△	△					△	△		
	SNMG 190616 – NR 4	19.05	19.05	6.35	1.6							△	△	△					△	△		
	SNMM 120408 – NRF	12.7	12.7	4.76	0.8			△	△	△												
	SNMM 120412 – NRF	12.7	12.7	4.76	1.2		△	△	△	△												
	SNMM 120416 – NRF	12.7	12.7	4.76	1.6		△	△	△	△												
	SNMM 150612 – NRF	15.875	15.875	6.35	1.2		△	△	△	△												
	SNMM 150616 – NRF	15.875	15.875	6.35	1.6		△	△	△	△												
	SNMM 150624 – NRF	15.875	15.875	6.35	2.4		△	△	△	△												
	SNMM 190612 – NRF	19.05	19.05	6.35	1.2		△	△	△	△												
	SNMM 190616 – NRF	19.05	19.05	6.35	1.6		△	△	△	△												
	SNMM 190624 – NRF	19.05	19.05	6.35	2.4		△	△	△	△												
	SNMM 250716 – NRF	25.4	25.4	7.94	1.6			△	△	△												
	SNMM 250724 – NRF	25.4	25.4	7.94	2.4			△	△	△												
	SNMM 250916 – NRF	25.4	25.4	9.52	1.6			△	△	△												
	SNMM 250924 – NRF	25.4	25.4	9.52	2.4			△	△	△												
	SNMM 120408 – NR 8	12.7	12.7	4.76	0.8			△	△	△												
	SNMM 120412 – NR 8	12.7	12.7	4.76	1.2			△	△	△												
	SNMM 120416 – NR 8	12.7	12.7	4.76	1.6			△	△	△												
	SNMM 150612 – NR 8	15.875	15.875	6.35	1.2			△	△	△												
	SNMM 150616 – NR 8	15.875	15.875	6.35	1.6			△	△	△												
	SNMM 190612 – NR 8	19.05	19.05	6.35	1.2			△	△	△												
	SNMM 190616 – NR 8	19.05	19.05	6.35	1.6			△	△	△												
	SNMM 190624 – NR 8	19.05	19.05	6.35	2.4			△	△	△												
	SNMM 250716 – NR 8	25.4	25.4	7.94	1.6			△	△	△												
	SNMM 250724 – NR 8	25.4	25.4	7.94	2.4			△	△	△												
	SNMM 250916 – NR 8	25.4	25.4	9.52	1.6			△	△	△												
	SNMM 250924 – NR 8	25.4	25.4	9.52	2.4			△	△	△												
	SNMA 120408	12.7	12.7	4.76	0.8										△	△						
	SNMA 120412	12.7	12.7	4.76	1.2										△	△						
	SNMA 120416	12.7	12.7	4.76	1.6										△	△						
	SNMA 150612	15.875	15.875	6.35	1.2										△	△						
	SNMA 150616	15.875	15.875	6.35	1.6										△	△						
	SNMA 190612	19.05	19.05	6.35	1.2										△	△						
	SNMA 190616	19.05	19.05	6.35	1.6										△	△						
	SNMA 190624	19.05	19.05	6.35	2.4										△	△						

= **New addition to range**

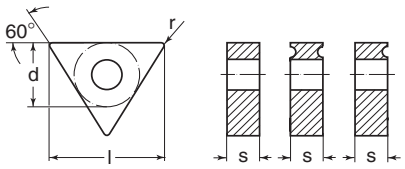
SNMA



HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	SNMA 120408 T02020	12.7	12.7	4.76	0.8										△	△						
	SNMA 120412 T02020	12.7	12.7	4.76	1.2										△	△						
	SNMA 120416 T02020	12.7	12.7	4.76	1.6										△	△						
	SNMA 150612 T02020	15.875	15.875	6.35	1.2										△	△						
	SNMA 150616 T02020	15.875	15.875	6.35	1.6										△	△						
	SNMA 190612 T02020	19.05	19.05	6.35	1.2										△	△						
	SNMA 190616 T02020	19.05	19.05	6.35	1.6										△	△						
	SNMA 120408 T02020	12.7	12.7	4.76	0.8													△				
	SNMA 120412 T02020	12.7	12.7	4.76	1.2													△				
	SNMA 120416 T02020	12.7	12.7	4.76	1.6													△				
	SNMA 120404	12.7	12.7	4.76	0.4																△	△
	SNMA 120408	12.7	12.7	4.76	0.8																△	△
	SNMA 120412	12.7	12.7	4.76	1.2																△	△

TNMG
TNMM

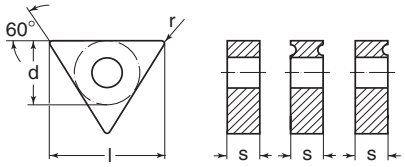


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	TNMG 160404 – NF 3	9.525	16.5	4.76	0.4	△		△	△													
	TNMG 160408 – NF 3	9.525	16.5	4.76	0.8	△		△	△													
	TNMG 160412 – NF 3	9.525	16.5	4.76	1.2	△		△	△													
	TNMG 160404 – NF 4	9.525	16.5	4.76	0.4						△	△	△						△			
	TNMG 160408 – NF 4	9.525	16.5	4.76	0.8						△	△	△						△			
	TNMG 160412 – NF 4	9.525	16.5	4.76	1.2						△	△	△						△			
	TNMG 160404 – NS 6	9.525	16.5	4.76	0.4	△		△	△													
	TNMG 160408 – NS 6	9.525	16.5	4.76	0.8	△		△	△													
	TNMG 160412 – NS 6	9.525	16.5	4.76	1.2	△		△	△													
	TNMG 220408 – NS 6	12.7	22.0	4.76	0.8	△		△	△													
	TNMG 220412 – NS 6	12.7	22.0	4.76	1.2	△		△	△													
	TNMG 160404 – NM 4	9.525	16.5	4.76	0.4			△	△	△	△	△	△	△					△	△		
	TNMG 160408 – NM 4	9.525	16.5	4.76	0.8		△	△	△	△	△	△	△	△					△	△		
	TNMG 160412 – NM 4	9.525	16.5	4.76	1.2		△	△	△	△	△	△	△	△					△	△		
	TNMG 160416 – NM 4	9.525	16.5	4.76	1.6						△	△	△	△					△	△		
	TNMG 220408 – NM 4	12.7	22.0	4.76	0.8			△	△	△												
	TNMG 220412 – NM 4	12.7	22.0	4.76	1.2		△	△	△	△												
	TNMG 160404 – NM 5	9.525	16.5	4.76	0.4										△	△						
	TNMG 160408 – NM 5	9.525	16.5	4.76	0.8										△	△						
	TNMG 160412 – NM 5	9.525	16.5	4.76	1.2										△	△						
	TNMG 160416 – NM 5	9.525	16.5	4.76	1.6										△	△						
	TNMG 220408 – NM 5	12.7	22.0	4.76	0.8										△	△						
	TNMG 220412 – NM 5	12.7	22.0	4.76	1.2										△	△						
	TNMG 220416 – NM 5	12.7	22.0	4.76	1.6										△	△						
	TNMG 160408 – NM 9	9.525	16.5	4.76	0.8		△	△	△	△												
	TNMG 160412 – NM 9	9.525	16.5	4.76	1.2		△	△	△	△												
	TNMG 220408 – NM 9	12.7	22.0	4.76	0.8			△	△	△												
	TNMG 220412 – NM 9	12.7	22.0	4.76	1.2		△	△	△	△												
	TNMG 220416 – NM 9	12.7	22.0	4.76	1.6		△	△	△	△												
	TNMG 160408 – NR 4	9.525	16.5	4.76	0.8							△	△	△					△	△		
	TNMG 160412 – NR 4	9.525	16.5	4.76	1.2							△	△	△					△	△		
	TNMG 220408 – NR 4	12.7	22.0	4.76	0.8							△	△	△					△	△		
	TNMG 220412 – NR 4	12.7	22.0	4.76	1.2							△	△	△					△	△		
	TNMG 220416 – NR 4	12.7	22.0	4.76	1.6							△	△	△					△	△		
	TNMM 160408 – NRF	9.525	16.5	4.76	0.8			△	△	△												
	TNMM 160412 – NRF	9.525	16.5	4.76	1.2			△	△	△												
	TNMM 220408 – NRF	12.7	22.0	4.76	0.8			△	△	△												
	TNMM 220412 – NRF	12.7	22.0	4.76	1.2		△	△	△	△												
	TNMM 220416 – NRF	12.7	22.0	4.76	1.2		△	△	△	△												
	TNMM 270612 – NRF	15.875	27.0	6.35	1.2			△	△	△												
	TNMM 270616 – NRF	15.875	27.0	6.35	1.6			△	△	△												

= New addition to range

TNMA

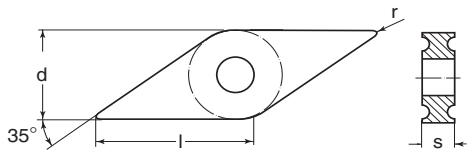


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	TNMA 160404	9.525	16.5	4.76	0.4										△	△						
	TNMA 160408	9.525	16.5	4.76	0.8										△	△						
	TNMA 160412	9.525	16.5	4.76	1.2										△	△						
	TNMA 160416	9.525	16.5	4.76	1.6										△	△						
	TNMA 220408	12.7	22.0	4.76	0.8										△	△						
	TNMA 220412	12.7	22.0	4.76	1.2										△	△						
	TNMA 220416	12.7	22.0	4.76	1.6										△	△						
	TNMA 160408 T02020	9.525	16.5	4.76	0.8										△	△						
	TNMA 160412 T02020	9.525	16.5	4.76	1.2										△	△						
	TNMA 160416 T02020	9.525	16.5	4.76	1.6										△	△						
	TNMA 220408 T02020	12.7	22.0	4.76	0.8										△	△						
	TNMA 220412 T02020	12.7	22.0	4.76	1.2										△	△						
	TNMA 220416 T02020	12.7	22.0	4.76	1.6										△	△						
	TNMA 160408 T02020	9.525	16.5	4.76	0.8													△				
	TNMA 160412 T02020	9.525	16.5	4.76	1.2													△				
	TNMA 160404	9.525	16.5	4.76	0.4																△	△
	TNMA 160408	9.525	16.5	4.76	0.8																△	△
	TNMA 160412	9.525	16.5	4.76	1.2																△	△
	TNMA 160404–3	9.525	16.5	4.76	0.4																△	△
	TNMA 160408–3	9.525	16.5	4.76	0.8																△	△
	TNMA 160412–3	9.525	16.5	4.76	1.2																△	△

= New addition to range

VNMG
VNMA

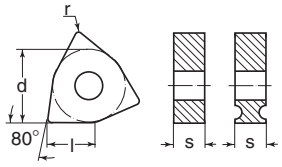


HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

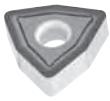
	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	VNMG 160404 – NF 3	9.525	16.5	4.76	0.4	△		△	△													
	VNMG 160408 – NF 3	9.525	16.5	4.76	0.8	△		△	△													
	VNMG 160404 – NM 4	9.525	16.5	4.76	0.4		△	△	△	△	△	△	△	△					△	△		
	VNMG 160408 – NM 4	9.525	16.5	4.76	0.8		△	△	△	△	△	△	△	△					△	△		
	VNMG 160412 – NM 4	9.525	16.5	4.76	1.2			△	△													
	VNMG 160404 – NM 5	9.525	16.5	4.76	0.4										△	△						
	VNMG 160408 – NM 5	9.525	16.5	4.76	0.8										△	△						
	VNMG 160412 – NM 5	9.525	16.5	4.76	1.2										△	△						
	VNMA 160404	9.525	16.5	4.76	0.4										△	△						
	VNMA 160408	9.525	16.5	4.76	0.8										△	△						
	VNMA 160412	9.525	16.5	4.76	1.2										△	△						

= New addition to range

WNMG



HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P HC WPP 01	P HC WPP 05	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 10	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10 NEW	K HC WAK 20	K HC WAK 30	K CN WSN 10	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
 Wiper	WNMG 060404 – NF	9.525	6.5	4.76	0.4	△		△	△			△	△						△			
	WNMG 060408 – NF	9.525	6.5	4.76	0.8	△		△	△			△	△						△			
	WNMG 080404 – NF	12.7	8.72	4.76	0.4	△		△	△			△	△						△			
	WNMG 080408 – NF	12.7	8.72	4.76	0.8	△		△	△			△	△						△			
	WNMG 080412 – NF	12.7	8.72	4.76	1.2	△		△	△				△						△			
 Wiper	WNMG 060408 – NM	9.525	6.5	4.76	0.8		△	△	△						△	△						
	WNMG 060412 – NM	9.525	6.5	4.76	1.2		△	△	△						△	△						
	WNMG 080408 – NM	12.7	8.72	4.76	0.8		△	△	△			△	△		△	△			△			
	WNMG 080412 – NM	12.7	8.72	4.76	1.2		△	△	△			△	△		△	△			△			
	WNMG 060404 – NF 3	9.525	6.5	4.76	0.4	△		△	△													
	WNMG 060408 – NF 3	9.525	6.5	4.76	0.8	△		△	△													
	WNMG 060412 – NF 3	9.525	6.5	4.76	1.2	△		△	△													
	WNMG 080404 – NF 3	12.7	8.72	4.76	0.4	△		△	△													
	WNMG 080408 – NF 3	12.7	8.72	4.76	0.8	△		△	△													
	WNMG 080412 – NF 3	12.7	8.72	4.76	1.2	△		△	△													
	WNMG 060404 – NF 4	9.525	6.5	4.76	0.4						△	△	△						△			
	WNMG 060408 – NF 4	9.525	6.5	4.76	0.8						△	△	△						△			
	WNMG 080404 – NF 4	12.7	8.72	4.76	0.4						△	△	△						△			
	WNMG 080408 – NF 4	12.7	8.72	4.76	0.8						△	△	△						△			
	WNMG 080412 – NF 4	12.7	8.72	4.76	1.2						△	△	△						△			
	WNMG 080404 – NS 6	12.7	8.72	4.76	0.4	△		△	△													
	WNMG 080408 – NS 6	12.7	8.72	4.76	0.8	△		△	△													
	WNMG 080412 – NS 6	12.7	8.72	4.76	1.2	△		△	△													
	WNMG 060404 – NM 4	9.525	6.5	4.76	0.4		△	△	△	△	△	△	△	△					△	△		
	WNMG 060408 – NM 4	9.525	6.5	4.76	0.8		△	△	△	△	△	△	△	△					△	△		
	WNMG 060412 – NM 4	9.525	6.5	4.76	1.2		△	△	△	△	△	△	△	△					△	△		
	WNMG 080404 – NM 4	12.7	8.72	4.76	0.4			△	△	△	△	△	△	△					△	△		
	WNMG 080408 – NM 4	12.7	8.72	4.76	0.8		△	△	△	△	△	△	△	△					△	△		
	WNMG 080412 – NM 4	12.7	8.72	4.76	1.2		△	△	△	△	△	△	△	△					△	△		
	WNMG 080416 – NM 4	12.7	8.72	4.76	1.6			△	△	△	△	△	△	△					△	△		
	WNMG 100608 – NM 4	15.875	10.8	6.35	0.8			△	△	△		△	△	△					△	△		
	WNMG 100612 – NM 4	15.875	10.8	6.35	1.2			△	△	△		△	△	△					△	△		
	WNMG 100616 – NM 4	15.875	10.8	6.35	1.6			△	△	△												
	WNMG 060404 – NM 5	9.525	6.5	4.76	0.4										△	△						
	WNMG 060408 – NM 5	9.525	6.5	4.76	0.8										△	△						
	WNMG 060412 – NM 5	9.525	6.5	4.76	1.2										△	△						
	WNMG 080404 – NM 5	12.7	8.72	4.76	0.4										△	△						
	WNMG 080408 – NM 5	12.7	8.72	4.76	0.8										△	△						
	WNMG 080412 – NM 5	12.7	8.72	4.76	1.2										△	△						
	WNMG 080416 – NM 5	12.7	8.72	4.76	1.6										△	△						
	WNMG 100608 – NM 5	15.875	10.8	6.35	0.8										△	△						
	WNMG 100612 – NM 5	15.875	10.8	6.35	1.2										△	△						
	WNMG 100616 – NM 5	15.875	10.8	6.35	1.6										△	△						

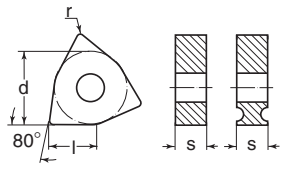
= New addition to range

Wiper

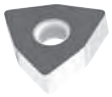
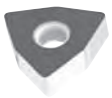
See the general catalogue, page 218 for the achievable surface finishes and possible applications.

Tiger·tec®

WNMG
WNMM
WNMA



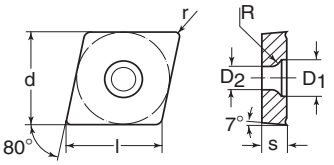
HC = Coated carbide
CN = Silicon nitride Si_3N_4
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	P					M				K				S		H	
								HC				HC				HC		CN	HC		BL	BH
						WPP 01	WPP 05	WPP 10	WPP 20	WPP 30	WAM 10	WAM 20	WSM 20	WSM 30	WAK 10 NEW	WAK 20	WAK 30	WSN 10	WSM 20	WSM 30	WCB 30	WCB 50
	WNMG 080408 – NM 6	12.7	8.72	4.76	0.8			△	△	△												
	WNMG 080412 – NM 6	12.7	8.72	4.76	1.2			△	△	△												
	WNMG 100608 – NM 6	15.875	10.8	6.35	0.8			△	△	△												
	WNMG 100612 – NM 6	15.875	10.8	6.35	1.2			△	△	△												
	WNMG 100616 – NM 6	15.875	10.8	6.35	1.6			△	△	△												
	WNMG 060408 – NM 9	9.525	6.5	4.76	0.8			△	△	△												
	WNMG 060412 – NM 9	9.525	6.5	4.76	1.2			△	△	△												
	WNMG 080408 – NM 9	12.7	8.72	4.76	0.8		△	△	△	△												
	WNMG 080412 – NM 9	12.7	8.72	4.76	1.2		△	△	△	△												
	WNMG 080416 – NM 9	12.7	8.72	4.76	1.6		△	△	△	△												
	WNMG 100608 – NM 9	15.875	10.8	6.35	0.8			△	△	△												
	WNMG 100612 – NM 9	15.875	10.8	6.35	1.2		△	△	△	△												
	WNMG 100616 – NM 9	15.875	10.8	6.35	1.6		△	△	△	△												
	WNMG 060408 – NR 4	9.525	6.5	4.76	0.8							△	△	△					△	△		
	WNMG 060412 – NR 4	9.525	6.5	4.76	1.2							△	△	△					△	△		
	WNMG 080408 – NR 4	12.7	8.72	4.76	0.8							△	△	△					△	△		
	WNMG 080412 – NR 4	12.7	8.72	4.76	1.2							△	△	△					△	△		
	WNMG 100608 – NR 4	15.875	10.8	6.35	0.8							△	△	△					△	△		
	WNMG 100612 – NR 4	15.875	10.8	6.35	1.2							△	△	△					△	△		
	WNMG 100616 – NR 4	15.875	10.8	6.35	1.6							△	△	△					△	△		
	WNMM 100612 – NRF	15.875	10.8	6.35	1.2		△	△	△	△												
	WNMM 100616 – NRF	15.875	10.8	6.35	1.6		△	△	△	△												
	WNMA 060404	9.525	6.5	4.76	0.4										△	△						
	WNMA 060408	9.525	6.5	4.76	0.8										△	△						
	WNMA 060412	9.525	6.5	4.76	1.2										△	△						
	WNMA 080404	12.7	8.72	4.76	0.4										△	△						
	WNMA 080408	12.7	8.72	4.76	0.8										△	△						
	WNMA 080412	12.7	8.72	4.76	1.2										△	△						
	WNMA 100612	15.875	10.8	6.35	1.2										△	△						
	WNMA 100616	15.875	10.8	6.35	1.6										△	△						
	WNMA 060408 T02020	9.525	6.5	4.76	0.8										△	△						
	WNMA 060412 T02020	9.525	6.5	4.76	1.2										△	△						
	WNMA 080408 T02020	12.7	8.72	4.76	0.8										△	△						
	WNMA 080412 T02020	12.7	8.72	4.76	1.2										△	△						
	WNMA 100612 T02020	15.875	10.8	6.35	1.2										△	△						
	WNMA 100616 T02020	15.875	10.8	6.35	1.6										△	△						
	WNMA 080408 T02020	12.7	8.72	4.76	0.8													△				
	WNMA 080412 T02020	12.7	8.72	4.76	1.2													△				
	WNMA 080416 T02020	12.7	8.72	4.76	1.6													△				
	WNMA 080404	12.7	8.72	4.76	0.4																△	△
	WNMA 080408	12.7	8.72	4.76	0.8																△	△
	WNMA 080412	12.7	8.72	4.76	1.2																△	△

= New addition to range

Turning inserts with positive basic shape

CCMT CCGT



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

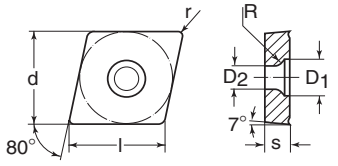
	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC WPP 01	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10	K HC WAK 20	K HC WAK 30	N HC WXN 10	N HW WK 1	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
Wiper	CCMT 060204 – PF	6.35	6.45	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	CCMT 060208 – PF	6.35	6.45	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	CCMT 09T304 – PF	9.525	9.67	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	CCMT 09T308 – PF	9.525	9.67	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
Wiper	CCMT 09T304 – PM	9.525	9.67	3.97	0.4	6.0	4.4	1.5		△	△		△			△	△							
	CCMT 09T308 – PM	9.525	9.67	3.97	0.8	6.0	4.4	1.5		△	△		△			△	△							
	CCMT 09T312 – PM	9.525	9.67	3.97	1.2	6.0	4.4	1.5		△	△		△			△	△							
	CCMT 120404 – PM	12.7	12.9	4.76	0.4	7.5	5.5	2.5		△	△		△			△	△							
	CCMT 120408 – PM	12.7	12.9	4.76	0.8	7.5	5.5	2.5		△	△		△			△	△							
	CCMT 120412 – PM	12.7	12.9	4.76	1.2	7.5	5.5	2.5		△	△		△			△	△							
	CCGT 060201 – PF 2	6.35	6.45	2.38	0.1	3.75	2.8	1.8											△	△				
	CCGT 060202 – PF 2	6.35	6.45	2.38	0.2	3.75	2.8	1.8											△	△				
	CCGT 060204 – PF 2	6.35	6.45	2.38	0.4	3.75	2.8	1.8											△	△				
	CCGT 09T301 – PF 2	9.525	9.67	3.97	0.1	6.0	4.4	1.5											△	△				
	CCGT 09T302 – PF 2	9.525	9.67	3.97	0.2	6.0	4.4	1.5											△	△				
	CCGT 09T304 – PF 2	9.525	9.67	3.97	0.4	6.0	4.4	1.5											△	△				
	CCGT 09T308 – PF 2	9.525	9.67	3.97	0.8	6.0	4.4	1.5											△	△				
	CCMT 060202 – PF 4	6.35	6.45	2.38	0.2	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	CCMT 060204 – PF 4	6.35	6.45	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	CCMT 060208 – PF 4	6.35	6.45	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	CCMT 09T302 – PF 4	9.525	9.67	3.97	0.2	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	CCMT 09T304 – PF 4	9.525	9.67	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	CCMT 09T308 – PF 4	9.525	9.67	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	CCMT 120404 – PF 4	12.7	12.9	4.76	0.4	7.5	5.5	2.5	△	△	△		△	△	△						△	△		
	CCMT 120408 – PF 4	12.7	12.9	4.76	0.8	7.5	5.5	2.5	△	△	△		△	△	△						△	△		
	CCGT 060202 – PF 5	6.35	6.45	2.38	0.2	3.75	2.8	1.8			△	△			△							△		
	CCGT 060204 – PF 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8			△	△			△							△		
	CCGT 09T302 – PF 5	9.525	9.67	3.97	0.2	6.0	4.4	1.5			△	△			△							△		
	CCGT 09T304 – PF 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5			△	△			△							△		
	CCMT 060204 – PS 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8		△	△		△	△	△	△	△				△	△		
	CCMT 060208 – PS 5	6.35	6.45	2.38	0.8	3.75	2.8	1.8		△	△		△	△	△	△	△				△	△		
	CCMT 09T304 – PS 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	CCMT 09T308 – PS 5	9.525	9.67	3.97	0.8	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	CCMT 120404 – PS 5	12.7	12.9	4.76	0.4	7.5	5.5	2.5		△	△		△	△	△	△	△				△	△		
	CCMT 120408 – PS 5	12.7	12.9	4.76	0.8	7.5	5.5	2.5		△	△		△	△	△	△	△				△	△		

= **New addition to range**

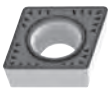
Wiper See the general catalogue, page 218 for the achievable surface finishes and possible applications.

Tiger·tec®

CCGT
CCMT
CCMW

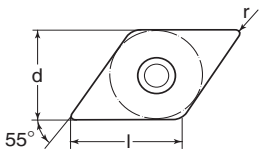


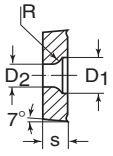
HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC WPP 01	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10	K HC WAK 20	K HC WAK 30	N HC WXN 10	N HW WK 1	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	CCGT 060201 – PM 2	6.35	6.45	2.38	0.1	3.75	2.8	1.8											△	△				
	CCGT 060202 – PM 2	6.35	6.45	2.38	0.2	3.75	2.8	1.8											△	△				
	CCGT 060204 – PM 2	6.35	6.45	2.38	0.4	3.75	2.8	1.8											△	△				
	CCGT 09T301 – PM 2	9.525	9.67	3.97	0.1	6.0	4.4	1.5											△	△				
	CCGT 09T302 – PM 2	9.525	9.67	3.97	0.2	6.0	4.4	1.5											△	△				
	CCGT 09T304 – PM 2	9.525	9.67	3.97	0.4	6.0	4.4	1.5											△	△				
	CCGT 09T308 – PM 2	9.525	9.67	3.97	0.8	6.0	4.4	1.5											△	△				
	CCGT 120401 – PM 2	12.7	12.9	4.76	0.1	7.5	5.5	2.5											△	△				
	CCGT 120402 – PM 2	12.7	12.9	4.76	0.2	7.5	5.5	2.5											△	△				
	CCGT 120404 – PM 2	12.7	12.9	4.76	0.4	7.5	5.5	2.5											△	△				
	CCGT 120408 – PM 2	12.7	12.9	4.76	0.8	7.5	5.5	2.5											△	△				
	CCMT 060204 – PM 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△	△	△			△	△		
	CCMT 060208 – PM 5	6.35	6.45	2.38	0.8	3.75	2.8	1.8		△	△	△	△	△	△	△	△	△			△	△		
	CCMT 09T304 – PM 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	CCMT 09T308 – PM 5	9.525	9.67	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	CCMT 120404 – PM 5	12.7	12.9	4.76	0.4	7.5	5.5	2.5		△	△	△	△	△	△	△	△	△			△	△		
	CCMT 120408 – PM 5	12.7	12.9	4.76	0.8	7.5	5.5	2.5		△	△	△	△	△	△	△	△	△			△	△		
	CCMT 120412 – PM 5	12.7	12.9	4.76	1.2	7.5	5.5	2.5		△	△	△	△	△	△	△	△	△			△	△		
	CCMW 060202	6.35	6.45	2.38	0.2	3.75	2.8	1.8								△	△							
	CCMW 060204	6.35	6.45	2.38	0.4	3.75	2.8	1.8								△	△							
	CCMW 060208	6.35	6.45	2.38	0.8	3.75	2.8	1.8								△	△							
	CCMW 09T304	9.525	9.67	3.97	0.4	6.0	4.4	1.5								△	△							
	CCMW 09T308	9.525	9.67	3.97	0.8	6.0	4.4	1.5								△	△							
	CCMW 120404	12.7	12.9	4.76	0.4	7.5	5.5	2.5								△	△							
	CCMW 120408	12.7	12.9	4.76	0.8	7.5	5.5	2.5								△	△							
	CCMW 120412	12.7	12.9	4.76	1.2	7.5	5.5	2.5								△	△							
	CCMW 060204	6.35	6.45	2.38	0.4	3.75	2.8	1.8															△	△
	CCMW 060208	6.35	6.45	2.38	0.8	3.75	2.8	1.8															△	△
	CCMW 09T304	9.525	9.67	3.97	0.4	6.0	4.4	1.5															△	△
	CCMW 09T308	9.525	9.67	3.97	0.8	6.0	4.4	1.5															△	△
	CCMW 120404	12.7	12.9	4.76	0.4	7.5	5.5	2.5															△	△
	CCMW 120408	12.7	12.9	4.76	0.8	7.5	5.5	2.5															△	△
	CCMW 060204–2	6.35	6.45	2.38	0.4	3.75	2.8	1.8															△	△
	CCMW 060208–2	6.35	6.45	2.38	0.8	3.75	2.8	1.8															△	△
	CCMW 09T304–2	9.525	9.67	3.97	0.4	6.0	4.4	1.5															△	△
	CCMW 09T308–2	9.525	9.67	3.97	0.8	6.0	4.4	1.5															△	△

= New addition to range

DCMT
DCGT
DCMW





HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	WPP 10	WPP 20	WPP 30	WAM 20	WSM 20	WSM 30	WAK 10	WAK 20	WAK 30	WXN 10	WK 1	WSM 20	WSM 30	WCB 30	WCB 50
Wiper	DCMT 070204 – PF	6.35	7.75	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	DCMT 070208 – PF	6.35	7.75	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	DCMT 11T304 – PF	9.525	11.63	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	DCMT 11T308 – PF	9.525	11.63	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
Wiper	DCMT 11T304 – PM	9.525	11.63	3.97	0.4	6.0	4.4	1.5		△	△		△	△		△	△				△			
	DCMT 11T308 – PM	9.525	11.63	3.97	0.8	6.0	4.4	1.5		△	△		△	△		△	△				△			
	DCGT 070201 – PF 2	6.35	7.75	2.38	0.1	3.75	2.8	1.8											△	△				
	DCGT 070202 – PF 2	6.35	7.75	2.38	0.2	3.75	2.8	1.8											△	△				
	DCGT 070204 – PF 2	6.35	7.75	2.38	0.4	3.75	2.8	1.8											△	△				
	DCGT 11T301 – PF 2	9.525	11.63	3.97	0.1	6.0	4.4	1.5											△	△				
	DCGT 11T302 – PF 2	9.525	11.63	3.97	0.2	6.0	4.4	1.5											△	△				
	DCGT 11T304 – PF 2	9.525	11.63	3.97	0.4	6.0	4.4	1.5											△	△				
	DCGT 11T308 – PF 2	9.525	11.63	3.97	0.8	6.0	4.4	1.5											△	△				
	DCMT 070202 – PF 4	6.35	7.75	2.38	0.2	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	DCMT 070204 – PF 4	6.35	7.75	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	DCMT 070208 – PF 4	6.35	7.75	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	DCMT 11T302 – PF 4	9.525	11.63	3.97	0.2	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	DCMT 11T304 – PF 4	9.525	11.63	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	DCMT 11T308 – PF 4	9.525	11.63	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	DCMT 070204 – PS 5	6.35	7.75	2.38	0.4	3.75	2.8	1.8		△	△		△	△	△	△	△				△	△		
	DCMT 070208 – PS 5	6.35	7.75	2.38	0.8	3.75	2.8	1.8		△	△		△	△	△	△	△				△	△		
	DCMT 11T304 – PS 5	9.525	11.63	3.97	0.4	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	DCMT 11T308 – PS 5	9.525	11.63	3.97	0.8	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	DCGT 070201 – PM 2	6.35	7.75	2.38	0.1	3.75	2.8	1.8											△	△				
	DCGT 070202 – PM 2	6.35	7.75	2.38	0.2	3.75	2.8	1.8											△	△				
	DCGT 070204 – PM 2	6.35	7.75	2.38	0.4	3.75	2.8	1.8											△	△				
	DCGT 11T301 – PM 2	9.525	11.63	3.97	0.1	6.0	4.4	1.5											△	△				
	DCGT 11T302 – PM 2	9.525	11.63	3.97	0.2	6.0	4.4	1.5											△	△				
	DCGT 11T304 – PM 2	9.525	11.63	3.97	0.4	6.0	4.4	1.5											△	△				
	DCGT 11T308 – PM 2	9.525	11.63	3.97	0.8	6.0	4.4	1.5											△	△				
	DCMT 070204 – PM 5	6.35	7.75	2.38	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	DCMT 070208 – PM 5	6.35	7.75	2.38	0.8	3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	DCMT 11T304 – PM 5	9.525	11.63	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	DCMT 11T308 – PM 5	9.525	11.63	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	DCMT 11T312 – PM 5	9.525	11.63	3.97	1.2	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	DCMW 11T304	9.525	11.63	3.97	0.4	6.0	4.4	1.5								△	△							
	DCMW 11T308	9.525	11.63	3.97	0.8	6.0	4.4	1.5								△	△							

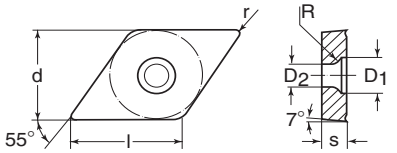
= **New addition to range**

Wiper

See the general catalogue, page 218 for the achievable surface finishes and possible applications.

Tiger·tec®

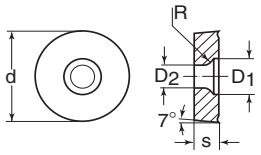
DCMW



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	**WPP 10**	**WPP 20**	**WPP 30**	WAM 20	**WSM 20**	**WSM 30**	**WAK 10**	**WAK 20**	**WAK 30**	WXN 10	WK 1	**WSM 20**	**WSM 30**	WCB 30	WCB 50
	DCMW 11T302	9.525	11.63	3.97	0.2	6.0	4.4	1.5															△	△
	DCMW 11T304	9.525	11.63	3.97	0.4	6.0	4.4	1.5															△	△
	DCMW 11T308	9.525	11.63	3.97	0.8	6.0	4.4	1.5															△	△
	DCMW 11T304–2	9.525	11.63	3.97	0.4	6.0	4.4	1.5															△	△
	DCMW 11T308–2	9.525	11.63	3.97	0.8	6.0	4.4	1.5															△	△

RCMT
RCGT
RCMX

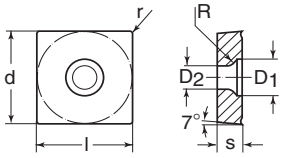


HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

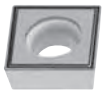
	Designation	d mm		s mm		D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	WPP 10	WPP 20	WPP 30	WAM 20	WSM 20	WSM 30	WAK 10	WAK 20	WAK 30	WXN 10	WK 1	WSM 20	WSM 30	WCB 30	WCB 50
	RCGT 0602M0 – PF 2	6		2.38		3.75	2.8	1.8											△	△				
	RCGT 0803M0 – PF 2	8		3.18		4.5	3.4	1.6											△	△				
	RCGT 10T3M0 – PF 2	10		3.97		6.0	4.4	1.5											△	△				
	RCGT 1204M0 – PF 2	12		4.76		6.0	4.4	1.5											△	△				
	RCMT 0602M0 – PF 4	6		2.38		3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	RCMT 0803M0 – PF 4	8		3.18		4.5	3.4	1.6	△	△	△		△	△	△						△	△		
	RCMT 10T3M0 – PF 4	10		3.97		6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	RCMT 1204M0 – PF 4	12		4.76		6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	RCGT 0602M0 – PF 5	6		2.38		3.75	2.8	1.8			△	△			△							△		
	RCGT 0803M0 – PF 5	8		3.18		4.5	3.4	1.6			△	△			△							△		
	RCGT 10T3M0 – PF 5	10		3.97		6.0	4.4	1.5			△	△			△							△		
	RCGT 0602M0 – PM 2	6		2.38		3.75	2.8	1.8											△	△				
	RCGT 0803M0 – PM 2	8		3.18		4.5	3.4	1.6											△	△				
	RCGT 10T3M0 – PM 2	10		3.97		6.0	4.4	1.5											△	△				
	RCGT 1204M0 – PM 2	12		4.76		6.0	4.4	1.5											△	△				
	RCMT 10T3M0 T	10		3.97		6.0	4.4	1.5			△	△												
	RCMT 1204M0 T	12		4.76		6.0	4.4	1.5			△	△												
	RCMT 1605M0 T	16		5.56		7.5	5.5	2.5			△	△												
	RCMT 1606M0 T	16		6.35		7.5	5.5	2.5			△	△												
	RCMT 2006M0 T	20		6.35		9.0	6.5	3.5			△	△												
	RCMT 2507M0 T	25		7.94		12.0	8.6	4.0			△	△												
	RCMT 0602M0 – PM 5	6		2.38		3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	RCMT 0803M0 – PM 5	8		3.18		4.5	3.4	1.6		△	△	△	△	△	△	△	△				△	△		
	RCMT 10T3M0 – PM 5	10		3.97		6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	RCMT 1204M0 – PM 5	12		4.76		6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	RCMT 1605M0 – PM 5	16		5.56		7.5	5.5	2.5		△	△	△	△	△	△	△	△				△	△		
	RCMT 1606M0 – PM 5	16		6.35		7.5	5.5	2.5		△	△	△	△	△	△	△	△				△	△		
	RCMX 100300 – PR 5	10		3.18		4.39	3.6				△	△												
	RCMX 120400 – PR 5	12		4.76		5.39	4.2				△	△												
	RCMX 160600 – PR 5	16		6.35		6.7	5.2				△	△												
	RCMX 200600 – PR 5	20		6.35		8.0	6.5				△	△												
	RCMX 250700 – PR 5	25		7.94		9.2	7.2				△	△												
	RCMX 320900 – PR 5	32		9.52		11.8	9.5				△	△												

= New addition to range

SCMT
SCGT
SCMW

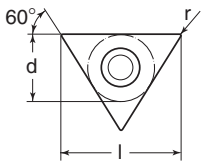


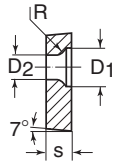
HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	**WPP 10**	**WPP 20**	**WPP 30**	WAM 20	**WSM 20**	**WSM 30**	**WAK 10**	**WAK 20**	**WAK 30**	WXN 10	WK 1	**WSM 20**	**WSM 30**	WCB 30	WCB 50
	SCMT 09T304 – PF 4	9.525	9.525	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	SCMT 09T308 – PF 4	9.525	9.525	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	SCMT 120404 – PF 4	12.7	12.7	4.76	0.4	7.5	5.5	2.5	△	△	△		△	△	△						△	△		
	SCMT 120408 – PF 4	12.7	12.7	4.76	0.8	7.5	5.5	2.5	△	△	△		△	△	△						△	△		
	SCMT 09T304 – PS 5	9.525	9.525	3.97	0.4	6.0	4.4	1.5			△		△	△	△	△	△				△	△		
	SCMT 09T308 – PS 5	9.525	9.525	3.97	0.8	6.0	4.4	1.5			△		△	△	△	△	△				△	△		
	SCMT 120408 – PS 5	12.7	12.7	4.76	0.8	7.5	5.5	2.5			△				△	△	△					△		
	SCGT 09T304 – PM 2	9.525	9.525	3.97	0.4	6.0	4.4	1.5											△	△				
	SCGT 09T308 – PM 2	9.525	9.525	3.97	0.8	6.0	4.4	1.5											△	△				
	SCGT 120408 – PM 2	12.7	12.7	4.76	0.8	7.5	5.5	2.5											△	△				
	SCMT 09T304 – PM 5	9.525	9.525	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	SCMT 09T308 – PM 5	9.525	9.525	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	SCMT 120404 – PM 5	12.7	12.7	4.76	0.4	7.5	5.5	2.5		△	△	△	△	△	△	△	△	△			△	△		
	SCMT 120408 – PM 5	12.7	12.7	4.76	0.8	7.5	5.5	2.5		△	△	△	△	△	△	△	△	△			△	△		
	SCMT 120412 – PM 5	12.7	12.7	4.76	1.2	7.5	5.5	2.5		△	△	△	△	△	△	△	△	△			△	△		
	SCMW 09T304	9.525	9.525	3.97	0.4	6.0	4.4	1.5								△	△							
	SCMW 09T308	9.525	9.525	3.97	0.8	6.0	4.4	1.5								△	△							
	SCMW 120404	12.7	12.7	4.76	0.4	7.5	5.5	2.5								△	△							
	SCMW 120408	12.7	12.7	4.76	0.8	7.5	5.5	2.5								△	△							
	SCMW 120412	12.7	12.7	4.76	1.2	7.5	5.5	2.5								△	△							

= New addition to range

TCGT
TCMT
TCMW



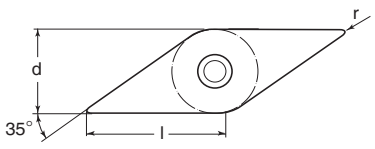


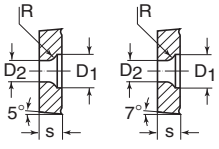
HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	WPP 10	WPP 20	WPP 30	WAM 20	WSM 20	WSM 30	WAK 10	WAK 20	WAK 30	WXN 10	WK 1	WSM 20	WSM 30	WCB 30	WCB 50
	TCGT 090201 – PF 2	5.56	9.0	2.38	0.1	3.3	2.5	2.3											△	△				
	TCGT 090202 – PF 2	5.56	9.0	2.38	0.2	3.3	2.5	2.3											△	△				
	TCGT 090204 – PF 2	5.56	9.0	2.38	0.4	3.3	2.5	2.3											△	△				
	TCGT 110201 – PF 2	6.35	11.0	2.38	0.1	3.75	2.8	1.8											△	△				
	TCGT 110202 – PF 2	6.35	11.0	2.38	0.2	3.75	2.8	1.8											△	△				
	TCGT 110204 – PF 2	6.35	11.0	2.38	0.4	3.75	2.8	1.8											△	△				
	TCGT 16T301 – PF 2	9.525	16.5	3.97	0.1	6.0	4.4	1.5											△	△				
	TCGT 16T302 – PF 2	9.525	16.5	3.97	0.2	6.0	4.4	1.5											△	△				
	TCGT 16T304 – PF 2	9.525	16.5	3.97	0.4	6.0	4.4	1.5											△	△				
	TCGT 16T308 – PF 2	9.525	16.5	3.97	0.8	6.0	4.4	1.5											△	△				
	TCMT 090202 – PF 4	5.56	9.0	2.38	0.2	3.3	2.5	2.3	△	△	△			△	△						△	△		
	TCMT 090204 – PF 4	5.56	9.0	2.38	0.4	3.3	2.5	2.3	△	△	△			△	△						△	△		
	TCMT 090208 – PF 4	5.56	9.0	2.38	0.8	3.3	2.5	2.3	△	△	△			△	△						△	△		
	TCMT 110202 – PF 4	6.35	11.0	2.38	0.2	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	TCMT 110204 – PF 4	6.35	11.0	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	TCMT 110208 – PF 4	6.35	11.0	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	TCMT 16T302 – PF 4	9.525	16.5	3.97	0.2	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	TCMT 16T304 – PF 4	9.525	16.5	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	TCMT 16T308 – PF 4	9.525	16.5	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	TCMT 110204 – PS 5	6.35	11.0	2.38	0.4	3.75	2.8	1.8			△		△	△	△	△	△				△	△		
	TCMT 110208 – PS 5	6.35	11.0	2.38	0.8	3.75	2.8	1.8			△		△	△	△	△	△				△	△		
	TCMT 16T304 – PS 5	9.525	16.5	3.97	0.4	6.0	4.4	1.5			△		△	△	△	△	△				△	△		
	TCMT 16T308 – PS 5	9.525	16.5	3.97	0.8	6.0	4.4	1.5			△		△	△	△	△	△				△	△		
	TCGT 110201 – PM 2	6.35	11.0	2.38	0.1	3.75	2.8	1.8											△	△				
	TCGT 110202 – PM 2	6.35	11.0	2.38	0.2	3.75	2.8	1.8											△	△				
	TCGT 110204 – PM 2	6.35	11.0	2.38	0.4	3.75	2.8	1.8											△	△				
	TCGT 16T301 – PM 2	9.525	16.5	3.97	0.1	6.0	4.4	1.5											△	△				
	TCGT 16T302 – PM 2	9.525	16.5	3.97	0.2	6.0	4.4	1.5											△	△				
	TCGT 16T304 – PM 2	9.525	16.5	3.97	0.4	6.0	4.4	1.5											△	△				
	TCGT 16T308 – PM 2	9.525	16.5	3.97	0.8	6.0	4.4	1.5											△	△				
	TCMT 090204 – PM 5	5.56	9.0	2.38	0.4	3.3	2.5	2.3		△	△	△		△	△	△	△	△			△	△		
	TCMT 090208 – PM 5	5.56	9.0	2.38	0.8	3.3	2.5	2.3		△	△	△		△	△	△	△	△			△	△		
	TCMT 110204 – PM 5	6.35	11.0	2.38	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△	△	△			△	△		
	TCMT 110208 – PM 5	6.35	11.0	2.38	0.8	3.75	2.8	1.8		△	△	△	△	△	△	△	△	△			△	△		
	TCMT 16T304 – PM 5	9.525	16.5	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	TCMT 16T308 – PM 5	9.525	16.5	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	TCMT 16T312 – PM 5	9.525	16.5	3.97	1.2	6.0	4.4	1.5		△	△	△	△	△	△	△	△	△			△	△		
	TCMW 110202	6.35	11.0	2.38	0.2	3.75	2.8	1.8								△	△							
	TCMW 110204	6.35	11.0	2.38	0.4	3.75	2.8	1.8								△	△							
	TCMW 110208	6.35	11.0	2.38	0.8	3.75	2.8	1.8								△	△							
	TCMW 16T304	9.525	16.5	3.97	0.4	6.0	4.4	1.5								△	△							
	TCMW 16T308	9.525	16.5	3.97	0.8	6.0	4.4	1.5								△	△							
	TCMW 16T312	9.525	16.5	3.97	1.2	6.0	4.4	1.5								△	△							
	TCMW 110204	6.35	11.0	2.38	0.4	3.75	2.8	1.8															△	△
	TCMW 110208	6.35	11.0	2.38	0.8	3.75	2.8	1.8															△	△

= **New addition to range**

VCMT / VBMT
VCGT / VBGT
VCMW / VBMW





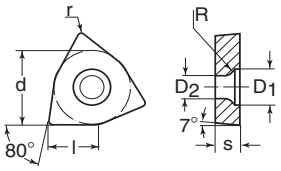
HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC WPP 01	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WAM 20	M HC WSM 20	M HC WSM 30	K HC WAK 10	K HC WAK 20	K HC WAK 30	N HC WXN 10	N HW WK 1	S HC WSM 20	S HC WSM 30	H BL WCB 30	H BH WCB 50
	VCGT 110301 – PF 2	6.35	11.0	3.18	0.1	3.75	2.8	1.8											△	△				
	VCGT 110302 – PF 2	6.35	11.0	3.18	0.2	3.75	2.8	1.8											△	△				
	VCGT 110304 – PF 2	6.35	11.0	3.18	0.4	3.75	2.8	1.8											△	△				
	VCGT 160402 – PF 2	9.525	16.6	4.76	0.2	6.0	4.4	1.5											△	△				
	VCGT 160404 – PF 2	9.525	16.6	4.76	0.4	6.0	4.4	1.5											△	△				
	VCGT 160408 – PF 2	9.525	16.6	4.76	0.8	6.0	4.4	1.5											△	△				
	VCMT 110302 – PF 4	6.35	11.0	3.18	0.2	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	VCMT 110304 – PF 4	6.35	11.0	3.18	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	VCMT 160402 – PF 4	9.525	16.6	4.76	0.2	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	VCMT 160404 – PF 4	9.525	16.6	4.76	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	VCMT 160408 – PF 4	9.525	16.6	4.76	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	VBGT 110302 – PF 5	6.35	11.0	3.18	0.2	3.75	2.8	1.8			△	△			△							△		
	VBGT 110304 – PF 5	6.35	11.0	3.18	0.4	3.75	2.8	1.8			△	△			△							△		
	VBMT 110304 – PS 5	6.35	11.0	3.18	0.4	3.75	2.8	1.8		△	△		△	△	△	△	△				△	△		
	VBMT 110308 – PS 5	6.35	11.0	3.18	0.8	3.75	2.8	1.8		△	△		△	△	△	△	△				△	△		
	VBMT 160404 – PS 5	9.525	16.6	4.76	0.4	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	VBMT 160406 – PS 5	9.525	16.6	4.76	0.6	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	VBMT 160408 – PS 5	9.525	16.6	4.76	0.8	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	VBMT 160412 – PS 5	9.525	16.6	4.76	1.2	6.0	4.4	1.5		△	△		△	△	△	△	△				△	△		
	VCGT 110301 – PM 2	6.35	11.0	3.18	0.1	3.75	2.8	1.8											△	△				
	VCGT 110302 – PM 2	6.35	11.0	3.18	0.2	3.75	2.8	1.8											△	△				
	VCGT 110304 – PM 2	6.35	11.0	3.18	0.4	3.75	2.8	1.8											△	△				
	VCGT 110308 – PM 2	6.35	11.0	3.18	0.8	3.75	2.8	1.8											△	△				
	VCGT 130301 – PM 2	7.94	13.1	3.18	0.1	4.75	3.4	2.5											△	△				
	VCGT 130302 – PM 2	7.94	13.1	3.18	0.2	4.75	3.4	2.5											△	△				
	VCGT 130304 – PM 2	7.94	13.1	3.18	0.4	4.75	3.4	2.5											△	△				
	VCGT 160404 – PM 2	9.525	16.6	4.76	0.4	6.0	4.4	1.5											△	△				
	VCGT 160408 – PM 2	9.525	16.6	4.76	0.8	6.0	4.4	1.5											△	△				
	VCGT 160412 – PM 2	9.525	16.6	4.76	1.2	6.0	4.4	1.5											△	△				
	VCMT 110304 – PM 5	6.35	11.0	3.18	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	VCMT 110308 – PM 5	6.35	11.0	3.18	0.8	3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	VCMT 160404 – PM 5	9.525	16.6	4.76	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	VCMT 160406 – PM 5	9.525	16.6	4.76	0.6	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	VCMT 160408 – PM 5	9.525	16.6	4.76	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	VCMT 160412 – PM 5	9.525	16.6	4.76	1.2	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	VCMW 160404	9.525	16.6	4.76	0.4	6.0	4.4	1.5								△	△							
	VCMW 160408	9.525	16.6	4.76	0.8	6.0	4.4	1.5								△	△							
	VCMW 160412	9.525	16.6	4.76	1.2	6.0	4.4	1.5								△	△							
	VBMW 160402	9.525	16.6	4.76	0.2	6.0	4.4	1.5															△	△
	VBMW 160404	9.525	16.6	4.76	0.4	6.0	4.4	1.5															△	△
	VBMW 160408	9.525	16.6	4.76	0.8	6.0	4.4	1.5															△	△
	VBMW 160404–2	9.525	16.6	4.76	0.4	6.0	4.4	1.5															△	△
	VBMW 160408–2	9.525	16.6	4.76	0.8	6.0	4.4	1.5															△	△

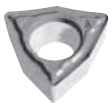
= **New addition to range**

Tiger·tec®

WCMT
WCGT



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	WPP 10	WPP 20	WPP 30	WAM 20	WSM 20	WSM 30	WAK 10	WAK 20	WAK 30	WXN 10	WK 1	WSM 20	WSM 30	WCB 30	WCB 50
 Wiper	WCMT 040204 – PF	6.35	4.3	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	WCMT 040208 – PF	6.35	4.3	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	WCMT 06T304 – PF	9.525	6.5	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	WCMT 06T308 – PF	9.525	6.5	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
 Wiper	WCMT 06T304 – PM	9.525	6.5	3.97	0.4	6.0	4.4	1.5		△	△		△			△	△							
	WCMT 06T308 – PM	9.525	6.5	3.97	0.8	6.0	4.4	1.5		△	△		△			△	△							
	WCMT 080404 – PM	12.7	8.72	4.76	0.4	7.5	5.5	2.5		△	△		△			△	△							
	WCMT 080408 – PM	12.7	8.72	4.76	0.8	7.5	5.5	2.5		△	△		△			△	△							
	WCMT 080412 – PM	12.7	8.72	4.76	1.2	7.5	5.5	2.5		△	△		△			△	△							
	WCGT 030201 – PF 2	5.56	3.8	2.38	0.1	3.3	2.5	2.3											△	△				
	WCGT 030202 – PF 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3											△	△				
	WCGT 030204 – PF 2	5.56	3.8	2.38	0.4	3.3	2.5	2.3											△	△				
	WCGT 040201 – PF 2	6.35	4.3	2.38	0.1	3.75	2.8	1.8											△	△				
	WCGT 040202 – PF 2	6.35	4.3	2.38	0.2	3.75	2.8	1.8											△	△				
	WCGT 040204 – PF 2	6.35	4.3	2.38	0.4	3.75	2.8	1.8											△	△				
	WCGT 06T301 – PF 2	9.525	6.5	3.97	0.1	6.0	4.4	1.5											△	△				
	WCGT 06T302 – PF 2	9.525	6.5	3.97	0.2	6.0	4.4	1.5											△	△				
	WCGT 06T304 – PF 2	9.525	6.5	3.97	0.4	6.0	4.4	1.5											△	△				
	WCGT 06T308 – PF 2	9.525	6.5	3.97	0.8	6.0	4.4	1.5											△	△				
	WCMT 040202 – PF 4	6.35	4.3	2.38	0.2	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	WCMT 040204 – PF 4	6.35	4.3	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	WCMT 040208 – PF 4	6.35	4.3	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△	△						△	△		
	WCMT 06T302 – PF 4	9.525	6.5	3.97	0.2	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	WCMT 06T304 – PF 4	9.525	6.5	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	WCMT 06T308 – PF 4	9.525	6.5	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△	△						△	△		
	WCMT 080404 – PF 4	12.7	8.72	4.76	0.4	7.5	5.5	2.5	△	△	△		△	△	△						△	△		
	WCMT 080408 – PF 4	12.7	8.72	4.76	0.8	7.5	5.5	2.5	△	△	△		△	△	△						△	△		
	WCMT 040204 – PS 5	6.35	4.3	2.38	0.4	3.75	2.8	1.8			△					△	△							
	WCMT 040208 – PS 5	6.35	4.3	2.38	0.8	3.75	2.8	1.8			△					△	△							
	WCMT 06T304 – PS 5	9.525	6.5	3.97	0.4	6.0	4.4	1.5			△					△	△							
	WCMT 06T308 – PS 5	9.525	6.5	3.97	0.8	6.0	4.4	1.5			△					△	△							
	WCMT 080404 – PS 5	12.7	8.72	4.76	0.4	7.5	5.5	2.5			△					△	△							
	WCMT 080408 – PS 5	12.7	8.72	4.76	0.8	7.5	5.5	2.5			△					△	△							
	WCGT 030202 – PM 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3											△	△				
	WCGT 030204 – PM 2	5.56	3.8	2.38	0.4	3.3	2.5	2.3											△	△				
	WCGT 040201 – PM 2	6.35	4.3	2.38	0.1	3.75	2.8	1.8											△	△				
	WCGT 040202 – PM 2	6.35	4.3	2.38	0.2	3.75	2.8	1.8											△	△				
	WCGT 040204 – PM 2	6.35	4.3	2.38	0.4	3.75	2.8	1.8											△	△				
	WCGT 06T301 – PM 2	9.525	6.5	3.97	0.1	6.0	4.4	1.5											△	△				
	WCGT 06T302 – PM 2	9.525	6.5	3.97	0.2	6.0	4.4	1.5											△	△				
	WCGT 06T304 – PM 2	9.525	6.5	3.97	0.4	6.0	4.4	1.5											△	△				
	WCGT 080404 – PM 2	12.7	8.72	4.76	0.4	7.5	5.5	2.5											△	△				
	WCGT 080408 – PM 2	12.7	8.72	4.76	0.8	7.5	5.5	2.5											△	△				

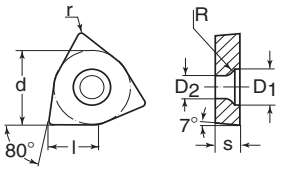
= **New addition to range**

Wiper

See the general catalogue, page 218 for the achievable surface finishes and possible applications.

Tiger·tec®

WCMT
WCMW



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

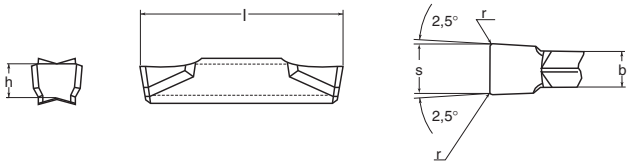
	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC			K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	**WPP 10**	**WPP 20**	**WPP 30**	WAM 20	**WSM 20**	**WSM 30**	**WAK 10**	**WAK 20**	**WAK 30**	WXN 10	WK 1	**WSM 20**	**WSM 30**	WCB 30	WCB 50
	WCMT 030202 – PM 5	5.56	3.8	2.38	0.2	3.3	2.5	2.3		△	△	△	△	△	△	△	△				△	△		
	WCMT 040202 – PM 5	6.35	4.3	2.38	0.2	3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	WCMT 040204 – PM 5	6.35	4.3	2.38	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△	△				△	△		
	WCMT 06T304 – PM 5	9.525	6.5	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	WCMT 06T308 – PM 5	9.525	6.5	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△				△	△		
	WCMT 080404 – PM 5	12.7	8.72	4.76	0.4	7.5	5.5	2.5		△	△	△	△	△	△	△	△				△	△		
	WCMT 080408 – PM 5	12.7	8.72	4.76	0.8	7.5	5.5	2.5		△	△	△	△	△	△	△	△				△	△		
	WCMT 080412 – PM 5	12.7	8.72	4.76	1.2	7.5	5.5	2.5		△	△	△	△	△	△	△	△				△	△		
	WCMW 080404	12.7	8.72	4.76	0.4	7.5	5.5	2.5								△	△							
	WCMW 080408	12.7	8.72	4.76	0.8	7.5	5.5	2.5								△	△							
	WCMW 080412	12.7	8.72	4.76	1.2	7.5	5.5	2.5								△	△							

Tiger·tec®


WALTER

Walter Cut GX grooving inserts for grooving and parting off

GX



HC = Coated carbide
HW = Uncoated carbide

	Designation	l mm	s mm	r mm	b mm	h mm	Tolerances l* mm	Tolerances s mm	Tolerances r mm	P HC WSM 33	P HC WSP 43	P HC WAP 20	P HC WAP 30	P HC WXP 43	M HC WSM 33	M HC WSP 43	M HC WAM 20	M HC WXM 33	S HC WSM 33	S HC WSP 43
	GX16–1E200 N020–CF6	16.6**	2.0	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E250 N020–CF6	16.6**	2.5	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–2E300 N020–CF6	16.6**	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E200 R6–CF6	16.6**	2.0	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E250 R6–CF6	16.6**	2.5	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–2E300 R6–CF6	16.6**	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E200 L6–CF6	16.6**	2.0	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E250 L6–CF6	16.6**	2.5	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–2E300 L6–CF6	16.6**	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E250 N020–CE4	16.6**	2.5	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–2E300 N020–CE4	16.6**	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E250 R6–CE4	16.6**	2.5	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–2E300 R6–CE4	16.6**	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E250 L6–CE4	16.6**	2.5	0.2	1.50	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–2E300 L6–CE4	16.6**	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX24–2E300 N020–CE4	24	3.0	0.2	2.30	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX24–3E400 N030–CE4	24	4.0	0.3	3.20	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX24–3E500 N030–CE4	24	5.0	0.3	4.00	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX24–4E600 N030–CE4	24	6.0	0.3	4.80	3.9	±0.02	±0.02	±0.05	△	△				△	△			△	△
	GX16–1E200 N020–GD6	16	2.0	0.2	1.50	3.9	±0.15	±0.05	±0.05								△	△		
	GX16–1E250 N020–GD6	16	2.5	0.2	1.50	3.9	±0.15	±0.05	±0.05								△	△		
	GX16–2E300 N030–GD6	16	3.0	0.3	2.30	3.9	±0.15	±0.05	±0.05								△	△		
	GX16–3E400 N040–GD6	16	4.0	0.4	3.20	3.9	±0.15	±0.05	±0.05								△	△		
	GX16–3E500 N040–GD6	16	5.0	0.4	4.00	3.9	±0.15	±0.05	±0.05								△	△		
	GX16–4E600 N050–GD6	16	6.0	0.5	4.80	3.9	±0.15	±0.05	±0.05								△	△		
	GX 24–2E300 N030–GD6	24	3.0	0.3	2.30	3.9	±0.15	±0.05	±0.05								△	△		
	GX 24–3E400 N040–GD6	24	4.0	0.4	3.20	3.9	±0.15	±0.05	±0.05								△	△		
	GX 24–3E500 N040–GD6	24	5.0	0.4	3.00	3.9	±0.15	±0.05	±0.05								△	△		
	GX 24–4E600 N050–GD6	24	6.0	0.5	4.80	3.9	±0.15	±0.05	±0.05								△	△		
	GX 09–1E200 N020–GD3	9	2.0	0.2	1.40	2.5	±0.02	±0.02	±0.05			△	△	△						
	GX 09–1E250 N020–GD3	9	2.5	0.2	1.40	2.5	±0.02	±0.02	±0.05			△	△	△						
	GX 09–2E300 N030–GD3	9	3.0	0.3	2.10	2.5	±0.02	±0.02	±0.05			△	△	△						
	GX 09–2E350 N030–GD3	9	3.5	0.3	2.10	2.5	±0.02	±0.02	±0.05			△	△	△						
	GX16–1E200 N020–GD3	16	2.0	0.2	1.40	3.9	±0.02	±0.02	±0.05			△	△	△						
	GX16–1E250 N020–GD3	16	2.5	0.2	1.40	3.9	±0.02	±0.02	±0.05			△	△	△						
	GX16–2E300 N030–GD3	16	3.0	0.3	2.10	3.9	±0.02	±0.02	±0.05			△	△	△						
	GX16–3E400 N040–GD3	16	4.0	0.4	3.05	3.9	±0.02	±0.02	±0.05			△	△	△						
	GX16–3E500 N040–GD3	16	5.0	0.4	3.05	3.9	±0.02	±0.02	±0.05			△	△	△						
	GX16–4E600 N050–GD3	16	6.0	0.5	4.30	3.9	±0.02	±0.02	±0.05			△	△	△						
	GX 24–2E300 N030–GD3	24	3.0	0.3	2.10	3.9	±0.15	±0.05	±0.05			△	△	△						
	GX 24–3E400 N040–GD3	24	4.0	0.4	3.05	3.9	±0.15	±0.05	±0.05			△	△	△						
	GX 24–3E500 N040–GD3	24	5.0	0.4	3.05	3.9	±0.15	±0.05	±0.05			△	△	△						
	GX 24–4E600 N050–GD3	24	6.0	0.5	4.30	3.9	±0.15	±0.05	±0.05			△	△	△						

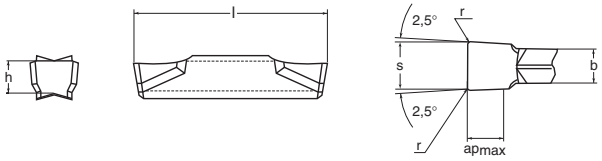
= New addition to range

* l = Repeat accuracy if insert replaced

** Parting off with diameters up to 32 mm is possible with these inserts (l = 16.6 mm).

Walter Cut GX grooving inserts for grooving and longitudinal turning

GX



HC = Coated carbide
HW = Uncoated carbide

	Designation	l mm	s mm	r mm	b mm	h mm	ap_{max} mm	Tolerances l* mm	Tolerances s mm	Tolerances r mm	P HC WPP 23	P HC WSM 33	P HC WSP 43	M HC WSM 33	M HC WSP 43	M HC WAM 20	M HC WXM 33	K HC **WAK 20**	K HC **WAK 30**	S HC WSM 33	S HC WSP 43
	GX 09–1E200 N020–UF4	9	2.0	0.2	1.40	2.5	1.5	±0.10	±0.05	±0.05	△	△	△	△	△					△	△
	GX 09–1E300 N030–UF4	9	3.0	0.3	2.30	2.5	2.0	±0.10	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–1E200 N020–UF4	16	2.0	0.2	1.50	3.9	2.5	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–1E250 N020–UF4	16	2.5	0.2	1.50	3.9	2.5	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–2E300 N030–UF4	16	3.0	0.3	2.30	3.9	3.0	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–3E400 N040–UF4	16	4.0	0.4	3.20	3.9	3.5	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–3E500 N040–UF4	16	5.0	0.4	4.00	3.9	3.5	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–4E600 N050–UF4	16	6.0	0.5	4.80	3.9	4.0	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX 24–2E300 N030–UF4	24	3.0	0.3	2.30	3.9	2.5	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX 24–3E400 N040–UF4	24	4.0	0.4	3.20	3.9	3.0	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX 24–3E500 N040–UF4	24	5.0	0.4	4.00	3.9	3.0	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX 24–4E600 N050–UF4	24	6.0	0.5	4.80	3.9	3.5	±0.15	±0.05	±0.05	△	△	△	△	△					△	△
	GX16–1E200 N020–UA4	16	2.0	0.2	1.40	3.9	2.5	±0.15	±0.05	±0.05								△	△		
	GX16–1E250 N020–UA4	16	2.5	0.2	1.40	3.9	2.5	±0.15	±0.05	±0.05								△	△		
	GX16–2E300 N030–UA4	16	3.0	0.3	2.10	3.9	3.0	±0.15	±0.05	±0.05								△	△		
	GX16–3E400 N040–UA4	16	4.0	0.4	3.05	3.9	3.5	±0.15	±0.05	±0.05								△	△		
	GX16–3E500 N040–UA4	16	5.0	0.4	3.05	3.9	3.5	±0.15	±0.05	±0.05								△	△		
	GX16–4E600 N050–UA4	16	6.0	0.5	4.30	3.9	4.0	±0.15	±0.05	±0.05								△	△		
	GX 24–2E300 N030–UA4	24	3.0	0.3	2.10	3.9	2.5	±0.15	±0.05	±0.05								△	△		
	GX 24–3E400 N040–UA4	24	4.0	0.4	3.05	3.9	3.0	±0.15	±0.05	±0.05								△	△		
	GX 24–3E500 N040–UA4	24	5.0	0.4	3.05	3.9	3.0	±0.15	±0.05	±0.05								△	△		
	GX 24–4E600 N050–UA4	24	6.0	0.5	4.30	3.9	3.5	±0.15	±0.05	±0.05								△	△		
	GX16–1E200 N020–UD6	16	2.0	0.2	1.50	3.9	2.5	±0.15	±0.05	±0.05						△	△				
	GX16–1E250 N020–UD6	16	2.5	0.2	1.50	3.9	2.5	±0.15	±0.05	±0.05						△	△				
	GX16–2E300 N030–UD6	16	3.0	0.3	2.30	3.9	3.0	±0.15	±0.05	±0.05						△	△				
	GX16–3E400 N040–UD6	16	4.0	0.4	3.20	3.9	3.5	±0.15	±0.05	±0.05						△	△				
	GX16–3E500 N040–UD6	16	5.0	0.4	4.00	3.9	3.5	±0.15	±0.05	±0.05						△	△				
	GX16–4E600 N050–UD6	16	6.0	0.5	4.80	3.9	4.0	±0.15	±0.05	±0.05						△	△				
	GX 24–2E300 N030–UD6	24	3.0	0.3	2.30	3.9	2.5	±0.15	±0.05	±0.05						△	△				
	GX 24–3E400 N040–UD6	24	4.0	0.4	3.20	3.9	3.0	±0.15	±0.05	±0.05						△	△				
	GX 24–3E500 N040–UD6	24	5.0	0.4	4.00	3.9	3.0	±0.15	±0.05	±0.05						△	△				
	GX 24–4E600 N050–UD6	24	6.0	0.5	4.80	3.9	3.5	±0.15	±0.05	±0.05						△	△				

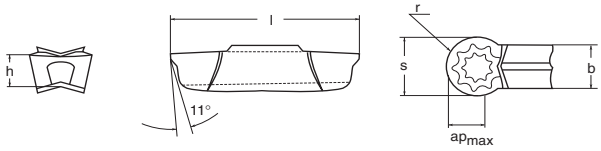
= New addition to range

* l = Repeat accuracy if insert replaced

Tiger·tec®

Walter Cut GX grooving inserts for grooving and longitudinal turning

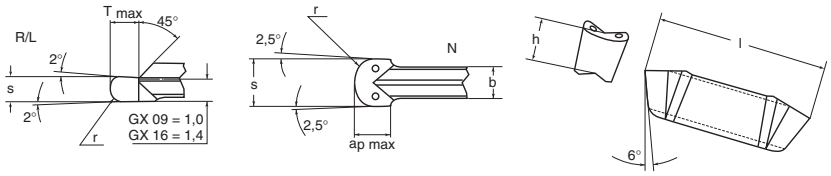
GX



HC = Coated carbide
HW = Uncoated carbide

	Designation	l mm	s mm	r mm	b mm	h mm	ap_{max} mm	Tolerances l* mm	Tolerances s mm	Tolerances r mm	P HC WAP 20	P HC WAP 30	P HC WXP 43	M HC WAM 20	M HC WXM 33	K HC **WAK 20**	K HC **WAK 30**	N HW WK 1
	GX 24–4R300N–RK8	25.37	6.0	3.0	4.3	3.9	4.0	±0.02	±0.02	±0.05								△
	GX 24–5R400N–RK8	25.37	8.0	4.0	6.2	4.5	5.0	±0.02	±0.02	±0.05								△

GX



HC = Coated carbide
HW = Uncoated carbide

	Designation	l mm	s mm	r mm	b mm	h mm	T_{max} mm	$a_{p\ max}$ mm	Tolerances l* mm	Tolerances s mm	Tolerances r mm	HC WTA 33	HW WK 1
	GX 09–1R0.80 R	9	1.6	0.8	1.40	2.5	1.78		±0.02	±0.02	±0.05	△	
	GX 09–1R0.80 L	9	1.6	0.8	1.40	2.5	1.78		±0.02	±0.02	±0.05	△	
	GX 09–1R1.00 N**	9	2.0	1.0	1.40	2.5		1.0	±0.02	±0.02	±0.05	△	
	GX 09–1R1.20 N**	9	2.4	1.2	1.40	2.5		1.2	±0.02	±0.02	±0.05	△	
	GX 16–2R0.80 R	16	1.6	0.8	2.10	3.9	1.78		±0.02	±0.02	±0.05	△	
	GX 16–2R1.00 R	16	2.0	1.0	2.10	3.9	2.18		±0.02	±0.02	±0.05	△	
	GX 16–2R1.20 R	16	2.4	1.2	2.10	3.9	2.58		±0.02	±0.02	±0.05	△	
	GX 16–2R0.80 L	16	1.6	0.8	2.10	3.9	1.78		±0.02	±0.02	±0.05	△	
	GX 16–2R1.00 L	16	2.0	1.0	2.10	3.9	2.18		±0.02	±0.02	±0.05	△	
	GX 16–2R1.20 L	16	2.4	1.2	2.10	3.9	2.58		±0.02	±0.02	±0.05	△	
	GX 16–2R1.50 N**	16	3.0	1.5	2.10	3.9		1.5	±0.02	±0.02	±0.05	△	
	GX 16–3R2.00 N**	16	4.0	2.0	3.05	3.9		2.0	±0.02	±0.02	±0.05	△	
	GX 16–3R2.50 N**	16	5.0	2.5	3.05	3.9		2.5	±0.02	±0.02	±0.05	△	
	GX 16–4R3.00 N**	16	6.0	3.0	4.30	3.9		3.0	±0.02	±0.02	±0.05	△	

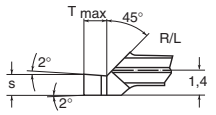
* l = Repeat accuracy if insert replaced

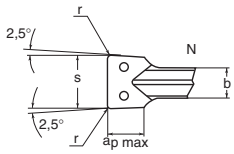
** only the neutral (N) version is suitable for longitudinal turning

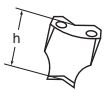
R/L right-, left-hand version – r.h. version shown in the drawing and picture
N neutral version

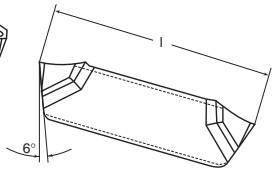
Walter Cut GX grooving inserts for circlip grooves

GX









HC = Coated carbide
HW = Uncoated carbide

	Designation	l mm	s mm	DIN 471–472 s_1 mm	DIN 471–472 s_2 mm	r mm	b mm	h mm	T_{max} mm	$a_{p\ max}$ mm	Tolerances l* mm	Tolerances s mm	Tolerances r mm	HC WTA 33		HW WK 1	
	GX 09–1S0.60 R	9	0.60	0.40	0.50		1.40	2.5	0.75		±0.02	±0.02	±0.05	△			
	GX 09–1S0.80 R	9	0.80	0.60	0.70		1.40	2.5	0.94		±0.02	±0.02	±0.05	△			
	GX 09–1S0.90 R	9	0.90	0.70	0.80		1.40	2.5	1.04		±0.02	±0.02	±0.05	△			
	GX 09–1S1.00 R	9	1.00	0.80	0.90		1.40	2.5	1.14		±0.02	±0.02	±0.05	△			
	GX 09–1S1.20 R	9	1.20	1.00	1.10		1.40	2.5	1.34		±0.02	±0.02	±0.05	△			
	GX 09–1S1.40 R	9	1.40	1.20	1.30		1.40	2.5	1.53		±0.02	±0.02	±0.05	△			
	GX 09–1S1.70 R	9	1.70	1.50	1.60		1.40	2.5	1.82		±0.02	±0.02	±0.05	△			
	GX 09–1S0.60 L	9	0.60	0.40	0.50		1.40	2.5	0.75		±0.02	±0.02	±0.05	△			
	GX 09–1S0.80 L	9	0.80	0.60	0.70		1.40	2.5	0.94		±0.02	±0.02	±0.05	△			
	GX 09–1S0.90 L	9	0.90	0.70	0.80		1.40	2.5	1.04		±0.02	±0.02	±0.05	△			
	GX 09–1S1.00 L	9	1.00	0.80	0.90		1.40	2.5	1.14		±0.02	±0.02	±0.05	△			
	GX 09–1S1.20 L	9	1.20	1.00	1.10		1.40	2.5	1.34		±0.02	±0.02	±0.05	△			
	GX 09–1S1.40 L	9	1.40	1.20	1.30		1.40	2.5	1.53		±0.02	±0.02	±0.05	△			
	GX 09–1S1.70 L	9	1.70	1.50	1.60		1.40	2.5	1.82		±0.02	±0.02	±0.05	△			
	GX 09–1S1.95 N	9	1.95	1.75	1.85	0.1	1.40	2.5		2.0	±0.02	±0.02	±0.05	△			
	GX 09–1S2.25 N	9	2.25	2.00	2.15	0.1	1.40	2.5		2.0	±0.02	±0.02	±0.05	△			
	GX 09–2S2.75 N	9	2.75	2.50	2.65	0.1	2.10	2.5		2.0	±0.02	±0.02	±0.05	△			
	GX 09–2S3.25 N	9	3.25	3.00	3.15	0.1	2.10	2.5		2.0	±0.02	±0.02	±0.05	△			
	GX 16–2S0.60 R	16	0.60	0.40	0.50		2.10	3.9	0.75		±0.02	±0.02	±0.05	△			
	GX 16–2S0.80 R	16	0.80	0.60	0.70		2.10	3.9	0.94		±0.02	±0.02	±0.05	△			
	GX 16–2S0.90 R	16	0.90	0.70	0.80		2.10	3.9	1.04		±0.02	±0.02	±0.05	△			
	GX 16–2S1.00 R	16	1.00	0.80	0.90		2.10	3.9	1.14		±0.02	±0.02	±0.05	△			
	GX 16–2S1.20 R	16	1.20	1.00	1.10		2.10	3.9	1.34		±0.02	±0.02	±0.05	△			
	GX 16–2S1.40 R	16	1.40	1.20	1.30		2.10	3.9	1.53		±0.02	±0.02	±0.05	△			
	GX 16–2S1.70 R	16	1.70	1.50	1.60		2.10	3.9	1.82		±0.02	±0.02	±0.05	△			
	GX 16–2S1.95 R	16	1.95	1.75	1.85		2.10	3.9	2.07		±0.02	±0.02	±0.05	△			
	GX 16–2S2.25 R	16	2.25	2.00	2.15		2.10	3.9	2.36		±0.02	±0.02	±0.05	△			
	GX 16–2S0.60 L	16	0.60	0.40	0.50		2.10	3.9	0.75		±0.02	±0.02	±0.05	△			
	GX 16–2S0.80 L	16	0.80	0.60	0.70		2.10	3.9	0.94		±0.02	±0.02	±0.05	△			
	GX 16–2S0.90 L	16	0.90	0.70	0.80		2.10	3.9	1.04		±0.02	±0.02	±0.05	△			
	GX 16–2S1.00 L	16	1.00	0.80	0.90		2.10	3.9	1.14		±0.02	±0.02	±0.05	△			
	GX 16–2S1.20 L	16	1.20	1.00	1.10		2.10	3.9	1.34		±0.02	±0.02	±0.05	△			
	GX 16–2S1.40 L	16	1.40	1.20	1.30		2.10	3.9	1.53		±0.02	±0.02	±0.05	△			
	GX 16–2S1.70 L	16	1.70	1.50	1.60		2.10	3.9	1.82		±0.02	±0.02	±0.05	△			
	GX 16–2S1.95 L	16	1.95	1.75	1.85		2.10	3.9	2.07		±0.02	±0.02	±0.05	△			
	GX 16–2S2.25 L	16	2.25	2.00	2.15		2.10	3.9	2.36		±0.02	±0.02	±0.05	△			
	GX 16–2S2.75 N	16	2.75	2.50	2.65	0.1	2.10	3.9		3.0	±0.02	±0.02	±0.05	△			
	GX 16–2S3.25 N	16	3.25	3.00	3.15	0.1	2.10	3.9		3.0	±0.02	±0.02	±0.05	△			
	GX 16–3S4.25 N	16	4.25	4.00	4.15	0.2	3.05	3.9		3.5	±0.02	±0.02	±0.05	△			
	GX 16–4S5.25 N	16	5.25	5.00	5.15	0.2	4.30	3.9		4.0	±0.02	±0.02	±0.05	△			

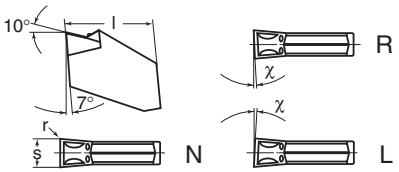
* l = Repeat accuracy if insert replaced

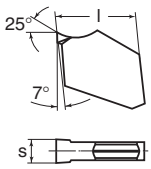
DIN 471–472 = DIN standard for circlip grooves **s** insert width **s_1** circlip thickness **s_2** standard groove width H13 (+0.14 /0)

R/L = right-/left-hand cutting units (r.h. version shown in the drawing and picture) **N** = neutral cutting units (grooving inserts are fitted in modules for grooving and turning)

Walter Cut FX grooving inserts for grooving and parting off

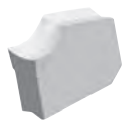
FX





CK8

HC = Coated carbide
HW = Uncoated carbide

	Designation	s mm	r mm	χ	Tolerances l* mm	Tolerances s mm	Tolerances r mm	P HC WPP 23	P HC WSM 33	P HC WSP 43	M HC WSM 33	M HC WSP 43	K HC WAK 20	N HW WK 1	S HC WSM 33	S HC WSP 43
	FX2.2-E220N010-CE4	2.2	0.1	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310N015-CE4	3.1	0.15	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410N020-CE4	4.1	0.2	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX5.1-E510N025-CE4	5.1	0.25	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX6.5-E650N030-CE4	6.5	0.3	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX8.2-E820N040-CE4	8.2	0.4	0°	+/-0.15	-0.16	+/-0.05	△	△	△	△	△			△	△
	FX9.7-E970N040-CE4	9.7	0.4	0°	+/-0.15	-0.16	+/-0.05	△	△	△	△	△			△	△
	FX2.2-E220R4-CE4	2.2	0.1	4°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310R6-CE4	3.1	0.15	6°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410R6-CE4	4.1	0.2	6°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX2.2-E220L4-CE4	2.2	0.1	4°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310L6-CE4	3.1	0.15	6°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410L6-CE4	4.1	0.2	6°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX2.2-E220N015-CE6	2.2	0.15	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310N020-CE6	3.1	0.2	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310N040-CE6	3.1	0.4	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410N020-CE6	4.1	0.2	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410N050-CE6	4.1	0.5	0°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX2.2-E220R5-CE6	2.2	0.15	5°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310R5-CE6	3.1	0.2	5°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410R5-CE6	4.1	0.2	5°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX2.2-E220L5-CE6	2.2	0.15	5°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310L5-CE6	3.1	0.2	5°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX4.1-E410L5-CE6	4.1	0.2	5°	+/-0.10	-0.10	+/-0.05	△	△	△	△	△			△	△
	FX3.1-E310N040-CD3	3.1	0.4	0°	+/-0.10	-0.10	+/-0.05	△	△		△				△	
	FX4.1-E410N020-CD3	4.1	0.2	0°	+/-0.10	-0.10	+/-0.05	△	△		△				△	
	FX4.1-E410N050-CD3	4.1	0.5	0°	+/-0.10	-0.10	+/-0.05	△	△		△				△	
	FX2.2-E220N010-CK8	2.2	0.1	0°	+/-0.10	-0.10	+/-0.05							△		
	FX3.1-E310N015-CK8	3.1	0.15	0°	+/-0.10	-0.10	+/-0.05							△		
	FX4.1-E410N015-CK8	4.1	0.15	0°	+/-0.10	-0.10	+/-0.05							△		

= New addition to range

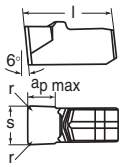
Tiger·tec®

* l = Repeat accuracy if insert replaced

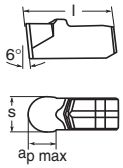
Walter Cut LX grooving inserts for grooving and longitudinal turning

LX

LX–E



LX–R



HC = Coated carbide
HW = Uncoated carbide

	Designation	s mm	r mm	χ	ap_{max} mm	Tolerances l* mm	Tolerances s mm	Tolerances r mm	P HC WPP 23	P HC WSM 33	P HC WSP 43	M HC WSM 33	M HC WSP 43	K HC WAK 20	N HW WK 1	S HC WSM 33	S HC WSP 43
	LX-E800N080-UE4	8	0.8	0°	5	+/-0.15	-0.08	+/-0.10	△	△	△	△	△			△	△
	LX-E800N400-RD3	8	4.0		5	+/-0.15	-0.08	+/-0.10	△	△	△	△	△			△	△

= **New addition to range**

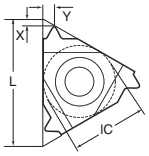
Tiger·tec®



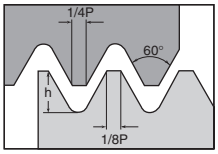
* l = Repeat accuracy if insert replaced

Walter NTS threading inserts
Full profile, ISO metric 60°
External thread

NTS
ISO metric



nut



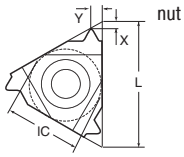
pin

HC = Coated carbide

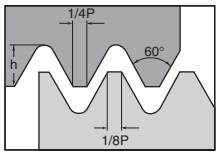
	Designation	Lead mm	L mm	IC	h min mm	X mm	Y mm	HC WXP 20	HC WXM 20	
	NTS ER–16 0.50 ISO	0.5	16	3/8''	0.31	0.6	0.4	△	△	
	NTS ER–16 0.60 ISO	0.6	16	3/8''	0.37	0.6	0.6	△	△	
	NTS ER–16 0.70 ISO	0.7	16	3/8''	0.43	0.6	0.6	△	△	
	NTS ER–16 0.75 ISO	0.75	16	3/8''	0.46	0.6	0.6	△	△	
	NTS ER–16 0.80 ISO	0.8	16	3/8''	0.49	0.6	0.6	△	△	
	NTS ER–16 1.00 ISO	1.0	16	3/8''	0.61	0.7	0.7	△	△	
	NTS ER–16 1.25 ISO	1.25	16	3/8''	0.77	0.8	0.9	△	△	
	NTS ER–16 1.50 ISO	1.5	16	3/8''	0.92	0.8	1.0	△	△	
	NTS ER–16 1.75 ISO	1.75	16	3/8''	1.07	0.9	1.2	△	△	
	NTS ER–16 2.00 ISO	2.0	16	3/8''	1.23	1.0	1.3	△	△	
	NTS ER–16 2.50 ISO	2.5	16	3/8''	1.53	1.1	1.5	△	△	
	NTS ER–16 3.00 ISO	3.0	16	3/8''	1.84	1.2	1.6	△	△	
	NTS ER–22 3.50 ISO	3.5	22	1/2''	2.15	1.6	2.3	△	△	
	NTS ER–22 4.00 ISO	4.0	22	1/2''	2.45	1.6	2.3	△	△	
	NTS ER–22 4.50 ISO	4.5	22	1/2''	2.76	1.7	2.4	△	△	
	NTS ER–22 5.00 ISO	5.0	22	1/2''	3.07	1.7	2.5	△	△	
	NTS EL–16 0.50 ISO	0.5	16	3/8''	0.31	0.6	0.4	△	△	
	NTS EL–16 0.60 ISO	0.6	16	3/8''	0.37	0.6	0.6	△	△	
	NTS EL–16 0.70 ISO	0.7	16	3/8''	0.43	0.6	0.6	△	△	
	NTS EL–16 0.75 ISO	0.75	16	3/8''	0.46	0.6	0.6	△	△	
	NTS EL–16 0.80 ISO	0.8	16	3/8''	0.49	0.6	0.6	△	△	
	NTS EL–16 1.00 ISO	1.0	16	3/8''	0.61	0.7	0.7	△	△	
	NTS EL–16 1.25 ISO	1.25	16	3/8''	0.77	0.8	0.9	△	△	
	NTS EL–16 1.50 ISO	1.5	16	3/8''	0.92	0.8	1.0	△	△	
	NTS EL–16 1.75 ISO	1.75	16	3/8''	1.07	0.9	1.2	△	△	
	NTS EL–16 2.00 ISO	2.0	16	3/8''	1.23	1.0	1.3	△	△	
	NTS EL–16 2.50 ISO	2.5	16	3/8''	1.53	1.1	1.5	△	△	
	NTS EL–16 3.00 ISO	3.0	16	3/8''	1.84	1.2	1.6	△	△	
	NTS EL–22 3.50 ISO	3.5	22	1/2''	2.15	1.6	2.3	△	△	
	NTS EL–22 4.00 ISO	4.0	22	1/2''	2.45	1.6	2.3	△	△	
	NTS EL–22 4.50 ISO	4.5	22	1/2''	2.76	1.7	2.4	△	△	
	NTS EL–22 5.00 ISO	5.0	22	1/2''	3.07	1.7	2.5	△	△	

Walter NTS threading inserts
Full profile, ISO metric 60°
Internal thread

NTS
ISO metric



nut



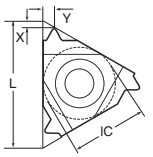
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HC = Coated carbide

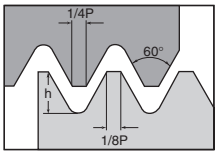
	Designation	Lead mm	L mm	IC	h min mm	X mm	Y mm	HC WXP 20	HC WXM 20	
	NTS IR–16 0.50 ISO	0.5	16	3/8''	0.29	0.6	0.4	△	△	
	NTS IR–16 0.60 ISO	0.6	16	3/8''	0.35	0.6	0.6	△	△	
	NTS IR–16 0.70 ISO	0.7	16	3/8''	0.40	0.6	0.6	△	△	
	NTS IR–16 0.75 ISO	0.75	16	3/8''	0.43	0.6	0.6	△	△	
	NTS IR–16 0.80 ISO	0.8	16	3/8''	0.46	0.6	0.6	△	△	
	NTS IR–16 1.00 ISO	1.0	16	3/8''	0.58	0.6	0.7	△	△	
	NTS IR–16 1.25 ISO	1.25	16	3/8''	0.72	0.8	0.9	△	△	
	NTS IR–16 1.50 ISO	1.5	16	3/8''	0.87	0.8	1.0	△	△	
	NTS IR–16 1.75 ISO	1.75	16	3/8''	1.01	0.9	1.2	△	△	
	NTS IR–16 2.00 ISO	2.0	16	3/8''	1.15	1.0	1.3	△	△	
	NTS IR–16 2.50 ISO	2.5	16	3/8''	1.44	1.1	1.5	△	△	
	NTS IR–16 3.00 ISO	3.0	16	3/8''	1.73	1.1	1.5	△	△	
	NTS IR–22 3.50 ISO	3.5	22	1/2''	2.02	1.6	2.3	△	△	
	NTS IR–22 4.00 ISO	4.0	22	1/2''	2.31	1.6	2.3	△	△	
	NTS IR–22 4.50 ISO	4.5	22	1/2''	2.60	1.6	2.4	△	△	
	NTS IR–22 5.00 ISO	5.0	22	1/2''	2.89	1.6	2.3	△	△	
	NTS IL–16 0.50 ISO	0.5	16	3/8''	0.29	0.6	0.4	△	△	
	NTS IL–16 0.60 ISO	0.6	16	3/8''	0.35	0.6	0.6	△	△	
	NTS IL–16 0.70 ISO	0.7	16	3/8''	0.40	0.6	0.6	△	△	
	NTS IL–16 0.75 ISO	0.75	16	3/8''	0.43	0.6	0.6	△	△	
	NTS IL–16 0.80 ISO	0.8	16	3/8''	0.46	0.6	0.6	△	△	
	NTS IL–16 1.00 ISO	1.0	16	3/8''	0.58	0.6	0.7	△	△	
	NTS IL–16 1.25 ISO	1.25	16	3/8''	0.72	0.8	0.9	△	△	
	NTS IL–16 1.50 ISO	1.5	16	3/8''	0.87	0.8	1.0	△	△	
	NTS IL–16 1.75 ISO	1.75	16	3/8''	1.01	0.9	1.2	△	△	
	NTS IL–16 2.00 ISO	2.0	16	3/8''	1.15	1.0	1.3	△	△	
	NTS IL–16 2.50 ISO	2.5	16	3/8''	1.44	1.1	1.5	△	△	
	NTS IL–16 3.00 ISO	3.0	16	3/8''	1.73	1.1	1.5	△	△	
	NTS IL–22 3.50 ISO	3.5	22	1/2''	2.02	1.6	2.3	△	△	
	NTS IL–22 4.00 ISO	4.0	22	1/2''	2.31	1.6	2.3	△	△	
	NTS IL–22 4.50 ISO	4.5	22	1/2''	2.60	1.6	2.4	△	△	
	NTS IL–22 5.00 ISO	5.0	22	1/2''	2.89	1.6	2.3	△	△	

Walter NTS threading inserts
Full profile, American UN 60°
External thread

NTS
American UN



nut



pin

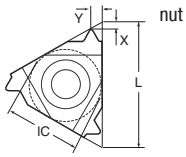
HC = Coated carbide



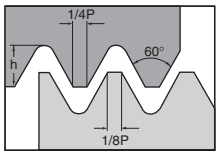
Designation	Lead T/inch	L mm	IC	h min mm	X mm	Y mm	HC WXP 20	HC WXM 20
NTS ER–16 048 UN	48	16	3/8''	0.32	0.6	0.6	△	△
NTS ER–16 044 UN	44	16	3/8''	0.35	0.6	0.6	△	△
NTS ER–16 040 UN	40	16	3/8''	0.39	0.6	0.6	△	△
NTS ER–16 036 UN	36	16	3/8''	0.43	0.6	0.6	△	△
NTS ER–16 032 UN	32	16	3/8''	0.49	0.6	0.6	△	△
NTS ER–16 028 UN	28	16	3/8''	0.56	0.6	0.7	△	△
NTS ER–16 027 UN	27	16	3/8''	0.58	0.7	0.8	△	△
NTS ER–16 024 UN	24	16	3/8''	0.65	0.7	0.8	△	△
NTS ER–16 020 UN	20	16	3/8''	0.78	0.8	0.9	△	△
NTS ER–16 018 UN	18	16	3/8''	0.87	0.8	1.0	△	△
NTS ER–16 016 UN	16	16	3/8''	0.97	0.9	1.1	△	△
NTS ER–16 014 UN	14	16	3/8''	1.11	1.0	1.2	△	△
NTS ER–16 013 UN	13	16	3/8''	1.20	1.0	1.3	△	△
NTS ER–16 012 UN	12	16	3/8''	1.30	1.1	1.4	△	△
NTS ER–16 011 UN	11	16	3/8''	1.42	1.1	1.5	△	△
NTS ER–16 010 UN	10	16	3/8''	1.56	1.1	1.5	△	△
NTS ER–16 009 UN	9	16	3/8''	1.73	1.2	1.7	△	△
NTS ER–16 008 UN	8	16	3/8''	1.95	1.2	1.6	△	△
NTS ER–22 007 UN	7	22	1/2''	2.22	1.6	2.3	△	△
NTS ER–22 006 UN	6	22	1/2''	2.60	1.6	2.3	△	△
NTS ER–22 005 UN	5	22	1/2''	3.12	1.7	2.5	△	△
NTS EL–16 048 UN	48	16	3/8''	0.32	0.6	0.6	△	△
NTS EL–16 044 UN	44	16	3/8''	0.35	0.6	0.6	△	△
NTS EL–16 040 UN	40	16	3/8''	0.39	0.6	0.6	△	△
NTS EL–16 036 UN	36	16	3/8''	0.43	0.6	0.6	△	△
NTS EL–16 032 UN	32	16	3/8''	0.49	0.6	0.6	△	△
NTS EL–16 028 UN	28	16	3/8''	0.56	0.6	0.7	△	△
NTS EL–16 027 UN	27	16	3/8''	0.58	0.7	0.8	△	△
NTS EL–16 024 UN	24	16	3/8''	0.65	0.7	0.8	△	△
NTS EL–16 020 UN	20	16	3/8''	0.78	0.8	0.9	△	△
NTS EL–16 018 UN	18	16	3/8''	0.87	0.8	1.0	△	△
NTS EL–16 016 UN	16	16	3/8''	0.97	0.9	1.1	△	△
NTS EL–16 014 UN	14	16	3/8''	1.11	1.0	1.2	△	△
NTS EL–16 013 UN	13	16	3/8''	1.20	1.0	1.3	△	△
NTS EL–16 012 UN	12	16	3/8''	1.30	1.1	1.4	△	△
NTS EL–16 011 UN	11	16	3/8''	1.42	1.1	1.5	△	△
NTS EL–16 010 UN	10	16	3/8''	1.56	1.1	1.5	△	△
NTS EL–16 009 UN	9	16	3/8''	1.73	1.2	1.7	△	△
NTS EL–16 008 UN	8	16	3/8''	1.95	1.2	1.6	△	△
NTS EL–22 007 UN	7	22	1/2''	2.22	1.6	2.3	△	△
NTS EL–22 006 UN	6	22	1/2''	2.60	1.6	2.3	△	△
NTS EL–22 005 UN	5	22	1/2''	3.12	1.7	2.5	△	△

Walter NTS threading inserts
Full profile, American UN 60°
Internal thread

NTS
American UN



nut



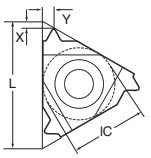
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HC = Coated carbide

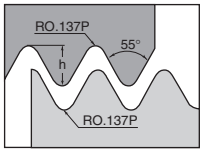
	Designation	Lead T/inch	L mm	IC	h min mm	X mm	Y mm	HC WXP 20	HC WXM 20	
	NTS IR–16 048 UN	48	16	3/8''	0.31	0.6	0.6	△	△	
	NTS IR–16 044 UN	44	16	3/8''	0.33	0.6	0.6	△	△	
	NTS IR–16 040 UN	40	16	3/8''	0.37	0.6	0.6	△	△	
	NTS IR–16 036 UN	36	16	3/8''	0.41	0.6	0.6	△	△	
	NTS IR–16 032 UN	32	16	3/8''	0.51	0.6	0.6	△	△	
	NTS IR–16 028 UN	28	16	3/8''	0.52	0.6	0.7	△	△	
	NTS IR–16 027 UN	27	16	3/8''	0.54	0.7	0.8	△	△	
	NTS IR–16 024 UN	24	16	3/8''	0.61	0.7	0.8	△	△	
	NTS IR–16 020 UN	20	16	3/8''	0.73	0.8	0.9	△	△	
	NTS IR–16 018 UN	18	16	3/8''	0.81	0.8	1.0	△	△	
	NTS IR–16 016 UN	16	16	3/8''	0.92	0.9	1.1	△	△	
	NTS IR–16 014 UN	14	16	3/8''	1.05	0.9	1.2	△	△	
	NTS IR–16 013 UN	13	16	3/8''	1.13	1.0	1.3	△	△	
	NTS IR–16 012 UN	12	16	3/8''	1.22	1.1	1.4	△	△	
	NTS IR–16 011 UN	11	16	3/8''	1.33	1.1	1.5	△	△	
	NTS IR–16 010 UN	10	16	3/8''	1.47	1.1	1.5	△	△	
	NTS IR–16 009 UN	9	16	3/8''	1.63	1.2	1.7	△	△	
	NTS IR–16 008 UN	8	16	3/8''	1.83	1.1	1.5	△	△	
	NTS IR–22 007 UN	7	22	1/2''	2.09	1.6	2.3	△	△	
	NTS IR–22 006 UN	6	22	1/2''	2.44	1.6	2.3	△	△	
	NTS IR–22 005 UN	5	22	1/2''	2.93	1.6	2.3	△	△	
	NTS IL–16 048 UN	48	16	3/8''	0.31	0.6	0.6	△	△	
	NTS IL–16 044 UN	44	16	3/8''	0.33	0.6	0.6	△	△	
	NTS IL–16 040 UN	40	16	3/8''	0.37	0.6	0.6	△	△	
	NTS IL–16 036 UN	36	16	3/8''	0.41	0.6	0.6	△	△	
	NTS IL–16 032 UN	32	16	3/8''	0.51	0.6	0.6	△	△	
	NTS IL–16 028 UN	28	16	3/8''	0.52	0.6	0.7	△	△	
	NTS IL–16 027 UN	27	16	3/8''	0.54	0.7	0.8	△	△	
	NTS IL–16 024 UN	24	16	3/8''	0.61	0.7	0.8	△	△	
	NTS IL–16 020 UN	20	16	3/8''	0.73	0.8	0.9	△	△	
	NTS IL–16 018 UN	18	16	3/8''	0.81	0.8	1.0	△	△	
	NTS IL–16 016 UN	16	16	3/8''	0.92	0.9	1.1	△	△	
	NTS IL–16 014 UN	14	16	3/8''	1.05	0.9	1.2	△	△	
	NTS IL–16 013 UN	13	16	3/8''	1.13	1.0	1.3	△	△	
	NTS IL–16 012 UN	12	16	3/8''	1.22	1.1	1.4	△	△	
	NTS IL–16 011 UN	11	16	3/8''	1.33	1.1	1.5	△	△	
	NTS IL–16 010 UN	10	16	3/8''	1.47	1.1	1.5	△	△	
	NTS IL–16 009 UN	9	16	3/8''	1.63	1.2	1.7	△	△	
	NTS IL–16 008 UN	8	16	3/8''	1.83	1.1	1.5	△	△	
	NTS IL–22 007 UN	7	22	1/2''	2.09	1.6	2.3	△	△	
	NTS IL–22 006 UN	6	22	1/2''	2.44	1.6	2.3	△	△	
	NTS IL–22 005 UN	5	22	1/2''	2.93	1.6	2.3	△	△	

Walter NTS threading inserts
Full profile, Whitworth 55° for BSW, BSP
External thread

NTS
BSW, BSP



nut



pin

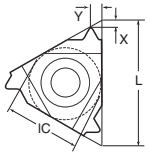
HC = Coated carbide



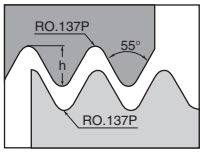
Designation	Lead T/inch	L mm	IC	h min mm	X mm	Y mm	HC WXP 20	HC WXM 20
NTS ER–16 048 W	48	16	3/8''	0.34	0.6	0.6	△	△
NTS ER–16 040 W	40	16	3/8''	0.41	0.6	0.6	△	△
NTS ER–16 036 W	36	16	3/8''	0.45	0.6	0.6	△	△
NTS ER–16 032 W	32	16	3/8''	0.51	0.6	0.6	△	△
NTS ER–16 028 W	28	16	3/8''	0.58	0.6	0.7	△	△
NTS ER–16 026 W	26	16	3/8''	0.63	0.7	0.8	△	△
NTS ER–16 024 W	24	16	3/8''	0.68	0.7	0.8	△	△
NTS ER–16 022 W	22	16	3/8''	0.74	0.8	0.9	△	△
NTS ER–16 020 W	20	16	3/8''	0.81	0.8	0.9	△	△
NTS ER–16 019 W	19	16	3/8''	0.86	0.8	1.0	△	△
NTS ER–16 018 W	18	16	3/8''	0.90	0.8	1.0	△	△
NTS ER–16 016 W	16	16	3/8''	1.02	0.9	1.1	△	△
NTS ER–16 014 W	14	16	3/8''	1.16	1.0	1.2	△	△
NTS ER–16 012 W	12	16	3/8''	1.36	1.1	1.4	△	△
NTS ER–16 011 W	11	16	3/8''	1.48	1.1	1.5	△	△
NTS ER–16 010 W	10	16	3/8''	1.63	1.1	1.5	△	△
NTS ER–16 009 W	9	16	3/8''	1.81	1.2	1.7	△	△
NTS ER–16 008 W	8	16	3/8''	2.03	1.2	1.5	△	△
NTS ER–22 007 W	7	22	1/2''	2.32	1.6	2.3	△	△
NTS ER–22 006 W	6	22	1/2''	2.71	1.6	2.3	△	△
NTS ER–22 005 W	5	22	1/2''	3.25	1.7	2.4	△	△
NTS EL–16 048 W	48	16	3/8''	0.34	0.6	0.6	△	△
NTS EL–16 040 W	40	16	3/8''	0.41	0.6	0.6	△	△
NTS EL–16 036 W	36	16	3/8''	0.45	0.6	0.6	△	△
NTS EL–16 032 W	32	16	3/8''	0.51	0.6	0.6	△	△
NTS EL–16 028 W	28	16	3/8''	0.58	0.6	0.7	△	△
NTS EL–16 026 W	26	16	3/8''	0.63	0.7	0.8	△	△
NTS EL–16 024 W	24	16	3/8''	0.68	0.7	0.8	△	△
NTS EL–16 022 W	22	16	3/8''	0.74	0.8	0.9	△	△
NTS EL–16 020 W	20	16	3/8''	0.81	0.8	0.9	△	△
NTS EL–16 019 W	19	16	3/8''	0.86	0.8	1.0	△	△
NTS EL–16 018 W	18	16	3/8''	0.90	0.8	1.0	△	△
NTS EL–16 016 W	16	16	3/8''	1.02	0.9	1.1	△	△
NTS EL–16 014 W	14	16	3/8''	1.16	1.0	1.2	△	△
NTS EL–16 012 W	12	16	3/8''	1.36	1.1	1.4	△	△
NTS EL–16 011 W	11	16	3/8''	1.48	1.1	1.5	△	△
NTS EL–16 010 W	10	16	3/8''	1.63	1.1	1.5	△	△
NTS EL–16 009 W	9	16	3/8''	1.81	1.2	1.7	△	△
NTS EL–16 008 W	8	16	3/8''	2.03	1.2	1.5	△	△
NTS EL–22 007 W	7	22	1/2''	2.32	1.6	2.3	△	△
NTS EL–22 006 W	6	22	1/2''	2.71	1.6	2.3	△	△
NTS EL–22 005 W	5	22	1/2''	3.25	1.7	2.4	△	△

Walter NTS threading inserts
Full profile, Whitworth 55° for BSW, BSP
Internal thread

NTS
BSW, BSP



nut



pin

HC = Coated carbide



Designation	Lead T/inch	L mm	IC	h min mm	X mm	Y mm	HC WXP 20	HC WXM 20
NTS IR–16 048 W	48	16	3/8''	0.34	0.6	0.6	△	△
NTS IR–16 040 W	40	16	3/8''	0.41	0.6	0.6	△	△
NTS IR–16 036 W	36	16	3/8''	0.45	0.6	0.6	△	△
NTS IR–16 032 W	32	16	3/8''	0.51	0.6	0.6	△	△
NTS IR–16 028 W	28	16	3/8''	0.58	0.6	0.7	△	△
NTS IR–16 026 W	26	16	3/8''	0.63	0.7	0.8	△	△
NTS IR–16 024 W	24	16	3/8''	0.68	0.7	0.8	△	△
NTS IR–16 022 W	22	16	3/8''	0.74	0.8	0.9	△	△
NTS IR–16 020 W	20	16	3/8''	0.81	0.8	0.9	△	△
NTS IR–16 019 W	19	16	3/8''	0.86	0.8	1.0	△	△
NTS IR–16 018 W	18	16	3/8''	0.90	0.8	1.0	△	△
NTS IR–16 016 W	16	16	3/8''	1.02	0.9	1.1	△	△
NTS IR–16 014 W	14	16	3/8''	1.16	1.0	1.2	△	△
NTS IR–16 012 W	12	16	3/8''	1.36	1.1	1.4	△	△
NTS IR–16 011 W	11	16	3/8''	1.48	1.1	1.5	△	△
NTS IR–16 010 W	10	16	3/8''	1.63	1.1	1.5	△	△
NTS IR–16 009 W	9	16	3/8''	1.81	1.2	1.7	△	△
NTS IR–16 008 W	8	16	3/8''	2.03	1.2	1.5	△	△
NTS IR–22 007 W	7	22	1/2''	2.32	1.6	2.3	△	△
NTS IR–22 006 W	6	22	1/2''	2.71	1.6	2.3	△	△
NTS IR–22 005 W	5	22	1/2''	3.25	1.7	2.4	△	△
NTS IL–16 048 W	48	16	3/8''	0.34	0.6	0.6	△	△
NTS IL–16 040 W	40	16	3/8''	0.41	0.6	0.6	△	△
NTS IL–16 036 W	36	16	3/8''	0.45	0.6	0.6	△	△
NTS IL–16 032 W	32	16	3/8''	0.51	0.6	0.6	△	△
NTS IL–16 028 W	28	16	3/8''	0.58	0.6	0.7	△	△
NTS IL–16 026 W	26	16	3/8''	0.63	0.7	0.8	△	△
NTS IL–16 024 W	24	16	3/8''	0.68	0.7	0.8	△	△
NTS IL–16 022 W	22	16	3/8''	0.74	0.8	0.9	△	△
NTS IL–16 020 W	20	16	3/8''	0.81	0.8	0.9	△	△
NTS IL–16 019 W	19	16	3/8''	0.86	0.8	1.0	△	△
NTS IL–16 018 W	18	16	3/8''	0.90	0.8	1.0	△	△
NTS IL–16 016 W	16	16	3/8''	1.02	0.9	1.1	△	△
NTS IL–16 014 W	14	16	3/8''	1.16	1.0	1.2	△	△
NTS IL–16 012 W	12	16	3/8''	1.36	1.1	1.4	△	△
NTS IL–16 011 W	11	16	3/8''	1.48	1.1	1.5	△	△
NTS IL–16 010 W	10	16	3/8''	1.63	1.1	1.5	△	△
NTS IL–16 009 W	9	16	3/8''	1.81	1.2	1.7	△	△
NTS IL–16 008 W	8	16	3/8''	2.03	1.2	1.5	△	△
NTS IL–22 007 W	7	22	1/2''	2.32	1.6	2.3	△	△
NTS IL–22 006 W	6	22	1/2''	2.71	1.6	2.3	△	△
NTS IL–22 005 W	5	22	1/2''	3.25	1.7	2.4	△	△

Cutting tool material application tables – turning

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45	Coating procedure	Coating structure
WPP 01	HC – P 01	●●							CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – K 10			●						
WPP 05	HC – P 05	●●							CVD	$TiCN + Al_2O_3$ (+TiN)
WPP 10	HC – P 10	●●							CVD	$TiCN + Al_2O_3$ (TiN)
	HC – K 20			●						
WPP 20	HC – P 20	●●							CVD	$TiCN + Al_2O_3$ (TiN)
	HC – K 30			●						
WPP 30	HC – P 30	●●							CVD	$TiCN + Al_2O_3$ (TiN)
WAM 10	HC – M 10		●●						CVD	$TiCN + Al_2O_3$ + HfN
	HC – P 20	●								
WAM 20	HC – M 20		●●						CVD	$TiCN + Al_2O_3$ + HfN
	HC – S 20					●				
WSM 20	HC – M 20		●●						PVD	TiAlN + Al_2O_3 (ZrCN)
	HC – S 20					●●				
	HC – P 20	●								
WSM 30	HC – M 30		●●						PVD	TiAlN + Al_2O_3 (ZrCN)
	HC – S 30					●●				
	HC – P 30	●								
WAK 10[NEW] **WAK 10**	HC – K 10			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – H 30						●			
WAK 20	HC – K 20			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – P 10	●								
WAK 30	HC – K 30			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – P 40	●								
WSN 10	CN – K 20			●●						
WXN 10	HC – N 10				●●				PVD	$TiCN^{plus}$
	HC – M 01		●							
WK 1	HW – N 10				●●					
	HW – S 10					●				
WCB 30	BL – H 05						●●			
WCB 50	BH – H 10						●●			
	BH – K 10			●						

Cutting tool material application tables – grooving and threading

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45	Coating procedure	Coating structure
WAP 20	HC – P 20	●●							CVD	$TiCN + Al_2O_3 + TiN$
	HC – K 30			●						
WAP 30	HC – P 30	●●							CVD	$TiCN + Al_2O_3 + TiN$
WPP 23	HC – P 20	●●							CVD	$TiCN + Al_2O_3 (+TiN)$
	HC – K 30			●						
WXP 43	HC – P 40	●●							PVD	Multilayer TiAlN / TiN
	HC – M 35		●							
WAM 20	HC – M 20		●●						CVD	$TiCN + Al_2O_3 + HfN$
	HC – S 20					●				
WXM 33	HC – M 35		●●						PVD	Multilayer TiAlN / TiN + ZrCN
	HC – P 40	●								
WAK 20	HC – K 20			●●					CVD	$TiCN + Al_2O_3 (+TiN)$
	HC – H 10						●			
WAK 30	HC – K 30			●●					CVD	$TiCN + Al_2O_3 (+TiN)$
	HC – P 40	●								
WK 1	HW – N 10				●●					
	HW – S 10					●				
WSM 33	HC – S 30					●●			PVD	$TiAlN + Al_2O_3 (ZrCN)$
	HC – M 30		●●							
	HC – P 35	●●								
WSP 43	HC – S 45					●●			PVD	$TiAlN + Al_2O_3 (ZrCN)$
	HC – P 45	●●								
	HC – M 45		●●							
WTA 33	HC – P 10	●●							CVD	$TiCN + Al_2O_3$
	HC – K 10			●						
WXP 20	HC – P 20	●●							PVD	TiN
	HC – K 20			●						
WXM 20	HC – M 20		●●						PVD	TiCN
	HC – N 20				●					

HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content
CN = Silicon nitride Si_3N_4

●● Primary application
● Additional application

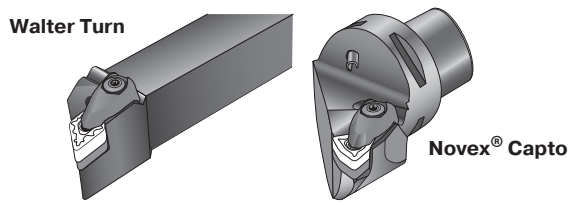
Tiger·tec®

Overview of Walter Turn product range

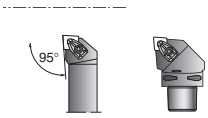
The pages indicated in brackets refer to the general catalogue.

Rigid-clamping system

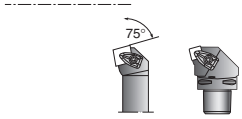
Negative basic shape



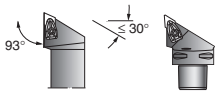
95° 80° **DCLN R/L** *(Page 74)*



75° **DSKN R/L** *(Page 86)*



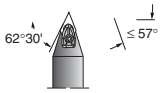
93° 55° **DDJN R/L** **Page 46** NEW



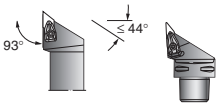
91° **DTGN R/L** *(Page 88)*



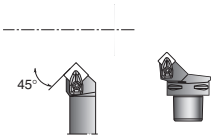
62°30' 55° **DDNN N** **Page 46** NEW



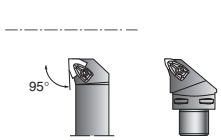
93° 35° **DVJN R/L** *(Page 91)*



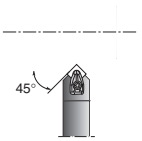
45° **DSSN R/L** *(Page 80)*



95° 80° **DWLN R/L** *(Page 92)*

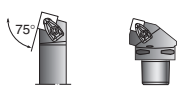


45° **DSDN N** *(Page 82)*



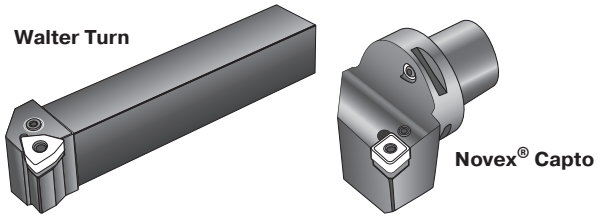
75° **DSBN R/L** *(Page 84)*

DSRN R/L *(Page 84)*

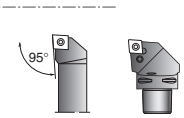


Lever-type clamping system

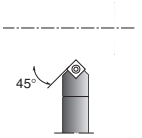
Negative basic shape



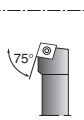
95° 80° **PCLN R/L** *(Page 75)*



45° **PSDN N** *(Page 83)*

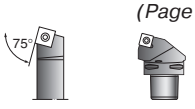


75° 80° **PCBN R/L** *(Page 76)*

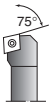


75° **PSBN R/L** *(Page 85)*

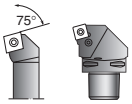
PSRN R/L *(Page 85)*



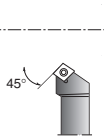
75° 80° **PCKN R/L** *(Page 77)*



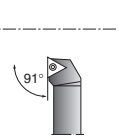
75° **PSKN R/L** *(Page 87)*



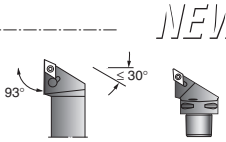
45° 80° **PCSN R/L** *(Page 77)*



91° **PTGN R/L** *(Page 89)*



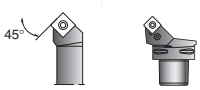
93° 55° **PDJN R/L** **Page 47** NEW



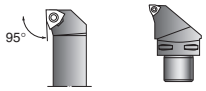
91° **PTFN R/L** *(Page 89)*



45° **PSSN R/L** *(Page 81)*



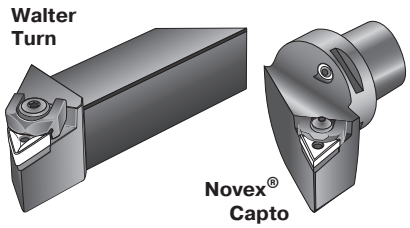
95° 80° **PWLN R/L** *(Page 93)*



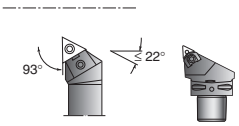
Toolholders for external turning

Wedge-type clamping system

Negative basic shape

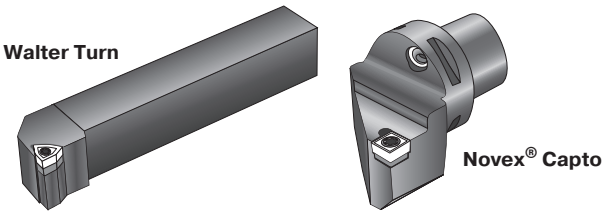


93° **MTJN R/L**
(Page 90)



Screw clamping system

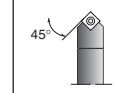
Positive basic shape



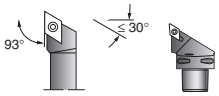
95° **SCLC R/L**
Pages 48–49



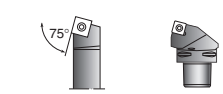
45° **SSDC N**
Page 56



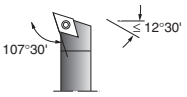
93° **SDJC R/L**
Pages 50–51



75° **SSBC R/L**
SSRC R/L
Pages 56–57



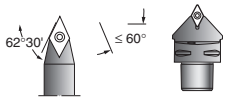
107°30' **SDHC R/L**
Page 50



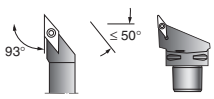
91° **STGC R/L**
Pages 58–59



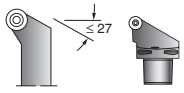
62°30' **SDNC N**
Pages 50–51



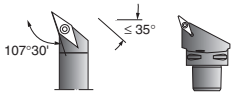
93° **SVJB R/L**
Pages 60–61
PVJB R/L*
(Page 105)



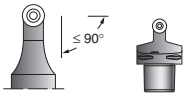
SRSC R/L
Pages 54–55
PRSC R/L*
(Page 101)



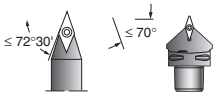
107°30' **SVHB R/L**
Pages 60–61
PVHB R/L*
(Page 104)



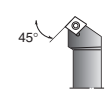
SRDC N
Pages 52–53
PRDC N*
(Page 101)



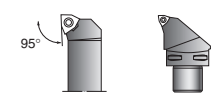
72°30' **SVVB N**
Pages 60–61
PVVB N*
(Page 106)



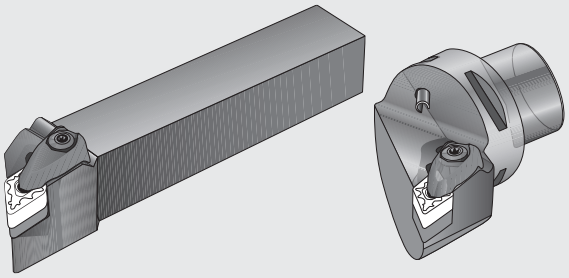
45° **SSDC R/L**
Page 56

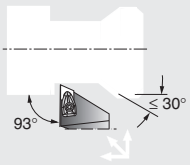


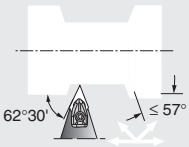
95° **SWLC R/L**
Pages 62–63



* with lever-type clamping system







DDJN / DDNN

Walter Turn
Novex® Capto

Tool

Designation		h = h_1 mm	b mm	dm mm	f mm	l_1 mm	l_2 mm	Type
κ = 93°								
DDJN R/L 2020 K11	11	20	20		25	125	30.0	DN . . 1104 . .
DDJN R/L 2525 M11	11	25	25		32	150	30.0	
DDJN R/L 3225 P11	11	32	25		32	170	30.0	
DDJN R/L 2020 K15	15	20	20		25	125	39.5	DN . . 1506 . .
DDJN R/L 2525 M15	15	25	25		32	150	39.5	
DDJN R/L 3225 P15	15	32	25		32	170	39.5	
DDJN R/L 3232 P15	15	32	32		40	170	39.5	
κ = 62.5°								
DDNN N 2020 K11	11	20	20		10.5	125	31.2	DN . . 1104 . .
DDNN N 2525 M11	11	25	25		13	150	31.2	
DDNN N 2525 M15	15	25	25		13	150	40.8	DN . . 1506 . .
DDNN N 3225 P15	15	32	25		13	170	40.8	
κ = 93°								
C4–DDJN R/L–27050–11	11			40	27	50		DN . . 1104 . .
C5–DDJN R/L–35060–11	11			50	35	60		
C6–DDJN R/L–45065–11	11			63	45	65		
C4–DDJN R/L–27055–15	15			40	27	55		DN . . 1506 . .
C5–DDJN R/L–35060–15	15			50	35	60		
C6–DDJN R/L–45065–15	15			63	45	65		

Measured with master insert DN . . 110408 / DN . . 150608. Toolholders sold as assembled units, including shim, shim screw and insert clamping element.

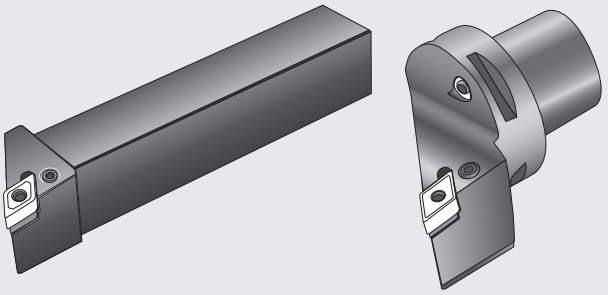
Assembly parts

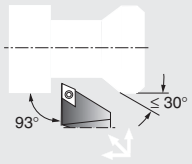
		11	15	
Shim		AP 305–DN11	AP 304–DN15 for DN . . 1506 . .	
Screw for shim		FS 1462 (Torx 9 IP)	FS 1461 (Torx 15 IP)	
Clamp		PK 240	PK 241	
Clamp screw		FS 1472 (Torx 9 IP)	FS 1473 (Torx 15 IP)	
Tightening torque		1.7 Nm	3.9 Nm	
Pressure spring		FS 1469	FS 1470	
Pin		RS 116	RS 117	
Coolant nozzle for Novex® Capto	C4	FS 1477	FS 1477	
	C5	FS 1476	FS 1475	
	C6	FS 1476	FS 1476	
Key (Torx)		FS 1466 (Torx 9 IP)	FS 1465 (Torx 15 IP)	*IP = Torx Plus*

Accessories

	11	15	
Shim for DN . . 1504 . .		AP 304–DN1504	
Clamp set (consisting of standard assembly parts)	PK 240–Set	PK 241–Set	
Clamp set with carbide clamping plate		PK 245–Set	

= **New addition to range**





PDJN

Walter Turn Novex® Capto

Tool

Designation		$h = h_1$ mm	b mm	dm mm	f mm	l_1 mm	l_2 mm	Type
PDJN R/L 1616 H11	11	16	16		20	100	28	DN . . 1104 . .
PDJN R/L 2020 K11	11	20	20		25	125	28	
PDJN R/L 2525 M11	11	25	25		32	150	28	
PDJN R/L 3225 P11	11	32	25		32	170	28	
PDJN R/L 2020 K15	15	20	20		25	125	36	DN . . 1506 . .
PDJN R/L 2525 M15	15	25	25		32	150	36	
PDJN R/L 3225 P15	15	32	25		32	170	36	
PDJN R/L 3232 P15	15	32	32		40	170	36	
C3–PDJN R/L–22045–11	11			32	22	45		DN . . 1104 . .
C4–PDJN R/L–27050–11	11			40	27	50		
C5–PDJN R/L–35060–11	11			50	35	60		
C6–PDJN R/L–45065–11	11			63	45	65		
C4–PDJN R/L–27050–15	15			40	27	50		DN . . 1506 . .
C5–PDJN R/L–35060–15	15			50	35	60		
C6–PDJN R/L–45065–15	15			63	45	65		

Measured with master insert DN . . 110408 / DN . . 150608.
Bodies and assembly parts are included in the scope of delivery.

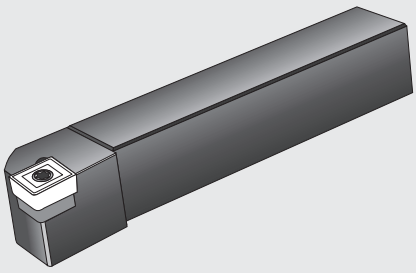
Assembly parts

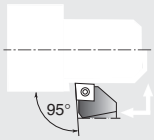
		11	15	
Shim		AP 171–DN1112 for r ≤ 1.2	AP 145–DN1516 for DN . . 1506 . . r ≤ 1.6	
Lever		KN 119	KN 103	
Clamping screw		FS 351 (SW 2.5)	FS 355 (SW 3)	
Pipe pin		RS 101	RS 102	
Assembly plug		MD 101	MD 101	
Coolant nozzle for Novex® Capto	C3	FS 1230	FS 1230	
	C4	FS 1018	FS 1018	
	C5	FS 1019	FS 1019	
	C6	FS 1019	FS 1019	

Accessories

	11	15	
Shim for DN . . 1104 . . r ≤ 0.8	AP 171–DN1108		
Shim for DN . . 1506 . . r ≤ 0.8		AP 145–DN1508	
Shim for DN . . 1504 . . r ≤ 0.8		AP 357–DN1508	
Shim for DN . . 1504 . . r ≤ 1.6		AP 357–DN1516	

= **New addition to range**





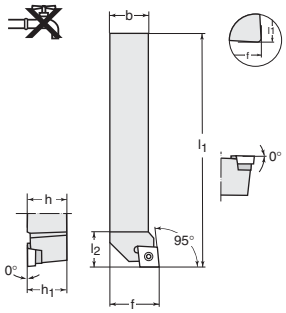
SCLC

Walter Turn

Tool

Designation		h = h_1 mm	b mm	f mm	l_1 mm	l_2 mm	Type
SCLC R/L 1010 E06	06	10	10	12	70	13	CC . . 0602 . .
SCLC R/L 1212 F06	06	12	12	16	80	10	
SCLC R/L 1616 H06	06	16	16	20	100	12	
SCLC R/L 2020 K06	06	20	20	25	125	12	
SCLC R/L 1212 F09	09	12	12	16	80	19.5	CC . . 09T3 . .
SCLC R/L 1616 H09	09	16	16	20	100	18	
SCLC R/L 2020 K09	09	20	20	25	125	18	
SCLC R/L 2525 M09	09	25	25	35	150	17	
SCLC R/L 2020 K12	12	20	20	25	125	25	CC . . 1204 . .
SCLC R/L 2525 M12	12	25	25	32	150	26	

κ = 95°



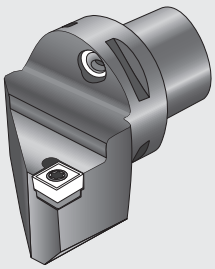
Measured with master insert CC . . 060204 / CC . . 09T308 / CC . . 120408.
Bodies and assembly parts are included in the scope of delivery.

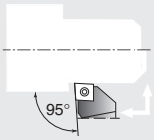
Assembly parts

	06	09 for h = 12 mm	09	12
Screw for insert	FS 2061 (Torx 7 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)	FS 2065 (Torx 15 IP)
Tightening torque	0.9 Nm	3.0 Nm	3.0 Nm	3.0 Nm
Shim			AP 313–CC0908	AP 314–CC1212
Screw for shim			FS 2068 (SW 3.5)	FS 2069 (SW 4)
Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3,5)	FS 1465 (Torx 15 IP / SW 3.5)	FS 1496 (Torx 15 IP / SW 4)

IP = Torx Plus

→ 19 → 80

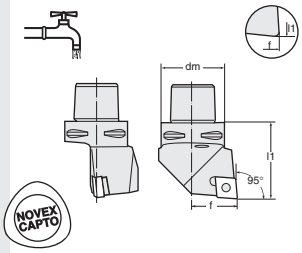




SCLC

Novex® Capto

Tool	Designation		d_m mm	f mm	l_1 mm			Type
κ = 95°	C3–SCLC R/L–22040–09	09	32	22	40			CC . . 09T3 . .
	C4–SCLC R/L–27050–09	09	40	27	50			
	C5–SCLC R/L–35060–09	09	50	35	60			
	C6–SCLC R/L–45065–09	09	63	45	65			
	C3–SCLC R/L–22040–12	12	32	22	40			CC . . 1204 . .
	C4–SCLC R/L–27050–12	12	40	27	50			
	C5–SCLC R/L–35060–12	12	50	35	60			
	C6–SCLC R/L–45065–12	12	63	45	65			



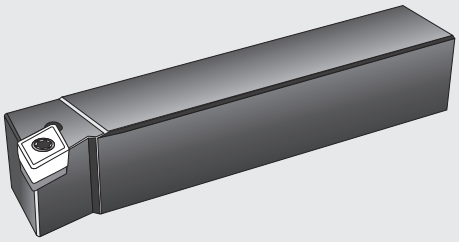
Inclination angle of fitted indexable insert in axial and radial direction = 0°.

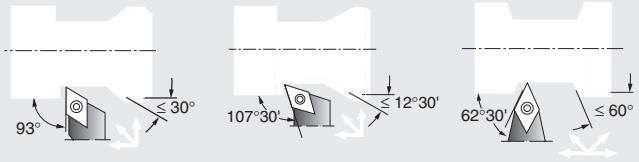
Measured with master insert CC . . 09T308 / CC . . 120408.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts			09	12	
	Screw for insert		FS 2060 (Torx 15 IP)	FS 2065 (Torx 15 IP)	
	Tightening torque		3.0 Nm	3.0 Nm	
	Shim		AP 313–CC0908	AP 314–CC1212	
	Screw for shim		FS 2068 (SW 3.5)	FS 2069 (SW 4)	
	Torx key		FS 1465 (Torx 15 IP / SW 3.5)	FS 1496 (Torx 15 IP / SW 4)	
	Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	
		C4	FS 1477	FS 1477	
		C5	FS 1476	FS 1476	
		C6	FS 1476	FS 1476	

IP = Torx Plus

→ 19 → 80





SDJC
SDHC
SDNC

Walter Turn

Tool	Designation		$h = h_1$ mm	b mm	f mm	l_1 mm	l_2 mm	Type
κ = 93°	SDJC R/L 1010 E07	07	10	10	12	70	17	DC . . 0702 . .
	SDJC R/L 1212 F07	07	12	12	16	80	19	
	SDJC R/L 1616 H11	11	16	16	20	100	24	DC . . 11T3 .
	SDJC R/L 2020 K11	11	20	20	25	125	24	
	SDJC R/L 2525 M11	11	25	25	32	150	28	
κ = 107°30'	SDHC R/L 1212 F07	07	12	12	16	80	13	DC . . 0702 . .
	SDHC R/L 1616 H11	11	16	16	20	100	17	DC . . 11T3 .
	SDHC R/L 2020 K11	11	20	20	25	125	17	
	SDHC R/L 2525 M11	11	25	25	32	150	19	
κ = 62° 30'	SDNC N 1010 E07	07	10	10	5	70	15	DC . . 0702 . .
	SDNC N 1212 F07	07	12	12	6	80	15	
	SDNC N 1616 H11	11	16	16	8	100	25	DC . . 11T3 .
	SDNC N 2020 K11	11	20	20	10	125	25	
	SDNC N 2525 M11	11	25	25	12.5	150	25	

Measured with master insert DC . . 070204 / DC . . 11T308.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

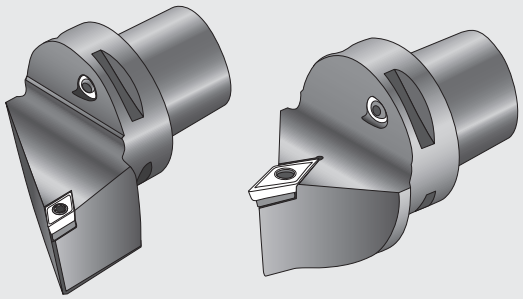
	07	11	
Screw for insert	FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
Tightening torque	0.9 Nm	3.0 Nm	
Shim		AP 315–DC1108	
Screw for shim		FS 2068 (SW 3.5)	
Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3,5)	

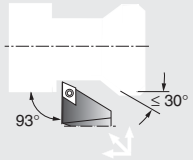
IP = Torx Plus

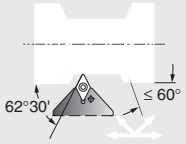
Accessories

	11	
Shim for R ≥ 1.2	AP 329–DC1112	

→ 21 → 80







SDJC
SDNC

Novex® Capto

Tool

	Designation		d_m mm	f mm	l_1 mm			Type
κ = 93°	C3–SDJC R/L–22040–07	07	32	22	40			DC . . 0702 . .
	C4–SDJC R/L–27050–07	07	40	27	50			
	C3–SDJC R/L–22040–11	11	32	22	40			DC . . 11T3 . .
	C4–SDJC R/L–27050–11	11	40	27	50			
	C5–SDJC R/L–35060–11	11	50	35	60			
	C6–SDJC R/L–45065–11	11	63	45	65			
κ = 63°	C3–SDNC N–00040–11	11	32	0.5	40			DC . . 11T3 .
	C4–SDNC N–00050–11	11	40	0.5	50			
	C5–SDNC N–00060–11	11	50	0.5	60			

Inclination angle of fitted indexable insert in axial and radial direction = 0°.

Measured with master insert DC . . 070204 / DC . . 11T308.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

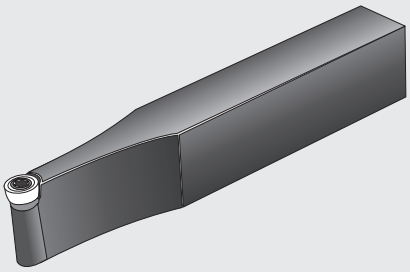
		–07–	–11–	
Screw for insert		FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
Tightening torque		0.9 Nm	3.0 Nm	
Shim			AP 315–DC1108	
Screw for shim			FS 2068 (SW 3.5)	
Torx key		FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	
Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	
	C4	FS 1477	FS 1477	
	C5	FS 1476	FS 1476	
	C6	FS 1476	FS 1476	

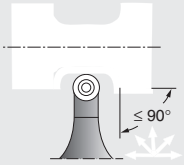
IP = Torx Plus

Accessories

		–11–	
Shim for R ≥ 1.2		AP 329–DC1112	

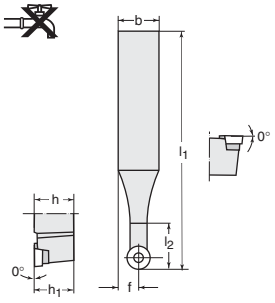
→ 21 → 80



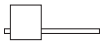


SRDC

Walter Turn

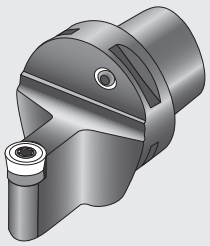
Tool	Designation		h = h_1 mm	b mm	f mm	l_1 mm	l_2 mm	Type
	SRDC N 1212 F06	06	12	12	6	80	12	RC . T 0602M0
	SRDC N 2020 K06	06	20	20	10	125	24	
	SRDC N 2525 M06	06	25	25	12.5	150	25	
	SRDC N 1616 H08	08	16	16	8	100	16	RC . T 0803M0
	SRDC N 2020 K08	08	20	20	10	125	24	
	SRDC N 2525 M08	08	25	25	12.5	150	25	
	SRDC N 2020 K10	10	20	20	10	125	25	RC . T 10T3M0
	SRDC N 2525 M10	10	25	25	12.5	150	25	
	SRDC N 2020 K12	12	20	20	10	125	28	RC . T 1204M0
	SRDC N 2525 M12	12	25	25	12.5	150	28	
	SRDC N 3225 P12	12	32	25	12.5	170	28	
	SRDC N 3225 P16	16	32	25	12.5	170	35	RC . T 1606M0
	SRDC N 3225 P20	20	32	25	12.5	170	40	RC . T 2006M0

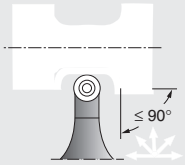
Measured with master insert RC . T 0602M0 / RC . T 0803M0 / RC . T 10T3M0 / RC . T 1204M0 / RC . T 1606M0 / RC . T 2006M0.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts		06	08	10	12	16	20
	Screw for insert	FS 2061 (Torx 7 IP)	FS 1462 (Torx 9 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)	FS 2090 (Torx 20 IP)	FS 2089 (Torx 25 IP)
	Tightening torque	0.9 Nm	0.9 Nm	3.0 Nm	3.0 Nm	6.4 Nm	9.5 Nm
	Shim			AP 324–RC10T3	AP 325–RC1204	AP 326–RC1606	AP 327–RC2006
	Screw for shim			FS 2068 (SW 3.5)	FS 2068 (SW 3.5)	FS 2091 (SW 5.0)	FS 2092 (SW 6.0)
	Torx key	FS 1490 (Torx 7 IP)	FS 1466 (Torx 9 IP)	FS 1465 (T. 15IP/SW 3.5)	FS 1465 (T. 15IP/SW 3.5)	FS 1464 (Torx 20 IP)	FS 1592 (Torx 25 IP)

IP = Torx Plus

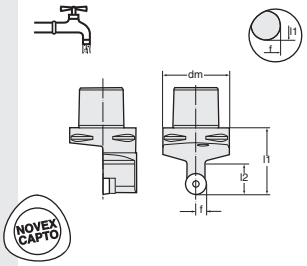
→ 23 → 80





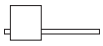
SRDC

Novex® Capto

Tool	Designation		d_m mm	f mm	l_1 mm	l_2 mm		Type
	C3–SRDC N–00040–06	06	32	3	40	12		RC . T 0602M0
	C4–SRDC N–00050–06	06	40	3	50	12		
	C5–SRDC N–00060–06	06	50	3	60	12		
	C3–SRDC N–00040–08	08	32	4	40	16		RC . T 0803M0
	C4–SRDC N–00050–08	08	40	4	50	16		
	C5–SRDC N–00060–08	08	50	4	60	16		
	C3–SRDC N–00040–10	10	32	5	40	20		RC . T 10T3M0
	C4–SRDC N–00050–10	10	40	5	50	25		
	C5–SRDC N–00060–10	10	50	5	60	25		
	C6–SRDC N–00065–10	10	63	5	65	25		
	C4–SRDC N–00050–12	12	40	6	50	28		RC . T 1204M0
	C5–SRDC N–00060–12	12	50	6	60	28		
	C6–SRDC N–00065–12	12	63	6	65	28		
	C5–SRDC N–00060–16	16	50	8	60	35		RC . T 1606M0
	C6–SRDC N–00065–16	16	63	8	65	35		
	C5–SRDC N–00060–20	20	50	10	60	40		RC . T 2006M0
	C6–SRDC N–00065–20	20	63	10	65	40		

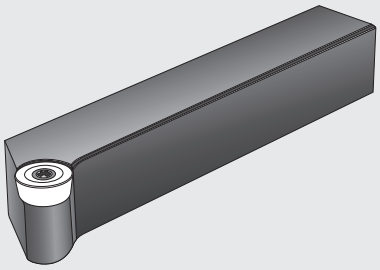
Inclination angle of fitted indexable insert in axial and radial direction = 0°.

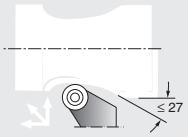
Measured with master insert RC . T 0602M0 / RC . T 0803M0 / RC . T 10T3M0 / RC . T 1204M0 / RC . T 1606M0 / RC . T 2006M0.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts			06	08	10	12	16	20
	Screw for insert		FS 2061 (Torx 7 IP)	FS 1462 (Torx 9 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)	FS 2090 (Torx 20 IP)	FS 2089 (Torx 25 IP)
	Tightening torque		0.9 Nm	0.9 Nm	3.0 Nm	3.0 Nm	6.4 Nm	9.5 Nm
	Shim				AP 324–RC10T3	AP 325–RC1204	AP 326–RC1606	AP 327–RC2006
	Screw for shim				FS 2068 (SW 3.5)	FS 2068 (SW 3.5)	FS 2091 (SW 5.0)	FS 2092 (SW 6.0)
	Torx key		FS 1490 (Torx 7 IP)	FS 1466 (Torx 9 IP)	FS 1465 (T. 15IP/SW 3.5)	FS 1465 (T. 15IP/SW 3.5)	FS 1464 (Torx 20 IP)	FS 1592 (Torx 25 IP)
	Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	FS 1477	FS 1477	FS 1477	FS 1477
		C4	FS 1477	FS 1477	FS 1477	FS 1477	FS 1477	FS 1477
		C5	FS 1476	FS 1476	FS 1476	FS 1476	FS 1476	FS 1476
		C6	FS 1476	FS 1476	FS 1476	FS 1476	FS 1476	FS 1476

IP = Torx Plus

→ 23 | → 80





SRSC

Walter Turn

Tool

Designation		h = h_1 mm	b mm	f mm	l_1 mm	l_2 mm	Type
SRSC R/L 2020 K06	06	20	20	25	125	20	RC . T 0602M0
SRSC R/L 2525 M06	06	25	25	32	150	20	
SRSC R/L 2020 K08	08	20	20	25	125	20	RC . T 0803M0
SRSC R/L 2525 M08	08	25	25	32	150	20	
SRSC R/L 2020 K10	10	20	20	25	125	20	RC . T 10T3M0
SRSC R/L 2525 M10	10	25	25	32	150	20	
SRSC R/L 2020 K12	12	20	20	25	125	22	RC . T 1204M0
SRSC R/L 2525 M12	12	25	25	32	150	22	
SRSC R/L 3225 P12	12	32	25	32	170	22	
SRSC R/L 3225 P16	16	32	25	32	170	28	RC . T 1606M0
SRSC R/L 3232 P20	20	32	32	32	170	32	RC . T 2006M0

Measured with master insert RC . T 0602M0 / RC . T 0803M0 / RC . T 10T3M0 / RC . T 1204M0 / RC . T 1606M0 / RC . T 2006M0.

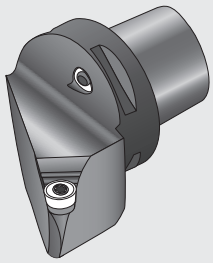
Bodies and assembly parts are included in the scope of delivery.

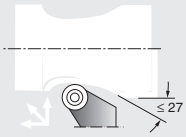
Assembly parts

	06	08	10	12	16	20
Screw for insert	FS 2061 (Torx 7 IP)	FS 1462 (Torx 9 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)	FS 2090 (Torx 20 IP)	FS 2089 (Torx 25 IP)
Tightening torque	0.9 Nm	0.9 Nm	3.0 Nm	3.0 Nm	6.4 Nm	9.5 Nm
Shim			AP 324–RC10T3	AP 325–RC1204	AP 326–RC1606	AP 327–RC2006
Screw for shim			FS 2068 (SW 3.5)	FS 2068 (SW 3.5)	FS 2091 (SW 5.0)	FS 2092 (SW 6.0)
Torx key	FS 1490 (Torx 7 IP)	FS 1466 (Torx 9 IP)	FS 1465 (T. 15IP/SW 3.5)	FS 1465 (T. 15IP/SW 3.5)	FS 1464 (Torx 20 IP)	FS 1592 (Torx 25 IP)

IP = Torx Plus

→ 23 → 80





SRSC

Novex® Capto

Tool

Designation		d_m mm	f mm	l_1 mm			Type
C3–SRSC R/L–22040–06	06	32	22	40			RC . T 0602M0
C4–SRSC R/L–27050–06	06	40	27	50			
C5–SRSC R/L–35060–06	06	50	35	60			
C3–SRSC R/L–22040–08	08	32	22	40			RC . T 0803M0
C4–SRSC R/L–27050–08	08	40	27	50			
C5–SRSC R/L–35060–08	08	50	35	60			
C3–SRSC R/L–22040–10	10	32	22	40			RC . T 10T3M0
C4–SRSC R/L–27050–10	10	40	27	50			
C5–SRSC R/L–35060–10	10	50	35	60			
C6–SRSC R/L–45065–10	10	63	45	65			
C4–SRSC R/L–27050–12	12	40	27	50			RC . T 1204M0
C5–SRSC R/L–35060–12	12	50	35	60			
C6–SRSC R/L–45065–12	12	63	45	65			
C5–SRSC R/L–35060–16	16	50	35	60			RC . T 1606M0
C6–SRSC R/L–45065–16	16	63	45	65			
C5–SRSC R/L–35060–20	20	50	35	60			RC . T 2006M0
C6–SRSC R/L–45065–20	20	63	45	65			

Inclination angle of fitted indexable insert in axial and radial direction = 0°.

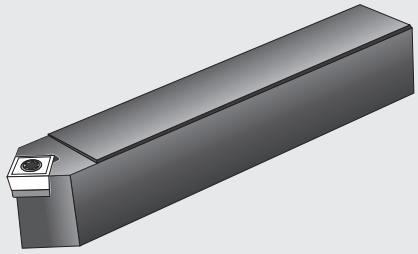
Measured with master insert RC . T 0602M0 / RC . T 0803M0 / RC . T 10T3M0 / RC . T 1204M0 / RC . T 1606M0 / RC . T 2006M0 / RC . T 2507M0.
Bodies and assembly parts are included in the scope of delivery.

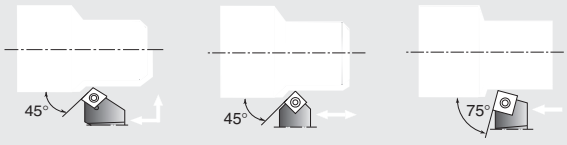
Assembly parts

			06	08	10	12	16	20
Screw for insert			FS 2061 (Torx 7 IP)	FS 1462 (Torx 9 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)	FS 2090 (Torx 20 IP)	FS 2089 (Torx 25 IP)
Tightening torque			0.9 Nm	0.9 Nm	3.0 Nm	3.0 Nm	6.4 Nm	9.5 Nm
Shim					AP 324–RC10T3	AP 325–RC1204	AP 326–RC1606	AP 327–RC2006
Screw for shim					FS 2068 (SW 3.5)	FS 2068 (SW 3.5)	FS 2091 (SW 5.0)	FS 2092 (SW 6.0)
Torx key			FS 1490 (Torx 7 IP)	FS 1466 (Torx 9 IP)	FS 1465 (T. 15IP/SW 3.5)	FS 1465 (T. 15IP/SW 3.5)	FS 1464 (Torx 20 IP)	FS 1592 (Torx 25 IP)
Coolant nozzle for Novex® Capto	C3		FS 1477	FS 1477	FS 1477	FS 1477	FS 1477	FS 1477
	C4		FS 1477	FS 1477	FS 1477	FS 1477	FS 1477	FS 1477
	C5		FS 1476	FS 1476	FS 1476	FS 1476	FS 1476	FS 1476
	C6		FS 1476	FS 1476	FS 1476	FS 1476	FS 1476	FS 1476

IP = Torx Plus

→ 23 | → 80





SSDC
SSBC

Walter Turn

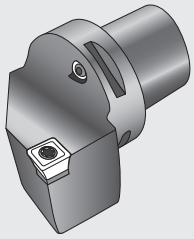
Tool	Designation		$h = h_1$ mm	b mm	f mm	f_1 mm	l_1 mm	l_2 mm	Type
κ = 45°	SSDC R/L 1616 H09	09	16	16	17	11	100	9	SC . . 09T3 . .
	SSDC R/L 2020 K09	09	20	20	22	16	125	13	
	SSDC R/L 2020 K12	12	20	20	22	14	125	16	SC . . 1204 . .
	SSDC R/L 2525 M12	12	25	25	27	19	150	16	
κ = 45°	SSDC N 1212 F09	09	12	12	6		80	16	SC . . 09T3 . .
	SSDC N 1616 H09	09	16	16	8		100	16	
	SSDC N 2020 K12	12	20	20	10		125	22	SC . . 1204 . .
	SSDC N 2525 M12	12	25	25	12.5		150	22	
κ = 75°	SSRC R/L 1212 F09	09	12	12	12.5		80	14	SC . . 09T3 . .
	SSBC R/L 1616 H09	09	16	16	13		100	15.5	
	SSBC R/L 2020 K12	12	20	20	17		125	21	SC . . 1204 . .
	SSBC R/L 2525 M12	12	25	25	22		150	24	

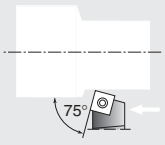
Measured with master insert SC . . 09T308 / SC . . 120408.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts		09	09 for h = 12 mm	12
	Screw for insert	FS 2060 (Torx 15 IP)	FS 2063 (Torx 15 IP)	FS 2065 (Torx 15 IP)
	Tightening torque	3.0 Nm	3.0 Nm	3.0 Nm
	Shim	AP 328–SC0908		AP 319–SC1212
	Screw for shim	FS 2068 (SW 3.5)		FS 2069 (SW 4)
	Torx key	FS 1465 (Torx 15 IP / SW 3,5)	FS 1465 (Torx 15 IP / SW 3.5)	FS 1496 (Torx 15 IP / SW 4)

IP = Torx Plus

→ 24 → 80





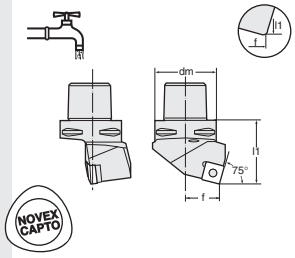
SSRC

Novex® Capto

Tool

Designation	◎	d_m mm	f mm	l_1 mm				Type
C3–SSRC R/L–17040–09	09	32	17	40				SC . . 09T3 . .
C4–SSRC R/L–22050–12	12	40	22	50				SC . . 1204 . .
C5–SSRC R/L–27060–12	12	50	27	60				

κ = 75°



Inclination angle of fitted indexable insert in axial and radial direction = 0°.

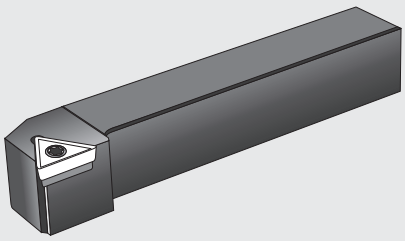
Measured with master insert SC . . 09T308 / SC . . 120408.
Bodies and assembly parts are included in the scope of delivery.

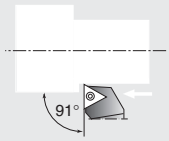
Assembly parts

			◎ 09	◎ 12	
	Screw for insert		FS 2060 (Torx 15 IP)	FS 2065 (Torx 15 IP)	
	Tightening torque		3.0 Nm	3.0 Nm	
	Shim		AP 328–SC0908	AP 319–SC1212	
	Screw for shim		FS 2068 (SW 3.5)	FS 2069 (SW 4)	
	Torx key		FS 1465 (Torx 15 IP / SW 3.5)	FS 1496 (Torx 15 IP / SW 4)	
	Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	
		C4	FS 1477	FS 1477	
		C5	FS 1476	FS 1476	
		C6	FS 1476	FS 1476	

IP = Torx Plus

→ 24 → 80



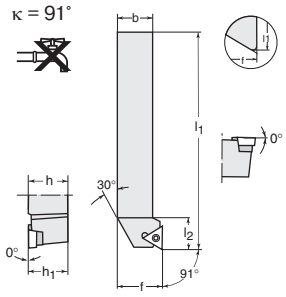


STGC

Walter Turn

Tool

Designation		$h = h_1$ mm	b mm	f mm	l_1 mm	l_2 mm	Type
STGC R/L 1212 F11	11	12	12	16	80	13	TC . . 1102 . .
STGC R/L 1616 H16	16	16	16	20	100	25	
STGC R/L 2020 K16	16	20	20	25	125	26	TC . . 16T3 . .
STGC R/L 2525 M16	16	25	25	32	150	27	

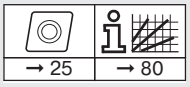


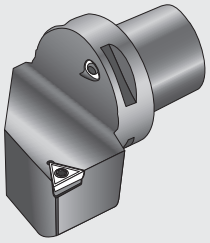
Measured with master insert TC . . 110204 / TC . . 16T308.
Bodies and assembly parts are included in the scope of delivery.

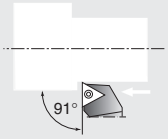
Assembly parts

	11	16	
Screw for insert	FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
Tightening torque	0.9 Nm	3.0 Nm	
Shim		AP 317–TC1612	
Screw for shim		FS 2068 (SW 3.5)	
Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	

IP = Torx Plus



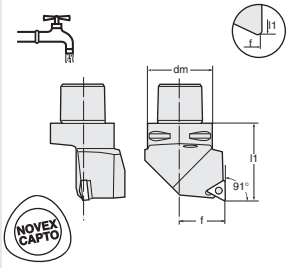




STGC

Novex® Capto

Tool	Designation	⟷	d_m mm	f mm	l_1 mm			Type
κ = 91°	C3–STGC R/L–22040–11	11	32	22	40			TC . . 1102 . .
	C4–STGC R/L–27050–11	11	40	27	50			
	C3–STGC R/L–22040–16	16	32	22	40			TC . . 16T3 . .
	C4–STGC R/L–27050–16	16	40	27	50			
	C5–STGC R/L–35060–16	16	50	35	60			
	C6–STGC R/L–45065–16	16	63	45	65			



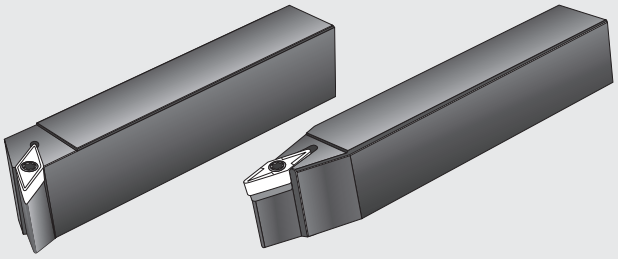
Inclination angle of fitted indexable insert in axial and radial direction = 0°.

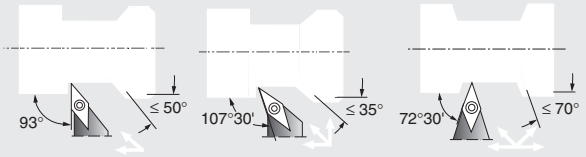
Measured with master insert TC . . 16T308 / TC . . 110204.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts			⟷11⟷	⟷16⟷	
	Screw for insert		FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
	Tightening torque		0.9 Nm	3.0 Nm	
	Shim			AP 317–TC1612	
	Screw for shim			FS 2068 (SW 3.5)	
	Torx key		FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	
	Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	
		C4	FS 1477	FS 1477	
		C5	FS 1476	FS 1476	
		C6	FS 1476	FS 1476	

IP = Torx Plus

→ 25 | → 80





SVJB
SVHB
SVVB

Walter Turn

Tool	Designation		$h = h_1$ mm	b mm	f mm	l_1 mm	l_2 mm	Type
κ = 93°	SVJB R/L 1212 F11	11	12	12	16	80	27	VB . . 1103 . . VC . . 1103 . .
	SVJB R/L 1616 H11	11	16	16	20	100	27	
	SVJB R/L 2020 K11	11	20	20	25	125	27	
	SVJB R/L 2525 M11	11	25	25	32	150	27	
	SVJB R/L 1616 H16	16	16	16	20	100	30	VB . . 1604 . . VC . . 1604 . .
	SVJB R/L 2020 K16	16	20	20	25	125	31.5	
	SVJB R/L 2525 M16	16	25	25	32	150	31.5	
	SVJB R/L 3225 P16	16	32	25	32	170	31.5	
κ = 107°30'	SVHB R/L 1616 H11	11	16	16	20	100	18	VB . . 1103 . . VC . . 1103 . .
	SVHB R/L 2020 K11	11	20	20	25	125	19	
	SVHB R/L 2525 M11	11	25	25	32	150	25	
	SVHB R/L 2020 K16	16	20	20	25	125	31.5	VB . . 1604 . . VC . . 1604 . .
	SVHB R/L 2525 M16	16	25	25	32	150	31.5	
	SVHB R/L 3225 P16	16	32	25	32	170	31.5	
κ = 72°30'	SVVB N 1212 F11	11	12	12	6	80	27	VB . . 1103 . . VC . . 1103 . .
	SVVB N 1616 H11	11	16	16	8	100	27	
	SVVB N 2020 K11	11	20	20	10	125	27	
	SVVB N 2525 M11	11	25	25	12.5	150	40	
	SVVB N 2020 K16	16	20	20	10	125	31.5	VB . . 1604 . . VC . . 1604 . .
	SVVB N 2525 M16	16	25	25	12.5	150	31.5	
	SVVB N 3225 P16	16	32	25	12.5	170	31.5	

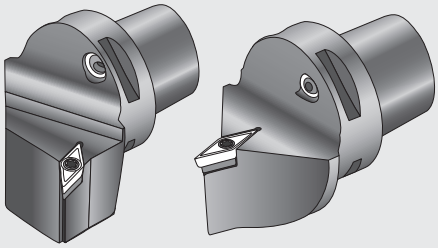
Measured with master insert VB . . 160408. Toolholders sold as assembled units, including shim, shim screw and insert clamping element.

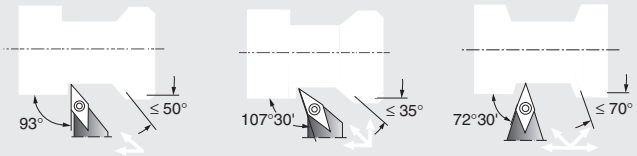
Assembly parts		11	16 for h = 16 mm	16
	Screw for insert	FS 2061 (Torx 7 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)
	Tightening torque	0.9 Nm	3.0 Nm	3.0 Nm
	Shim			AP 316–VB1608
	Screw for shim			FS 2068 (SW 3.5)
	Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	FS 1465 (Torx 15 IP / SW 3.5)

IP = Torx Plus

Accessories				16
	Shim for R ≥ 1.2			AP 330–VB1612

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SVJB
SVHB
SVVB

Novex® Capto

Tool

	Designation		d_m mm	f mm	l_1 mm			Type
κ = 93°	C3–SVJB R/L–22040–11	11	32	22	40			VB . . 1103 . . VC . . 1103 . .
	C4–SVJB R/L–27050–11	11	40	27	50			
	C4–SVJB R/L–27050–16	16	40	27	50			VB . . 1604 . . VC . . 1604 . .
	C5–SVJB R/L–35060–16	16	50	35	60			
	C6–SVJB R/L–45065–16	16	63	45	65			
κ = 107°30'	C3–SVHB R/L–22040–11	11	32	22	40			VB . . 1103 . . VC . . 1103 . .
	C4–SVHB R/L–27050–11	11	40	27	50			
	C4–SVHB R/L–27050–16	16	40	27	50			VB . . 1604 . . VC . . 1604 . .
	C5–SVHB R/L–35060–16	16	50	35	60			
	C6–SVHB R/L–45065–16	16	63	45	65			
κ = 72°30'	C3–SVVB N–00040–11	11	32	0.3	40			VB . . 1103 . . VC . . 1103 . .
	C4–SVVB N–00050–11	11	40	0.3	50			
	C4–SVVB N–00050–16	16	40	0.6	50			VB . . 1604 . . VC . . 1604 . .
	C5–SVVB N–00060–16	16	50	0.6	60			
	C6–SVVB N–00065–16	16	63	0.6	65			

Inclination angle of fitted indexable insert in axial and radial direction = 0°.
Measured with master insert VB . . 110304 / VB . . 160408.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

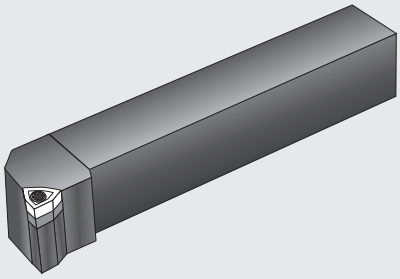
			11	16	
	Screw for insert		FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
	Tightening torque		0.9 Nm	3.0 Nm	
	Shim			AP 316–VB1608	
	Screw for shim			FS 2068 (SW 3.5)	
	Torx key		FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	
	Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	
		C4	FS 1477	FS 1477	
		C5	FS 1476	FS 1476	
		C6	FS 1476	FS 1476	

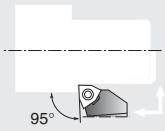
IP = Torx Plus

Accessories

			16	
	Shim for R ≥ 1.2		AP 330–VB1612	

→ 26 | → 80



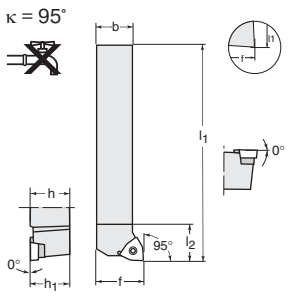


SWLC

Walter Turn

Tool

Designation		h = h_1 mm	b mm	f mm	l_1 mm	l_2 mm	Type
SWLC R/L 1212 F04	04	12	12	16	80	11	WC . . 0402 . .
SWLC R/L 1616 H04	04	16	16	20	100	11	
SWLC R/L 2020 K04	04	20	20	25	125	12	
SWLC R/L 1616 H06	06	16	16	20	100	15	WC . . 06T3 . .
SWLC R/L 2020 K06	06	20	20	25	125	15	
SWLC R/L 2525 M06	06	25	25	32	150	17	
SWLC R/L 2020 K08	08	20	20	25	125	20	WC . . 0804 . .
SWLC R/L 2525 M08	08	25	25	32	150	21	



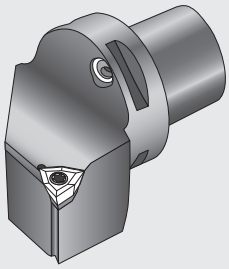
Measured with master insert WC . . 040204 / WC . . 06T308 / WC . . 080408.
Bodies and assembly parts are included in the scope of delivery.

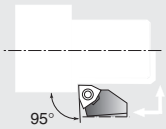
Assembly parts

	04	06	08
Screw for insert	FS 2064 (Torx 7 IP)	FS 2063 (Torx 15 IP)	FS 2065 (Torx 15 IP)
Tightening torque	0.9 Nm	3.0 Nm	3.0 Nm
Shim		AP 318–WC0608	AP 320–WC0812
Screw for shim		FS 2068 (SW 3.5)	FFS 2069 (SW 4)
Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	FS 1496 (Torx 15 IP / SW 4)

IP = Torx Plus

→ 27 → 80





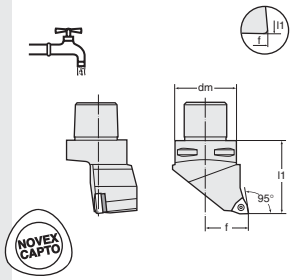
SWLC

Novex® Capto

Tool

Designation		d_m mm	f mm	l_1 mm			Type
C3–SWLC R/L–22040–06	06	32	22	40			WC . . 06T3 . .
C4–SWLC R/L–27050–06	06	40	27	50			
C5–SWLC R/L–35060–06	06	50	35	60			
C5–SWLC R/L–35060–08	08	50	35	60			WC . . 0804 . .
C6–SWLC R/L–45065–08	08	63	45	65			

κ = 95°



Inclination angle of fitted indexable insert in axial and radial direction = 0°.

Measured with master insert WC . . 06T308 / WC . . 080408.
Bodies and assembly parts are included in the scope of delivery.

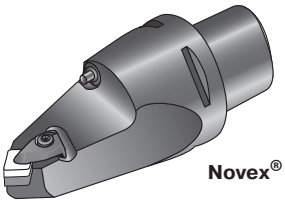
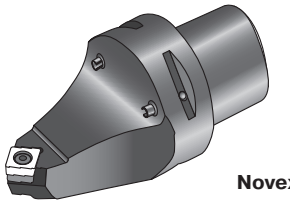
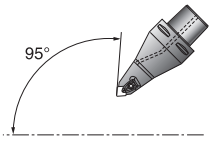
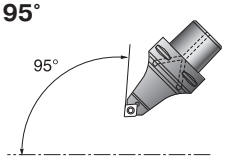
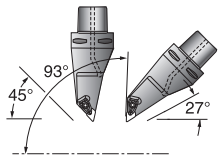
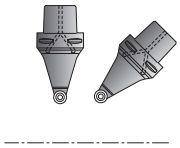
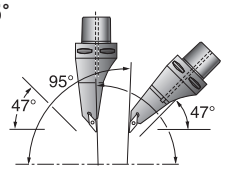
Assembly parts

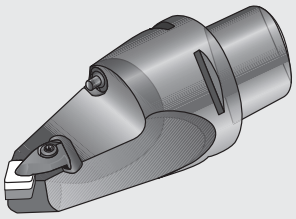
			06	08	
	Screw for insert		FS 2063 (Torx 15 IP)	FS 2065 (Torx 15 IP)	
	Tightening torque		3.0 Nm	3.0 Nm	
	Shim		AP 318–WC0608	AP 320–WC0812	
	Screw for shim		FS 2068 (SW 3.5)	FFS 2069 (SW 4)	
	Torx key		FS 1465 (Torx 15 IP / SW 3.5)	FS 1496 (Torx 15 IP / SW 4)	
	Coolant nozzle for Novex® Capto	C3	FS 1477	FS 1477	
		C4	FS 1477	FS 1477	
		C5	FS 1476	FS 1476	
		C6	FS 1476	FS 1476	

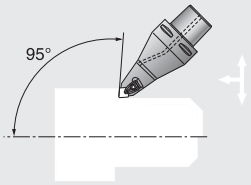
IP = Torx Plus

→ 27 → 80

Product range overview for Walter Turn 45°
Toolholders for turning/milling centres

Rigid-clamping system	Screw clamping system
Negative basic shape	**Positive basic shape**
 Novex® Capto	 Novex® Capto
95°   **DCMN N** **Page 65**	**95°**   **SCMC N** **Page 67**
93°   **DDMN L** **Page 66**	  **SRDC N** **Page 68**
	95°   **SVMB L** **Page 69**



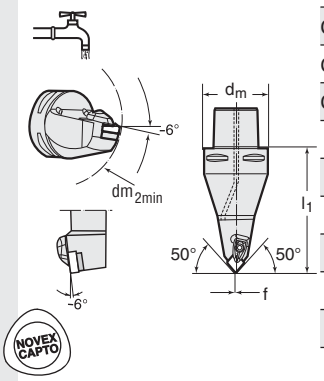


DCMN

Novex® Capto

Tool

Designation		dm mm	f mm	l_1 mm	$dm_{2\,min}$ mm	Type
C5–DCMN N–00105–12	12	50	0	105	110	
C6–DCMN N–00090–12	12	63	0	90	110	CN . . 1204 . .
C6–DCMN N–00115–12	12	63	0	115	110	
C6–DCMN N–00090–16	16	63	0	90	110	CN . . 1606 . .



Measured with master insert CN . . 120408 / CN . . 160612.
Toolholders sold as assembled units, including shim, shim screw and insert clamping element.

Assembly parts

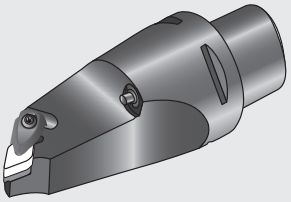
	12	16	
Shim	AP 301–CN12	AP 302–CN16	
Screw for shim	FS 1461 (Torx 15 IP)	FS 1463 (Torx 20 IP)	
Clamp	PK 241	PK 242	
Clamp screw	FS 1473 (Torx 15 IP)	FS 1474 (Torx 20 IP)	
Tightening torque	3.9 Nm	6.4 Nm	
Pressure spring	FS 1470	FS 1471	
Pin	RS 117	RS 117	
Coolant nozzle for Novex® Capto	FS 1475	FS 1475	
Key (Torx)	FS 1465 (Torx 15 IP)	FS 1464 (Torx 20 IP)	

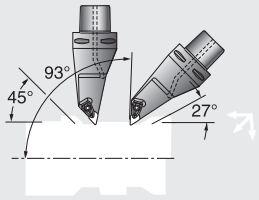
IP = Torx Plus

Accessories

	12	16	
Clamp set (consisting of standard assembly parts)	PK 241–Set	PK 242–Set	
Clamp set with carbide clamping plate	PK 245–Set	PK 246–Set	

→ 6 | → 78





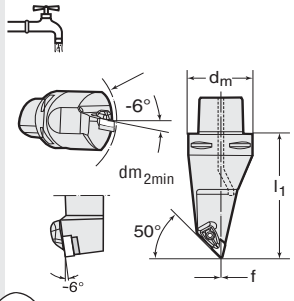
DDMN

Novex® Capto

Tool

Designation		dm mm	f mm	l_1 mm	$dm_{2\,min}$ mm	Type
C5–DDMN L–00115–15	15	50	0	115	110	DN . . 1506 . .
C6–DDMN L–00130–15	15	63	0	130	110	
C6–DDMN L–33120–15	15	63	33	120	130	

κ = 93°



NOVEX CAPTO

Measured with master insert DN . . 150608.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

Shim		AP 304–DN15	
Screw for shim		FS 1461 (Torx 15 IP)	
Clamp		PK 241	
Clamp screw		FS 1473 (Torx 15 IP)	
Tightening torque		3.9 Nm	
Pressure spring		FS 1470	
Pin		RS 117	
Coolant nozzle for Novex® Capto	C5	FS 1475	
	C6	FS 1476	
Key (Torx)		FS 1465 (Torx 15 IP)	

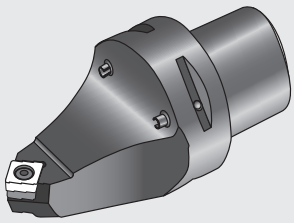
IP = Torx Plus

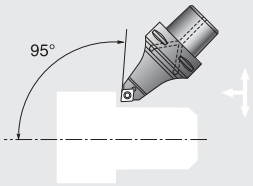
Accessories

Shim for DN . . 1504 . .	AP 304–DN1504	
Clamp set (consisting of standard assembly parts)	PK 241–Set	
Clamp set with carbide clamping plate	PK 245–Set	

= New addition to range

→ 9 → 78

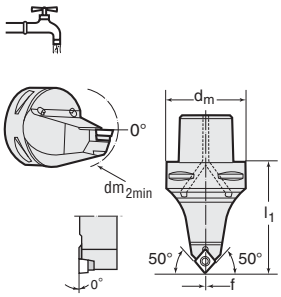




SCMC
Novex® Capto

Tool

Designation		dm mm	f mm	l_1 mm	$dm_{2\ min}$ mm	Type
κ = 95° C6–SCMC N–00090–12	12	63	0	90	100	CC . . 1204 . .



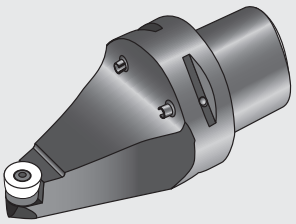
Measured with master insert CC . . 120408.
Toolholders sold as assembled units, including shim, shim screw and insert clamping element.

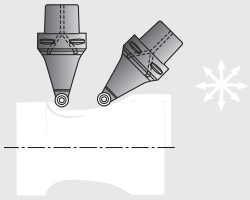
Assembly parts

		12	
	Screw for insert	FS 2065 (Torx 15 IP)	
	Tightening torque	3.0 Nm	
	Shim	AP 319–SC1212	
	Screw for shim	FS 2069 (SW 4)	
	Torx key	FS 1496 (Torx 15 IP / SW 4)	

IP = Torx Plus

→ 19 → 80



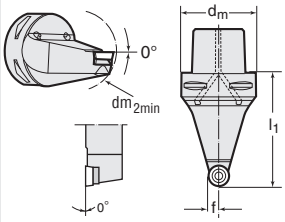


SRDC

Novex® Capto

Tool

Designation		dm mm	f mm	l_1 mm	$dm_{2\ min}$ mm	Type
C6–SRDC N–00100–10	10	63	0	100	110	RC . T 10T3M0
C6–SRDC N–00100–16	16	63	0	100	110	RC . T 1606M0



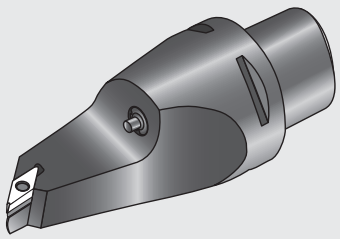
Measured with master insert RC . T 10T3M0 / RC . T 1605M0.
Bodies and assembly parts are included in the scope of delivery.

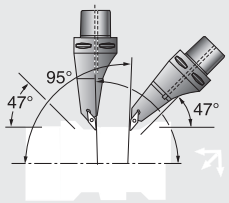
Assembly parts

	10	16	
Screw for insert	FS 2063 (Torx 15 IP)	FS 2090 (Torx 20 IP)	
Tightening torque	3.9 Nm	6.4 Nm	
Shim	AP 324–RC10T3	AP 326–RC1606	
Screw for shim	FS 2068 (SW 3.5)	FS 2091 (SW 5)	
Torx key	FS 1465 (Torx 15 IP / SW 3.5)	FS 1464 (Torx 20 IP / SW 5)	

IP = Torx Plus

→ 23 → 80

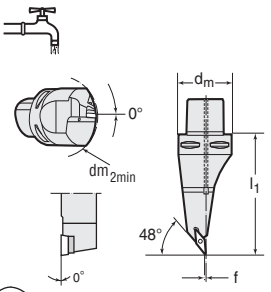




SVMB

Novex® Capto

Tool	Designation		dm mm	f mm	l_1 mm	$dm_{2\ min}$ mm	Type
κ = 95°	C5–SVMB L–00115–16	16	50	0	115	110	VB . . 1604 . . VC . . 1604 . .
	C6–SVMB L–00130–16	16	63	0	130	110	
	C6–SVMB L–33120–16	16	63	33	120	110	



Measured with master insert VB . . 160408.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

		16	
	Screw for insert	FS 2060 (Torx 15 IP)	
	Tightening torque	3.9 Nm	
	Shim	AP 316–VB1608	
	Screw for shim	FS 2068 (SW 3.5)	
	Torx key	FS 1465 (Torx 15 IP / SW 3.5)	

IP = Torx Plus

Accessories

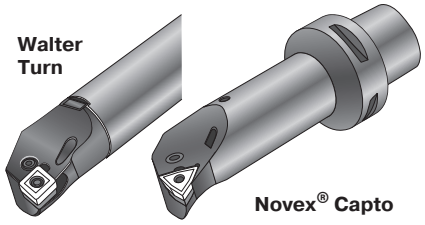
		16	
	Shim for R ≥ 1.2	AP 330–VB1612	

→ 26 → 80

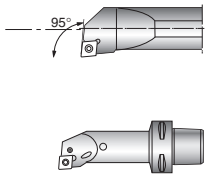
Product range overview for Walter Turn Toolholders for internal application

Lever-type clamping system

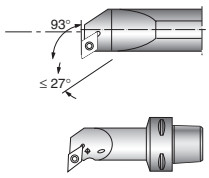
Negative basic shape



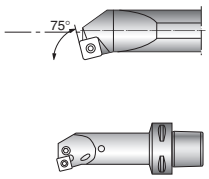
95° — **PCLN R/L** *(Pages 112–113)*



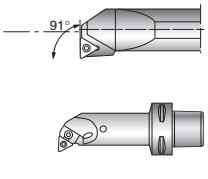
93° — **PDUN R/L** *(Pages 114–115)*



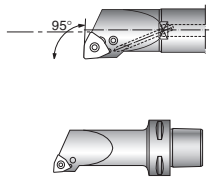
75° — **PSKN R/L** *(Pages 116–117)*



91° — **PTFN R/L** *(Pages 118–119)*

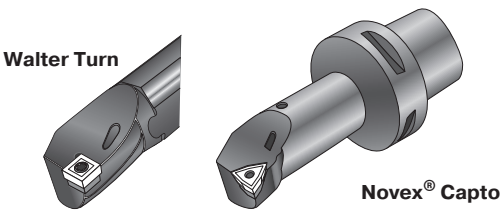


95° — **PWLN R/L** *(Pages 120–121)*

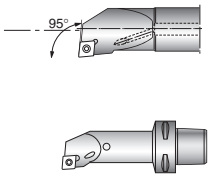


Screw clamping system

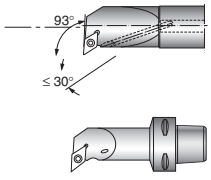
Positive basic shape



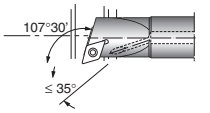
95° — **SCLC R/L** *(Pages 122–123)*



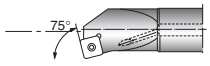
93° — **SDUC R/L** *(Pages 124–125)*



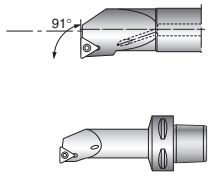
107°30' — **SDQC R/L** *(Page 126)*



75° — **SSKC R/L** *(Page 127)*

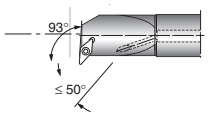


91° — **STFC R/L** *(Pages 128–129)*



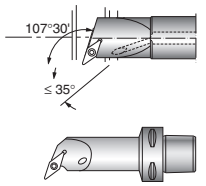
93° — **SVUB R/L** **Page 71**

PVUB R/L* *(Page 130)*

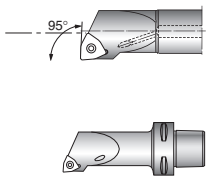


107°30' — **SVQB R/L** **Pages 72–73**

PVQB R/L* *(Pages 130–131)*

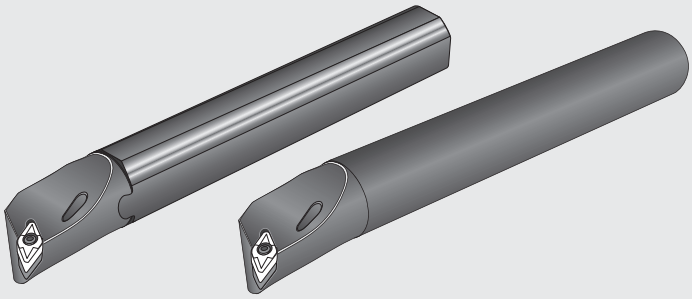


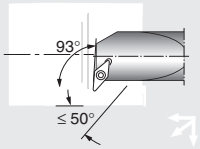
95° — **SWLC R/L** *(Pages 132–133)*



For additional boring bars upwards of 2 mm dia. in steel or solid carbide, see page 336 of the general catalogue.

* with lever-type clamping system





A–SVUB
A–SVUB–R

Walter Turn

Tool

	Designation		a min. mm	dg7 mm	f mm	h mm	l_1 mm	λ_s	Type
κ = 93°	A 16 R – SVUB R/L 11	11	22	16	13	15	200	–7°	VB . . 1103 . . VC . . 1103 . .
	A 20 S – SVUB R/L 11	11	27	20	15	18	250	–5°	
	A 25 T – SVUB R/L 11	11	33	25	18	23	300	–4°	
	A 32 T – SVUB R/L 16	16	40	32	22	30	300	–6°	VB . . 1604 . . VC . . 1604 . .
	A 40 T – SVUB R/L 16	16	50	40	27	37	300	–4°	
κ = 93°	A 16 R – SVUB R/L 11–R	11	22	16	13		200	–7°	VB . . 1103 . . VC . . 1103 . .
	A 20 S– SVUB R/L 11–R	11	27	20	15		250	–5°	

Measured with master insert VB . . 110304 / VB . . 160408
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

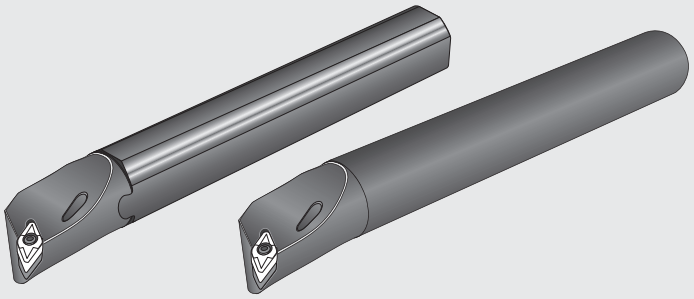
		11	16	
	Screw for insert	FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
	Tightening torque	0.9 Nm	3.0 Nm	
	Shim		AP 316–VB1608	
	Screw for shim		FS 2068 (SW 3.5)	
	Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3,5)	

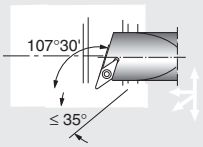
IP = Torx Plus

Accessories

		dg7 = 16 mm	dg7 = 20 mm	16	
	Coolant adapter	K600.16.40.137	K600.20.40.137		
	Shim for R ≥ 1.2			AP330–VB1612	

→ 26 | → 80

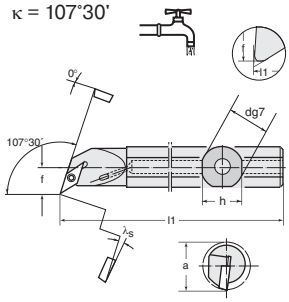
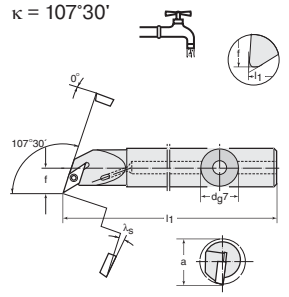




A–SVQB
A–SVQB–R

Walter Turn

Tool

Designation	a min. mm	dg7 mm	f mm	h mm	l_1 mm	λ_s	Type
κ = 107°30' 							
A 16 R – SVQB R/L 11	11	22	16	13	15	200	–7°	VB . . 1103 . . VC . . 1103 . .
A 20 S– SVQB R/L 11	11	27	20	15	18	250	–5°	
A 25 T – SVQB R/L 11	11	33	25	18	23	300	–4°	
A 32 T – SVQB R/L 16	16	40	32	22	30	300	–7°	VB . . 1604 . . VC . . 1604 . .
A 40 T – SVQB R/L 16	16	50	40	27	37	300	–5°	
κ = 107°30' 							
A 16 R – SVQB R/L 11–R	11	22	16	13		200	–7°	VB . . 1103 . . VC . . 1103 . .
A 20 S– SVQB R/L 11–R	11	27	20	15		250	–5°	

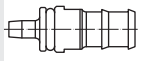
Measured with master insert VB . . 110304 / VB . . 160408
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

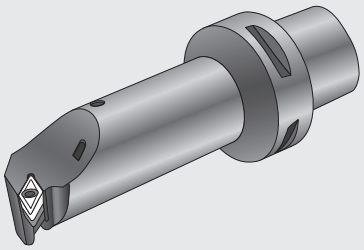
		←11→	←16→	
	Screw for insert	FS 2061 (Torx 7 IP)	FS 2060 (Torx 15 IP)	
	Tightening torque	0.9 Nm	3.0 Nm	
	Shim		AP 316–VB1608	
	Screw for shim		FS 2068 (SW 3.5)	
	Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	

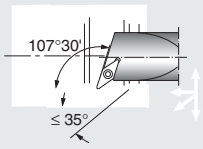
IP = Torx Plus

Accessories

		dg7 = 16 mm	dg7 = 20 mm	←16→	
	Coolant adapter	K600.16.40.137	K600.20.40.137		
	Shim for R ≥ 1.2			AP330–VB1612	

→ 26 → 80





SVQB

Novex® Capto

Tool

Designation		a min. mm	d mm	d_m mm	f mm	l_1 mm	l_3 mm	λ_s	Type
C3–SVQB R/L–13070–11	11	22	16	32	13	70	53.4	–7°	VB . . 1103 . . VC . . 1103 . .
C3–SVQB R/L–15080–11	11	27	20	32	15	80	64.9	–5°	
C4–SVQB R/L–13070–11	11	25	20	40	13	70	47.9	–5.5°	
C4–SVQB R/L–15080–11	11	27	20	40	15	80	57.9	–5°	
C5–SVQB R/L–15080–11	11	27	20	50	15	80	56.5	–5°	
C3–SVQB R/L–18090–16	16	33	25	32	18	90	75	–6°	VB . . 1604 . . VC . . 1604 . .
C3–SVQB R/L–22096–16	16	40	32	32	22	96	82	–8°	
C4–SVQB R/L–18090–16	16	33	25	40	18	90	69	–6°	
C4–SVQB R/L–22110–16	16	40	32	40	22	110	89	–8°	
C4–SVQB R/L–27080–16	16	50	40	40	27	80	60	–8°	
C4–SVQB R/L–27120–16	16	50	40	40	27	120	100	–8°	
C5–SVQB R/L–18090–16	16	33	25	50	18	90	67	–6°	
C5–SVQB R/L–22110–16	16	40	32	50	22	110	88	–8°	
C5–SVQB R/L–27140–16	16	50	40	50	27	140	119	–8°	
C5–SVQB R/L–35100–16	16	63	50	50	35	100	81	–7°	
C5–SVQB R/L–35150–16	16	63	50	50	35	150	131	–7°	
C6–SVQB R/L–22120–16	16	40	32	63	22	120	94	–8°	
C6–SVQB R/L–27145–16	16	50	40	63	27	145	120	–8°	
C6–SVQB R/L–35175–16	16	63	50	63	35	175	152	–8°	

κ = 107°30'

Measured with master insert VB . . 110304 / VB . . 160408.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts

	11	16 for a min. 33	16
Screw for insert	FS 2061 (Torx 7 IP)	FS 2063 (Torx 15 IP)	FS 2060 (Torx 15 IP)
Tightening torque	0.9 Nm	3.0 Nm	3.0 Nm
Shim			AP 316–VB1608
Screw for shim			FS 2068 (SW 3.5)
Torx key	FS 1490 (Torx 7 IP)	FS 1465 (Torx 15 IP / SW 3.5)	FS 1465 (Torx 15 IP / SW 3.5)

IP = Torx Plus

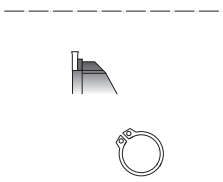
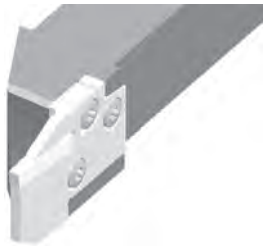
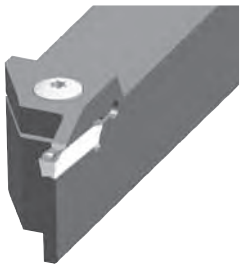
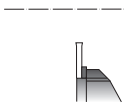
Accessories

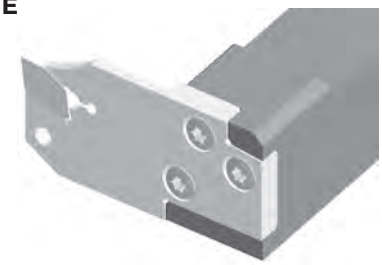
	16
Shim for R ≥ 1.2	AP330–VB1612

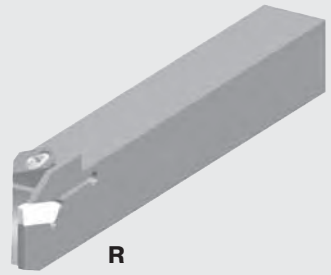
→ 26 | → 80

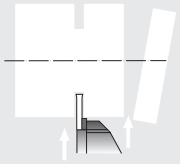
Product range overview for Walter Cut grooving tools

The pages indicated in brackets refer to the general catalogue.

Application	Grooving inserts	Groove depth T_{max} [mm]	Groove width s [mm]	0° right
Grooving **Longitudinal turning** **Parting off** **Circlip grooves** 	**GX grooving inserts** 	21	0.6–8.0	**NCAE / NCBE / NCCE**  Modular tool *(Page 142)* NOVEX CAPTO *(Page 144)*
		21	3.0–6.0	**One-piece tools G1011** NEW **Modular tool Page 77** 
Grooving **Parting off** 	**FX grooving inserts** 	45	2.2–8.0	**NCDE**  Modular tool (Page 150) NOVEX CAPTO *(Page 152)*
	LX grooving inserts 	25	2.2–4.1	**One-piece tools XLCE**  Modular tool *(Page 192)*
	GX grooving inserts 	16	2.0–3.0	**One-piece tools XLDE / XLDE ... –C**  **Modular tool Page 76**

	0° left	90° right	90° left
	NCAE / NCBE / NCCE  Modular tool *(Page 142)* | NOVEX CAPTO *(Page 144)*	**NCLE / NCNE**  Modular tool *(Page 154)* | NOVEX CAPTO *(Page 156)*	**NCLE / NCNE**  Modular tool *(Page 154)* | NOVEX CAPTO *(Page 156)*
	G1011 *NEW* **Modular tool Page 77** 		
	NCDE  Modular tool *(Page 150)* | NOVEX CAPTO *(Page 152)*	**NCME**  Modular tool *(Page 162)* | NOVEX CAPTO *(Page 164)*	**NCME**  Modular tool *(Page 162)* | NOVEX CAPTO *(Page 164)*
	XLCE Modular tool *(Page 192)* 		
	XLDE / XLDE ... –C **Modular tool Page 76** 		





Walter Cut

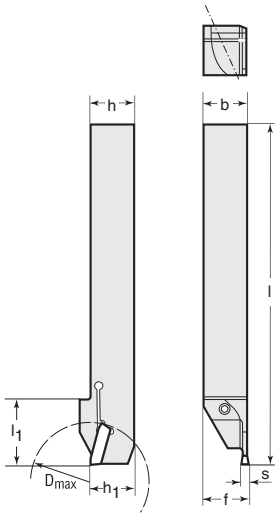
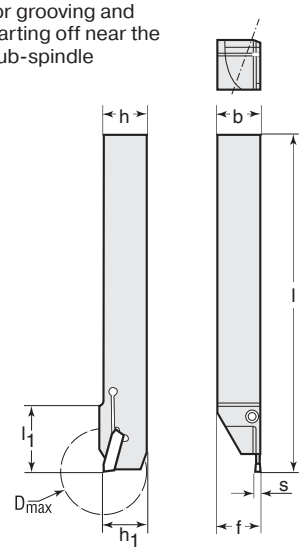
one-piece modular tool

for grooving and parting off with GX cutting inserts

XLDE

Radial grooving 0°

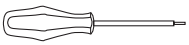
External application

Tool	s mm	D_{max} mm	h=h_1 mm	b mm	**Modular tool** Designation	l mm	f mm	l_1 mm	s_1 mm	Type
	**2.0–2.5**	**20**	10	10	XLDE R/L 1010 K–GX16-1	125	9.2	19	1.6	GX 16-1E2 . .
		24	12	12	XLDE R/L 1212 K–GX16-1	125	11.2	19	1.6	
		32	16	16	XLDE R/L 1616 K–GX16-1	125	15.2	24	1.6	
		32	20	20	XLDE R/L 2020 K–GX16-1	125	19.2	24	1.6	
	3.0	**24**	12	12	XLDE R/L 1212 K–GX16-2	125	10.8	19	2.4	GX 16-2E3 . .
		32	16	16	XLDE R/L 1616 K–GX16-2	125	14.8	24	2.4	
		32	20	20	XLDE R/L 2020 K–GX16-2	125	18.8	24	2.4	
Contra version for grooving and parting off near the sub-spindle 	**2.0–2.5**	**20**	10	10	XLDE R/L 1010 K–GX16-1C	125	9.2	19	1.6	GX 16-1E2 . .
		24	12	12	XLDE R/L 1212 K–GX16-1C	125	11.2	19	1.6	
		32	16	16	XLDE R/L 1616 K–GX16-1C	125	15.2	24	1.6	
	3.0	**24**	12	12	XLDE R/L 1212 K–GX16-2C	125	10.8	19	2.4	GX 16-2E3 . .
		32	16	16	XLDE R/L 1616 K–GX16-2C	125	14.8	24	2.4	

Order example:
Right modular tool: XLDE **R** 1010 K–GX16-1
Left modular tool: XLDE **L** 1010 K–GX16-1

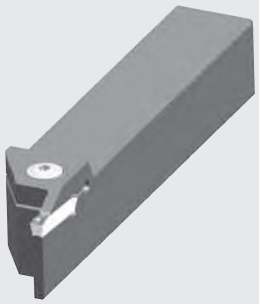
= **New in product range 2008**

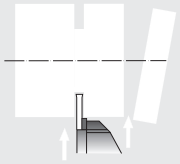
Assembly parts

	Screw	FS 2060 (Torx 15 IP)
	Tightening torque	3.0 Nm
	Screwdriver	FS 1485 (Torx 15 IP / SW 3.5)

IP = Torx Plus

→ 32 → 86





Walter Cut

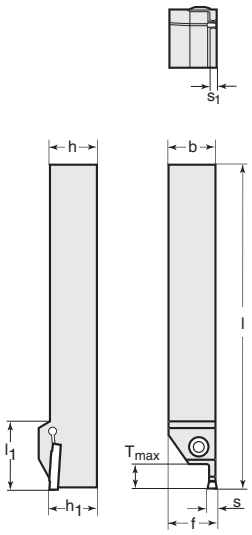
NEW

G1011

one-piece modular tool for grooving, parting off and groove-turning with GX cutting inserts

Radial grooving 0°
External application

Tool



s mm	T_{max} mm	$h=h_1$ mm	b mm	Modular tool Designation	l mm	f mm	l_1 mm	s_1 mm	Type
3	12	20	20	G1011.2020 R/L–3T12GX24	145	18.8	35	2.4	GX 24-2E3 . .
		25	25	G1011.2525 R/L–3T12GX24	145	23.8	35	2.4	
	21	20	20	G1011.2020 R/L–3T21GX24	150	18.8	40	2.4	
		25	25	G1011.2525 R/L–3T21GX24	150	23.8	40	2.4	
4	12	20	20	G1011.2020 R/L–4T12GX24	145	18.3	35	3.4	GX 24-3E4 . .
		25	25	G1011.2525 R/L–4T12GX24	145	23.3	35	3.4	
	21	20	20	G1011.2020 R/L–4T21GX24	150	18.3	40	3.4	
		25	25	G1011.2525 R/L–4T21GX24	150	23.3	40	3.4	
5	12	20	20	G1011.2020 R/L–5T12GX24	145	17.9	35	4.2	GX 24-3E5 . .
		25	25	G1011.2525 R/L–5T12GX24	145	22.9	35	4.2	
	21	20	20	G1011.2020 R/L–5T21GX24	150	17.9	40	4.2	
		25	25	G1011.2525 R/L–5T21GX24	150	22.9	40	4.2	
6	12	20	20	G1011.2020 R/L–6T12GX24	145	17.4	35	5.2	GX 24-4E6 . .
		25	25	G1011.2525 R/L–6T12GX24	145	22.4	35	5.2	
	21	20	20	G1011.2020 R/L–6T21GX24	150	17.4	40	5.2	
		25	25	G1011.2525 R/L–6T21GX24	150	22.4	40	5.2	

Order example:
Right modular tool: G1011.2020 **R**–3T12GX24
Left modular tool: G1011.2020 **L**–3T12GX24

Assembly parts

	Screw	FS 2118 (Torx 20 IP)
	Tightening torque	4.0 Nm
	Screwdriver	FS 1464 (Torx 20 IP)

IP = Torx Plus

→ 32 → 86

Cutting data for turning inserts with negative basic shape – coated carbide grades

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Cutting speed v_C [m/min]								
						WPP 01			WPP 05			WPP 10		
						f [mm]			f [mm]			f [mm]		
						0.1	0.2	0.3	0.1	0.4	0.6	0.1	0.4	0.6
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	620	590	560	610	470	350	590	450	340
		Approx. 0.45% C annealed		190	2	530	500	480	520	380	300	500	360	290
		Approx. 0.45% C tempered		250	3	380	360	340	380	290	240	360	280	230
		Approx. 0.75% C annealed		270	4	420	400	380	420	330	290	400	320	280
		Approx. 0.75% C tempered		300	5	320	300	290	310	240	220	300	230	210
	Low-alloy steel[1]	annealed		180	6	460	440	420	460	330	290	440	320	280
		tempered		275	7	360	340	320	360	260	240	340	250	230
		tempered		300	8	320	300	290	310	240	200	300	230	190
		tempered		350	9	290	280	270	290	200	180	280	190	170
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	480	460	440	480	220	220	460	320	210
		hardened and tempered		325	11	240	230	220	240	130	100	230	130	100
	Stainless steel[1]	annealed ferritic/martensitic		200	12	380	360	340	380	300	260	360	290	250
		martensitic, quenched and tempered		240	13	280	270	260	280	200	160	270	190	150
M	Stainless steel[1]	austenitic[2], quench hardened		180	14									
K	Grey cast iron	pearlitic/ferritic		180	15	550	490	440				550	320	230
		pearlitic (martensitic)		260	16	300	270	250				300	210	140
	Cast iron with spheroidal graphite	ferritic		160	17	320	290	260				320	230	170
		pearlitic		250	18	230	210	190				230	170	140
	Malleable cast iron	ferritic		130	19	370	330	300				370	310	250
		pearlitic		230	20	270	240	220				270	170	120
N	Aluminium wrought alloys	cannot be hardened		60	21									
		precipitation hardenable, precipitation hardened		100	22									
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23									
		≤ 12% Si, precipitation hardenable, hardened		90	24									
		> 12% Si, not precipitation		130	25									
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26									
		Brass, red brass		90	27									
		Bronze, lead-free copper and electrolytic copper		100	28									
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29									
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31									
			hardened	280	32									
		Ni or Co based	annealed	250	33									
			hardened	350	34									
			cast	320	35									
	Titanium alloys	Pure titanium		400[3]	36									
		Alpha + Beta alloys, hardened		1050[3]	37									
H	Hardened steel	hardened and tempered		55[4]	38									
		hardened and tempered		60[4]	39									
	Chilled cast iron	cast		400	40									
	Hardened cast iron	hardened and tempered		55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Cutting speed v_C [m/min]

WPP 20			WPP 30			WAM 10			WAM 20			WSM 20			WSM 30			WAK 10[NEW]			WAK 20			WAK 30		
f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]		
0.1	0.4	0.6	0.1	0.4	0.6	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.4	0.6	0.1	0.4	0.6	0.1	0.4	0.6
500	370	300	430	290	240																620	470	360	340	230	190
420	300	230	360	240	190																530	380	310	290	190	150
300	230	180	240	190	140																380	290	240	190	150	110
320	270	220	260	210	170																420	340	290	210	170	140
250	180	160	200	140	110																320	240	220	160	110	90
370	270	220	300	210	190																460	340	290	240	170	150
280	210	180	220	160	120																360	260	240	180	130	100
250	180	140	190	140	110																320	240	200	150	110	90
210	160	120	170	110	100																290	200	180	140	90	80
380	270	160	300	210	120																480	340	220	240	170	100
170	110	80	110	80	60																240	140	100	90	60	50
300	240	190	230	190	150	300	240	190	280	240	200	250	220	180	230	200	160				380	310	260	180	150	120
210	140	110	160	110	100	210	140	110	190	150	130	190	150	130	150	130	110				280	200	160	130	90	80
						310	220	130	260	170	110	240	170	110	220	140	90									
490	250	180																650	430	320	550	320	230	490	250	180
230	170	110																420	280	200	300	210	140	230	170	110
250	180	130																440	320	250	320	230	170	250	180	130
180	130	110																320	250	200	230	170	140	180	130	110
290	260	190																500	390	350	370	310	250	290	260	190
210	130	100																360	250	170	270	170	120	210	130	100
									100	60		100	60		90	50										
									80	50		80	50		70	40										
									80	50		80	50		70	30										
									80	40		80	40		60	30										
									60	30		60	30		50	20										
									70	40		70	40													
																		45								
																		35								
																		55								
																		45								

Cutting data for turning inserts with positive basic shape – coated carbide grades

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Cutting speed v_c [m/min]								
						WPP 01			WPP 10			WPP 20		
						f [mm]			f [mm]			f [mm]		
						0.1	0.2	0.3	0.1	0.2	0.4	0.1	0.2	0.4
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	560	530	500	530	480	410	450	410	330
		Approx. 0.45% C annealed		190	2	480	450	430	450	410	320	380	340	270
		Approx. 0.45% C tempered		250	3	340	320	310	320	290	250	270	240	210
		Approx. 0.75% C annealed		270	4	380	360	340	360	320	290	290	270	240
		Approx. 0.75% C tempered		300	5	290	270	260	270	240	210	230	210	160
	Low-alloy steel[1]	annealed		180	6	410	400	380	400	360	290	330	300	240
		tempered		275	7	320	310	290	310	280	230	250	230	190
		tempered		300	8	290	270	260	270	240	210	230	210	160
		tempered		350	9	260	250	240	250	230	170	190	170	150
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	430	410	400	420	380	290	340	310	240
		hardened and tempered		325	11	220	210	200	210	190	120	150	130	100
	Stainless steel[1]	annealed ferritic/martensitic		200	12	340	320	310	320	290	260	270	240	220
		martensitic. quenched and tempered		240	13	250	240	230	240	220	170	190	170	130
M	Stainless steel[1]	austenitic[2], quench hardened		180	14									
K	Grey cast iron	pearlitic/ferritic		180	15	500	440	400	500	450	290	450	470	230
		pearlitic (martensitic)		260	16	270	240	230	270	240	190	210	180	150
	Cast iron with spheroidal graphite	ferritic		160	17	290	260	230	290	260	210	230	200	160
		pearlitic		250	18	210	190	170	210	190	160	160	150	120
	Malleable cast iron	ferritic		130	19	330	300	270	330	300	280	250	230	240
		pearlitic		230	20	240	220	200	240	220	150	190	170	110
N	Aluminium wrought alloys	cannot be hardened		60	21									
		precipitation hardenable, precipitation hardened		100	22									
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23									
		≤ 12% Si, precipitation hardenable, ardened		90	24									
		> 12% Si, not precipitation hardenable		130	25									
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26									
		Brass, red brass		90	27									
		Bronze, lead-free copper and electrolytic copper		100	28									
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29									
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31									
			hardened	280	32									
		Ni or Co based	annealed	250	33									
			hardened	350	34									
			cast	320	35									
	Titanium alloys	Pure titanium		400[3]	36									
		Alpha + Beta alloys, hardened		1050[3]	37									
H	Hardened steel	hardened and tempered		55[4]	38									
		hardened and tempered		60[4]	39									
	Chilled cast iron	cast		400	40									
	Hardened cast iron	hardened and tempered		55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Cutting speed v_C [m/min]

WPP 30			WAM 20			WSM 20			WSM 30			WAK 10			WAK 20			WAK 30			WXN 10		
f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]			f [mm]		
0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.15	0.3	0.5
430	390	290													560	500	420	430	390	290			
360	320	240													480	430	340	360	320	240			
240	220	190													340	300	260	240	220	190			
260	240	210													380	340	300	260	240	210			
200	180	140													290	260	220	200	180	140			
300	270	210													410	370	310	300	270	210			
220	200	160													320	290	230	220	200	160			
190	170	140													290	260	220	190	170	140			
170	150	110													260	230	180	170	150	110			
300	270	210													430	390	300	300	270	210			
110	100	80													220	200	130	110	100	80			
230	210	190	250	240	200	230	220	180	210	200	160				340	300	280	230	210	190			
160	140	110	170	150	130	170	150	130	140	130	110				250	220	180	160	140	110			
			240	170	110	220	170	110	200	140	90										220	200	
												560	500	370	500	450	290	450	470	230			
												350	320	240	270	240	190	210	180	150			
												370	330	270	290	260	210	230	200	160			
												270	240	210	210	190	160	160	150	120			
												430	390	330	330	300	280	250	230	240			
												310	280	210	240	220	150	190	170	110			
																					2900	2200	1600
																					900	720	360
																					960	540	360
																					600	360	240
																					720	480	320
																					480	360	300
																					340	240	160
																						360	240
																						540	360
			90	60		90	60		80	50											110	90	
			70	50		70	50		60	40											80	70	
			70	50		70	50		60	30											60	50	
			70	40		70	40		50	30											60	25	
			50	30		50	30		40	20											50	25	
																					220	200	160
			60	40		60	40														100	70	60
												40	35										
												30	25										
												50	45										
												40	35										

Cutting data for turning inserts with negative and positive basic shape for uncoated carbide grades, Si_3N_4 and CBN

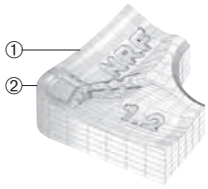
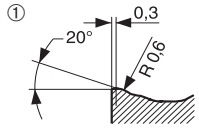
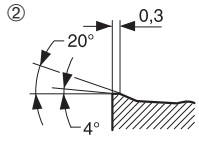
Material group	Classification of the main material groups and code letters Workpiece material		Brinell hardness HB	Machining group[5]	HW Positive basic shape Cutting speed v_C [m/min] WK 1 f [mm] 0.15	0.3	0.5
P	Unalloyed steel[1]	Approx. 0.15% C annealed	125	1			
		Approx. 0.45% C annealed	190	2			
		Approx. 0.45% C tempered	250	3			
		Approx. 0.75% C annealed	270	4			
		Approx. 0.75% C tempered	300	5			
	Low-alloy steel[1]	annealed	180	6			
		tempered	275	7			
		tempered	300	8			
		tempered	350	9			
	High-alloyed steel and high-alloyed tool steel[1]	annealed	200	10			
		hardened and tempered	325	11			
	Stainless steel[1]	annealed ferritic/martensitic	200	12			
		martensitic. quenched and tempered	240	13			
M	Stainless steel[1]	austenitic[2], quench hardened	180	14			
K	Grey cast iron	pearlitic/ferritic	180	15			
		pearlitic (martensitic)	260	16			
	Cast iron with spheroidal graphite	ferritic	160	17			
		pearlitic	250	18			
	Malleable cast iron	ferritic	130	19			
		pearlitic	230	20			
N	Aluminium wrought alloys	cannot be hardened	60	21	2400	1800	1300
		precipitation hardenable, precipitation hardened	100	22	750	600	300
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable	75	23	800	450	300
		≤ 12% Si, precipitation hardenable, hardened	90	24	500	300	200
		> 12% Si, not precipitation hardenable	130	25			
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%	110	26	600	400	270
		Brass, red brass	90	27	400	300	250
		Bronze, lead-free copper and electrolytic copper	100	28	280	200	130
	Non-metallic materials	Curable plastics, fibre-reinforced plastics		29		300	200
		Hard rubber		30		450	300
S	Heat-resistant alloys	Fe based annealed	200	31			
		Fe based hardened	280	32			
		Ni or Co based annealed	250	33			
		Ni or Co based hardened	350	34			
		Ni or Co based cast	320	35			
	Titanium alloys	Pure titanium	400[3]	36			
		Alpha + Beta alloys, hardened	1050[3]	37			
H	Hardened steel	hardened and tempered	55[4]	38			
		hardened and tempered	60[4]	39			
	Chilled cast iron	cast	400	40			
	Hardened cast iron	hardened and tempered	55[4]	41			

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue, page 798 onwards.

	CBN									CN (Si_3N_4)		
	Negative + positive basic shape v_C [m/min]									Negative basic shape v_C [m/min]		
	ap = 0.1–0.4 mm **WCB 30** f [mm]			ap = 0.2–0.5 mm **WCB 50** f [mm]						uncoated **WSN 10** f [mm]		
	0.05	0.1	0.15	0.05	0.1	0.15	0.2	0.3	0.4	0.2	0.4	0.6
							1500	1000	500	850	600	500
							500	400	300	650	500	400
										550	450	350
							1300	800	500	550	450	350
							1500	1300	1000	750	600	500
							1300	1100	800	650	500	400
				175	140							
				175	140							
				175	130							
	250	220	180	180	150	100						
	200	180	150	150	120	80						
							130	100	80		50	40
							180	150	110		40	30

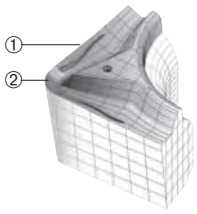
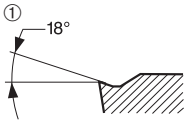
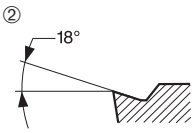
Application ranges for turning inserts

Negative basic shape

– NRF	ISO designation	Cutting data	
		ap [mm]	f [mm]
	CNMM120408-NRF	0.8 - 7.0	0.30- 0.50
	CNMM120412-NRF	1.2 - 7.0	0.35 - 0.70
	CNMM120416-NRF	1.6 - 7.0	0.40 - 0.80
	CNMM160612-NRF	1.2 - 9.0	0.35 - 0.70
	CNMM160616-NRF	1.6 - 9.0	0.40 - 0.90
	CNMM160624-NRF	2.4 - 9.0	0.45 - 1.00
	CNMM190612-NRF	1.2 - 10.0	0.35 - 0.70
	CNMM190616-NRF	1.6 - 10.0	0.40 - 0.90
	CNMM190624-NRF	2.4 - 10.0	0.45 - 1.10
	CNMM250924-NRF	2.4 - 12.0	0.45 - 1.20
	DNMM150608-NRF	0.8 - 5.0	0.25 - 0.45
	DNMM150612-NRF	1.2 - 5.0	0.30 - 0.50
	DNMM150616-NRF	1.6 - 5.0	0.35 - 0.60
	SNMM120408-NRF	0.8 - 7.0	0.30 - 0.50
	SNMM120412-NRF	1.2 - 7.0	0.35 - 0.70
	SNMM120416-NRF	1.6 - 7.0	0.40 - 0.90
	SNMM150612-NRF	1.2 - 9.0	0.35 - 0.75
	SNMM150616-NRF	1.6 - 9.0	0.40 - 0.90
	SNMM150624-NRF	2.0 - 9.0	0.45 - 1.10
	SNMM190612-NRF	1.2 - 10.0	0.35 - 0.75
	SNMM190616-NRF	1.6 - 10.0	0.40 - 1.00
	SNMM190624-NRF	2.0 - 10.0	0.45 - 1.20
	SNMM250716-NRF	1.6 - 12.0	0.45 - 1.00
	SNMM250724-NRF	2.5 - 12.0	0.55 - 1.20
	SNMM250916-NRF	1.6 - 12.0	0.45 - 1.00
	SNMM250924-NRF	2.5 - 12.0	0.55 - 1.20
	TNMM160408-NRF	0.8 - 6.0	0.30 - 0.45
	TNMM160412-NRF	1.2 - 6.0	0.35 - 0.50
	TNMM220408-NRF	0.8- 7.0	0.30 - 0.50
	TNMM220412-NRF	1.2 - 7.0	0.35 - 0.60
	TNMM220416-NRF	1.6 - 7.0	0.40 - 0.80
	TNMM270612-NRF	1.2 - 8.0	0.35 - 0.65
	TNMM270616-NRF	1.6 - 8.0	0.40 - 0.85
	WNMM100612-NRF	1.2 - 7.0	0.35 - 0.60
	WNMM100616-NRF	1.6 - 7.0	0.40 - 0.80

Note: cross section shows CNMM 120408 . .

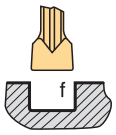
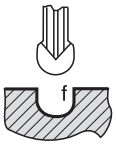
Positive basic shape

– PF 2	ISO designation	Cutting data	
		ap [mm]	f [mm]
	CCGT 060201 – PF 2	0.12 –1.50	0.02 – 0.06
	CCGT 060202 – PF 2	0.15 – 2.00	0.05 – 0.12
	CCGT 060204 – PF 2	0.20 – 2.50	0.08 – 0.25
	CCGT 09T301 – PF 2	0.12 –1.50	0.02 – 0.06
	CCGT 09T302 – PF 2	0.15 – 2.00	0.05 – 0.12
	CCGT 09T304 – PF 2	0.20 – 2.50	0.08 – 0.25
	CCGT 09T308 – PF 2	0.25 – 3.00	0.10 – 0.30
	DCGT 070201 – PF 2	0.12 –1.50	0.02 – 0.06
	DCGT 070202 – PF 2	0.15 – 2.00	0.05 – 0.12
	DCGT 070204 – PF 2	0.20 – 2.00	0.08 – 0.25
	DCGT 11T301 – PF 2	0.12 –1.50	0.02 – 0.06
	DCGT 11T302 – PF 2	0.15 – 2.00	0.05 – 0.12
	DCGT 11T304 – PF 2	0.20 – 2.00	0.08 – 0.25
	DCGT 11T308 – PF 2	0.25 – 3.00	0.10 – 0.30
	RCGT 0602M0 – PF 2	0.20 – 2.00	0.06–0.25
	RCGT 0803M0 – PF 2	0.25 – 3.00	0.08 – 0.30
	RCGT 10T3M0 – PF 2	0.30 – 4.00	0.10 – 0.40
	RCGT 1204M0 – PF 2	0.40 – 4.50	0.12 – 0.45
	TCGT 090201 – PF 2	0.12 –1.50	0.02 – 0.06
	TCGT 090202 – PF 2	0.15 –2.00	0.05 – 0.12
	TCGT 090204 – PF 2	0.20 –2.00	0.08 – 0.25
	TCGT 110201 – PF 2	0.12 –1.50	0.02 – 0.06
	TCGT 110202 – PF 2	0.15 – 2.00	0.05 – 0.12
	TCGT 110204 – PF 2	0.20 – 2.50	0.08 – 0.25
	TCGT 16T301 – PF 2	0.12 –1.50	0.02 – 0.06
	TCGT 16T302 – PF 2	0.15 – 2.00	0.05 – 0.12
	TCGT 16T304 – PF 2	0.20 – 2.50	0.08 – 0.25
	TCGT 16T308 – PF 2	0.25 – 3.00	0.10 – 0.30
	VCGT 110301 – PF 2	0.12 –1.50	0.02 – 0.06
	VCGT 110302 – PF 2	0.15 – 2.00	0.05 – 0.12
	VCGT 110304 – PF 2	0.20 – 2.00	0.08 – 0.25
	VCGT 160402 – PF 2	0.15 – 2.00	0.05 – 0.12
	VCGT 160404 – PF 2	0.20 – 2.00	0.08 – 0.25
	VCGT 160408 – PF 2	0.25 – 3.00	0.10 – 0.30
	WCGT 030201 – PF 2	0.12 –1.50	0.02 – 0.06
	WCGT 030202 – PF 2	0.15 – 2.00	0.05 – 0.12
	WCGT 030204 – PF 2	0.20 – 2.00	0.08 – 0.25
	WCGT 040201 – PF 2	0.12 –1.50	0.02 – 0.06
	WCGT 040202 – PF 2	0.15 – 2.00	0.05 – 0.12
	WCGT 040204 – PF 2	0.20 – 2.50	0.08 – 0.25
	WCGT 06T301 – PF 2	0.12 –1.50	0.02 – 0.06
	WCGT 06T302 – PF 2	0.15 – 2.00	0.05 – 0.12
	WCGT 06T304 – PF 2	0.20 – 2.50	0.08 – 0.25
	WCGT 06T308 – PF 2	0.25 – 3.00	0.10 – 0.30

Note: cross section shows CCGT 09T304 . .

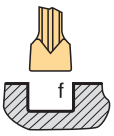
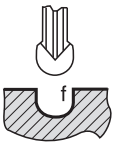
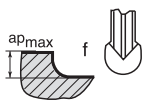
Feed travel figures for grooving inserts

Feed rate values for FX and LX grooving inserts

Geometry		Groove width [mm]	Feed travel f [mm]				
			P	**M**	**K**	**N**	**S**
	**CE 6**	2.2	0.05–0.15	0.05–0.15	0.05–0.15		0.05–0.15
		3.1	0.05–0.25	0.05–0.20	0.05–0.25		0.05–0.20
		4.1	0.08–0.25	0.08–0.20	0.08–0.20		0.08–0.20
	CE 4	2.2	0.05–0.15	0.05–0.15	0.05–0.10		0.05–0.15
		3.1–4.1	0.10–0.30	0.10–0.20	0.05–0.25		0.10–0.20
		5.1–6.5	0.10–0.35	0.10–0.30	0.08–0.30		0.10–0.30
		8.2–9.7	0.15–0.40	0.15–0.30	0.10–0.35		0.15–0.30
	CD 3	3.1	0.10–0.30	0.10–0.30	0.10–0.30		0.10–0.30
		4.1	0.15–0.35	0.15–0.35	0.15–0.35		0.15–0.35
	CK 8	2.2				0.05–0.10	
		3.1				0.05–0.15	
		4.1				0.05–0.20	
	UE 4*	8.0	0.20–0.50		0.20–0.50		
	RD 3*	8.0	0.15–0.50		0.15–0.50		

* also suitable for longitudinal turning.

Feed rate values for GX grooving inserts

Geometry		Groove width [mm]	ap_{max} [mm]	Feed travel f [mm]				
				P	**M**	**K**		
Circlip grooves 		0.6–1.7		0.02–0.08	0.02–0.08	0.02–0.08		
		1.9–3.25		0.03–0.10	0.03–0.10	0.03–0.10		
		4.25–5.25		0.05–0.25	0.05–0.25	0.05–0.25		
O-ring grooves GX 09 / GX 16		1.6–2.4		0.05–0.15	0.05–0.15	0.05–0.15		
		3.0–4.0		0.10–0.35	0.10–0.35	0.10–0.35		
		5.0–6.0		0.15–0.40	0.15–0.40	0.15–0.40		
		3.0–4.0	2.5	0.15–0.50	0.15–0.50	0.15–0.50		
		5.0–6.0	4.0	0.20–0.60	0.20–0.60	0.20–0.60		

Cutting data for Walter CUT: FX, LX and GX grooving inserts

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	HC Cutting speed v_c [m/min] WPP 23	
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	180	200
		Approx. 0.45% C annealed		190	2	180	180
		Approx. 0.45% C tempered		250	3	160	170
		Approx. 0.75% C annealed		270	4	120	150
		Approx. 0.75% C tempered		300	5	110	150
	Low-alloy steel[1]	annealed		180	6	140	180
		tempered		275	7	120	150
		tempered		300	8	120	150
		tempered		350	9	110	150
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	120	130
		hardened and tempered		325	11	90	110
	Stainless steel[1]	annealed ferritic/martensitic		200	12	160	
		martensitic. quenched and tempered		240	13	100	
M	Stainless steel[1]	austenitic[2], quench hardened		180	14		
K	Grey cast iron	pearlitic/ferritic		180	15	200	200
		pearlitic (martensitic)		260	16	160	160
	Cast iron with spheroidal graphite	ferritic		160	17	180	200
		pearlitic		250	18	140	160
	Malleable cast iron	ferritic		130	19	180	180
		pearlitic		230	20	150	150
N	Aluminium wrought alloys	cannot be hardened		60	21		
		precipitation hardenable, precipitation hardened		100	22		
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23		
		≤ 12% Si, precipitation hardenable, hardened		90	24		
		> 12% Si, not precipitation hardenable		130	25		
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26		
		Brass, red brass		90	27		
		Bronze, lead-free copper and electrolytic copper		100	28		
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29		
		Hard rubber			30		
S	Heat-resistant alloys	Fe based	annealed	200	31		
			hardened	280	32		
		Ni or Co based	annealed	250	33		
			hardened	350	34		
			cast	320	35		
	Titanium alloys	Pure titanium		400[3]	36		
		Alpha + Beta alloys, hardened		1050[3]	37		
H	Hardened steel	hardened and tempered		55[4]	38		
		hardened and tempered		60[4]	39		
	Chilled cast iron	cast		400	40		
	Hardened cast iron	hardened and tempered		55[4]	41		

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness

[5] The machining group categories can be found in the general catalogue starting on page 798.

	HC						HW	
	Cutting speed v_c [m/min]						v_c [m/min]	
	WSM 33		WSP 43		WTA 33		WK 1	
	130	170	120	160	170	180		
	130	150	120	140	150	160		
	120	140	110	130	140	150		
	120	140	110	130	110	120		
	130	160	120	150	150	180		
	120	130	110	120	150	140		
	100	110	90	100	140	150		
	90	100	80	100	120	130		
	90	120	80	110	160	180		
	80	90	80	80	100	140		
	150		160	140	160	180		
	80		80	60	80	100		
	130	150	120	130	130	150		
					200	150		
					160	120		
					280	240		
					230	190		
					100	80		
					80	60		
							1000	900
							700	600
							600	350
							400	250
							600	400
							400	300
							300	200
	50	90	50	90				
	40	40	40	40				
	30	70	30	70				
	30	60	30	60				
	20	60	20	60				
	40	35	30	35				

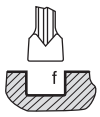
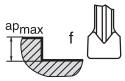
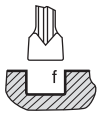
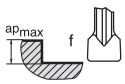
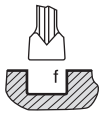
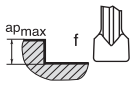
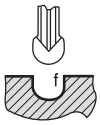
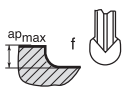
Parting off Grooving/groove-turning

Cutting data for Walter CUT: GX grooving inserts

Material group	Workpiece material			Brinell hardness HB	Machining group[5]	HC Cutting speed v_C [m/min] WAP 20		WAP 30		WXP 43	
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	200	220				
		Approx. 0.45% C annealed		190	2	160	190	130	140	140	140
		Approx. 0.45% C tempered		250	3	150	160	110	130	120	120
		Approx. 0.75% C annealed		270	4	130	140	100	120	110	110
		Approx. 0.75% C tempered		300	5	110	120	60	100	100	100
	Low-alloy steel[1]	annealed		180	6	150	160	120	140	140	140
		tempered		275	7	140	150	110	140	120	140
		tempered		300	8	130	140	90	130	110	130
		tempered		350	9	110	120	70	90	80	90
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	130	140	130	140	90	100
		hardened and tempered		325	11	90	120	100	120		
	Stainless steel[1]	annealed ferritic/martensitic		200	12	150	160	150	180	160	160
		martensitic. quenched and tempered		240	13	100	120	80	100	70	80
M	Stainless steel[1]	austenitic[2], quench hardened		180	14					120	140
K	Grey cast iron	pearlitic/ferritic		180	15	170	220				
		pearlitic (martensitic)		260	16	130	180				
	Cast iron with spheroidal graphite	ferritic		160	17	250	280				
		pearlitic		250	18	210	250				
	Malleable cast iron	ferritic		130	19	90	110				
		pearlitic		230	20	70	90				
N	Aluminium wrought alloys	cannot be hardened		60	21						
		precipitation hardenable, precipitation hardened		100	22						
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23						
		≤ 12% Si, precipitation hardenable, hardened		90	24						
		> 12% Si, not precipitation hardenable		130	25						
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26						
		Brass, red brass		90	27						
		Bronze, lead-free copper and electrolytic copper		100	28						
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29						
		Hard rubber			30						
S	Heat-resistant alloys	Fe based	annealed	200	31						
			hardened	280	32						
		Ni or Co based	annealed	250	33						
			hardened	350	34						
			cast	320	35						
	Titanium alloys	Pure titanium		400[3]	36						
		Alpha + Beta alloys, hardened		1050[3]	37						
H	Hardened steel	hardened and tempered		55[4]	38						
		hardened and tempered		60[4]	39						
	Chilled cast iron	cast		400	40						
	Hardened cast iron	hardened and tempered		55[4]	41						

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

HC								HW	
Cutting speed v_c [m/min]								v_c [m/min]	
WAM 20		WXM 33		WAK 20		WAK 30		WK 1	
		180	180	190	190	180	180		
		150	180	170	180	170	170		
		130	160	150	160	150	160		
		100	130	150	160	140	150		
		80	100	140	150	140	150		
		140	160	150	160	160	160		
		120	140	140	150	140	190		
		110	130	130	140	130	150		
		80	90	110	100	130	130		
		90	100	160	180	160	160		
				130	130	130	140		
160	180	160	170	170	180	170	180		
90	110	70	80	110	130	90	110		
150	160	120	140						
				280	300	260	280		
				260	280	240	260		
				280	300	260	280		
				220	260	200	240		
				120	150	100	120		
				110	130	70	100		
								900	1000
								600	700
								350	600
								250	400
								400	600
								300	400
								200	300
				40	35				
				30	25				
				50	45				
				40	35				

Feed travel f [mm]				
	Geometry	Groove width [mm]	a_{pmax} [mm]	f [mm]
	**GD 3**	2–3.5		0.04–0.15
		4		0.05–0.25
		5–6		0.10–0.30
	CF 6	2.0		0.03–0.12
		2.5		0.03–0.15
		3.0		0.04–0.15
	CE 4	2.5		0.05–0.15
		3–4		0.10–0.30
		5–6		0.15–0.40
	UF 4	2–3.5		0.06– 0.15
		4		0.08–0.25
		5–6		0.10–0.30
	**UF 4**	2–3.5	2.5	0.10–0.20
		4	3.0	0.10–0.35
		5–6	4.0	0.10–0.40
	**CE 4**	2.5		0.05–0.15
		3–4		0.10–0.30
		5–6		0.15–0.35
	GD 6	2–3.5		0.06–0.16
		4		0.08–0.25
		5–6		0.10–0.35
	UD 6	2–3.5		0.08–0.20
		4		0.10–0.25
		5–6		0.12–0.40
	**UD 6**	2–3.5	2.5	0.10–0.25
		4	3.0	0.10–0.30
		5–6	4.0	0.10–0.30
	**CE 4**	2.5		0.05–0.15
		3–4		0.10–0.30
		5–6		0.15–0.40
	UA 4	2–3.5		0.06–0.25
		4		0.06–0.30
		5–6		0.10–0.35
	**UA 4**	2–3.5	3.0	0.06–0.25
		4	3.0	0.06–0.35
		5–6	4.0	0.06–0.40
	**RK 8**	6		0.10–0.30
		8		0.10–0.35
	**RK 8**	6	3.0	0.10–0.60
		8	4.0	0.10–0.80

Parting off

Grooving/groove-turning

WALTER



Boring

Page

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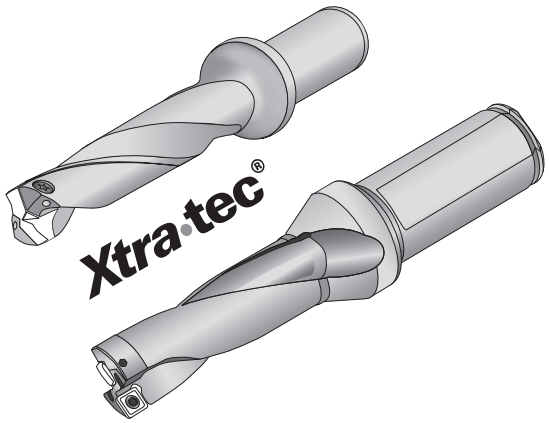
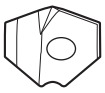
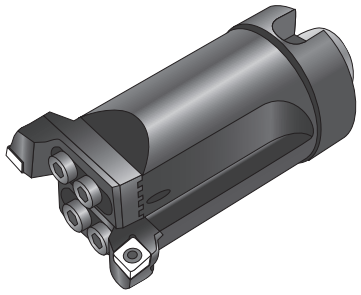
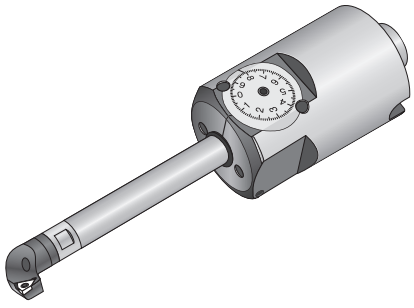
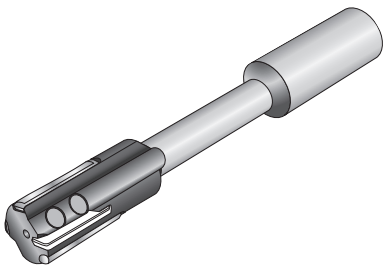
Miscellaneous

Master A 100 M – HSK 242

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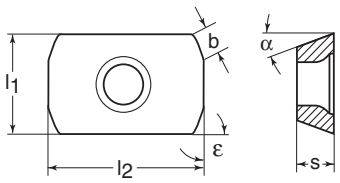
Alphanumeric index 246

Product range overview of indexable inserts for drilling and reaming

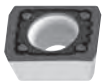
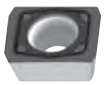
	Insert shape		Description	Page
		**P 6001 . .** **P 6002 . .**	for drilling	96 99
		**L**	for drilling	93
		*NEW* **P 484 . .** **P 284 . .**	for drilling	93 94
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Drilling inserts

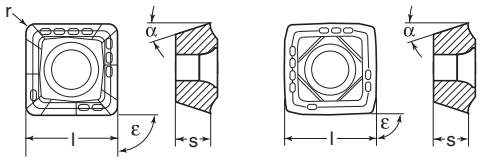
Rectangular LCMX



HC = Coated carbide
HW = Uncoated carbide

	Designation	Cutting edges	$l_1 \times l_2$ mm	s mm	α°	b	ε°	P HC WAP 20	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	M HC WSP 45	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HW WK 40	S HC WSP 45	S HW WK 40	S HC WXP 40
	LCMX 050203 – B 57	2	4 x 5.2	2.38	7	0.6 x 20°	90			△		△				△				△
	LCMX 06T204 – B 57	2	5.2 x 6.6	2.78	7	0.8 x 20°	90			△		△				△				△
	LCMX 050203 – D 57	2	4 x 5.2	2.38	7	0.6 x 20°	90	△	△	△	△	△	△		△	△	△	△		△
	LCMX 06T204 – D 57	2	5.2 x 6.6	2.78	7	0.8 x 20°	90	△	△	△	△	△	△		△	△	△	△		△
	LCMX 050203 – E 57	2	4 x 5.2	2.38	7	0.6 x 20°	90	△			△		△				△	△		△
	LCMX 06T204 – E 57	2	5.2 x 6.6	2.78	7	0.8 x 20°	90	△			△		△				△	△		△

P 484 .

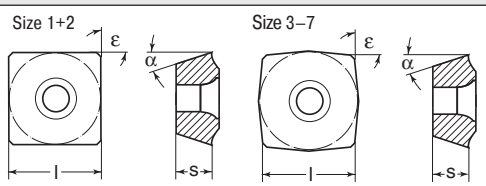


HC = Coated carbide
HW = Uncoated carbide

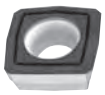
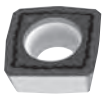
	Designation	Cutting edges	l mm	s mm	r mm	α°	ε°	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	P HC WTP 35	M HC WSP 45	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HW WK 40	S HC WSP 45	S HW WK 40	S HC WXP 40
	P 4840P–2R – A 57	4	5.52	2.38	0.3	11°	90°	△	△	△			△		△	△		△		
	P 4840P–3R – A 57	4	6.50	2.80	0.4	11°	90°	△	△	△			△		△	△		△		
	P 4840P–4R – A 57	4	7.80	3.36	0.5	11°	90°	△	△	△			△		△	△		△		
	P 4840P–5R – A 57	4	9.56	4.12	0.6	11°	90°	△	△	△			△		△	△		△		
	P 4840P–2R – E 57	4	5.52	2.38	0.3	11°	90°	△	△	△			△		△	△		△		
	P 4840P–3R – E 57	4	6.50	2.80	0.4	11°	90°	△	△	△			△		△	△		△		
	P 4840P–4R – E 57	4	7.80	3.36	0.5	11°	90°	△	△	△			△		△	△		△		
	P 4840P–5R – E 57	4	9.56	4.12	0.6	11°	90°	△	△	△			△		△	△		△		
	P 4841C–2R – A 57	4	5.95	2.38	0.3	11°	90°				△									
	P 4841C–3R – A 57	4	7.00	2.80	0.4	11°	90°				△									
	P 4841C–4R – A 57	4	8.40	3.36	0.5	11°	90°				△									
	P 4841C–5R – A 57	4	10.29	4.12	0.6	11°	90°				△									
	P 4841C–2R – E 57	4	5.95	2.38	0.3	11°	90°				△									
	P 4841C–3R – E 57	4	7.00	2.80	0.4	11°	90°				△									
	P 4841C–4R – E 57	4	8.40	3.36	0.5	11°	90°				△									
	P 4841C–5R – E 57	4	10.29	4.12	0.6	11°	90°				△									

= **New addition to range**

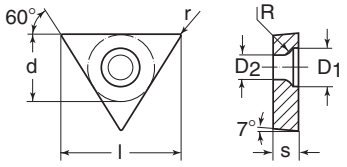
P 284 . .



HC = Coated carbide
HW = Uncoated carbide

	Designation	Cutting edges	l mm	s mm	α°	ε°	P HC WAP 20	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	M HC WSP 45	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HW WK 40	S HC WSP 45	S HW WK 40	S HC WXP 40
	P 28467 – 1	4	6.35	2.38	14	90	△	△	△		△		△	△	△				
	P 28467 – 2	4	7.80	3.18	14	90	△	△	△		△		△	△	△				
	P 28467 – 3	4	9.52	3.97	11	96	△	△	△		△		△	△	△				
	P 28467 – 4	4	11.0	3.97	11	96	△	△	△		△		△	△	△				
	P 28467 – 5	4	12.7	4.76	11	96	△	△	△		△		△	△	△				
	P 28467 – 6	4	15.0	4.76	11	96	△	△	△		△		△	△	△				
	P 28467 – 7	4	17.6	5.56	11	96	△	△	△		△		△	△	△				
	P 28469 – 1	4	6.35	2.38	14	90			△	△	△	△			△	△	△	△	
	P 28469 – 2	4	7.80	3.18	14	90			△	△	△	△			△	△	△	△	
	P 28469 – 3	4	9.52	3.97	11	96			△	△	△	△			△	△	△	△	
	P 28469 – 4	4	11.0	3.97	11	96			△	△	△	△			△	△	△	△	
	P 28469 – 5	4	12.7	4.76	11	96			△	△	△	△			△	△	△	△	
	P 28469 – 6	4	15.0	4.76	11	96			△	△	△	△			△	△	△	△	
	P 28469 – 7	4	17.6	5.56	11	96			△	△	△	△			△	△	△	△	
	P 28475 – 1	4	6.35	2.38	14	90	△		△		△				△				△
	P 28475 – 2	4	7.80	3.18	14	90	△		△		△				△				△
	P 28475 – 3	4	9.52	3.97	11	96	△		△		△				△				△
	P 28475 – 4	4	11.0	3.97	11	96	△		△		△				△				△
	P 28475 – 5	4	12.7	4.76	11	96	△		△		△				△				△
	P 28475 – 6	4	15.0	4.76	11	96	△		△		△				△				△
	P 28475 – 7	4	17.6	5.56	11	96	△		△		△				△				△
	P 28477 – 1	4	6.35	2.38	14	90	△	△	△		△		△	△	△				△
	P 28477 – 2	4	7.80	3.18	14	90	△	△	△		△		△	△	△				△
	P 28477 – 3	4	9.52	3.97	11	96	△	△	△		△		△	△	△				△
	P 28477 – 4	4	11.0	3.97	11	96	△	△	△		△		△	△	△				△
	P 28477 – 5	4	12.7	4.76	11	96	△	△	△		△		△	△	△				△
	P 28477 – 6	4	15.0	4.76	11	96	△	△	△		△		△	△	△				△
	P 28477 – 7	4	17.6	5.56	11	96	△	△	△		△		△	△	△				△
	P 28479 – 1	4	6.35	2.38	14	90			△		△				△				△
	P 28479 – 2	4	7.80	3.18	14	90			△		△				△				△
	P 28479 – 3	4	9.52	3.97	11	96			△		△				△				△
	P 28479 – 4	4	11.0	3.97	11	96			△		△				△				△
	P 28479 – 5	4	12.7	4.76	11	96			△		△				△				△
	P 28479 – 6	4	15.0	4.76	11	96			△		△				△				△
	P 28479 – 7	4	17.6	5.56	11	96			△		△				△				△

TCMT
TCGT
TCMW

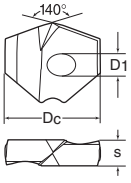


HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC		K HC			N HC	N HW	S HC		H BL	H BH
									WPP 01	WPP 10	WPP 20	WPP 30	WSM 20	WSM 30	WAK 10	WAK 20	WAK 30	WXN 10	WK 1	WSM 20	WSM 30	WCB 30	WCB 50
	TCMT 110208 – PF 4	6.35	11.0	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△						△	△		
	TCMT 16T308 – PF 4	9.525	16.5	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△						△	△		
	TCMT 110208 – PS 5	6.35	11.0	2.38	0.8	3.75	2.8	1.8			△		△	△	△	△				△	△		
	TCMT 16T308 – PS 5	9.525	16.5	3.97	0.8	6.0	4.4	1.5			△		△	△	△	△				△	△		
	TCGT 16T308 – PM 2	9.525	16.5	3.97	0.8	6.0	4.4	1.5										△	△				
	TCMT 110208 – PM 5	6.35	11.0	2.38	0.8	3.75	2.8	1.8		△	△	△	△	△	△	△	△			△	△		
	TCMT 16T308 – PM 5	9.525	16.5	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△			△	△		
	TCMW 110208	6.35	11.0	2.38	0.8	3.75	2.8	1.8							△	△							
	TCMW 16T308	9.525	16.5	3.97	0.8	6.0	4.4	1.5							△	△							

= **New addition to range**

Drill bit P 6001
for *Xtra·tec*® POINT DRILL
(D_C 12–17.86 mm)

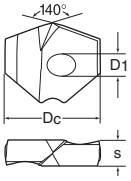


HC = Coated carbide
HW = Uncoated carbide



Designation	Cutting edges	D_C mm	D_1 mm	s mm	P HC WXP 45	P HC	P HC	M HC	K HC WXK 25	K HC	K HC	N HW	S HW	HC	HC
P 6001 – D12,00 R	2	12.00	3	3.6	△										
P 6001 – D12,10 R	2	12.10	3	3.6	△										
P 6001 – D12,20 R	2	12.20	3	3.6	△										
P 6001 – D12,30 R	2	12.30	3	3.6	△										
P 6001 – D12,40 R	2	12.40	3	3.6	△										
P 6001 – D12,50 R	2	12.50	3	3.6	△										
P 6001 – D12,60 R	2	12.60	3	3.6	△										
P 6001 – D12,70 R	2	12.70	3	3.6	△										
P 6001 – D12,80 R	2	12.80	3	3.6	△										
P 6001 – D12,90 R	2	12.90	3	3.6	△										
P 6001 – D13,00 R	2	13.00	3	3.6	△										
P 6001 – D13,11 R	2	13.11	3	3.6	△										
P 6001 – D13,20 R	2	13.20	3	3.6	△										
P 6001 – D13,30 R	2	13.30	3	3.6	△										
P 6001 – D13,40 R	2	13.40	3	3.6	△										
P 6001 – D13,50 R	2	13.50	3	3.6	△										
P 6001 – D13,60 R	2	13.60	3	3.6	△										
P 6001 – D13,70 R	2	13.70	3	3.6	△										
P 6001 – D13,80 R	2	13.80	3	3.6	△										
P 6001 – D13,89 R	2	13.89	3	3.6	△										
P 6001 – D14,00 R	2	14.00	3	4.0	△										
P 6001 – D14,10 R	2	14.10	3	4.0	△										
P 6001 – D14,20 R	2	14.20	3	4.0	△										
P 6001 – D14,30 R	2	14.30	3	4.0	△										
P 6001 – D14,40 R	2	14.40	3	4.0	△										
P 6001 – D14,50 R	2	14.50	3	4.0	△										
P 6001 – D14,60 R	2	14.60	3	4.0	△										
P 6001 – D14,68 R	2	14.68	3	4.0	△										
P 6001 – D14,80 R	2	14.80	3	4.0	△										
P 6001 – D14,90 R	2	14.90	3	4.0	△										
P 6001 – D15,00 R	2	15.00	3	4.0	△										
P 6001 – D15,09 R	2	15.09	3	4.0	△										
P 6001 – D15,20 R	2	15.20	3	4.0	△										
P 6001 – D15,30 R	2	15.30	3	4.0	△										
P 6001 – D15,40 R	2	15.40	3	4.0	△										
P 6001 – D15,50 R	2	15.50	3	4.0	△										
P 6001 – D15,60 R	2	15.60	3	4.0	△										
P 6001 – D15,70 R	2	15.70	3	4.0	△										
P 6001 – D15,80 R	2	15.80	3	4.0	△										
P 6001 – D15,87 R	2	15.87	3	4.0	△										
P 6001 – D16,00 R	2	16.00	4	4.5	△										
P 6001 – D16,26 R	2	16.26	4	4.5	△										
P 6001 – D16,50 R	2	16.50	4	4.5	△										
P 6001 – D16,66 R	2	16.66	4	4.5	△										
P 6001 – D17,00 R	2	17.00	4	4.5	△										
P 6001 – D17,07 R	2	17.07	4	4.5	△										
P 6001 – D17,45 R	2	17.45	4	4.5	△										
P 6001 – D17,50 R	2	17.50	4	4.5	△										
P 6001 – D17,70 R	2	17.70	4	4.5	△										
P 6001 – D17,86 R	2	17.86	4	4.5	△										

Drill bit P 6001
for *Xtra*·tec® POINT DRILL
(D_C 18–27.78 mm)

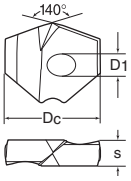


HC = Coated carbide
HW = Uncoated carbide



Designation	Cutting edges	D_C mm	D_1 mm	s mm	P HC WXP 45	P HC	P HC	M HC	K HC WXK 25	K HC	K HC	N HW	S HW	HC	HC
P 6001 – D18,00 R	2	18.00	4	5.0	△										
P 6001 – D18,24 R	2	18.24	4	5.0	△										
P 6001 – D18,50 R	2	18.50	4	5.0	△										
P 6001 – D18,65 R	2	18.65	4	5.0	△										
P 6001 – D19,00 R	2	19.00	4	5.0	△										
P 6001 – D19,05 R	2	19.05	4	5.0	△										
P 6001 – D19,25 R	2	19.25	4	5.0	△										
P 6001 – D19,43 R	2	19.43	4	5.0	△										
P 6001 – D19,50 R	2	19.50	4	5.0	△										
P 6001 – D19,70 R	2	19.70	4	5.0	△										
P 6001 – D19,84 R	2	19.84	4	5.0	△										
P 6001 – D20,00 R	2	20.00	5	5.5	△										
P 6001 – D20,24 R	2	20.24	5	5.5	△										
P 6001 – D20,50 R	2	20.50	5	5.5	△										
P 6001 – D20,62 R	2	20.62	5	5.5	△										
P 6001 – D20,70 R	2	20.70	5	5.5	△										
P 6001 – D21,00 R	2	21.00	5	5.5	△										
P 6001 – D21,41 R	2	21.41	5	5.5	△										
P 6001 – D21,50 R	2	21.50	5	5.5	△										
P 6001 – D21,70 R	2	21.70	5	5.5	△										
P 6001 – D21,83 R	2	21.83	5	5.5	△										
P 6001 – D22,00 R	2	22.00	5	6.0	△										
P 6001 – D22,22 R	2	22.22	5	6.0	△										
P 6001 – D22,50 R	2	22.50	5	6.0	△										
P 6001 – D22,62 R	2	22.62	5	6.0	△										
P 6001 – D22,70 R	2	22.70	5	6.0	△										
P 6001 – D23,00 R	2	23.00	5	6.0	△										
P 6001 – D23,39 R	2	23.39	5	6.0	△										
P 6001 – D23,50 R	2	23.50	5	6.0	△										
P 6001 – D23,70 R	2	23.70	5	6.0	△										
P 6001 – D23,80 R	2	23.80	5	6.0	△										
P 6001 – D24,00 R	2	24.00	5	6.5	△										
P 6001 – D24,21 R	2	24.21	5	6.5	△										
P 6001 – D24,50 R	2	24.50	5	6.5	△										
P 6001 – D24,59 R	2	24.59	5	6.5	△										
P 6001 – D24,70 R	2	24.70	5	6.5	△										
P 6001 – D25,00 R	2	25.00	5	6.5	△										
P 6001 – D25,25 R	2	25.25	5	6.5	△										
P 6001 – D25,40 R	2	25.40	5	6.5	△										
P 6001 – D25,50 R	2	25.50	5	6.5	△										
P 6001 – D25,65 R	2	25.65	5	6.5	△										
P 6001 – D25,80 R	2	25.80	5	6.5	△										
P 6001 – D26,00 R	2	26.00	6	7.1	△										
P 6001 – D26,25 R	2	26.25	6	7.1	△										
P 6001 – D26,50 R	2	26.50	6	7.1	△										
P 6001 – D26,59 R	2	26.59	6	7.1	△										
P 6001 – D27,00 R	2	27.00	6	7.1	△										
P 6001 – D27,38 R	2	27.38	6	7.1	△										
P 6001 – D27,50 R	2	27.50	6	7.1	△										
P 6001 – D27,78 R	2	27.78	6	7.1	△										

Drill bit P 6001
for *Xtra*·tec® POINT DRILL
(D_C 28–31.75 mm)

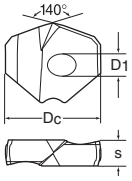


HC = Coated carbide
HW = Uncoated carbide



Designation	Cutting edges	D_C mm	D_1 mm	s mm	P			M	K			N	S		
					HC			HC	HC			HW	HW	HC	
					WXP 45				WXK 25						
P 6001 – D28,00 R	2	28.00	6	7.7	△										
P 6001 – D28,17 R	2	28.17	6	7.7	△										
P 6001 – D28,50 R	2	28.50	6	7.7	△										
P 6001 – D28,57 R	2	28.57	6	7.7	△										
P 6001 – D29,00 R	2	29.00	6	7.7	△										
P 6001 – D29,37 R	2	29.37	6	7.7	△										
P 6001 – D29,50 R	2	29.50	6	7.7	△										
P 6001 – D29,77 R	2	29.77	6	7.7	△										
P 6001 – D30,00 R	2	30.00	6	8.0	△										
P 6001 – D30,15 R	2	30.15	6	8.0	△										
P 6001 – D30,50 R	2	30.50	6	8.0	△										
P 6001 – D31,00 R	2	31.00	6	8.0	△										
P 6001 – D31,50 R	2	31.50	6	8.0	△										
P 6001 – D31,75 R	2	31.75	6	8.0	△										

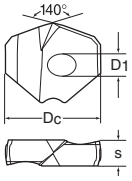
Drill bit P 6002
for *Xtra*·tec® POINT DRILL
(D_C 12–21.83 mm)



HC = Coated carbide
HW = Uncoated carbide

	Designation	Cutting edges	D_C mm	D_1 mm	s mm	P			M	K			N	S		
						HC			HC	HC			HW	HW	HC	
						WXP 45				WXK 25						
	P 6002 – D12,00 R	2	12.00	3	3.6					△						
	P 6002 – D12,50 R	2	12.50	3	3.6					△						
	P 6002 – D12,70 R	2	12.70	3	3.6					△						
	P 6002 – D13,00 R	2	13.00	3	3.6					△						
	P 6002 – D13,11 R	2	13.11	3	3.6					△						
	P 6002 – D13,50 R	2	13.50	3	3.6					△						
	P 6002 – D13,70 R	2	13.70	3	3.6					△						
	P 6002 – D13,89 R	2	13.89	3	3.6					△						
	P 6002 – D14,00 R	2	14.00	3	4.0					△						
	P 6002 – D14,30 R	2	14.30	3	4.0					△						
	P 6002 – D14,50 R	2	14.50	3	4.0					△						
	P 6002 – D14,68 R	2	14.68	3	4.0					△						
	P 6002 – D15,00 R	2	15.00	3	4.0					△						
	P 6002 – D15,09 R	2	15.09	3	4.0					△						
	P 6002 – D15,47 R	2	15.47	3	4.0					△						
	P 6002 – D15,50 R	2	15.50	3	4.0					△						
	P 6002 – D15,70 R	2	15.70	3	4.0					△						
	P 6002 – D15,87 R	2	15.87	3	4.0					△						
	P 6002 – D16,00 R	2	16.00	4	4.5					△						
	P 6002 – D16,26 R	2	16.26	4	4.5					△						
	P 6002 – D16,50 R	2	16.50	4	4.5					△						
	P 6002 – D16,66 R	2	16.66	4	4.5					△						
	P 6002 – D17,00 R	2	17.00	4	4.5					△						
	P 6002 – D17,07 R	2	17.07	4	4.5					△						
	P 6002 – D17,45 R	2	17.45	4	4.5					△						
	P 6002 – D17,50 R	2	17.50	4	4.5					△						
	P 6002 – D17,70 R	2	17.70	4	4.5					△						
	P 6002 – D17,86 R	2	17.86	4	4.5					△						
	P 6002 – D18,00 R	2	18.00	4	5.0					△						
	P 6002 – D18,24 R	2	18.24	4	5.0					△						
	P 6002 – D18,50 R	2	18.50	4	5.0					△						
	P 6002 – D18,65 R	2	18.65	4	5.0					△						
	P 6002 – D18,70 R	2	18.70	4	5.0					△						
	P 6002 – D19,00 R	2	19.00	4	5.0					△						
	P 6002 – D19,05 R	2	19.05	4	5.0					△						
	P 6002 – D19,43 R	2	19.43	4	5.0					△						
	P 6002 – D19,50 R	2	19.50	4	5.0					△						
	P 6002 – D19,70 R	2	19.70	4	5.0					△						
	P 6002 – D19,84 R	2	19.84	4	5.0					△						
	P 6002 – D20,00 R	2	20.00	5	5.5					△						
	P 6002 – D20,24 R	2	20.24	5	5.5					△						
	P 6002 – D20,50 R	2	20.50	5	5.5					△						
	P 6002 – D20,62 R	2	20.62	5	5.5					△						
	P 6002 – D20,70 R	2	20.70	5	5.5					△						
	P 6002 – D21,00 R	2	21.00	5	5.5					△						
	P 6002 – D21,41 R	2	21.41	5	5.5					△						
	P 6002 – D21,50 R	2	21.50	5	5.5					△						
	P 6002 – D21,70 R	2	21.70	5	5.5					△						
	P 6002 – D21,83 R	2	21.83	5	5.5					△						

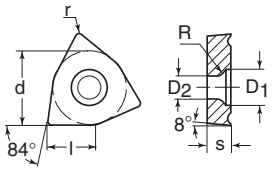
Drill bit P 6002
for *Xtra*·tec® POINT DRILL
(D_C 22–31.75 mm)



HC = Coated carbide
HW = Uncoated carbide

	Designation	Cutting edges	D_C mm	D_1 mm	s mm	P HC WXP 45	P HC	P HC	M HC	K HC WXK 25	K HC	K HC	N HW	S HW	HC	HC
	P 6002 – D22,00 R	2	22.00	5	6.0					△						
	P 6002 – D22,22 R	2	22.22	5	6.0					△						
	P 6002 – D22,50 R	2	22.50	5	6.0					△						
	P 6002 – D22,62 R	2	22.62	5	6.0					△						
	P 6002 – D22,70 R	2	22.70	5	6.0					△						
	P 6002 – D23,00 R	2	23.00	5	6.0					△						
	P 6002 – D23,39 R	2	23.39	5	6.0					△						
	P 6002 – D23,50 R	2	23.50	5	6.0					△						
	P 6002 – D23,70 R	2	23.70	5	6.0					△						
	P 6002 – D23,80 R	2	23.80	5	6.0					△						
	P 6002 – D24,00 R	2	24.00	5	6.5					△						
	P 6002 – D24,21 R	2	24.21	5	6.5					△						
	P 6002 – D24,50 R	2	24.50	5	6.5					△						
	P 6002 – D24,59 R	2	24.59	5	6.5					△						
	P 6002 – D24,70 R	2	24.70	5	6.5					△						
	P 6002 – D25,00 R	2	25.00	5	6.5					△						
	P 6002 – D25,40 R	2	25.40	5	6.5					△						
	P 6002 – D25,50 R	2	25.50	5	6.5					△						
	P 6002 – D25,80 R	2	25.80	5	6.5					△						
	P 6002 – D26,00 R	2	26.00	6	7.1					△						
	P 6002 – D26,25 R	2	26.25	6	7.1					△						
	P 6002 – D26,50 R	2	26.50	6	7.1					△						
	P 6002 – D26,59 R	2	26.59	6	7.1					△						
	P 6002 – D27,00 R	2	27.00	6	7.1					△						
	P 6002 – D27,38 R	2	27.38	6	7.1					△						
	P 6002 – D27,50 R	2	27.50	6	7.1					△						
	P 6002 – D27,78 R	2	27.78	6	7.1					△						
	P 6002 – D28,00 R	2	28.00	6	7.7					△						
	P 6002 – D28,17 R	2	28.17	6	7.7					△						
	P 6002 – D28,50 R	2	28.50	6	7.7					△						
	P 6002 – D28,57 R	2	28.57	6	7.7					△						
	P 6002 – D29,00 R	2	29.00	6	7.7					△						
	P 6002 – D29,37 R	2	29.37	6	7.7					△						
	P 6002 – D29,50 R	2	29.50	6	7.7					△						
	P 6002 – D29,77 R	2	29.77	6	7.7					△						
	P 6002 – D30,00 R	2	30.00	6	8.0					△						
	P 6002 – D30,15 R	2	30.15	6	8.0					△						
	P 6002 – D30,50 R	2	30.50	6	8.0					△						
	P 6002 – D31,00 R	2	31.00	6	8.0					△						
	P 6002 – D31,50 R	2	31.50	6	8.0					△						
	P 6002 – D31,75 R	2	31.75	6	8.0					△						

Trigon indexable inserts for WOMX / WOEX drills



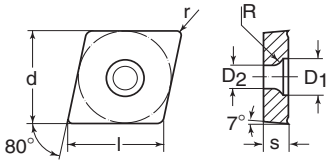
HC = Coated carbide
HW = Uncoated carbide

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC WAP 20	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	M	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HC WXK 25	N HW WK 40	S HW WK 40	HC WXP 40
	WOMX 030204 – B 57	5.00	3.31	2.30	0.4	2.95	2.30	0.50			△						△				
	WOMX 040304 – B 57	6.35	4.20	3.18	0.4	3.43	2.60	0.75			△						△				
	WOMX 05T304 – B 57	8.00	5.29	3.80	0.4	3.82	2.87	1.00			△						△				
	WOMX 06T304 – B 57	10.00	6.62	3.80	0.4	5.58	4.07	1.00			△						△				
	WOMX 080408 – B 57	12.00	7.94	4.80	0.8	6.53	4.97	1.50			△						△				
	WOMX 100508 – B 57	15.00	9.92	5.30	0.8	6.53	4.97	1.50			△						△				
	WOMX 120608 – B 57	17.60	11.64	6.00	0.8	7.68	5.97	1.80			△						△				
	WOMX 020102 – D 57	4.00	2.65	1.61	0.2	2.60	2.00	0.25	△		△				△		△				△
	WOMX 030204 – D 57	5.00	3.31	2.30	0.4	2.95	2.30	0.75	△		△				△		△				△
	WOMX 040304 – D 57	6.35	4.20	3.18	0.4	3.43	2.60	0.75	△		△				△		△				△
	WOMX 05T304 – D 57	8.00	5.29	3.80	0.4	3.82	2.87	1.00	△		△				△		△				△
	WOMX 06T304 – D 57	10.00	6.62	3.80	0.4	5.58	4.07	1.00	△		△				△		△				△
	WOMX 080408 – D 57	12.00	7.94	4.80	0.8	6.53	4.97	1.50	△		△				△		△				△
	WOMX 100508 – D 57	15.00	9.92	5.30	0.8	6.53	4.97	1.50	△		△				△		△				△
	WOMX 120608 – D 57	17.60	11.64	6.00	0.8	7.68	5.97	1.80	△		△				△		△				△
	WOEX 030204 – E 57	5.00	3.31	2.30	0.4	2.95	2.30	0.50	△		△				△		△				
	WOEX 040304 – E 57	6.35	4.20	3.18	0.4	3.43	2.60	0.75	△		△				△		△				
	WOEX 05T304 – E 57	8.00	5.29	3.80	0.4	3.82	2.87	1.00	△		△				△		△				
	WOEX 06T304 – E 57	10.00	6.62	3.80	0.4	5.58	4.07	1.00	△		△				△		△				
	WOEX 080408 – E 57	12.00	7.94	4.80	0.8	6.53	4.97	1.50	△		△				△		△				
	WOEX 100508 – E 57	15.00	9.92	5.30	0.8	6.53	4.97	1.50	△		△				△		△				
	WOEX 120608 – E 57	17.60	11.64	6.00	0.8	7.68	5.97	1.80	△		△				△		△				

Tiger·tec®

Boring inserts

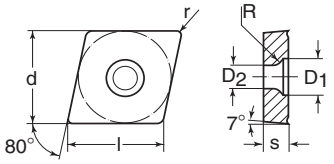
CCGT
CCMT



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC WPP 01	P HC WPP 10	P HC WPP 20	P HC WPP 30	M HC WSM 20	M HC WSM 30	K HC WAK 10	K HC WAK 20	K HC WAK 30	N HC WXN 10	N HW WK 1	S HC WSM 20	S HC WSM 30	H BL WCB 30
	CCGT 060202 – PF 2	6.35	6.45	2.38	0.2	3.75	2.8	1.8										△	△			
	CCGT 060204 – PF 2	6.35	6.45	2.38	0.4	3.75	2.8	1.8										△	△			
	CCGT 09T302 – PF 2	9.525	9.67	3.97	0.2	6.0	4.4	1.5										△	△			
	CCGT 09T304 – PF 2	9.525	9.67	3.97	0.4	6.0	4.4	1.5										△	△			
	CCGT 09T308 – PF 2	9.525	9.67	3.97	0.8	6.0	4.4	1.5										△	△			
	CCMT 060202 – PF 4	6.35	6.45	2.38	0.2	3.75	2.8	1.8	△	△	△		△	△						△	△	
	CCMT 060204 – PF 4	6.35	6.45	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△						△	△	
	CCMT 060208 – PF 4	6.35	6.45	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△						△	△	
	CCMT 09T302 – PF 4	9.525	9.67	3.97	0.2	6.0	4.4	1.5	△	△	△		△	△						△	△	
	CCMT 09T304 – PF 4	9.525	9.67	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△						△	△	
	CCMT 09T308 – PF 4	9.525	9.67	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△						△	△	
	CCMT 09T312 – PF 4	9.525	9.67	3.97	1.2	6.0	4.4	1.5	△	△	△		△	△						△	△	
	CCMT 120404 – PF 4	12.7	12.9	4.76	0.4	7.5	5.5	2.5	△	△	△		△	△						△	△	
	CCMT 120408 – PF 4	12.7	12.9	4.76	0.8	7.5	5.5	2.5	△	△	△		△	△						△	△	
	CCGT 060202 – PF 5	6.35	6.45	2.38	0.2	3.75	2.8	1.8			△	△		△							△	
	CCGT 060204 – PF 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8			△	△		△							△	
	CCGT 09T302 – PF 5	9.525	9.67	3.97	0.2	6.0	4.4	1.5			△	△		△							△	
	CCGT 09T304 – PF 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5			△	△		△							△	
	CCMT 060204 – PS 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8		△	△		△	△	△	△				△	△	
	CCMT 060208 – PS 5	6.35	6.45	2.38	0.8	3.75	2.8	1.8		△	△		△	△	△	△				△	△	
	CCMT 09T304 – PS 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5		△	△		△	△	△	△				△	△	
	CCMT 09T308 – PS 5	9.525	9.67	3.97	0.8	6.0	4.4	1.5		△	△		△	△	△	△				△	△	
	CCMT 120404 – PS 5	12.7	12.9	4.76	0.4	7.5	5.5	2.5		△	△		△	△	△	△				△	△	
	CCMT 120408 – PS 5	12.7	12.9	4.76	0.8	7.5	5.5	2.5		△	△		△	△	△	△				△	△	
	CCGT 060202 – PM 2	6.35	6.45	2.38	0.2	3.75	2.8	1.8										△	△			
	CCGT 060204 – PM 2	6.35	6.45	2.38	0.4	3.75	2.8	1.8										△	△			
	CCGT 09T302 – PM 2	9.525	9.67	3.97	0.2	6.0	4.4	1.5										△	△			
	CCGT 09T304 – PM 2	9.525	9.67	3.97	0.4	6.0	4.4	1.5										△	△			
	CCGT 09T308 – PM 2	9.525	9.67	3.97	0.8	6.0	4.4	1.5										△	△			
	CCGT 120402 – PM 2	12.7	12.9	4.76	0.2	7.5	5.5	2.5										△	△			
	CCGT 120404 – PM 2	12.7	12.9	4.76	0.4	7.5	5.5	2.5										△	△			
	CCGT 120408 – PM 2	12.7	12.9	4.76	0.8	7.5	5.5	2.5										△	△			

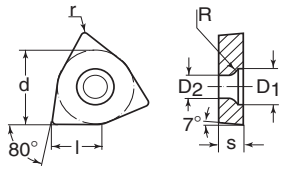
CCMT



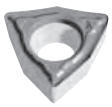
HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC: WPP 01	P HC: WPP 10	P HC: WPP 20	P HC: WPP 30	M HC: WSM 20	M HC: WSM 30	K HC: WAK 10	K HC: WAK 20	K HC: WAK 30	N HC: WXN 10	N HW: WK 1	S HC: WSM 20	S HC: WSM 30	H BL: WCB 30
	CCMT 060204 – PM 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△	△			△	△	
	CCMT 060208 – PM 5	6.35	6.45	2.38	0.8	3.75	2.8	1.8		△	△	△	△	△	△	△	△			△	△	
	CCMT 09T304 – PM 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△	△			△	△	
	CCMT 09T308 – PM 5	9.525	9.67	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△	△			△	△	
	CCMT 120404 – PM 5	12.7	12.9	4.76	0.4	7.5	5.5	2.5		△	△	△	△	△	△	△	△			△	△	
	CCMT 120408 – PM 5	12.7	12.9	4.76	0.8	7.5	5.5	2.5		△	△	△	△	△	△	△	△			△	△	
	CCMT 120412 – PM 5	12.7	12.9	4.76	1.2	7.5	5.5	2.5		△	△	△	△	△	△	△	△			△	△	

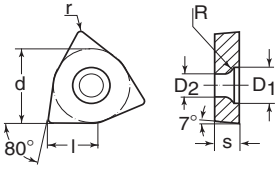
WCGT
WCMT



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC: WPP 01	P HC: WPP 10	P HC: WPP 20	P HC: WPP 30	M HC: WSM 20	M HC: WSM 30	K HC: WAK 10	K HC: WAK 20	K HC: WAK 30	N HC: WXN 10	N HW: WK 1	S HC: WSM 20	S HC: WSM 30	H BL: WCB 30
	WCGT 030202 – PF 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3										△	△			
	WCGT 030204 – PF 2	5.56	3.8	2.38	0.4	3.3	2.5	2.3										△	△			
	WCGT 040202 – PF 2	6.35	4.3	2.38	0.2	3.75	2.8	1.8										△	△			
	WCGT 040204 – PF 2	6.35	4.3	2.38	0.4	3.75	2.8	1.8										△	△			
	WCGT 06T302 – PF 2	9.525	6.5	3.97	0.2	6.0	4.4	1.5										△	△			
	WCGT 06T304 – PF 2	9.525	6.5	3.97	0.4	6.0	4.4	1.5										△	△			
	WCGT 06T308 – PF 2	9.525	6.5	3.97	0.8	6.0	4.4	1.5										△	△			
	WCGT 06T308 – PF 2	12.7	8.72	4.76	0.4	7.5	5.5	2.5										△	△			
	WCGT 06T308 – PF 2	12.7	8.72	4.76	0.8	7.5	5.5	2.5										△	△			
	WCMT 040202 – PF 4	6.35	4.3	2.38	0.2	3.75	2.8	1.8	△	△	△		△	△						△	△	
	WCMT 040204 – PF 4	6.35	4.3	2.38	0.4	3.75	2.8	1.8	△	△	△		△	△						△	△	
	WCMT 040208 – PF 4	6.35	4.3	2.38	0.8	3.75	2.8	1.8	△	△	△		△	△						△	△	
	WCMT 06T302 – PF 4	9.525	6.5	3.97	0.2	6.0	4.4	1.5	△	△	△		△	△						△	△	
	WCMT 06T304 – PF 4	9.525	6.5	3.97	0.4	6.0	4.4	1.5	△	△	△		△	△						△	△	
	WCMT 06T308 – PF 4	9.525	6.5	3.97	0.8	6.0	4.4	1.5	△	△	△		△	△						△	△	
	WCMT 080404 – PF 4	12.7	8.72	4.76	0.4	7.5	5.5	2.5	△	△	△		△	△						△	△	
	WCMT 080408 – PF 4	12.7	8.72	4.76	0.8	7.5	5.5	2.5	△	△	△		△	△						△	△	

WCGT
WCMT
WCMW

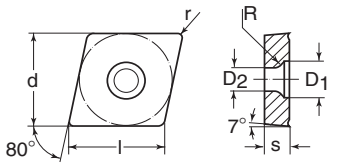


HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	P HC				M HC		K HC			N HC	N HW	S HC		H BL
									WPP 01	WPP 10	WPP 20	WPP 30	WSM 20	WSM 30	WAK 10	WAK 20	WAK 30	WXN 10	WK 1	WSM 20	WSM 30	WCB 30
	WCMT 040204 – PS 5	6.35	4.3	2.38	0.4	3.75	2.8	1.8			△				△	△						
	WCMT 040208 – PS 5	6.35	4.3	2.38	0.8	3.75	2.8	1.8			△				△	△						
	WCMT 06T304 – PS 5	9.525	6.5	3.97	0.4	6.0	4.4	1.5			△				△	△						
	WCMT 06T308 – PS 5	9.525	6.5	3.97	0.8	6.0	4.4	1.5			△				△	△						
	WCMT 080404 – PS 5	12.7	8.72	4.76	0.4	7.5	5.5	2.5			△				△	△						
	WCMT 080408 – PS 5	12.7	8.72	4.76	0.8	7.5	5.5	2.5			△				△	△						
	WCGT 030202 – PM 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3										△	△			
	WCGT 030204 – PM 2	5.56	3.8	2.38	0.4	3.3	2.5	2.3										△	△			
	WCGT 040201 – PM 2	6.35	4.3	2.38	0.1	3.75	2.8	1.8										△	△			
	WCGT 040202 – PM 2	6.35	4.3	2.38	0.2	3.75	2.8	1.8										△	△			
	WCGT 040204 – PM 2	6.35	4.3	2.38	0.4	3.75	2.8	1.8										△	△			
	WCGT 06T301 – PM 2	9.525	6.5	3.97	0.1	6.0	4.4	1.5										△	△			
	WCGT 06T302 – PM 2	9.525	6.5	3.97	0.2	6.0	4.4	1.5										△	△			
	WCGT 06T304 – PM 2	9.525	6.5	3.97	0.4	6.0	4.4	1.5										△	△			
	WCGT 080404 – PM 2	12.7	8.72	4.76	0.4	7.5	5.5	2.5										△	△			
	WCGT 080408 – PM 2	12.7	8.72	4.76	0.8	7.5	5.5	2.5										△	△			
	WCMT 030202 – PM 5	5.56	3.8	2.38	0.2	3.3	2.5	2.3		△	△	△	△	△	△	△				△	△	
	WCMT 040202 – PM 5	6.35	4.3	2.38	0.2	3.75	2.8	1.8		△	△	△	△	△	△	△				△	△	
	WCMT 040204 – PM 5	6.35	4.3	2.38	0.4	3.75	2.8	1.8		△	△	△	△	△	△	△				△	△	
	WCMT 06T304 – PM 5	9.525	6.5	3.97	0.4	6.0	4.4	1.5		△	△	△	△	△	△	△				△	△	
	WCMT 06T308 – PM 5	9.525	6.5	3.97	0.8	6.0	4.4	1.5		△	△	△	△	△	△	△				△	△	
	WCMT 080404 – PM 5	12.7	8.72	4.76	0.4	7.5	5.5	2.5		△	△	△	△	△	△	△				△	△	
	WCMT 080408 – PM 5	12.7	8.72	4.76	0.8	7.5	5.5	2.5		△	△	△	△	△	△	△				△	△	
	WCMT 080412 – PM 5	12.7	8.72	4.76	1.2	7.5	5.5	2.5		△	△	△	△	△	△	△				△	△	
	WCMW 080404	12.7	8.72	4.76	0.4	7.5	5.5	2.5							△	△						
	WCMW 080408	12.7	8.72	4.76	0.8	7.5	5.5	2.5							△	△						
	WCMW 080412	12.7	8.72	4.76	1.2	7.5	5.5	2.5							△	△						

Precision boring inserts

CCGT
CCMT
CCMW



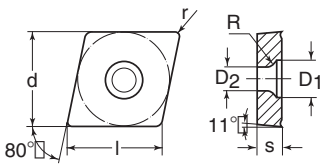
HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content
DP = polycrystalline diamond

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	Groove	HC WPP 01	HC WPP 10	HC WPP 20	HC WPP 30	HC WTP 35	HC WSM 20	HC WSM 30	HC WAK 10	HC WAK 15	HC WXN 10	HC WXM 15	HW WK 1	BL WCB 30	BH WCB 50	DP WCD 10
	CCGT 060202 – X 5	6.35	6.45	2.38	0.2	3.75	2.8	1.8	5°					△				△		△				
	CCGT 060204 – X 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8	5°					△				△		△				
	CCGT 060202 – X 15	6.35	6.45	2.38	0.2	3.75	2.8	1.8	15°					△				△		△				
	CCGT 060204 – X 15	6.35	6.45	2.38	0.4	3.75	2.8	1.8	15°					△				△		△				
	CCGT 060201 – PF 2	6.35	6.45	2.38	0.1	3.75	2.8	1.8											△		△			
	CCGT 060202 – PF 2	6.35	6.45	2.38	0.2	3.75	2.8	1.8											△		△			
	CCGT 060204 – PF 2	6.35	6.45	2.38	0.4	3.75	2.8	1.8											△		△			
	CCGT 060202 – PF 5	6.35	6.45	2.38	0.2	3.75	2.8	1.8				△	△			△								
	CCGT 060204 – PF 5	6.35	6.45	2.38	0.4	3.75	2.8	1.8				△	△			△								
	CCGT 09T302 – PF 5	9.525	9.67	3.97	0.2	6.0	4.4	1.5				△	△			△								
	CCGT 09T304 – PF 5	9.525	9.67	3.97	0.4	6.0	4.4	1.5				△	△			△								
	CCMT 060202 – PF 4	6.35	6.45	2.38	0.2	3.75	2.8	1.8		△	△	△			△	△								
	CCMT 060204 – PF 4	6.35	6.45	2.38	0.4	3.75	2.8	1.8		△	△	△			△	△								
	CCMT 060208 – PF 4	6.35	6.45	2.38	0.8	3.75	2.8	1.8		△	△	△			△	△								
	CCGT 060201 – PM 2	6.35	6.45	2.38	0.1	3.75	2.8	1.8											△		△			
	CCGT 060202 – PM 2	6.35	6.45	2.38	0.2	3.75	2.8	1.8											△		△			
	CCGT 060204 – PM 2	6.35	6.45	2.38	0.4	3.75	2.8	1.8											△		△			
Wiper 	CCMT 060204 – PF	6.35	6.45	2.38	0.4	3.75	2.8	1.8		△	△	△			△	△								
	CCMT 060208 – PF	6.35	6.45	2.38	0.8	3.75	2.8	1.8		△	△	△			△	△								
	CCMW 060204	6.35	6.45	2.38	0.4	3.75	2.8	1.8														△		
	CCMW 060208	6.35	6.45	2.38	0.8	3.75	2.8	1.8														△		
	CCMW 060204–2	6.35	6.45	2.38	0.4	3.75	2.8	1.8														△	△	
	CCMW 060208–2	6.35	6.45	2.38	0.8	3.75	2.8	1.8														△	△	

Wiper

For achievable surface finishes and possible applications refer to the general catalogue, page 218.

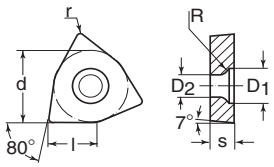
CPGT



HC = Coated carbide
HW = Uncoated carbide
BL = CBN with low CBN content
BH = CBN with high CBN content
DP = polycrystalline diamond

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	Groove	HC WPP 20	HC WPP 30	HC WTP 35	HC WSM 20	HC WSM 30	HC WAK 10	HC WAK 15	HC WXN 10	HC WXM 15	HW WK 1	BL WCB 30	BH WCB 50	DP WCD 10
	CPGT 050202 – PF 5	5.56	5.65	2.38	0.2	3.3	2.5	2.3							△							
	CPGT 050202 – X 5	5.56	5.65	2.38	0.2	3.3	2.5	2.3	5°			△				△		△				
	CPGT 050204 – X 5	5.56	5.65	2.38	0.4	3.3	2.5	2.3	5°			△				△		△				
	CPGT 050202 – X 15	5.56	5.65	2.38	0.2	3.3	2.5	2.3	15°			△				△		△				
	CPGT 050204 – X 15	5.56	5.65	2.38	0.4	3.3	2.5	2.3	15°			△				△		△	△			
	CPGT 050204 – X 25	5.56	5.65	2.38	0.4	3.3	2.5	2.3	25°										△			

WCGT
WCMT
WCMW

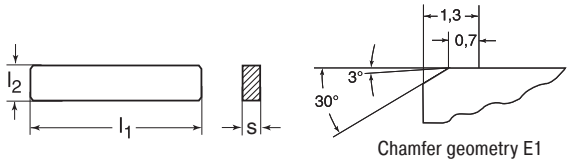


HC = Coated carbide
HW = Uncoated carbide
BH = CBN with high CBN content
DP = polycrystalline diamond

	Designation	d mm	l mm	s mm	r mm	D_1 mm	D_2 mm	R mm	Groove	HC WPP 01	HC WPP 10	HC WPP 20	HC WTP 35	HC WSM 20	HC WSM 30	HC WAK 15	HC WXN 10	HC WXM 15	HW WK 1	BH WCB 50	BH WCB 80	DP WCD 10
	WCGT 020102 – X 5	3.97	2.70	1.59	0.2	2.7	2.2	1.6	5°				△			△		△	△			
	WCGT 020104 – X 5	3.97	2.70	1.59	0.4	2.7	2.2	1.6	5°				△			△		△				
	WCGT 030202 – X 5	5.56	3.80	2.38	0.2	3.30	2.5	2.3	5°				△			△		△				
	WCGT 030204 – X 5	5.56	3.80	2.38	0.4	3.30	2.5	2.3	5°				△			△		△				
	WCGT 040202 – X 5	6.35	4.30	2.38	0.2	3.75	2.8	1.8	5°				△			△		△	△			
	WCGT 040204 – X 5	6.35	4.30	2.38	0.4	3.75	2.8	1.8	5°				△			△		△				
	WCGT 050304 – X 5	7.94	5.43	3.18	0.4	4.5	3.4	1.6	5°				△			△		△	△			
	WCGT 020102 – X 15	3.97	2.70	1.59	0.2	2.7	2.2	1.6	15°				△			△		△	△			
	WCGT 020104 – X 15	3.97	2.70	1.59	0.4	2.7	2.2	1.6	15°				△			△		△				
	WCGT 030202 – X 15	5.56	3.80	2.38	0.2	3.30	2.5	2.3	15°				△			△		△	△			
	WCGT 030204 – X 15	5.56	3.80	2.38	0.4	3.30	2.5	2.3	15°				△			△		△				
	WCGT 040202 – X 15	6.35	4.30	2.38	0.2	3.75	2.8	1.8	15°				△			△		△				
	WCGT 040204 – X 15	6.35	4.30	2.38	0.4	3.75	2.8	1.8	15°				△			△		△				
	WCGT 050304 – X 15	7.94	5.43	3.18	0.4	4.5	3.4	1.6	15°				△			△		△				
	WCGT 020102 – X 25	3.97	2.70	1.59	0.2	2.7	2.2	1.6	25°										△			
	WCGT 030202 – X 25	5.56	3.80	2.38	0.2	3.30	2.5	2.3	25°										△			
	WCGT 030204 – X 25	5.56	3.80	2.38	0.4	3.30	2.5	2.3	25°										△			
	WCGT 040204 – X 25	6.35	4.30	2.38	0.4	3.75	2.8	1.8	25°										△			
	WCGT 050304 – X 25	7.94	5.43	3.18	0.4	4.5	3.4	1.6	25°										△			
	WCGT 030201 – PF 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3									△		△			
	WCGT 030202 – PF 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3									△		△			
	WCGT 030204 – PF 2	5.56	3.8	2.38	0.4	3.3	2.5	2.3									△		△			
	WCGT 040201 – PF 2	6.35	4.3	2.38	0.1	3.75	2.8	1.8									△		△			
	WCGT 040202 – PF 2	6.35	4.3	2.38	0.2	3.75	2.8	1.8									△		△			
	WCGT 040204 – PF 2	6.35	4.3	2.38	0.4	3.75	2.8	1.8									△		△			
	WCMT 040202 – PF 4	6.35	4.3	2.38	0.2	3.75	2.8	1.8		△	△	△		△	△							
	WCMT 040204 – PF 4	6.35	4.3	2.38	0.4	3.75	2.8	1.8		△	△	△		△	△							
	WCMT 040208 – PF 4	6.35	4.3	2.38	0.8	3.75	2.8	1.8		△	△	△		△	△							
	WCGT 030202 – PM 2	5.56	3.8	2.38	0.2	3.3	2.5	2.3									△		△			
	WCGT 030204 – PM 2	5.56	3.8	2.38	0.4	3.3	2.5	2.3									△		△			
	WCGT 040201 – PM 2	6.35	4.3	2.38	0.1	3.75	2.8	1.8									△		△			
	WCGT 040202 – PM 2	6.35	4.3	2.38	0.2	3.75	2.8	1.8									△		△			
	WCGT 040204 – PM 2	6.35	4.3	2.38	0.4	3.75	2.8	1.8									△		△			
	WCMW 020102	3.97	2.70	1.59	0.2	2.7	2.2	1.6												△	△	△
	WCMW 020104	3.97	2.70	1.59	0.4	2.7	2.2	1.6												△	△	△
	WCMW 030202	5.56	3.80	2.38	0.2	3.30	2.5	2.3												△	△	△
	WCMW 030204	5.56	3.80	2.38	0.4	3.30	2.5	2.3												△	△	△
	WCMW 030208	5.56	3.80	2.38	0.8	3.30	2.5	2.3														△
	WCMW 040202	6.35	4.3	2.38	0.2	3.75	2.8	1.8												△	△	△
	WCMW 040204	6.35	4.3	2.38	0.4	3.75	2.8	1.8												△	△	△
	WCMW 050304	7.94	5.43	3.18	0.4	4.5	3.4	1.6												△	△	△

Reaming inserts

P 6500



Chamfer geometry E1

HC = Coated carbide
HW = Uncoated carbide
HT = Cermet
BH = CBN with high CBN content
DP = polycrystalline diamond

	Designation	Cutting edges	l_1 x l_2 mm	s mm	Rake angle	Chamfer	HC WXP 15		HW WK 10		HT WCE 10		BH WCB 50		DP WCD 10	
	P 6500 – 00R – A88 – E1	1	11 x 1.5	1.0	0°	E1	△									
	P 6500 – 0R – A88 – E1	2	20 x 2.5	1.2	0°	E1	△									
	P 6500 – 1R – A88 – E1	2	20 x 3.0	1.5	0°	E1	△									
	P 6500 – 2R – A88 – E1	2	20 x 4.5	2.0	0°	E1	△									
	P 6500 – 4R – A88 – E1	2	25 x 7.0	2.3	0°	E1	△									
	P 6500 – 00R – B88 – E1	1	11 x 1.5	1.0	6°	E1	△		△		△					
	P 6500 – 0R – B88 – E1	2	20 x 2.5	1.2	6°	E1	△		△		△					
	P 6500 – 1R – B88 – E1	2	20 x 3.0	1.5	6°	E1	△		△		△					
	P 6500 – 2R – B88 – E1	2	20 x 4.5	2.0	6°	E1	△		△		△					
	P 6500 – 4R – B88 – E1	2	25 x 7.0	2.3	6°	E1	△		△		△					

Cutting tool material application tables – boring

1. Grades for drilling

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45	Coating procedure	Coating structure
WAP 20	HC – P 20	●●							CVD	TiCN + Al_2O_3 +TiN
	HC – K 30			●						
WKP 25	HC – P 25	●●							CVD	TiCN + Al_2O_3 (+TiN)
	HC – K 25			●●						
WKP 35	HC – P 35	●●							CVD	TiCN + Al_2O_3 (+TiN)
	HC – K 35			●●						
WSP 45	HC – S 45					●●			PVD	TiAlN + Al_2O_3 (ZrCN)
	HC – P 45	●●								
	HC – M 45		●●							
WTP 35	HC – P 35	●●							CVD	TiCN + TiN
	HC – M 35		●							
	HC – S 35					●				
WXP 45	HC – P 45	●●							PVD	Multilayer TiAlN / TiN
	HC – K 40			●						
WAK 15	HC – K 15			●●					CVD	TiCN + Al_2O_3 (+TiN)
WXK 25	HC – K 25			●●					PVD	Multilayer TiAlN / TiN
	HC – P 15	●								
WK 40	HW – S 35					●●			—	—
	HW – N 30				●●					
WXP 40	HC – P 40	●●							PVD	TiCN
	HC – M 30		●●							
	HC – S 30					●				

HC = Coated carbide
HW = Uncoated carbide

●● Primary application
● Additional application

Tiger·tec®

Cutting tool material application tables – boring

2. Grades for boring and precision boring

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45	Coating procedure	Coating structure
WPP 01	HC – P 01	●●							CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – K 10			●						
WPP 10	HC – P 10	●●							CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – K 20			●						
WPP 20	HC – P 20	●●							CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – K 30			●						
WPP 30	HC – P 30	●●							CVD	$TiCN + Al_2O_3$ (+TiN)
WTP 35	HC – P 35	●●							CVD	TiCN + TiN
	HC – M 35		●							
	HC – S 35					●				
WSM 20	HC – M 20		●●						PVD	$TiAlN + Al_2O_3$ (ZrCN)
	HC – S 20					●●				
	HC – P 20	●								
WSM 30	HC – M 30		●●						PVD	$TiAlN + Al_2O_3$ (ZrCN)
	HC – S 30					●●				
	HC – P 30	●								
WAK 10	HC – K 10			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – H 30						●			
WAK 15	HC – K 15			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
WAK 20	HC – K 20			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – P 10	●								
WAK 30	HC – K 30			●●					CVD	$TiCN + Al_2O_3$ (+TiN)
	HC – P 40	●								
WXN 10	HC – N 10				●●				PVD	$TiCN^{plus}$
	HC – M 01		●							
WXM 15	HC – P 15	●●							PVD	Multilayer TiAlN / TiN
	HC – M 15		●							
	HC – K 15			●						

HC = Coated carbide

●● Primary application

● Additional application

Cutting tool material application tables – boring

Grades for boring and precision boring (continued)

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45		
WK 1	HW – N 10				●●				—	—
WCB 30	BL – H 05						●●		—	—
WCB 50	BH – H 10						●●		—	—
	BH – K 10			●						
WCB 80	BH – K 05			●●					—	—
	BH – H 15						●			
WCD 10	DP – N 10				●●				—	—

4. Grades for reaming

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45	Coating procedure	Coating structure
WXP 15	HC – P 15	●●							PVD	TiN
	HC – M 15		●●							
	HC – K 15			●●						
WK 10	HW – N 10	●		●	●●				—	—
WCE 10	HT – P 15	●●							—	—

BL = CBN with low CBN content
BH = CBN with high CBN content
DP = polycrystalline diamond
HC = Coated carbide
HW = Uncoated carbide
HT = Cermet

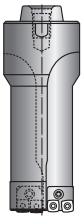
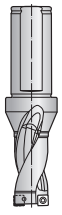
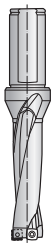
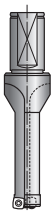
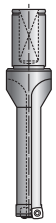
●● Primary application
● Additional application

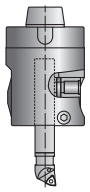
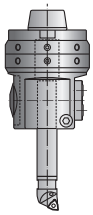
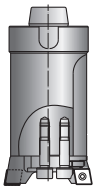
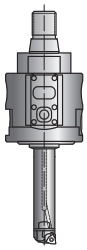
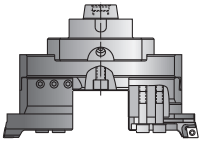
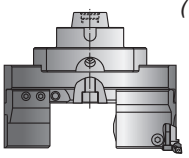
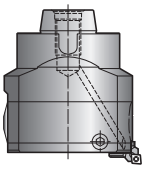
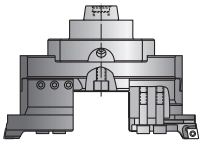
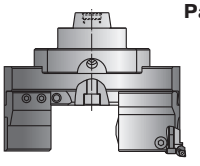
Product range overview

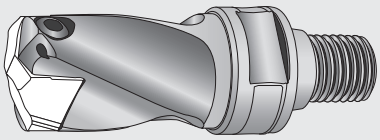
The pages indicated in brackets refer to the general catalogue.

Drilling

Walter drills

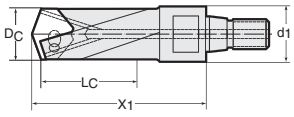
L_C = 1 x D_C / 2 x D_C	L_C = 2 x D_C	L_C = 3 x D_C	L_C 4 x D_C	L_C 5 x D_C / 7 x D_C
L_C 1.3 x D_C  D_C [mm] 12–25 **B 4011 (R)** **Page 114** Xtra·tec®	 D_C [mm] 10–18 **B 3212 (R)** *(Page 280)*	 D_C [mm] 10–18 **B 3213 (R)** *(Page 284)*	 D_C [mm] 10–18 **B 3214 (R)** *(Page 292)*	L_C 5 x D_C  D_C [mm] 12–31 **B 4015 (R)** *(Page 300)* Xtra·tec®
L_C 2 x D_C  D_C [mm] 59.5–120 **B 3011 M (R)** *(Page 308)*	 D_C [mm] 12–29 **B 4012C (R)** **Page 116** Xtra·tec®	 D_C [mm] 12–31 **B 4013 (R)** *(Page 290)* Xtra·tec®		
	NEW  D_C [mm] 16.5–35 **B 4212 (R)** **Page 118** Xtra·tec®	NEW  D_C [mm] 16.5–35 **B 4213 (R)** **Page 120** Xtra·tec®	NEW  D_C [mm] 17–35 **B 4214 (R)** **Page 122** Xtra·tec®	L_C 7 x D_C  D_C [mm] 12–31 **B 4017 (R)** *(Page 304)* Xtra·tec®
	 D_C [mm] 16–58 **B 3212 (R)** *(Page 282)*	 D_C [mm] 16–58 **B 3213 (R)** *(Page 286)*	 D_C [mm] 16–58 **B 3214 (R)** *(Page 294)*	L_C 5 x D_C  D_C [mm] 16–58 **B 3215 (R)** *(Page 298)*

Boring	Precision boring		Reaming
Walter Boring Two flute boring tools	**Walter Precision boring tools**		**Walter reaming tools**
	 D_C [mm] 2–45 **B 3230** *(Page 330)*	 D_C [mm] 2–45 **B 4030** *(Page 330)*	 D_C [mm] 6–25 **R4060** *(Page 344)*
 D_C [mm] 20–153 **B 3220** **B 3221** *(Page 324)*	 D_C [mm] 20–153 **B 3230** *(Page 338)*	 D_C [mm] 3–124 **B 4035** **Page 126**	 D_C [mm] 8–25 **R4061** *(Page 346)*
 D_C [mm] 150–640 **B 3220** *(Page 328)*	 D_C [mm] 150–640 **B 3230** *(Page 342)*	 D_C [mm] 33–153 **B 4030** *(Page 340)*	
 D_C [mm] 150–640 **B 3224** **Page 124**	 D_C [mm] 150–640 **B 3234** **Page 132**		



Xtra.tec® POINT DRILL

Tool	Designation	$D_{C\,min}$ mm	d_1 mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	B 4011.T14.12,0.Z02.15R	12*	T 14	48.0	15	2	0.04	1	P 600 . – D12 . . R*
	B 4011.T14.13,0.Z02.17R	13	T 14	50.0	17	2	0.05	1	P 600 . – D13 . . R
	B 4011.T14.14,0.Z02.18R	14	T 14	52.5	18	2	0.05	1	P 600 . – D14 . . R
	B 4011.T18.15,0.Z02.19R	15	T 18	55.0	19	2	0.07	1	P 600 . – D15 . . R
	B 4011.T18.16,0.Z02.21R	16	T 18	57.0	21	2	0.08	1	P 600 . – D16 . . R
	B 4011.T18.17,0.Z02.22R	17	T 18	59.5	22	2	0.09	1	P 600 . – D17 . . R
	B 4011.T18.18,0.Z02.23R	18	T 18	62.0	23	2	0.10	1	P 600 . – D18 . . R
	B 4011.T22.19,0.Z02.24R	19	T 22	64.0	24	2	0.12	1	P 600 . – D19 . . R
	B 4011.T22.20,0.Z02.26R	20	T 22	66.0	26	2	0.14	1	P 600 . – D20 . . R
	B 4011.T22.21,0.Z02.27R	21	T 22	69.0	27	2	0.15	1	P 600 . – D21 . . R
	B 4011.T22.22,0.Z02.28R	22	T 22	72.0	28	2	0.17	1	P 600 . – D22 . . R
	B 4011.T28.23,0.Z02.30R	23	T 28	74.0	30	2	0.23	1	P 600 . – D23 . . R
	B 4011.T28.24,0.Z02.31R	24	T 28	76.5	31	2	0.24	1	P 600 . – D24 . . R
	B 4011.T28.25,0.Z02.32R	25	T 28	79.0	32	2	0.26	1	P 600 . – D25 . . R





* Example: inserts with D_C = 12.00 mm to 12.99 mm can be fitted to this drill body.

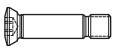
Bodies and assembly parts are included in the scope of delivery.

Walter drills

B 4011

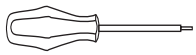
Diameter range 12–25.8 mm
Clockwise cutting, drilling depth 1.3 x D_C

Assembly parts

		for $D_{C\ min}$ = 12–13 mm	14–15 mm	16–17 mm	18–19 mm	20–21 mm	22–23 mm	24–25 mm
	Clamping screw for insert	FS 1396 (IP 7)	FS 1397 (IP 8)	FS 1398 (IP 8)	FS 1399 (IP 15)	FS 1400 (IP 20)	FS 1401 (IP 20)	FS 1402 (IP 20)
	Tightening torque	1.2 Nm	2 Nm	2 Nm	4 Nm	5 Nm	5 Nm	5 Nm

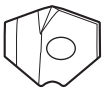
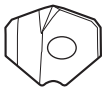
IP = Torx Plus

Accessories

		for $D_{C\ min}$ = 12–13 mm	14–17 mm	18–19 mm	20–25 mm
	Torque screwdriver	FS 2001	FS 2003		
	Interchangeable blade	FS 2011 (Torx 7 IP)	FS 2012 (Torx 8 IP)	FS 2014 (Torx 15 IP)	FS 2015 (Torx 20 IP)
	Screwdriver	FS 1490 (Torx 7 IP)	FS 1483 (Torx 8 IP)	FS 1485 (Torx 15 IP)	FS 1486 (Torx 20 IP)

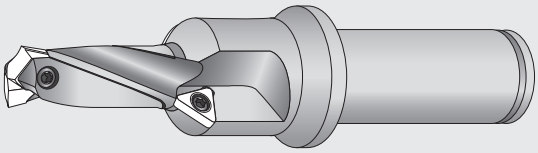
IP = Torx Plus

Indexable inserts

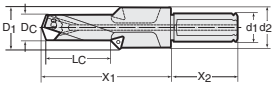
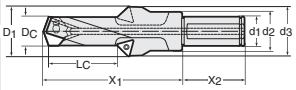
	Designation	Diameter range D_C mm	P			M	K			N	S			
				HC				HC						
			WXP 45				WXK 25							
	P 6001 – D . . .	12.00 – 25.8	●											
	P 6002 – D . . .	12.00 – 25.8					●							



→ 96 → 134



Xtra·tec® POINT DRILL

Tool	Designation		D_C mm	D_1 mm	d_1 mm	d_2 mm	d_3 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
Parallel shank with flat i.a.w. ISO 9766	B 4012C.F20.12,0.Z02.35R	M14	12*	23.7	20	30	–	68	50	33.0	2	0.2	1 2	P 600 . – D12 . . R* TC . . 110208
	B 4012C.F20.14,0.Z02.40R	M16	14	25.7	20	30	–	76	50	38.0	2	0.3	1 2	P 600 . – D14 . . R TC . . 110208
	B 4012C.F20.15,0.Z02.44R	M18	15	26.7	20	30	–	80	50	41.5	2	0.3	1 2	P 600 . – D15 . . R TC . . 110208
	B 4012C.F20.17,0.Z02.48R	M20	17	28.7	20	30	–	88	50	45.5	2	0.3	1 2	P 600 . – D17 . . R TC . . 110208
	B 4012C.F20.19,0.Z02.52R	M22	19	30.7	20	30	–	96	50	49.0	2	0.3	1 2	P 600 . – D19 . . R TC . . 110208
	B 4012C.F20.21,0.Z02.55R	M24	21	32.7	20	30	32.0	104	50	51.5	2	0.4	1 2	P 600 . – D21 . . R TC . . 110208
	B 4012C.F25.24,0.Z02.61R	M27	24	43.4	25	35	42.6	117	56	57.0	2	0.7	1 2	P 600 . – D24 . . R TC . . 16T308
	B 4012C.F25.26,0.Z02.66R	M30	26	45.4	25	35	44.4	125	56	62.0	2	0.7	1 2	P 600 . – D26 . . R TC . . 16T308
	B 4012C.F32.29,0.Z02.71R	M33	29	48.4	32	42	47.0	138	60	67.0	2	1.2	1 2	P 600 . – D29 . . R TC . . 16T308

* Example: inserts with D_C = 12.00 mm to 12.99 mm can be fitted to this drill body.

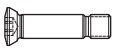
Bodies and assembly parts are included in the scope of delivery.

Walter chamfer drills

B 4012C

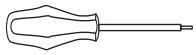
Diameter range 12–29.77 mm
Clockwise cutting, drilling depth 2.5 x D_C

Assembly parts

		for $D_{C\ min}$ = 12 mm	14–15 mm	17 mm	19 mm	21 mm	24 mm	26 mm	29 mm
	Clamping screw for indexable insert P 600 .	FS 1396 (IP 7)	FS 1397 (IP 8)	FS 1398 (IP 8)	FS 1399 (IP 15)	FS 1400 (IP 20)	FS 1402 (IP 20)	FS 1403 (IP 25)	FS 1404 (IP 25)
	Tightening torque	1.2 Nm	2 Nm	2 Nm	4 Nm	5 Nm	5 Nm	5.5 Nm	5.5 Nm
	Clamping screw for chamfer insert TC . . 110208	FS 2061 (IP 7)							
	Tightening torque	0.9 Nm							
	Clamping screw for chamfer insert TC . . 16T308						FS 2063 (15 IP)		
	Tightening torque						3.0		

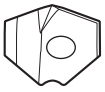
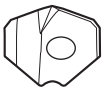
IP = Torx Plus

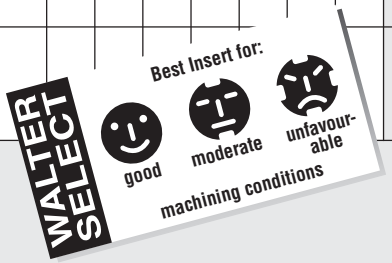
Accessories

		for $D_{C\ min}$ = 12 mm	14–17 mm	19 mm	21–24 mm	26–29 mm
	Torque screwdriver	FS 2001	FS 2003			
	Interchangeable blade	FS 2011 (Torx 7 IP)	FS 2012 (Torx 8 IP)	FS 2014 (Torx 15 IP)	FS 2015 (Torx 20 IP)	FS 2016 (Torx 25 IP)
	Screwdriver	FS 1490 (Torx 7 IP)	FS 1483 (Torx 8 IP)	FS 1485 (Torx 15 IP)	FS 1486 (Torx 20 IP)	FS 1487 (Torx 25 IP)

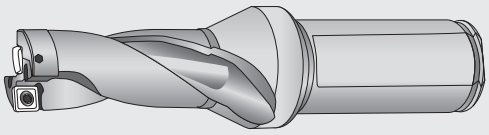
IP = Torx Plus

Indexable inserts

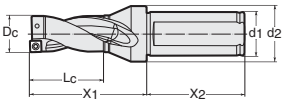
	Designation	Diameter range D_C mm	P			M	K		N	S			
			HC				HC						
			WXP 45				WXK 25						
	P 6001 – D . . .	12 – 29.77	●										
	P 6002 – D . . .	12 – 29.77					●						
	For chamfer inserts TC . . see page 95.												



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Xtra·tec® INSERT DRILL

Tool	Designation	D_C mm	d_1 mm	d_2 mm	X_1 mm	X_2 mm	L_C mm	kg	No. of inserts	Type
Parallel shank with flat i.a.w. ISO 9766 	B 4212.F25.16,5.Z1.033R-2	16.5	25	32	58	56	33	0.30	2	1 x P 484 . P–2R + 1 x P 484 . C–2R
	B 4212.F25.17.Z1.034R-2	17.0	25	32	59	56	34	0.31	2	
	B 4212.F25.17,5.Z1.035R-2	17.5	25	32	60	56	35	0.32	2	
	B 4212.F25.18.Z1.036R-2	18.0	25	32	61	56	36	0.33	2	
	B 4212.F25.18,5.Z1.037R-2	18.5	25	32	62	56	37	0.34	2	
	B 4212.F25.19.Z1.038R-2	19.0	25	32	63	56	38	0.34	2	
	B 4212.F25.19,5.Z1.039R-2	19.5	25	32	64	56	39	0.35	2	
	B 4212.F25.20.Z1.040R-2	20.0	25	32	65	56	40	0.35	2	
	B 4212.F25.20,5.Z1.041R-3	20.5	25	32	66	56	41	0.36	2	1 x P 484 . P–3R + 1 x P 484 . C–3R
	B 4212.F25.21.Z1.042R-3	21.0	25	32	67	56	42	0.36	2	
	B 4212.F25.21,5.Z1.043R-3	21.5	25	32	68	56	43	0.37	2	
	B 4212.F25.22.Z1.044R-3	22.0	25	32	69	56	44	0.37	2	
	B 4212.F25.22,5.Z1.045R-3	22.5	25	32	70	56	45	0.38	2	
	B 4212.F25.23.Z1.046R-3	23.0	25	32	71	56	46	0.38	2	
	B 4212.F25.23,5.Z1.047R-3	23.5	25	32	72	56	47	0.39	2	
	B 4212.F25.24.Z1.048R-3	24.0	25	32	73	56	48	0.40	2	
	B 4212.F25.24,5.Z1.049R-4	24.5	25	32	74	56	49	0.40	2	1 x P 484 . P–4R + 1 x P 484 . C–4R
	B 4212.F25.25.Z1.050R-4	25.0	25	32	75	56	50	0.40	2	
	B 4212.F32.25,5.Z1.051R-4	25.5	32	40	83	60	51	0.50	2	
	B 4212.F32.26.Z1.052R-4	26.0	32	40	84	60	52	0.50	2	
	B 4212.F32.26,5.Z1.053R-4	26.5	32	40	85	60	53	0.60	2	
	B 4212.F32.27.Z1.054R-4	27.0	32	40	86	60	54	0.70	2	
	B 4212.F32.27.5.Z1.055R-4	27.5	32	40	87	60	55	0.70	2	
	B 4212.F32.28.Z1.056R-4	28.0	32	40	88	60	56	0.80	2	
	B 4212.F32.28,5.Z1.057R-4	28.5	32	40	89	60	57	0.90	2	
	B 4212.F32.29.Z1.058R-4	29.0	32	40	90	60	58	0.90	2	
	B 4212.F32.29,5.Z1.059R-5	29.5	32	40	91	60	59	0.90	2	1 x P 484 . P–5R + 1 x P 484 . C–5R
	B 4212.F32.30.Z1.060R-5	30.0	32	40	92	60	60	0.92	2	
	B 4212.F32.31.Z1.062R-5	31.0	32	40	94	60	62	0.92	2	
	B 4212.F32.32.Z1.064R-5	32.0	32	40	96	60	64	0.95	2	
	B 4212.F32.33.Z1.066R-5	33.0	32	40	98	60	66	0.95	2	
	B 4212.F32.34.Z1.068R-5	34.0	32	40	100	60	68	1.00	2	
	B 4212.F32.35.Z1.070R-5	35.0	32	40	102	60	70	1.00	2	

Bodies, assembly parts and screwdrivers are included in the standard pack.

Attention: where through bores are created by a rotating tool, a disc forms which is ejected. Please implement safety measures.

Walter drills

NEW **B 4212**

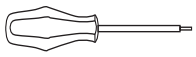
Diameter range 16.5–35 mm
Clockwise cutting, drilling depth 2 x D_C

Assembly parts

		D_C = 16.5–20 mm	D_C = 20.5–24 mm	D_C = 24.5–29 mm	D_C = 29.5–35 mm
	Clamping screw for insert	FS 2111 (Torx 7 IP)	FS 1454 (Torx 8 IP)	FS 1457 (Torx 9 IP)	FS 2080 (Torx 15 IP)
	Tightening torque	0.9 Nm	1.2 Nm	2.0 Nm	2.5 Nm

IP = Torx Plus

Accessories

		D_C = 16.5–20 mm	D_C = 20.5–24 mm	D_C = 24.5–29 mm	D_C = 29.5–35 mm
	Torque screwdriver	FS 2001	FS 2001	FS 2003	FS 2003
	Interchangeable blade	FS 2011	FS 2012	FS 2013	FS 2014
	Screwdriver	FS 2088 (Torx 7 IP)	FS 1483 (Torx 8 IP)	FS 1484 (Torx 9 IP)	FS 1485 (Torx 15 IP)

IP = Torx Plus

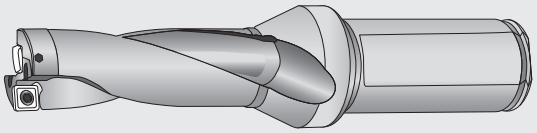
Indexable inserts

		Designation	Size		P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	M WSP 45	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HC WXK 25	N HW WK 40	S HC WSP 45	HC WXP 45
	Outer insert	P 4840P – . R – A 57	2–5		☺	😐	☹		😐		😐	☹			😐	
		P 4840P – . R – E 57	2–5		☺	😐	☹		☹		😐	☹			☹	
	Centre insert	P 4841C – . R – A 57	2–5													△
		P 4841C – . R – E 57	2–5													△

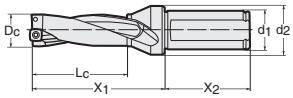




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Xtra·tec® INSERT DRILL

Tool	Designation	D_C mm	d_1 mm	d_2 mm	X_1 mm	X_2 mm	L_C mm	kg	No. of inserts	Type
Parallel shank with flat i.a.w. ISO 9766 	B 4213.F25.16,5.Z1.049R-2	16.5	25	32	75	56	49	0.34	2	1 x P 484 . P–2R + 1 x P 484 . C–2R
	B 4213.F25.17.Z1.051R-2	17.0	25	32	76	56	51	0.35	2	
	B 4213.F25.17,5.Z1.052R-2	17.5	25	32	77	56	52	0.35	2	
	B 4213.F25.18.Z1.054R-2	18.0	25	32	79	56	54	0.35	2	
	B 4213.F25.18,5.Z1.055R-2	18.5	25	32	80	56	55	0.35	2	
	B 4213.F25.19.Z1.057R-2	19.0	25	32	82	56	57	0.36	2	
	B 4213.F25.19.5.Z1.058R-2	19.5	25	32	84	56	58	0.37	2	
	B 4213.F25.20.Z1.060R-2	20.0	25	32	85	56	60	0.38	2	
	B 4213.F25.20.5.Z1.061R-3	20.5	25	32	87	56	61	0.39	2	1 x P 484 . P–3R + 1 x P 484 . C–3R
	B 4213.F25.21.Z1.063R-3	21.0	25	32	88	56	63	0.40	2	
	B 4213.F25.21.5.Z1.064R-3	21.5	25	32	90	56	64	0.41	2	
	B 4213.F25.22.Z1.066R-3	22.0	25	32	91	56	66	0.42	2	
	B 4213.F25.22.5.Z1.067R-3	22.5	25	32	93	56	67	0.43	2	
	B 4213.F25.23.Z1.069R-3	23.0	25	32	94	56	69	0.43	2	
	B 4213.F25.23.5.Z1.070R-3	23.5	25	32	96	56	70	0.44	2	
	B 4213.F25.24.Z1.072R-3	24.0	25	32	97	56	72	0.44	2	
	B 4213.F25.24.5.Z1.073R-4	24.5	25	32	99	56	73	0.45	2	1 x P 484 . P–4R + 1 x P 484 . C–4R
	B 4213.F25.25.Z1.075R-4	25.0	25	32	100	56	75	0.50	2	
	B 4213.F32.25.5.Z1.076R-4	25.5	32	40	109	60	76	0.70	2	
	B 4213.F32.26.Z1.078R-4	26.0	32	40	110	60	78	0.70	2	
	B 4213.F32.26.5.Z1.079R-4	26.5	32	40	112	60	79	0.74	2	
	B 4213.F32.27.Z1.081R-4	27.0	32	40	113	60	81	0.75	2	
	B 4213.F32.27.5.Z1.082R-4	27.5	32	40	115	60	82	0.77	2	
	B 4213.F32.28.Z1.084R-4	28.0	32	40	116	60	84	0.80	2	
	B 4213.F32.28.5.Z1.085R-4	28.5	32	40	118	60	85	0.80	2	
	B 4213.F32.29.Z1.087R-4	29.0	32	40	119	60	87	0.80	2	
	B 4213.F32.29.5.Z1.088R-5	29.5	32	40	121	60	88	0.82	2	1 x P 484 . P–5R + 1 x P 484 . C–5R
	B 4213.F32.30.Z1.090R-5	30.0	32	40	122	60	90	0.85	2	
	B 4213.F32.31.Z1.093R-5	31.0	32	40	125	60	93	0.85	2	
	B 4213.F32.32.Z1.096R-5	32.0	32	40	128	60	96	0.90	2	
	B 4213.F32.33.Z1.099R-5	33.0	32	40	131	60	99	0.93	2	
	B 4213.F32.34.Z1.102R-5	34.0	32	40	134	60	102	0.95	2	
	B 4213.F32.35.Z1.105R-5	35.0	32	40	137	60	105	1.00	2	

Bodies, assembly parts and screwdrivers are included in the standard pack.

Attention: where through bores are created by a rotating tool, a disc forms which is ejected. Please implement safety measures.

= New addition to range

Walter drills

B 4213

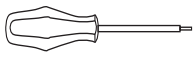
Diameter range 16.5–35 mm
Clockwise cutting, drilling depth 3 x D_C

Assembly parts

		D_C = 16.5–20 mm	D_C = 20.5–24 mm	D_C = 24.5–29 mm	D_C = 29.5–35 mm
	Clamping screw for insert	FS 2111 (Torx 7 IP)	FS 1454 (Torx 8 IP)	FS 1457 (Torx 9 IP)	FS 2080 (Torx 15 IP)
	Tightening torque	0.9 Nm	1.2 Nm	2.0 Nm	2.5 Nm

IP = Torx Plus

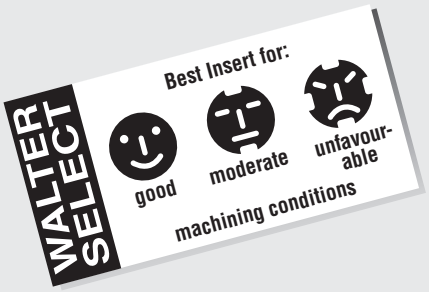
Accessories

		D_C = 16.5–20 mm	D_C = 20.5–24 mm	D_C = 24.5–29 mm	D_C = 29.5–35 mm
	Torque screwdriver	FS 2001	FS 2001	FS 2003	FS 2003
	Interchangeable blade	FS 2011	FS 2012	FS 2013	FS 2014
	Screwdriver	FS 2088 (Torx 7 IP)	FS 1483 (Torx 8 IP)	FS 1484 (Torx 9 IP)	FS 1485 (Torx 15 IP)

IP = Torx Plus

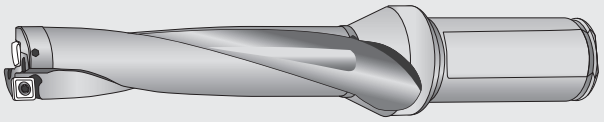
Indexable inserts

					P				M	K				N	S	
					HC					HC				HW	HC	HC
		Designation	Size		WKP 25	WKP 35	WSP 45	WTP 35	WSP 45	WAK 15	WKP 25	WKP 35	WXK 25	WK 40	WSP 45	WXP 45
	Outer insert	P 4840P – . R – A 57	2–5		☺	😐	☹		😐		😐	☹			😐	
		P 4840P – . R – E 57	2–5		☺	😐	☹		☹		😐	☹			☹	
	Centre insert	P 4841C – . R – A 57	2–5													△
		P 4841C – . R – E 57	2–5													△

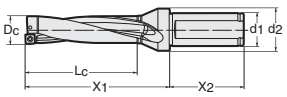




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Xtra·tec® INSERT DRILL

Tool	Designation	D_C mm	d_1 mm	d_2 mm	X_1 mm	X_2 mm	L_C mm	kg	No. of inserts	Type
Parallel shank with flat i.a.w. ISO 9766 	B 4214.F25.17.Z1.068R-2	17	25	32	93	56	68	0.34	2	1 x P 484 . P–2R + 1 x P 484 . C–2R
	B 4214.F25.18.Z1.072R-2	18	25	32	97	56	72	0.36	2	
	B 4214.F25.19.Z1.076R-2	19	25	32	101	56	76	0.38	2	
	B 4214.F25.20.Z1.080R-2	20	25	32	105	56	80	0.40	2	
	B 4214.F25.21.Z1.084R-3	21	25	32	109	56	84	0.42	2	1 x P 484 . P–3R + 1 x P 484 . C–3R
	B 4214.F25.22.Z1.088R-3	22	25	32	113	56	88	0.45	2	
	B 4214.F25.23.Z1.092R-3	23	25	32	117	56	92	0.47	2	
	B 4214.F25.24.Z1.096R-3	24	25	32	121	56	96	0.50	2	
	B 4214.F25.25.Z1.100R-4	25	25	32	125	56	100	0.52	2	
	B 4214.F32.26.Z1.104R-4	26	32	40	136	60	104	0.80	2	1 x P 484 . P–4R + 1 x P 484 . C–4R
	B 4214.F32.27.Z1.108R-4	27	32	40	140	60	108	0.83	2	
	B 4214.F32.28.Z1.112R-4	28	32	40	144	60	112	0.86	2	
	B 4214.F32.29.Z1.116R-4	29	32	40	148	60	116	0.90	2	
	B 4214.F32.30.Z1.120R-5	30	32	40	152	60	120	0.93	2	1 x P 484 . P–5R + 1 x P 484 . C–5R
	B 4214.F32.31.Z1.124R-5	31	32	40	156	60	124	0.95	2	
	B 4214.F32.32.Z1.128R-5	32	32	40	160	60	128	1.00	2	
	B 4214.F32.33.Z1.132R-5	33	32	40	164	60	132	1.05	2	
	B 4214.F32.34.Z1.136R-5	34	32	40	168	60	136	1.07	2	
	B 4214.F32.35.Z1.140R-5	35	32	40	172	60	140	1.20	2	

Bodies, assembly parts and screwdrivers are included in the standard pack.

Attention: where through bores are created by a rotating tool, a disc forms which is ejected. Please implement safety measures.

Walter drills

NEW **B 4214**

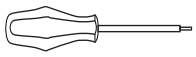
Diameter range 17–35 mm
Clockwise cutting, drilling depth 4 x D_C

Assembly parts

		D_C = 17–20 mm	D_C = 21–24 mm	D_C = 25–29 mm	D_C = 30–35 mm
	Clamping screw for insert	FS 2111 (Torx 7 IP)	FS 1454 (Torx 8 IP)	FS 1457 (Torx 9 IP)	FS 2080 (Torx 15 IP)
	Tightening torque	0.9 Nm	1.2 Nm	2.0 Nm	2.5 Nm

IP = Torx Plus

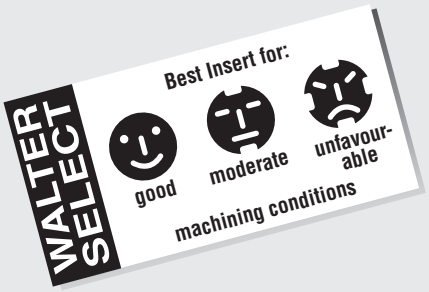
Accessories

		D_C = 17–20 mm	D_C = 21–24 mm	D_C = 25–29 mm	D_C = 30–35 mm
	Torque screwdriver	FS 2001	FS 2001	FS 2003	FS 2003
	Interchangeable blade	FS 2011	FS 2012	FS 2013	FS 2014
	Screwdriver	FS 2088 (Torx 7 IP)	FS 1483 (Torx 8 IP)	FS 1484 (Torx 9 IP)	FS 1485 (Torx 15 IP)

IP = Torx Plus

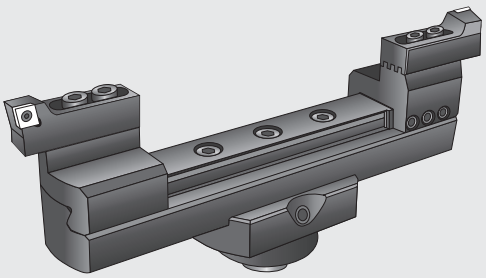
Indexable inserts

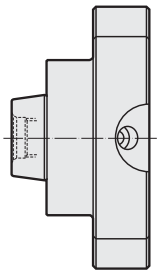
		Designation	Size		P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	M WSP 45	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HC WXK 25	N HW WK 40	S HC WSP 45	HC WXP 45
	Outer insert	P 4840P – . R – A 57	2–5		☺	😐	☹		😐		😐	☹			😐	
		P 4840P – . R – E 57	2–5		☺	😐	☹		☹		😐	☹			☹	
	Centre insert	P 4841C – . R – A 57	2–5													△
		P 4841C – . R – E 57	2–5													△

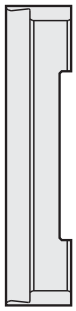




→ 93 → 138

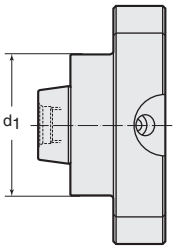










Tool	Basic body Designation	d_1 mm	D_C mm	Bridge	Cartridge holder
modular adaptor 	B 3224G.N8.150–640	NCT 80	150–220	EB 124	EB 122
			220–290	EB 125	
			290–360	EB 126	
			360–430	EB 127	
			430–500	EB 128	
			500–570	EB 129	
			570–640	EB 130	

For assembly aids, refer to the general catalogue, page 782.
Bodies and assembly parts are included in the scope of delivery.

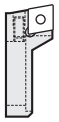
Assembly parts		Designation	Tightening torque
	Clamping screw for bridge	FS 1114 (SW 10)	120 Nm
	Clamping screw for cartridge holder	FS 1113 (SW 6)	25 Nm
	Fitting screw	FS 1097 (SW 8)	50 Nm
	Spring washer	FS 1102	
	Adjusting screw	FS 1109 (SW 2.5)	
	Clamping screw for insert	FS 1030 (Torx 20)	5 Nm

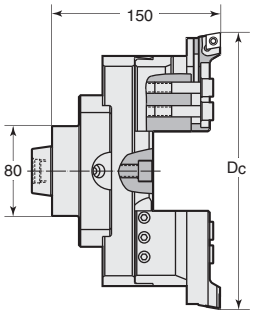
Walter Boring*MAXI*

B 3224

bridge-type, two-flute boring tool
κ = 90° / Z = 2 / NCT slot rotated 90°
compared to B 3220

dia. 150–640 mm



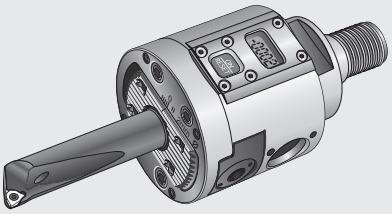


Cartridge with C-insert		Complete tool		
Designation	Type	kg	designation with C-insert	
EB 217.CC12	CCMT 12 . .	7.9	B 3224.N8.150-220.Z2.CC12	
		9.2	B 3224.N8.220-290.Z2.CC12	
		10.5	B 3224.N8.290-360.Z2.CC12	
		11.7	B 3224.N8.360-430.Z2.CC12	
		13.0	B 3224.N8.430-500.Z2.CC12	
		14.3	B 3224.N8.500-570.Z2.CC12	
		15.5	B 3224.N8.570-640.Z2.CC12	

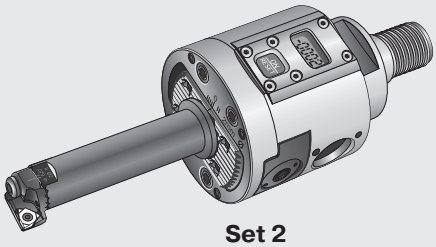
Accessories

	Screwdriver for clamping screw	FS 228 (Torx 20)
	DIN 911 Allen key	SW 2,5 / SW 6 / SW 8 / SW 10

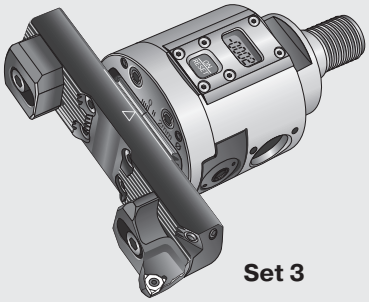
→ 102 → 144



Set 1

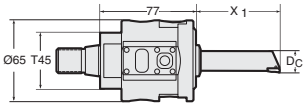
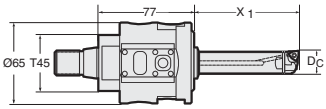
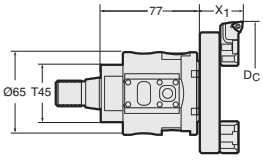


Set 2



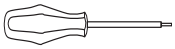
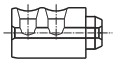
Set 3



Tool	D_C mm	Set Designation	Set contents: Toolholder	Designation	
	10–32	B 4035 Set 1	Boring bar	EB 611.WC03	
				EB 615.WC03	
				EB 619.WC03	
			Extension	EB 642	
			Basic body	B 4035 basic body	
	32–68	B 4035 Set 2	Extension	EB 625	
				EB 627	
			Basic body	B 4035 basic body	
	68–124	B 4035 Set 3	Bridge	EB 631	
				EB 632	
			Counterweight	EB 635	
			Basic body	B 4035 basic body	

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

Assembly parts

	Designation	Tightening torque
 Clamping screw for insert	FS 2084 (IP 7) for WC . . 0302 . . FS 1454 (IP 8) for WC . . 0402 . .	0.9 Nm 0.9 Nm
 Locking screw for basic body	FS 2101 (SW 4)	8.0 Nm
 Clamping grub screw for boring bar	FS 2102 (SW 4)	8.0 Nm
 Screwdriver	FS 2088 (IP 7) for FS 2084 FS 1483 (IP 8) for FS 1454	
 Coolant supply adaptor	EB 636	
Battery	FS 2104	
Battery compartment gasket	FS 2103	
Battery compartment cover	FS 2105	

IP = Torx Plus

Walter Precision*DIGITAL*

B 4035

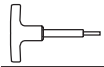
Precision boring tools as **boxed set**
$\kappa = 93^\circ$ / Z = 1

dia. 10–124 mm

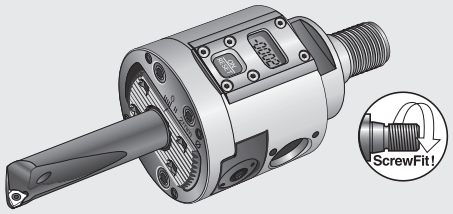
Insert holder	Designation	$D_{C\ opt.}$* mm	D_C mm	X_1 mm	Type
		10–11	10–17	27	WC . . 0302 . .
		14–15	14–21	47	
		18–19	18–25	65	
Cartridge	EB 644.WC04	20–22	20–24	81	WC . . 0402 . .
	EB 621.WC04	24–26	24–28	81	
	EB 623.WC04	28–30	28–32	81	
Cartridge	EB 629.WC04		32–41	63	WC . . 0402 . .
	EB 630.WC04		41–50	63	
Cartridge	EB 629.WC04		50–59	72	
	EB 630.WC04		59–68	72	
Cartridge	EB 634.WC04		68–96	32.5	WC . . 0402 . .
	EB 634.WC04		96–124	32.5	

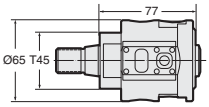
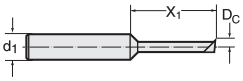
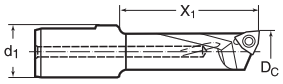
*** $D_{C\ opt.}$ = Diameter range at optimum balance for maximum speeds**

Accessories

	DIN 911 Allen key	SW 1,5 / SW 3
	T-handle	FS 1174 (T 25)

→ 107 → 146



Tool	Designation	$D_{C\ opt.}$* mm	D_C mm	d_1 mm	d_2 mm	X_1 mm	X_2 mm	Type
Basic body 	B 4035 Basic Set, metric							—
One-piece insert holder 	EB 603.WXP15	3–4	3–10	6		10		—
	EB 604.WXP15	4–5	4–11	6		10		
	EB 605.WXP15	5–6	5–12	6		10		
	EB 606.WXP15	5–6	5–12	6		20		
	EB 607.WXP15	6–7	6–13	6		20		
	EB 608.WXP15	6–7	6–13	6		30		
	EB 609.WXP15	8–9	8–15	8		23		
	EB 610.WXP15	8–9	8–15	8		48		
Boring bar 	EB 611.WC03	10–11	10–17	17		27		WC . . 0302 . .
	EB 612.WC03	11–12	11–18	17		27		
	EB 613.WC03	12–13	12–19	17		42		
	EB 614.WC03	13–14	13–20	17		42		
	EB 615.WC03	14–15	14–21	17		47		
	EB 616.WC03	15–16	15–22	17		47		
	EB 617.WC03	16–17	16–23	17		57		
	EB 618.WC03	17–18	17–24	17		57		
	EB 619.WC03	18–19	18–25	17		65		
	EB 620.WC03	19–20	19–26	17		65		
	EB 637.WC03.CS		10–12	17		52		
	EB 638.WC03.CS		12–14	17		62		
	EB 639.WC03.CS		14–16	17		72		
	EB 640.WC03.CS		16–18	17		82		
	EB 641.WC03.CS		18–20	17		92		

*** $D_{C\ opt.}$ = Diameter range at optimum balance for maximum speeds**

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

EB . . . CS = Solid carbide shank:
Advantages: increased rigidity, reduced deflection, vibration neutralisation.

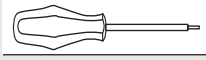
Assembly parts

		d_1 = 6 mm	d_1 = 8 mm	d_1 = 17 mm
	Threaded plug	FS 2093 (SW 3)	FS 2093 (SW 3)	—
	Tightening torque	4 Nm	4 Nm	
	Clamping screw for indexable insert	—	—	FS 2084 (IP 7)
	Tightening torque			0.9 Nm

For basic body assembly parts, refer to page 122.

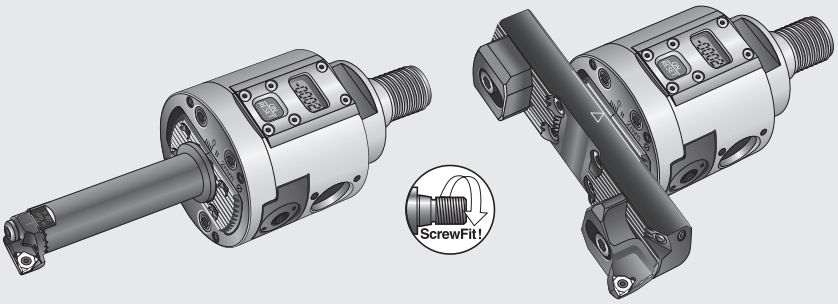
IP = Torx Plus

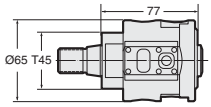
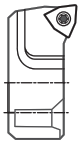
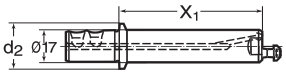
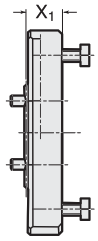
Accessories

		d_1 = 6 mm	d_1 = 8 mm	d_1 = 17 mm
	Adaptors	EB 601	EB 602	—
	Screwdriver	DIN 911 (SW 3)	DIN 911 (SW 3)	FS 2088 (IP 7)

IP = Torx Plus

→ 107 → 146



Tool	Designation	$D_{C\ opt.}$* mm	For D_C mm	d_1 mm	d_2 mm	X_1 mm	X_2 mm	Type
Basic body 	B 4035 Basic Set, metric							
Cartridges 	EB 644.WC04	20–22	20–24			12		WC . . 0402 . .
	EB 645.WC04	22–24	22–26			12		
	EB 621.WC04	24–26	24–28			12		
	EB 622.WC04	26–28	26–30			12		
	EB 623.WC04	28–30	28–32			12		
	EB 624.WC04	30–32	30–34			12		
	EB 629.WC04		32–41[1] 50–59[2]			14		
	EB 630.WC04		41–50[1] 59–68[2]			14		
	EB 634.WC04		68–124			16.5		
Extension 	EB 642		20–32		25	72		—
	EB 643.CS		20–32			108		
	EB 625		32–50		28.5	52		
	EB 626		32–50		28.5	88		
	EB 627		50–68		46	61		
	EB 628		50–68		46	106		
Bridge 	EB 631		68–96			16		—
	EB 632		96–124			16		
	EB 635 (counterweight)							

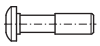
*** $D_{C\ opt.}$ = Diameter range at optimum balance for maximum speeds**

[1] = in combination with EB 625 / EB 626
[2] = in combination with EB 627 / EB 628

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

EB . . . CS = Solid carbide shank:
Advantages: increased rigidity, reduced deflection, vibration neutralisation.

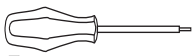
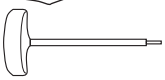
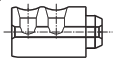
Assembly parts

		D_C = 20–32 mm	D_C = 32–68 mm	D_C = 68–124 mm
	Clamping screw for indexable insert	FS 1454 (IP 8)		
	Tightening torque	0.9 Nm		
	Clamping screw for cartridge	FS 2094 (T 25)	FS 2096 (SW 4)	
	Tightening torque	8.0 Nm	8.0 Nm	
	Clamping bolt for extension		FS 2095	
	Clamping screw for bridge			FS 2100 (SW 4)
	Tightening torque			8.0 Nm
	Clamping screw for cartridge/counterweight			FS 2097 (SW 4)
	Tightening torque			8.0 Nm
	Threaded plug for coolant			FS 2098 (SW 1.5)
	Seal for bridge			FS 2099

For basic body assembly parts, refer to page 122.

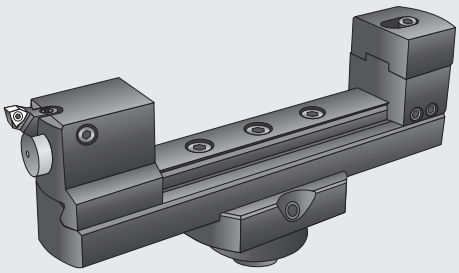
IP = Torx Plus

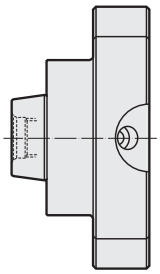
Accessories

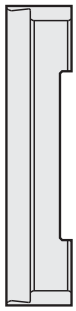
	Screwdriver for indexable insert	FS 1483 (IP 8)
	Screwdriver for extension	FS 1174 (T 25)
	DIN 911 Allen key	SW 1,5 / SW 4
	Coolant supply adaptor for bridge	EB 636

IP = Torx Plus

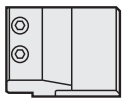
→ 107 → 146

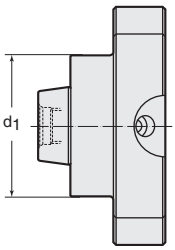










Tool	Basic body Designation	d_1 mm	D_C mm	Bridge	Balance compensation	Cartridge holder
modular adaptor 	B 3224G.N8.150–640	NCT 80	150–220	EB 124	—	EB 123
			220–290	EB 125	EB 121	
			290–360	EB 126		
			360–430	EB 127		
			430–500	EB 128		
			500–570	EB 129		
			570–640	EB 130		

For assembly aids, refer to the general catalogue, page 782.
Bodies and assembly parts are included in the scope of delivery.

Assembly parts		Designation	Tightening torque
	Clamping screw for bridge	FS 1114 (SW 10)	120 Nm
	Locking screw for balance weight slide	FS 1086 (SW 6)	25 Nm
	Clamping screw for cartridge holder and balance weight	FS 1113 (SW 6)	25 Nm
	Clamping screw for cartridge	FS 1092 (SW 5)	12 Nm
	Clamping screw for insert	FS 379 (Torx 8)	2.5 Nm

Walter Precision^{MAXI}

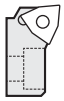
B 3234

bridge-type precision boring tool
κ = 95° / κ = 93°, Z = 1 / NCT slot rotated 90°
compared to B 3230

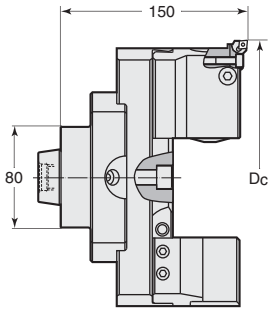
dia. 150–640 mm

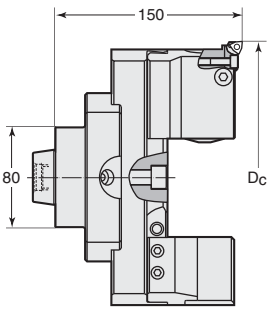


κ = 95°



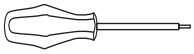
κ = 93°





	Cartridge with C-insert		Cartridge with W-insert		Complete tool		
	Designation	Type	Designation	Type	kg	**Standard** designation with C-insert	**Standard** designation with W-insert
	EB 329.CC06	CCGT 06 . .	EB 349.WC05	WCGT 05 . .	7.9	B 3234.N8.150-220.Z1.CC06	B 3234.N8.150-220.Z1.WC05
					9.2	B 3234.N8.220-290.Z1.CC06	B 3234.N8.220-290.Z1.WC05
					10.5	B 3234.N8.290-360.Z1.CC06	B 3234.N8.290-360.Z1.WC05
					11.7	B 3234.N8.360-430.Z1.CC06	B 3234.N8.360-430.Z1.WC05
					13.0	B 3234.N8.430-500.Z1.CC06	B 3234.N8.430-500.Z1.WC05
					14.3	B 3234.N8.500-570.Z1.CC06	B 3234.N8.500-570.Z1.WC05
					15.5	B 3234.N8.570-640.Z1.CC06	B 3234.N8.570-640.Z1.WC05

Accessories

	Screwdriver for clamping screw	FS 230 (Torx 8)
	DIN 911 Allen key	SW 5 / SW 6 / SW 10

→ 105 → 146

Cutting data for drilling with Xtra·tec® POINT DRILL

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Drill bit – Starting feed rate f [mm/rev.] D_C [mm] 12.0–15.9	D_C [mm] 16.0–21.9	D_C [mm] 22.0–31.75
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1	0.20	0.25	0.30
		Approx. 0.45% C	annealed	190	2	0.20	0.25	0.30
		Approx. 0.45% C	tempered	250	3	0.20	0.22	0.30
		Approx. 0.75% C	annealed	270	4	0.18	0.22	0.25
		Approx. 0.75% C	tempered	300	5	0.18	0.22	0.25
	Low-alloy steel[1]		annealed	180	6	0.20	0.25	0.30
			tempered	275	7	0.20	0.25	0.30
			tempered	300	8	0.20	0.25	0.30
			tempered	350	9	0.18	0.22	0.25
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10	0.18	0.22	0.25
			hardened and tempered	325	11	0.18	0.22	0.25
	Stainless steel[1]		annealed ferritic/martensitic	200	12	0.15	0.20	0.22
			martensitic. quenched and tempered	240	13	0.15	0.20	0.22
M	Stainless steel[1]		austenitic[2], quench hardened	180	14			
K	Grey cast iron		pearlitic/ferritic	180	15	0.20	0.25	0.40
			pearlitic (martensitic)	260	16	0.20	0.25	0.40
	Cast iron with spheroidal graphite		ferritic	160	17	0.20	0.25	0.35
			pearlitic	250	18	0.20	0.25	0.35
	Malleable cast iron		ferritic	130	19	0.20	0.25	0.30
			pearlitic	230	20	0.20	0.25	0.30
N	Aluminium wrought alloys		cannot be hardened	60	21			
			precipitation hardenable, precipitation hardened	100	22			
	Cast aluminium alloys		≤ 12% Si, not precipitation hardenable	75	23			
			≤ 12% Si, precipitation hardenable, hardened	90	24			
			> 12% Si, not precipitation hardenable	130	25			
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26			
			Brass, red brass	90	27			
			Bronze, lead-free copper and electrolytic copper	100	28			
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29			
			Hard rubber		30			
S	Heat-resistant alloys	Fe based	annealed	200	31			
			hardened	280	32			
		Ni or Co based	annealed	250	33			
			hardened	350	34			
			cast	320	35			
	Titanium alloys		Pure titanium	400[3]	36			
			Alpha + Beta alloys, hardened	1050[3]	37			

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

	Cutting tool material grades											
	Starting figure for cutting speed v_C [m/min]											
	HC = Coated grades											
	WXP 45			WXK 25								
	v_C [m/min]			v_C [m/min]								
	Up to 3 x D	5 x D	7 x D	Up to 3 x D	5 x D	7 x D						
	120	100	90									
	120	100	90									
	110	90	80									
	110	90	80									
	90	80	70	90	80	80						
	120	100	90									
	120	100	90									
	110	100	80	110	110	100						
	90	80	80	80	80	70						
	80	70	60									
	80	70	60	80	80	70						
	70	60	50									
	70	60	50									
	140	130	120	180	170	160						
	130	120	110	170	160	150						
	120	110	100	130	120	110						
	120	100	100	130	120	110						
	110	100	90	120	110	100						
	110	100	90	120	110	100						

The specified cutting values are recommended values. Adjustment to the specific application conditions is recommended.

When using the B 4017 drill, a centre hole produced by a B 4013 or NC centring drill is recommended.

Cutting data for drilling with indexable insert drills, dia. 10–18 mm

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Indexable inserts: Starting feed rate f [mm/rev.] LCMX – B 57 D_C [mm] 10–12	LCMX – B 57 D_C [mm] 12.5–18	LCMX – D 57 D_C [mm] 10–12	LCMX – D 57 D_C [mm] 12.5–18	LCMX – E 57 D_C [mm] 10–12	LCMX – E 57 D_C [mm] 12.5–18
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1	0.05	0.06	0.06	0.07		
		Approx. 0.45% C	annealed	190	2	0.06	0.08	0.06	0.08	0.08	0.12
		Approx. 0.45% C	tempered	250	3			0.05	0.07	0.07	0.10
		Approx. 0.75% C	annealed	270	4			0.05	0.06	0.07	0.10
		Approx. 0.75% C	tempered	300	5			0.05	0.06	0.07	0.10
	Low-alloy steel[1]		annealed	180	6	0.06	0.07	0.07	0.08	0.08	0.12
			tempered	275	7			0.07	0.08		
			tempered	300	8			0.07	0.08	0.08	0.10
			tempered	350	9			0.06	0.07	0.07	0.08
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10			0.06	0.08	0.07	0.10
			hardened and tempered	325	11			0.05	0.07	0.06	0.08
	Stainless steel[1]		annealed ferritic/martensitic	200	12			0.06	0.08	0.07	0.10
			martensitic. quenched and tempered	240	13			0.05	0.07	0.06	0.08
M	Stainless steel[1]		austenitic[2], quench hardened	180	14	0.05	0.06	0.06	0.07		
K	Grey cast iron		pearlitic/ferritic	180	15	0.09	0.10	0.10	0.12	0.10	0.14
			pearlitic (martensitic)	260	16	0.07	0.08	0.08	0.10	0.08	0.12
	Cast iron with spheroidal graphite		ferritic	160	17	0.07	0.09	0.08	0.10	0.10	0.12
			pearlitic	250	18	0.06	0.08	0.07	0.08	0.08	0.10
	Malleable cast iron		ferritic	130	19	0.09	0.10	0.10	0.12	0.10	0.14
			pearlitic	230	20	0.07	0.08	0.08	0.10	0.08	0.12
N	Aluminium wrought alloys		cannot be hardened	60	21			0.08	0.10		
			precipitation hardenable,	100	22			0.08	0.10		
	Cast aluminium alloys		≤ 12% Si, not precipitation	75	23			0.08	0.10		
			≤ 12% Si, precipitation hardenable,	90	24			0.08	0.10		
			> 12% Si, not precipitation	130	25			0.08	0.10		
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26			0.10	0.12	0.10	0.14
			Brass, red brass	90	27			0.08	0.10	0.08	0.10
			Bronze, lead-free copper and electrolytic copper	100	28			0.08	0.10	0.08	0.10
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29						
			Hard rubber		30						
S	Heat-resistant alloys	Fe based	annealed	200	31	0.05	0.06	0.05	0.06	0.05	0.06
			hardened	280	32			0.04	0.05	0.04	0.05
		Ni or Co based	annealed	250	33			0.04	0.05	0.04	0.05
			hardened	350	34			0.04	0.05	0.04	0.05
			cast	320	35			0.04	0.05	0.04	0.05
	Titanium alloys		Pure titanium	400[3]	36						
			Alpha + Beta alloys, hardened	1050[3]	37	0.06	0.08	0.06	0.08		

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Cutting tool material grades												
Starting figure for cutting speed v_C [m/min]												
HC = Coated grades												
WAP 20		**WKP 25**		**WKP 35**		**WTP 35**		**WSP 45**		**WXP 40**	
f [mm/rev.]		f [mm/rev.]		f [mm/rev.]		f [mm/rev.]		f [mm/rev.]		f [mm/rev.]	
0.06	0.10	0.06	0.10	0.06	0.10	0.06	0.10	0.06	0.10	0.06	0.10
260	240	290	260	260	240	220	200	220	200	200	180
240	220	260	240	220	200	160	150	160	150	150	140
220	200	240	220	200	180	150	140	150	140	140	130
200	180	220	200	180	140	140	130	140	130	130	120
180	160	200	180	150	130	130	120	130	120	120	110
240	220	260	240	220	200	180	170	180	170	150	140
220	200	240	220	200	180	160	150	160	150	140	130
200	180	220	200	190	170	150	130	150	130	140	120
180	160	200	180	180	150	150	130	150	130	140	120
200	180	220	200	180	170	140	130	140	130	130	120
160	150	180	170	150	140	130	120	130	120	120	110
200	180			180	170	140	130	140	130	130	120
160	150			150	140	130	120	130	120	120	110
				220	200	180	160	180	160	160	150
220	200	240	220	220	200	180	160			160	140
160	150	180	170	180	150	140	130			130	120
150	140	170	150	150	140	130	120			130	120
130	120	140	130	140	130	120	110			110	100
220	200	240	220	220	200	180	160			160	140
160	150	180	170	180	150	140	130			130	120
						300	300	300	300		
						250	250	250	250		
						350	300	350	300		
						300	250	300	250		
						300	250	300	250		
				100	100	80	80	80	80	80	80
				80	80	60	60	60	60	60	60
				60	60	50	50	50	50	50	50
				50	50	40	40	40	40	40	40
				50	50	40	40	40	40	40	40
						50	45	50	45		

The specified cutting values are recommended values. Adjustment to the specific application conditions is recommended.

When using drills with a drilling depth of more than 3 × D the following reductions are recommended:

Drilling depth	**Reduction of cutting speed**	**Reduction of feed rate when spot drilling**
> 3 × D	20 %	30 %

Cutting data for drilling with *Xtra*·tec® INSERT DRILL, dia. 16.5–35 mm

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Indexable inserts: Starting feed rate f [mm/rev.] A 57 Size 2 D_C [mm] 16.5–20.4	Size 3 D_C [mm] 20.5–24.4	Size 4 D_C [mm] 24.5–29.4	Size 5 D_C [mm] 29.5–35
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1	0.06	0.06	0.09	0.12
		Approx. 0.45% C	annealed	190	2	0.09	0.10	0.13	0.18
		Approx. 0.45% C	tempered	250	3	0.10	0.12	0.15	0.18
		Approx. 0.75% C	annealed	270	4	0.09	0.10	0.13	0.18
		Approx. 0.75% C	tempered	300	5	0.09	0.10	0.13	0.18
	Low-alloy steel[1]		annealed	180	6	0.10	0.12	0.15	0.20
			tempered	275	7	0.09	0.10	0.13	0.15
			tempered	300	8	0.09	0.10	0.13	0.15
			tempered	350	9	0.06	0.06	0.09	0.12
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10	0.10	0.12	0.15	0.18
			hardened and tempered	325	11	0.09	0.10	0.13	0.15
	Stainless steel[1]		annealed ferritic/martensitic	200	12	0.09	0.10	0.13	0.15
			martensitic. quenched and tempered	240	13	0.09	0.10	0.13	0.15
M	Stainless steel[1]		austenitic[2], quench hardened	180	14	0.07	0.08	0.10	0.13
K	Grey cast iron		pearlitic/ferritic	180	15	0.13	0.15	0.18	0.23
			pearlitic (martensitic)	260	16	0.10	0.12	0.15	0.20
	Cast iron with spheroidal graphite		ferritic	160	17	0.13	0.15	0.18	0.23
			pearlitic	250	18	0.10	0.12	0.18	0.23
	Malleable cast iron		ferritic	130	19	0.13	0.15	0.18	0.23
			pearlitic	230	20	0.10	0.12	0.15	0.20
N	Aluminium wrought alloys		cannot be hardened	60	21				
			precipitation hardenable, precipitation hardened	100	22				
	Cast aluminium alloys		≤ 12% Si, not precipitation hardenable	75	23				
			≤ 12% Si, precipitation hardenable, hardened	90	24				
			> 12% Si, not precipitation hardenable	130	25				
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26				
			Brass, red brass	90	27				
			Bronze, lead-free copper and electrolytic copper	100	28				
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29				
			Hard rubber		30				
S	Heat-resistant alloys	Fe based	annealed	200	31	0.08	0.09	0.12	0.15
			hardened	280	32	0.06	0.06	0.09	0.12
		Ni or Co based	annealed	250	33	0.08	0.09	0.12	0.15
			hardened	350	34	0.06	0.06	0.09	0.12
			cast	320	35	0.06	0.06	0.09	0.12
	Titanium alloys		Pure titanium	400[3]	36				
			Alpha + Beta alloys, hardened	1050[3]	37	0.08	0.09	0.12	0.14

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue, page 798 onwards.

Indexable inserts				Cutting tool material grades for outer insert [P 484 . P..]								
Starting feed rate f [mm/rev.]				Starting figure for cutting speed v_C [m/min]								
E 57				HC = Coated grades								
Size 2	Size 3	Size 4	Size 5	WKP 25			WKP 35			WSP 45		
for D_C [mm]	for D_C [mm]	for D_C [mm]	for D_C [mm]	f [mm/rev.]			f [mm/rev.]			f [mm/rev.]		
16.5–20.4	20.5–24.4	24.5–29.4	29.5–35	0.06	0.10	0.16	0.06	0.10	0.16	0.06	0.10	0.16
0.06	0.06	0.09	0.12	350	320	–	300	270	–	250	220	–
0.07	0.08	0.11	0.17	260	240	220	220	200	180	170	160	150
0.08	0.10	0.13	0.17	240	220	200	200	180	150	150	140	130
0.07	0.08	0.11	0.17	220	200	180	180	150	140	140	130	120
0.07	0.08	0.11	0.17	190	170	150	150	130	120	130	120	110
0.08	0.10	0.13	0.19	260	240	220	220	200	180	170	160	160
0.07	0.08	0.11	0.14	240	220	200	200	180	150	150	140	130
0.07	0.08	0.11	0.14	220	200	180	190	170	140	150	130	120
0.06	0.06	0.09	0.11	200	180	170	180	150	140	150	130	120
0.08	0.10	0.13	0.17	220	200	180	200	170	150	140	130	120
0.07	0.08	0.11	0.14	220	160	150	200	140	130	130	120	110
0.07	0.08	0.11	0.14				190	170	150	110	130	120
0.07	0.08	0.11	0.14				180	140	130	130	120	110
0.07	0.08	0.10	0.13				220	200	–	180	170	–
0.10	0.12	0.15	0.22	240	220	200	220	200	180	180	160	130
0.08	0.09	0.12	0.19	200	160	150	180	150	130	150	130	110
0.10	0.12	0.15	0.22	160	150	140	150	140	130	150	130	120
0.08	0.09	0.12	0.22	150	140	130	140	130	120	120	110	110
0.10	0.12	0.15	0.22	240	220	200	220	200	180	180	150	130
0.08	0.09	0.12	0.19	220	170	140	200	150	130	140	130	120
0.09	0.10	0.12	0.14							500	500	500
0.09	0.10	0.12	0.17							450	450	450
0.10	0.12	0.15	0.17							300	300	300
0.10	0.12	0.15	0.17							250	250	250
0.10	0.12	0.15	0.17							200	200	200
0.12	0.14	0.17	0.22							350	300	250
0.12	0.14	0.17	0.22							300	250	200
0.12	0.14	0.17	0.22							300	250	200
0.13	0.15	0.18	0.20							–	300	300
0.06	0.07	0.10	0.13	100	100		100	100		90	90	
0.06	0.06	0.09	0.11	80	80		80	80		70	70	
0.06	0.07	0.10	0.12	60	60		60	60		50	50	
0.06	0.06	0.09	0.11	50	50		50	50		40	40	
0.06	0.06	0.09	0.11	50	50		50	50		40	40	
0.06	0.07	0.10	0.12							50	45	–

When using drills with a drilling depth > 3 x D, the following reductions are recommended:
Cutting speed: –20 % / feed rate when starting bore: –30 %
Feed rate when starting bore on sloping surfaces: –50 %

Cutting data for drilling with Walter Stardrills, dia. 16–58 mm

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Indexable inserts – Starting feed rate f [mm/rev.]								
						P 28467 / P 28477 D_C [mm]			P 28469 / P 28479 D_C [mm]			P 28475 D_C [mm]		
						15.8–20.4	20.5–30.4	≥30.5	15.8–20.4	20.5–30.4	≥30.5	15.8–20.4	20.5–30.4	≥30.5
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	0.07	0.10	0.10	0.08	0.10	0.10	0.08	0.10	0.10
		Approx. 0.45% C annealed		190	2	0.08	0.10	0.16	0.08	0.10	0.16	0,08	0.10	0.20
		Approx. 0.45% C tempered		250	3	0.08	0.09	0.12	0.08	0.10	0.16	0.08	0.10	0.16
		Approx. 0.75% C annealed		270	4	0.07	0.08	0.12	0.08	0.08	0.14	0.07	0.08	0.14
		Approx. 0.75% C tempered		300	5	0.06	0.07	0.10				0.07	0.07	0.12
	Low-alloy steel[1]	annealed		180	6	0.08	0.10	0.16	0.08	0.10	0.16	0.08	0.10	0.16
		tempered		275	7	0.07	0.08	0.12	0.07	0.08	0.12	0.08	0.10	0.16
		tempered		300	8	0.07	0.08	0.10				0.07	0.08	0.14
		tempered		350	9	0.06	0.08	0.10						
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	0.07	0.09	0.16	0.08	0.10	0.16	0.08	0.09	0.12
		hardened and tempered		325	11	0.05	0.07	1.10				0.06	0.08	0.10
	Stainless steel[1]	annealed ferritic/martensitic		200	12	0.07	0.09	0.12	0.07	0.09	0.12	0.08	0.09	0.12
		martensitic. quenched and tempered		240	13	0.06	0.08	0.10	0.06	0.08	0.10	0.07	0.08	0.10
M	Stainless steel[1]	austenitic[2], quench hardened		180	14	0.06	0.08	0.10	0.07	0.09	0.10			
K	Grey cast iron	pearlitic/ferritic		180	15	0.10	0.12	0.20	0.10	0.12	0.20	0.10	0.12	0.25
		pearlitic (martensitic)		260	16	0.08	0.10	0.16	0.08	0.10	0.16	0.08	0.10	0.20
	Cast iron with spheroidal graphite	ferritic		160	17	0.10	0.12	0.20	0.10	0.12	0.20	0.10	0.12	0.20
		pearlitic		250	18	0.08	0.10	0.16	0.08	0.10	0.16	0.08	0.10	0.20
	Malleable cast iron	ferritic		130	19	0.10	0.12	0.20	0.10	0.12	0.20	0.10	0.12	0.25
		pearlitic		230	20	0.08	0.10	0.16	0.08	0.10	0.16	0.08	0.10	0.20
N	Aluminium wrought alloys	cannot be hardened		60	21				0.08	0.10	0.12			
		precipitation hardenable, precipitation hardened		100	22				0.08	0.10	0.20			
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23				0.08	0.10	0.12			
		≤ 12% Si, precipitation hardenable, hardened		90	24				0.08	0.10	0.12			
		> 12% Si, not precipitation hardenable		130	25				0.08	0.10	0.16	0.08	0.10	0.16
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26	0.10	0.12	0.20	0.10	0.12	0.20			
		Brass, red brass		90	27	0.10	0.12	0.16	0.10	0.12	0.20			
		Bronze, lead-free copper and electrolytic copper		100	28	0.10	0.12	0.10	0.10	0.12	0.20			
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29				0.10	0.14	0.20			
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31	0.05	0.08	0.12	0.06	0.08	0.12			
			hardened	280	32	0.05	0.06	0.08	0.05	0.06	0.08			
		Ni or Co based	annealed	250	33	0.05	0.08	0.10	0.05	0.06	0.08			
			hardened	350	34	0.05	0.06	0.08						
			cast	320	35	0.05	0.06	0.08						
	Titanium alloys	Pure titanium		400[3]	36									
		Alpha + Beta alloys, hardened		1050[3]	37	0.07	0.08	0.10	0.06	0.08	0.10			

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue, page 798 onwards.

Cutting tool material grades																														
Starting figure for cutting speed v_C [m/min]																														
HC = Coated grades																													HW	
WAP 20					WKP 25				WKP 35				WTP 35				WSP 45				WAK 15				WXP 40				WK 40		
f [mm/rev.]					f [mm/rev.]				f [mm/rev.]				f [mm/rev.]				f [mm/rev.]				f [mm/rev.]				f [mm/rev.]				f [mm/rev.]		
0.06	0.10	0.16	0.20	0.06	0.10	0.16	0.20	0.06	0.10	0.16	0.20	0.06	0.10	0.16	0.20	0.06	0.10	0.16	0.20	0.06	0.10	0.16	0.20	0.06	0.10	0.16	0.20	0.06	0.10	0.16
260	240	220		290	260	240		260	240	220		220	200	180		220	200	180						200	180	160				
240	220	200	180	260	240	220	200	220	200	180	150	160	150	130	120	160	150	130	120					150	140	130	120			
220	200	180	160	240	220	200	180	200	180	150	140	150	140	130		150	140	130						140	130	120				
200	180	160		220	200	180		180	150	140		140	130	120		140	130	120						130	120	110				
170	150	140		190	170	150		150	130	120		130	120	110		130	120	110						120	110	100				
240	220	200	180	260	240	220	200	220	200	180	150	180	170	150	130	180	170	150	130					150	140	130	120			
220	200	180	160	240	220	200	180	200	180	150	130	160	150	140	120	160	150	140	120					140	130	120	110			
200	180	160		220	200	180		190	170	140		150	130	120		150	130	120						140	120	110				
180	160	150		200	180	170		180	150	140		150	130	120		150	130	120						140	120	110				
200	180	160		220	200	180		22	170	150		140	130	120		140	130	120						130	120	110				
160	150	140		180	170	150		200	140	130		130	120	110		130	120	110						120	110	100				
200	180	160						190	170	150		140	130	100		140	130	100						130	120	110				
160	150	140						180	140	130		130	120	110		130	120	110						120	110	100				
								220	200			180	160			180	160							160	150					
220	200	180	160	200	190	170	150	220	200	180	150	180	160	140	130					240	220	200	180	160	140	120	100			
160	150	140	130	150	130	110	90	180	150	130	120	140	130	120	110					170	150	130	110	130	120	100	80			
150	140	130	120	140	120	110	100	150	140	130	120	130	120	110	100					160	140	130	120	130	120	110	100			
130	120	110	100	120	110	100	90	140	130	120	110	120	110	100	90					140	130	120	110	110	100	100	90			
220	200	180	160	200	190	170	150	220	200	180	150	180	160	140	130					240	220	200	180	160	140	120	100			
160	150	140	130	140	130	120	110	200	150	130	120	140	130	120	110					160	150	140	130	130	120	100	80			
																													500	500
																													450	400
												300	300	300	300	300	300	300	300										400	400
												250	250	250	250	250	250	250	250										300	300
																				250	250	250	250						200	200
												350	300	250		350	300	250											400	350
												300	250	200		300	250	200			450	420							300	260
												300	250	200		300	250	200											300	260
																													300	300
				100	100			100	100			80	80			80	80							80	80			70	70	
				80	80			80	80			60	60			60	60							60	60			50	50	
				60	60			60	60			50	50			50	50							50	50			40	40	
				50	50			50	50			40	40			40	40							40	40			30	30	
				50	50			50	50			40	40			40	40							40	40			30	30	
												50	45			50	45											50	45	

The specified cutting values are recommended values. Adjustment to the specific application conditions is recommended.

When using drills with a drilling depth of more than 3 × D up to 4 × D the following reductions are recommended:

Drilling depth	Reduction of cutting speed	Reduction of feed rate when spot drilling	Reduction of feed rate when spot drilling on inclined surfaces
> 3 × D	20 %	30 %	50 %
> 4 × D	30 %	40 %	—

Cutting data for drilling using WOMX-/WOEX inserts

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Indexable inserts – Starting feed rate f [mm/rev.]								
						WOMX – B 57 D_C [mm]				WOMX – D 57 D_C [mm]				
						14–19.9	20–24.9	25–44.9	> 45	12–13.9	14–19.9	20–24.9	25–44.9	> 45
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	0.05	0.07	0.08	0.1	0.05	0.06	0.08	0.1	0.12
		Approx. 0.45% C annealed		190	2	0.05	0.07	0.08	0.1	0.05	0.06	0.08	0.1	0.12
		Approx. 0.45% C tempered		250	3	0.05	0.07	0.08	0.1	0.05	0.06	0.08	0.1	0.12
		Approx. 0.75% C annealed		270	4	0.05	0.07	0.08	0.1	0.05	0.06	0.08	0.1	0.12
		Approx. 0.75% C tempered		300	5	0.05	0.07	0.08	0.1	0.05	0.06	0.08	0.1	0.12
	Low-alloy steel[1]	annealed		180	6	0.06	0.07	0.08	0.1	0.06	0.07	0.08	0.1	0.14
		tempered		275	7	0.06	0.07	0.08	0.1	0.06	0.07	0.08	0.1	0.14
		tempered		300	8	0.06	0.07	0.08	0.1	0.06	0.07	0.08	0.1	0.14
		tempered		350	9	0.06	0.07	0.08	0.1	0.06	0.07	0.08	0.1	0.14
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	0.04	0.05	0.06	0.09	0.05	0.05	0.06	0.07	0.1
		hardened and tempered		325	11	0.04	0.05	0.06	0.09	0.05	0.05	0.06	0.07	0.1
	Stainless steel[1]	annealed ferritic/martensitic		200	12	0.04	0.05	0.08	0.1	0.05	0.06	0.08	0.09	0.12
		martensitic. quenched and tempered		240	13	0.04	0.05	0.08	0.1	0.05	0.06	0.08	0.09	0.12
M	Stainless steel[1]	austenitic[2], quench hardened		180	14	0.04	0.06	0.07	0.1	0.05	0.06	0.08	0.09	0.12
K	Grey cast iron	pearlitic/ferritic		180	15	0.05	0.07	0.09	0.12	0.07	0.1	0.12	0.14	0.16
		pearlitic (martensitic)		260	16	0.05	0.07	0.09	0.12	0.07	0.1	0.12	0.14	0.16
	Cast iron with spheroidal graphite	ferritic		160	17	0.04	0.05	0.09	0.12	0.06	0.08	0.12	0.14	0.16
		pearlitic		250	18	0.04	0.05	0.09	0.12	0.06	0.08	0.12	0.14	0.16
	Malleable cast iron	ferritic		130	19	0.05	0.07	0.09	0.12	0.07	0.09	0.1	0.12	0.16
		pearlitic		230	20	0.05	0.07	0.09	0.12	0.07	0.09	0.1	0.12	0.16
N	Aluminium wrought alloys	cannot be hardened		60	21									
		precipitation hardenable, precipitation hardened		100	22									
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23									
		≤ 12% Si, precipitation hardenable, hardened		90	24									
		> 12% Si, not precipitation hardenable		130	25									
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26									
		Brass, red brass		90	27									
		Bronze, lead-free copper and electrolytic copper		100	28									
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29									
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31	0.04	0.05	0.06	0.06	0.05	0.06	0.06	0.06	0.08
			hardened	280	32	0.04	0.05	0.06	0.06	0.05	0.06	0.06	0.06	0.08
		Ni or Co based	annealed	250	33							0.06	0.06	0.08
			hardened	350	34							0.06	0.06	0.08
			cast	320	35							0.06	0.06	0.08
	Titanium alloys	Pure titanium		400[3]	36									
		Alpha + Beta alloys, hardened		1050[3]	37									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Indexable inserts				Cutting tool material grades											
f [mm/rev.]				Starting figure for cutting speed v_C [m/min]											
				HC = Coated grades											
WOEX – E 57				WAP 20			WKP 35			WAK 15			WXP 40		
D_C [mm]				f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]		
14–19.9	20–24.9	25–44.9	> 45	Up to 0.04	Up to 0.08	Up to 0.16	Up to 0.04	Up to 0.08	Up to 0.16	Up to 0.04	Up to 0.08	Up to 0.16	Up to 0.04	Up to 0.08	Up to 0.16
0.06	0.08	0.1	0.12	240	230	200	220	200	180				140	130	120
0.06	0.08	0.1	0.12	240	230	200	220	200	180				140	130	120
0.06	0.08	0.1	0.12	240	230	200	220	200	180				140	130	120
0.06	0.08	0.1	0.12	240	230	200	220	200	180				140	130	120
0.06	0.08	0.1	0.12	240	230	200	220	200	180				140	130	120
0.07	0.08	0.1	0.14	230	220	190	210	200	170				130	120	110
0.07	0.08	0.1	0.14	230	220	190	210	200	170				130	120	110
0.07	0.08	0.1	0.14	230	220	190	210	200	170				130	120	110
0.07	0.08	0.1	0.14	230	220	190	210	200	170				130	120	110
0.05	0.06	0.07	0.1	200	180	170	190	170	150				130	120	110
0.05	0.06	0.07	0.1	200	180	170	190	170	150				130	120	110
0.06	0.08	0.09	0.12	180	160	150	160	140	120				130	120	110
0.06	0.08	0.09	0.12	180	160	150	160	140	120				130	120	110
0.06	0.08	0.09	0.12				200	180	160				160	150	140
0.1	0.12	0.14	0.16	150	140	130	140	130	120	200	180	160	120	120	110
0.1	0.12	0.14	0.16	150	140	130	140	130	120	200	180	160	120	120	110
0.08	0.12	0.14	0.16	130	120	120	120	120	110	160	150	140	110	110	100
0.08	0.12	0.14	0.16	130	120	120	120	120	110	160	150	140	110	110	100
0.09	0.1	0.12	0.16	150	140	130	140	130	120	180	160	150	120	120	110
0.09	0.1	0.12	0.16	150	140	130	140	130	120	180	160	150	120	120	110
0.06	0.06	0.06	0.08				80	70	70				60	60	60
0.06	0.06	0.06	0.08				80	70	70				60	60	60
	0.06	0.06	0.08				50	40	40				40	40	40
	0.06	0.06	0.08				50	40	40				40	40	40
	0.06	0.06	0.08				50	40	40				40	40	40

Cutting data for boring

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Geometry: Starting feed rate f [mm/rev.] – PM 5 D_C [mm] < 44	– PM 5 D_C [mm] > 44-73	– PM 5 D_C [mm] > 73	– PF2 / – PM2 D_C [mm] < 44	– PF2 / – PM2 D_C [mm] > 44-73	– PF2 / – PM2 D_C [mm] > 73	– PF 4/– PS 5 D_C [mm] < 44	– PF 4/– PS 5 D_C [mm] > 44-73	– PF 4/– PS 5 D_C [mm] > 73
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1	0.2	0.3	0.4				0.16	0.24	0.32
		Approx. 0.45% C	annealed	190	2	0.16	0.24	0.4				0.13	0.19	0.32
		Approx. 0.45% C	tempered	250	3	0.15	0.22	0.35				0.12	0.18	0.28
		Approx. 0.75% C	annealed	270	4	0.14	0.2	0.3				0.11	0.16	0.24
		Approx. 0.75% C	tempered	300	5	0.12	0.18	0.25				0.10	0.14	0.20
	Low-alloy steel[1]		annealed	180	6	0.2	0.3	0.4				0.16	0.24	0.32
			tempered	275	7	0.16	0.24	0.4				0.13	0.19	0.32
			tempered	300	8	0.14	0.2	0.3				0.11	0.16	0.24
			tempered	350	9	0.12	0.18	0.25				0.10	0.14	0.20
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10	0.14	0.2	0.3				0.11	0.16	0.24
			hardened and tempered	325	11	0.14	0.2	0.3				0.11	0.16	0.24
	Stainless steel[1]		annealed ferritic/martensitic	200	12	0.12	0.16	0.24				0.10	0.13	0.19
			martensitic. quenched and tempered	240	13	0.12	0.16	0.24				0.10	0.13	0.19
M	Stainless steel[1]		austenitic[2], quench hardened	180	14	0.12	0.16	0.24				0.10	0.13	0.19
K	Grey cast iron		pearlitic/ferritic	180	15	0.2	0.3	0.4				0.16	0.24	0.32
			pearlitic (martensitic)	260	16	0.16	0.24	0.3				0.13	0.19	0.24
	Cast iron with spheroidal graphite		ferritic	160	17	0.2	0.3	0.4				0.16	0.24	0.32
			pearlitic	250	18	0.16	0.24	0.3				0.13	0.19	0.24
	Malleable cast iron		ferritic	130	19	0.2	0.3	0.4				0.16	0.24	0.32
			pearlitic	230	20	0.16	0.24	0.3				0.13	0.19	0.24
N	Aluminium wrought alloys		cannot be hardened	60	21				0.24	0.3	0.3			
			precipitation hardenable, precipitation hardened	100	22				0.24	0.3	0.4			
	Cast aluminium alloys		≤ 12% Si, not precipitation hardenable	75	23				0.24	0.3	0.4			
			≤ 12% Si, precipitation hardenable, hardened	90	24				0.24	0.3	0.4			
			> 12% Si, not precipitation hardenable	130	25				0.24	0.3	0.4			
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26	0.16	0.24	0.4	0.24	0.3	0.4	0.13	0.19	0.32
			Brass, red brass	90	27	0.16	0.244	0.4	0.24	0.3	0.4	0.13	0.19	0.32
			Bronze, lead-free copper and electrolytic copper	100	28	0.16	0.24	0.4	0.24	0.3	0.4	0.13	0.19	0.32
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29				0.3	0.4	0.5			
			Hard rubber		30				0.2	0.3	0.4			
S	Heat-resistant alloys	Fe based	annealed	200	31	0.1	0.15	0.2				0.08	0.12	0.16
			hardened	280	32	0.1	0.15	0.2				0.08	0.12	0.16
		Ni or Co based	annealed	250	33	0.1	0.15	0.2				0.08	0.12	0.16
			hardened	350	34	0.1	0.15	0.2				0.08	0.12	0.16
			cast	320	35	0.1	0.15	0.2				0.08	0.12	0.16
	Titanium alloys	Pure titanium		400[3]	36									
		Alpha + Beta alloys, hardened		1050[3]	37	0.14	0.16	0.24	0.14	0.16	0.24	0.11	0.13	0.19
H	Hardened steel		hardened and tempered	55[4]	38									
			hardened and tempered	60[4]	39									
	Chilled cast iron	cast		400	40									
	Hardened cast iron	hardened and tempered		55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Cutting tool material grades																														
Starting figure for cutting speed v_C [m/min]																														
HC = Coated grades																												HW		
WPP 01/ WPP 10			WPP 20			WPP 30			WSM 20			WSM 30			WAK 10			WAK 20			WAK 30			WXN 10			WK 1		
f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]			f [mm/rev.]		
0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4	0.1	0.2	0.4
300	280		280	260	240	260	240	220																					
280	260		260	240	220	220	200	180																					
260	240		240	220	200	200	180	160																					
250	220		220	200	180	180	160	140																					
220	200		200	180	160	140	130	120																					
280	260		260	240	220	220	200	180																					
260	240		240	220	200	200	180	160																					
240	220		220	200	180	180	160	150																					
220	200		200	180	160	160	140	120																					
220	200		220	200		180	160	150																					
180	160		180	160		160	150	140																					
			220	200		160	130		180	160																			
			180	160		130	110		160	150																			
						220	200		220	200		140	100	60										150	140				
240	220	180	220	200	160	200	180	140							390	350	260	350	320	200	310	290	140						
170	150	140	160	150	130	160	140	120							250	220	170	190	170	130	130	120	90						
200	180	160	180	160	140	150	140	120							260	230	190	200	180	150	140	130	110						
180	160	140	160	140	130	160	130	110							190	170	150	150	130	110	110	90	70						
240	220	180	220	200	160	200	180	140							300	270	230	230	210	200	160	145	130						
170	150	140	160	150	130	160	140	120							220	200	150	170	150	110	120	100	70						
																								1000*	1000*	1000*	1000*	1000*	
																								900	900	900	800	800	
																								500	500	500	500	500	500
																								400	400	400	400	400	400
																								300	300	300	300	300	300
400	360	300	350	330	300																			450	400	350	450	400	350
350	300	250	330	300	250																			400	350	300	400	350	300
300	250	220	300	250	200																			350	300	250	350	300	250
																												500	450
																												300	260
									80	80		60	35																
									60	60		40	30																
									50	50		40	20																
									40	40		35	20																
									40	40		30	10																
									50	50																	45	45	

* determined by the limit speed of the tool

Cutting data for precision boring

Material group	Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for cutting speed v_C [m/min] HC = Coated grades								
						WPP 01 / WPP 10			WPP 20 / WPP 30			WTP 35		
						3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	355	320	195	310	280	170	260	210	130
		Approx. 0.45% C annealed		190	2	335	265	160	290	230	140	220	180	110
		Approx. 0.45% C tempered		250	3	300	240	150	260	210	130	200	160	100
		Approx. 0.75% C annealed		270	4	275	220	140	240	190	120	180	140	90
		Approx. 0.75% C tempered		300	5	255	205	125	220	180	110	140	110	70
	Low-alloy steel[1]	annealed		180	6	330	265	160	290	230	140	220	170	110
		tempered		275	7	300	240	150	260	210	130	200	160	100
		tempered		300	8	275	220	140	240	190	120	180	150	90
		tempered		350	9	255	205	125	220	180	110	160	130	80
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	275	220	140	240	180	120	180	150	90
		hardened and tempered		325	11	230	195	115	200	170	100	160	130	80
	Stainless steel[1]	annealed ferritic/martensitic		200	12	275	205	140	240	190	120	160	130	80
		martensitic. quenched and tempered		240	13	230	195	115	200	150	100	130	100	70
M	Stainless steel[1]	austenitic[2], quench hardened		180	14							200	160	100
K	Grey cast iron	pearlitic/ferritic		180	15	300	255	150	260	220	130	220	160	100
		pearlitic (martensitic)		260	16	220	185	115	190	160	100	160	130	80
	Cast iron with spheroidal graphite	ferritic		160	17	275	220	140	240	190	120	180	140	90
		pearlitic		250	18	255	195	125	220	170	110	160	130	80
	Malleable cast iron	ferritic		130	19	300	255	150	260	220	130	200	160	100
		pearlitic		230	20	220	184	115	190	160	100	160	130	80
N	Aluminium wrought alloys	cannot be hardened		60	21							600	480	330
		precipitation hardenable, precipitation hardened		100	22							500	400	280
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23							500	400	280
		≤ 12% Si, precipitation hardenable, hardened		90	24							400	320	220
		> 12% Si, not precipitation hardenable		130	25							300	250	200
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26				300	240				
		Brass, red brass		90	27	345	275		250	200				
		Bronze, lead-free copper and electrolytic copper		100	28	285	230					350	280	180
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29									
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31				80	60	40			
			hardened	280	32				70	50	35			
		Ni or Co based	annealed	250	33				70	50	35			
			hardened	350	34				50	40	25			
			cast	320	35				50	40	25			
	Titanium alloys	Pure titanium		400[3]	36									
		Alpha + Beta alloys, hardened		1050[3]	37									
H	Hardened steel	hardened and tempered		55[4]	38									
		hardened and tempered		60[4]	39									
	Chilled cast iron	cast		400	40									
	Hardened cast iron	hardened and tempered		55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

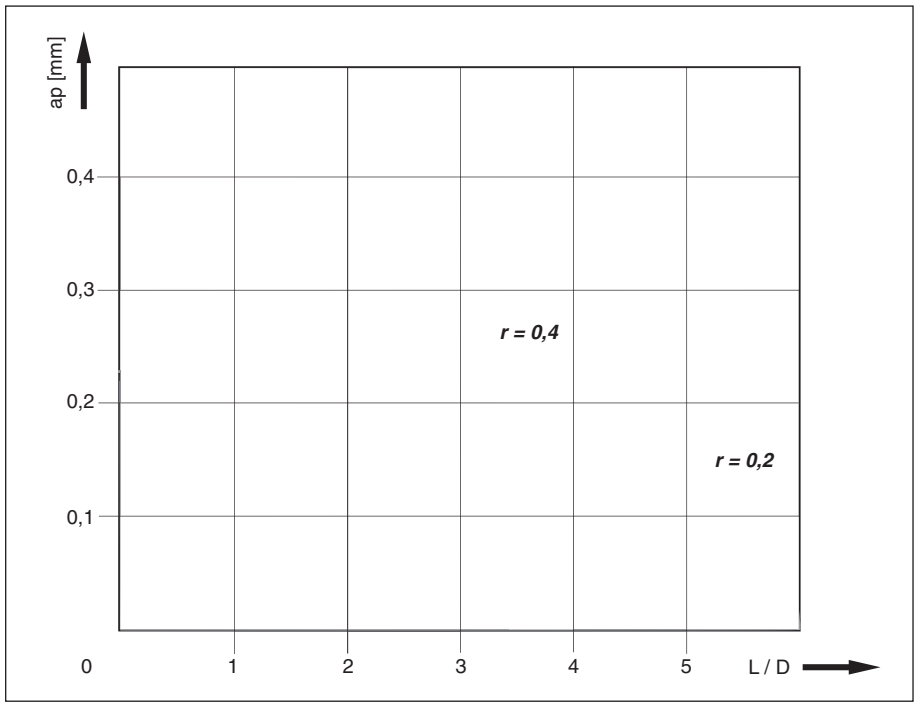
Starting figure for cutting speed v_C [m/min]																				
	HC = Coated grades												HW = uncoated grades			CBN WCB 30 (for ISO H) WCB 50 (for ISO H) WCB 80 (for ISO K)			DP = PCD WCD 10		
	WSM 20/ WSM 30			WAK 10/ WAK 15			WXN 10			WXM 15			WK 1								
	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C	3 x D_C	4 x D_C	6 x D_C
				310	280	170				260	210	130									
				290	230	140				220	180	110									
				260	210	130				200	160	100									
				240	190	120				180	140	90									
				220	180	110				140	110	70									
				290	230	140				220	170	110									
				260	210	130				200	160	100									
				240	190	120				180	150	90									
				220	180	110				160	130	80									
				240	180	120				180	150	90									
				200	170	100				160	130	80									
				240	190	120				160	130	80									
				200	150	100				130	100	70									
	220	170	110	240	190					200	160	100									
				260	220	130				200	160	100	210	170	120	2000*	1800*				
				190	160	100				160	130	80	150	120	90	900*	800*				
				240	190	120				180	140	90	170	140	100	800*	700*				
				220	170	110				160	130	80	140	110	70	700*	600*				
				260	220	130				200	160	100	180	140	100	800*	700*				
				190	160	100				160	130	80	150	120	90	700*	600*				
							940	750	500	600	480	330	750	600	400				2000*	1800*	1600*
							750	600	410	500	400	280	600	480	330				2000*	1800*	1600*
							750	600	410	500	400	280	600	480	330				1000*	900*	800*
							560	450	310	400	320	220	450	360	250				800*	700*	600*
							440	440	250	300	250	200	350	350	200				700*	600*	500*
	300	240		300	240		380	180	210				300	240	170				800*	700*	600*
	250	200		250	200		310	230	160				250	180	130				700*	600*	500*
							380	300	210	350	280	180	300	240	170				800*	700*	600*
							630	500	350				500	400	280				600*	500*	400*
							500	380	250				400	300	200				700*	600*	500*
	80	60	40	80	60	40							60	40	25						
	70	50	35	70	50	35							50	30	20						
	70	50	35	70	50	35							50	30	20						
	50	40	25	50	40	25							40	25	20						
	50	40	25	50	40	25							40	25	20						
	50	40	30										40	30	20						
																300	250				
																200	150				
																100	60				
																250	200				

* take into account limit speeds!

Feed data for precision boring

Select the corner radius r and the cut depth ap by means of these graphs.

Choose the maximum possible corner radius with reference to the relevant length-to-diameter ratio (L/D).
The optimal cut depths ap are around 2/3 of the defined maximum ap values.



Select the maximum feed rate according to the specified surface finish of the workpiece and the corner radius of the indexable insert selected as above.

Corner radii Indexable insert r [mm]	Roughness [µm]									
	max. feed rate f [mm/rev.]									
	0.03		0.06		0.09		0.12		0.15	
	R_{max}	R_a	R_{max}	R_a	R_{max}	R_a	R_{max}	R_a	R_{max}	R_a
0.2	0.56	0.14	2.26	0.58	5.13	1.32	9.21	3.38	14.60	3.79
0.4	0.28	0.07	1.13	0.29	2.54	0.65	4.53	1.16	7.09	1.83

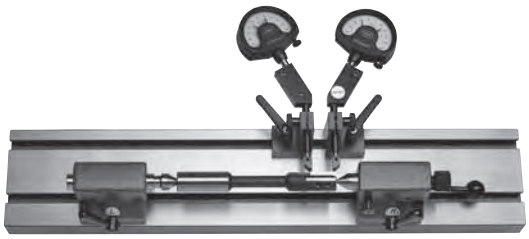
Cutting data for reaming

Material group	Classification of the main material groups and code letters Workpiece material		Brinell hardness HB	Machining group[5]	Geometry recommendation	Reaming oversize in dia. [mm] D_C < 9 mm	Reaming oversize in dia. [mm] D_C > 9 mm	Feed rate fz [mm/rev]	v_C [m/min] HC **WXP 15**	v_C [m/min] HW **WK 10**	v_C [m/min] HT **WCE 10**
P	Unalloyed steel[1]	Approx. 0.15% C annealed	125	1	B 88	0.1	0.2	0.15	60	40	120
		Approx. 0.45% C annealed	190	2							
		Approx. 0.45% C tempered	250	3							
		Approx. 0.75% C annealed	270	4							
		Approx. 0.75% C tempered	300	5							
	Low-alloy steel[1]	annealed	180	6	B 88	0.1	0.2	0.15	60	40	120
		tempered	275	7							
		tempered	300	8							
		tempered	350	9							
	High-alloyed steel and high-alloyed tool steel[1]	annealed	200	10	B 88	0.1	0.2	0.15	40	25	80
		hardened and tempered	325	11							
	Stainless steel[1]	annealed ferritic/martensitic	200	12	B 88	0.1	0.2	0.15	40		70
		martensitic. quenched and tempered	240	13							
M	Stainless steel[1]	austenitic[2], quench hardened	180	14	B 88	0.08	0.1	0.1	40		
K	Grey cast iron	pearlitic/ferritic	180	15	A 88 / B 88	0.2–0.3	0.3–0.5	0.2	100	50	
		pearlitic (martensitic)	260	16							
	Cast iron with spheroidal graphite	ferritic	160	17	A 88 / B 88	0.2–0.3	0.3–0.5	0.15	100	50	150
		pearlitic	250	18							
	Malleable cast iron	ferritic	130	19	A 88 / B 88	0.2–0.3	0.3–0.5	0.15	80	40	
		pearlitic	230	20							
N	Aluminium wrought alloys	cannot be hardened	60	21	B 88	0.2–0.3	0.3–0.5	0.1		150	
		precipitation hardenable, precipitation hardened	100	22							
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable	75	23							
		≤ 12% Si, precipitation hardenable, hardened	90	24							
		> 12% Si, not precipitation hardenable	130	25							
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%	110	26	B 88	0.2–0.3	0.3–0.5	0.15		120	
		Brass, red brass	90	27							
		Bronze, lead-free copper and electrolytic copper	100	28							
	Non-metallic materials	Curable plastics, fibre-reinforced plastics		29							
		Hard rubber		30							
S	Heat-resistant alloys	Fe based annealed	200	31							
		Fe based hardened	280	32							
		Ni or Co based annealed	250	33							
		Ni or Co based hardened	350	34							
		Ni or Co based cast	320	35							
	Titanium alloys	Pure titanium	400[3]	36							
		Alpha + Beta alloys, hardened	1050[3]	37							

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Setting devices for reamers

Setting device



Designation	Distance between centres [mm]	Centre height [mm]	adjustable up to $D_{Cmax\ [mm]}$
EG–350–H	350	50	60



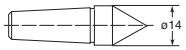
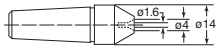
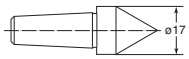
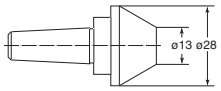
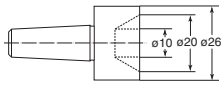
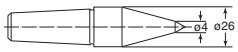
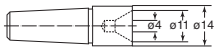
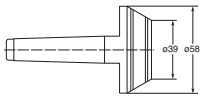
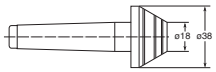
Designation	Distance between centres [mm]	Centre height [mm]	adjustable up to $D_{Cmax\ [mm]}$
EG–500–V	500	50	60
EG–800–V	800	100	150

The gauges are not included in the scope of delivery.

Spare parts

	for EG–350–H	for EG–500–V	for EG–800–V	Description
Turning angle pieces	112302P050	112302P050	112302P050	30° / L = 50 mm
Tail stock	RST–50–EG	RST–50–EG		for a centre height of 50 mm
			RST–100–EG	for a centre height of 100 mm
Calliper brace	TH–50	TH–50		for a centre height of 50 mm
			TH–100	for a centre height of 100 mm
Centre no. 3	V610.350.03	V610.350.03		d max = 17 mm, 60°
Calliper	1131510			Carbide measuring surface 8 mm Measuring distance min. 6 mm

Spare parts are included in the scope of delivery.

Accessories	Description	for EG–350–H	for EG–500–V	for EG–800–V
	Centre d max = 14 mm, 60°	V610.350.01	V610.350.01	
	Centre d max = 14 mm, 60° End face with chamfer dia. = 4 mm	V610.350.02	V610.350.02	
	Centre* d max = 17 mm, 60°	V610.350.03	V610.350.03	
	Centre d min = 13 mm, d max = 28 mm Truncated cone 60°	V610.350.04	V610.350.04	
	Female centre d max = 26 mm End face dia. = 20 mm with chamfer 60°	V610.350.05	V610.350.05	
	Centre d max = 26 mm, 60° / 30°	V610.350.06	V610.350.06	
	Centre – dmax = 14 mm End face dia. = 11 mm with chamfer 60°	V610.350.07	V610.350.07	
	Centre with shank MTS 2 for HSK 40, 50, 63 to RST-100			V610.350.08
	Centre with shank MTS 2 for HSK 80, 100 to RST-100			V610.350.09
Calliper	HM measuring surface B = 12 mm Measuring distance min. ~ 2 mm	1131510–So–12		
Analogue gauge	Mahr Millimess comparator model 1003	4334000		
Digital gauge	Mahr MarCator 1087	4337060		
Measuring insert	Extension for indicators and Millimess	573/29–10		

* included in standard device.
Optional accessories.

WALTER



Milling

Page

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Technical information

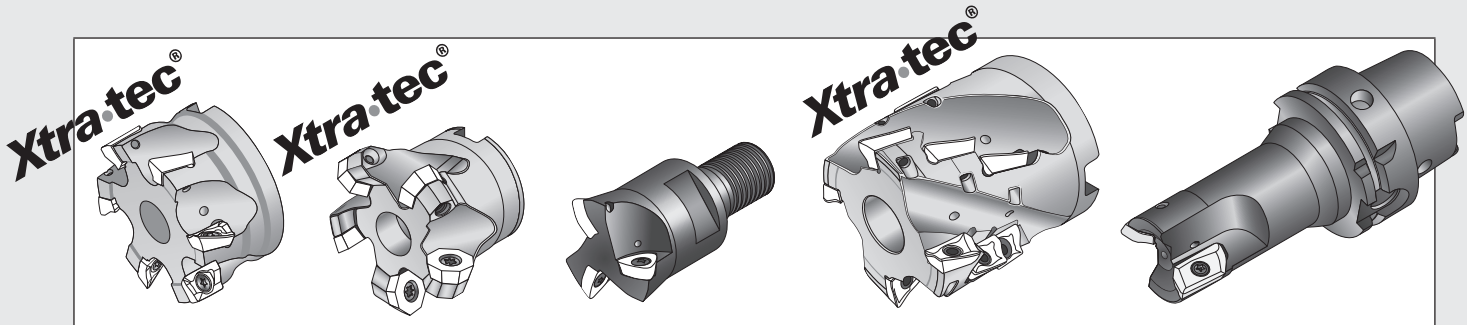
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Milling insert product range

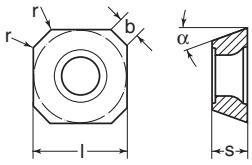


Insert shape	Description	Page
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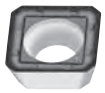
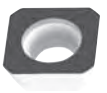
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Milling inserts

Positive square



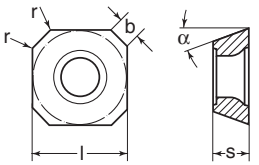
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45
	SDGT 09T3 AEN – F 57	G	4	9.52	3.97	15	0.3	1.2		△	△	△	△	△	△	△			△					△	△
	SDGT 09T3 AEN – G 88	G	4	9.52	3.97	15	0.3	1.2				△	△									△	△		
	SDHW 09T3 AEN – A 57	H	4	9.52	3.97	15	0.3	1.2	△	△							△	△	△						
	SDMT 09T3 AEN – D 57	M	4	9.52	3.97	15	0.5	1.2		△	△	△	△	△	△				△					△	△
	SDMW 09T3 AEN – A 57	M	4	9.52	3.97	15	0.5	1.2	△	△							△	△	△						
	SDMW 09T3 AETN – A 27	M	4	9.52	3.97	15	0.5	1.2	△	△								△	△						
	SEHT 1204 AFN	H	4	12.7	4.76	20	0.8	2.0		△	△	△	△	△	△	△			△				△	△	△
	SEHT 1204 AFN – K 88	H	4	12.7	4.76	20	0.8	1.8															△		
	SEHW 1204 AFN	H	4	12.7	4.76	20	0.8	2.0	△	△		△				△	△	△	△	△					
	SEHW 1504 AFN	H	4	15.88	4.76	20	0.8	2.1	△	△		△					△	△	△	△					

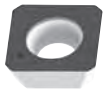
= **New addition to range**

Tiger·tec®

Positive square



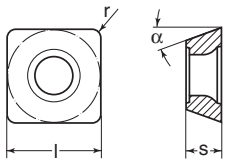
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45
	SPGT 1204 AEN – K 88	G	4	12.7	4.76	11		1.5				△	△									△	△		
	SPKT 1204 AZN	K	4	12.7	4.76	11		1.4	△	△	△	△	△	△	△	△	△	△	△					△	△
	SPKT 1504 AZN	K	4	15.88	4.76	11		1.7	△	△		△				△	△	△	△						
	SPMT 1204 AEN	M	4	12.7	4.76	11		1.4	△	△	△	△		△	△		△	△	△					△	△
	SPMW 1204 AEN – A 57	M	4	12.7	4.76	11	0.5	1.4	△	△							△	△	△						
	SPMW 1204 AETN – A 27	M	4	12.7	4.76	11	0.5	1.4	△	△								△	△						

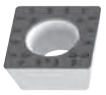
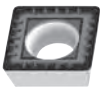
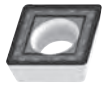
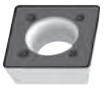
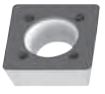
= **New addition to range**



Positive square

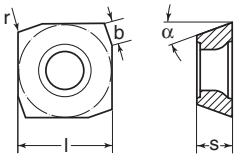


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

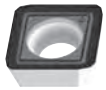
	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm		P HC					M HC			K HC					N HC		S HC	
									WKP 25	WKP 35	WSP 45	WTP 35	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WKM	WSN 10	WXN 15	WK 10	WSM 35	WSP 45
	SDHW 09T312 – A 57	H	4	9.52	3.97	15	1.2														△				
	SPGT 120606 – F 57	G	4	12.7	6.35	11	0.6			△	△			△	△	△			△					△	△
	SPHT 060304 – G 88	H	4	6.35	3.18	11	0.4															△	△		
	SPHT 09T308 – G 88	H	4	9.52	3.97	11	0.8															△	△		
	SPHT 120408 – G 88	H	4	12.7	4.76	11	0.8															△	△		
	SPHW 120606 – A 51	H	4	12.7	6.35	11	0.6			△						△			△						
	SPMT 120606 – D 57	M	4	12.7	6.35	11	0.6		△	△	△			△	△	△	△	△	△					△	△
	SPHW 120606 – A 57	H	4	12.7	6.35	11	0.6			△						△	△		△						
	SPHW 120412 – A 57	H	4	12.7	4.76	11	1.2														△				
	SPHW 120416 – A 57	H	4	12.7	4.76	11	1.6														△				
	SPMT 060304 – D 51	M	4	6.35	3.18	11	0.4		△	△	△	△	△	△	△			△	△					△	△
	SPMT 09T308 – D 51	M	4	9.52	3.97	11	0.8		△	△	△	△	△	△	△			△	△					△	△
	SPMT 120408 – D 51	M	4	12.7	4.76	11	0.8		△	△	△	△	△	△	△			△	△					△	△
	SPMT 120606 – D 51	M	4	12.7	6.35	11	0.6			△	△			△	△	△			△					△	△
	SPMT 060304 – F 55	M	4	6.35	3.18	11	0.4			△	△	△	△	△	△	△	△		△	△				△	△
	SPMT 09T308 – F 55	M	4	9.52	3.97	11	0.8			△	△	△	△	△	△	△	△		△	△				△	△
	SPMT 120408 – F 55	M	4	12.7	4.76	11	0.8			△	△	△	△	△	△	△	△		△	△				△	△
	SPMW 060304 T – A 27	M	4	6.35	3.18	11	0.4		△	△								△	△						
	SPMW 09T308 T – A 27	M	4	9.52	3.97	11	0.8		△	△								△	△						
	SPMW 120408 T – A 27	M	4	12.7	4.76	11	0.8		△	△								△	△						
	SPMW 120606 T – A 27	M	4	12.7	6.35	11	0.6			△									△						
	SPMW 060304 – A 57	M	4	6.35	3.18	11	0.4		△	△							△	△	△	△					
	SPMW 09T308 – A 57	M	4	9.52	3.97	11	0.8		△	△							△	△	△	△					
	SPMW 120408 – A 57	M	4	12.7	4.76	11	0.8		△	△							△	△	△	△					

= **New addition to range**

Positive square

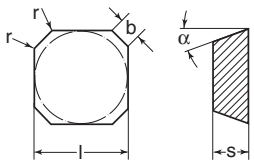


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

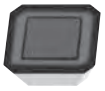
	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm	b mm	P HC	P HC	P HC	P HC	P HC	P HW	M HC	M HC	M HC	K HC	K HC	K HC	K HW	N HC	N HW	S HC	S HC
									WKP 25	**WKP 35**	**WSP 45**	WTP 35	WXP 45	WPM	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WXN 15	WK 10	**WSM 35**	**WSP 45**
	SPGT 1204 EDR – F 55	G	4	12.7	4.76	11	0.5	1.25	△	△	△	△	△		△	△		△	△	△				△	△
	SPJW 1204 EDR	J	4	12.7	4.76	11		1.4	△	△		△		△			△	△	△	△	△				
	SPJW 1504 EDR	J	4	15.88	4.76	11		1.5	△	△		△		△			△	△	△	△	△				

= **New addition to range**

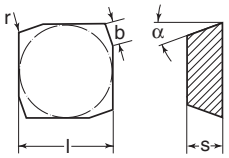
Positive square



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm	b mm	P HC	P HC	P HC	P HC	P HW	M HC	K HC	K HC	K HC	K HW	K CN	N HC	N HW	H HC	H HF
									WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WSN 10	WXN 15	WK 10	WXH 15	WMG 40
	SEKN 1203 AFN	K	4	12.7	3.18	20	0.625	1.9	△	△	△		△		△	△	△						
	SEKN 1504 AFN	K	4	15.88	4.76	20	0.35	2.0	△	△	△				△	△	△						
	SEKR 1203 AFTN	K	4	12.7	3.18	20	0.425	1.9		△	△						△						
	SEKR 1204 AFN	K	4	12.7	4.76	20	0.34	1.9		△	△						△						
	SEMN 1203 AFN	M	4	12.7	3.18	20	0.5	1.9	△	△					△	△	△						
	SEMR 1203 AFTN	M	4	12.7	3.18	20	0.5	1.9		△							△						

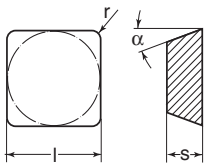
Positive square



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	HF WMG 40
	SPKN 1203 EDR	K	4	12.7	3.18	11		1.4	△	△	△		△		△	△	△	△					
	SPKN 1203 EDL	K	4	12.7	3.18	11		1.5			△												
	SPKN 1204 EDR	K	4	12.7	4.76	11		1.4	△	△					△	△	△						
	SPKN 1504 EDR	K	4	15.88	4.76	11		1.5		△	△		△				△	△					
	SPFN 1203 EDR	F	4	12.7	3.18	11		1.4		△							△	△					
	SPFN 1204 EDN	F	4	12.7	4.76	11	0.5	1.7	△	△					△	△	△						
	SPFN 1204 ZPN	F	4	12.7	4.76	11	0.8	1.7	△	△					△	△	△						
	SPFR 1204 EDR	F	4	12.7	4.76	11	0.5	2.0		△	△				△		△						
	SPMN 1203 EDR	M	4	12.7	3.18	11		1.4		△					△		△						
	SPMN 1204 EDR	M	4	12.7	4.76	11		1.4		△					△		△						
	SPFR 1204 ZPR	F	4	12.7	4.76	11	0.8	1.7	△	△					△	△	△						
	SPFR 1204 ZPN	F	4	12.7	4.76	11	0.8	1.7	△	△					△	△	△						

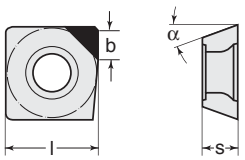
Positive square



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	l mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	HF WMG 40
	SPNN 120308	N	4	12.7	3.18	11	0.8						△										
	SPNN 150412	N	4	15.88	4.76	11	1.2						△					△					
	SPNR 120412	N	4	12.7	4.76	11	1.2		△	△					△	△	△						

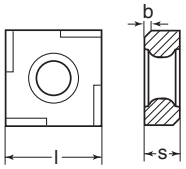
Positive square with PCD insert



DP = polycrystalline diamond

	Designation	Tolerance class	Cutting edges	l mm	s mm	α°		b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N DP WCD 10	N DP	H HC WXH 15	H HF WMG 40
	SPHW 1204 PDR – A 88	H	1	12.7	4.76	11		1.5												△			
	SPHW 1204 EDR – A 88	H	1	12.7	4.76	11		1.5												△			

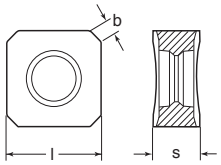
Negative square



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	l mm	s mm			b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	H HF WMG 40
	SNHQ 1205 ZZR – A 57 T	H	8	12.0	5.0			0.8	△	△					△	△	△						

Negative square for *Xtra·tec*® milling cutters



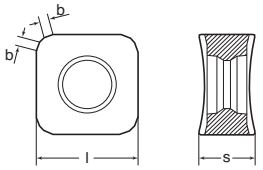
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l mm	s mm			b mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	H HF WMG 40
	SNGX 1205 ANN – F 27	G	8	12.7	6.5			1.5	△	△							△	△						
	SNGX 1606 ANN – F 27	G	8	16.0	7.8			1.8	△	△							△	△						
	SNGX 1205 ANN – F 57	G	8	12.7	6.5			1.5	△	△	△		△	△			△	△			△	△		
	SNGX 1606 ANN – F 57	G	8	16.0	7.8			1.8	△	△	△		△	△			△	△			△	△		
	SNGX 1205 ANN – F 67	G	8	12.7	6.5			1.5	△	△	△		△	△		△	△	△			△	△		
	SNGX 1606 ANN – F 67	G	8	16.0	7.8			1.8	△	△	△		△	△		△	△	△			△	△		
	SNMX 1205 ANN – F 27	M	8	12.7	6.5			1.5	△	△							△	△						
	SNMX 1205 ANN – F 57	M	8	12.7	6.5			1.5	△	△							△	△						
	SNMX 1205 ANN – F 67	M	8	12.7	6.5			1.5	△	△						△	△	△						

= New addition to range



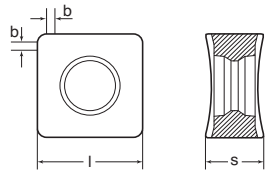
Negative square for *Xtra·tec*® milling cutters



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l mm	s mm			b mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
									WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	SNGX 1205 ENN – F 27	G	8	12.7	6.5			1.2	△	△							△	△						
	SNGX 1205 ENN – F 57	G	8	12.7	6.5			1.2	△	△	△		△	△			△	△			△	△		
	SNGX 1205 ENN – F 67	G	8	12.7	6.5			1.2	△	△	△		△	△		△	△	△			△	△		

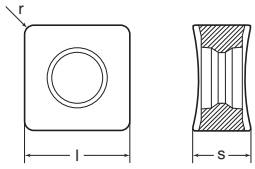
Negative square for *Xtra·tec*® milling cutters



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l mm	s mm			b mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
									WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	SNGX 1205 ZNN – F 27	G	8	12.7	6.5			1.2	△	△							△	△						
	SNGX 1205 ZNN – F 57	G	8	12.7	6.5			1.2	△	△	△		△	△			△	△			△	△		
	SNGX 1205 ZNN – F 67	G	8	12.7	6.5			1.2	△	△	△		△	△		△	△	△			△	△		

Negative square for *Xtra·tec*® milling cutters

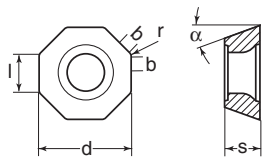


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

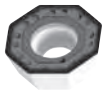
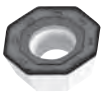
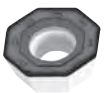
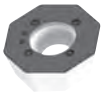
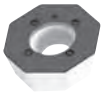
	Designation	Tolerance class	Cutting edges	l mm	s mm		r mm		P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
									WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	SNGX 120512 – F 57	G	8	12.7	6.5		1.2		△	△	△		△	△			△	△			△	△		
	SNMX 120512 – F 27	M	8	12.7	6.5		1.2		△	△							△	△						
	SNMX 160620 – F 27	M	8	16.0	7.8		2.0		△	△							△	△						
	SNMX 160640 – F 27	M	8	16.0	7.8		4.0		△	△							△	△						
	SNMX 120512 – F 57	M	8	12.7	6.5		1.2		△	△							△	△						
	SNMX 120520 – F 57	M	8	12.7	6.5		2.0		△	△							△	△						
	SNMX 160620 – F 57	M	8	16.0	7.8		2.0		△	△	△		△	△			△	△			△	△		
	SNMX 160640 – F 57	M	8	16.0	7.8		4.0		△	△	△		△	△			△	△			△	△		
	SNMX 120512 – F 67	M	8	12.7	6.5		1.2		△	△						△	△	△						
	SNMX 160620 – F 67	M	8	16.0	7.8		2.0		△	△	△		△	△		△	△	△			△	△		
	SNMX 160640 – F 67	M	8	16.0	7.8		4.0		△	△	△		△	△		△	△	△			△	△		

= New addition to range

Positive octagon



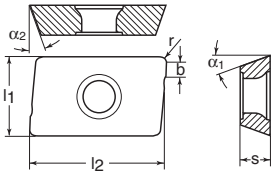
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
BH = CBN with high CBN content
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	d mm	l mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WTP 35	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K BH WCB 80	K CN WSN 10	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	HF WMG 40
	ODHT 050408 – F 57	H	8	12.7	5	4.76	15	0.8			△	△			△	△				△					△	△	
	ODHT 060512 – F 57	H	8	15.88	6	5.56	15	0.8			△	△			△	△				△					△	△	
	ODHT 0504 ZZN – F 57	H	8	12.7	5	4.76	15	0.8	1.2		△	△	△	△	△	△	△			△					△	△	△
	ODHT 0605 ZZN – F 57	H	8	15.88	6	5.56	15	0.8	1.6		△	△	△	△	△	△	△			△					△	△	△
	ODHT 050408 – G 88	H	8	12.7	5	4.76	15	0.8														△	△			
	ODHT 060512 – G 88	H	8	15.88	6	5.56	15	0.8														△	△			
	ODHT 0504 ZZN – G 88	H	8	12.7	5	4.76	15	0.8	1.2				△	△								△	△			△
	ODHT 0605 ZZN – G 88	H	8	15.88	6	5.56	15	0.8	1.6				△	△								△	△			△
	ODHW 050412 – A 57	H	8	12.7	5	4.76	15	1.2													△					
	ODHW 060516 – A 57	H	8	15.88	5	5.56	15	1.6													△					
	ODHW 050408 – A 57	H	8	12.7	5	4.76	15	0.8		△	△							△	△	△							
	ODHW 060512 – A 57	H	8	15.88	6	5.56	15	1.2		△	△							△	△	△							
	ODHW 0504 ZZN – A 57	H	8	12.7	5	4.76	15	0.8	1.2	△	△						△	△	△	△							
	ODHW 0605 ZZN – A 57	H	8	15.88	6	5.56	15	0.8	1.6	△	△						△	△	△	△							
	ODMT 050408 – D 57	M	8	12.7	5	4.76	15	0.8		△	△	△			△	△			△	△					△	△	
	ODMT 060512 – D 57	M	8	15.88	6	5.56	15	1.2		△	△	△			△	△			△	△					△	△	
	ODMT 0504 ZZN – D 57	M	8	12.7	5	4.76	15	0.8	1.2	△	△	△	△		△	△	△		△	△					△	△	
	ODMT 0605 ZZN – D 57	M	8	15.88	6	5.56	15	0.8	1.6	△	△	△	△		△	△	△		△	△					△	△	
	ODMW 050408 T – A 27	M	8	12.7	5	4.76	15	0.8		△	△						△		△	△							
	ODMW 060508 T – A 27	M	8	15.88	6	5.56	15	0.8		△	△						△		△	△							
	ODMW 050408 – A 57	M	8	12.7	5	4.76	15	0.8		△	△						△	△	△	△							
	ODMW 060508 – A 57	M	8	15.88	6	5.56	15	0.8		△	△						△	△	△	△							
	OPHN 0504 ZZN – A 27	H	2	12.7	5	4.76	11	0.4	1.2												△						
	OPHN 050412 – A 57	H	8	12.7	5	4.76	11	1.2														△					
	OPHN 0504 ZZN – A 57	H	8	12.7	5	4.76	11	0.4	1.2	△	△							△	△	△		△					
	OPHR 0504 ZZN – F 57	H	8	12.7	5	4.76	11	0.4	1.2		△									△							

OD . . 0605 . . for *Xtra*·tec® milling cutters

= **New addition to range**

Positive rhombic for *Xtra·tec*® milling cutters



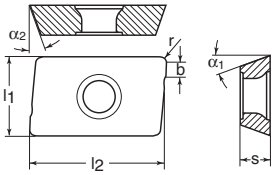
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α_1°	α_2°	r mm	b mm	P HC: WKP 25	P HC: WKP 35	P HC: WSP 45	P HC: WXP 45	M HC: WSM 35	M HC: WSP 45	M HC: WXM 35	K HC: WAK 15	K HC: WKP 25	K HC: WKP 35	N HC: WXN 15	N HW: WK 10	S HC: WSM 35	S HC: WSP 45	H HC: WXH 15	HF: WMG 40
	ADGT 0803 PER – D 51	G	2	6.26 x 8	3.35	15	20	0.4	1.2	△	△	△			△			△	△				△		
	ADGT 1204 PER – D 51	G	2	7.64 x 12	4.76	15	20	0.8	1.2	△	△	△			△			△	△				△		
	ADGT 1606 PER – D 51	G	2	9.85 x 16	6.15	15	20	0.8	1.6	△	△	△			△			△	△				△		
	ADGT 0803 PER – D 56	G	2	6.26 x 8	3.35	15	20	0.4	1.2	△	△	△		△	△			△	△			△	△		
	ADGT 1204 PER – D 56	G	2	7.64 x 12	4.76	15	20	0.8	1.2	△	△	△		△	△			△	△			△	△		
	ADGT 1606 PER – D 56	G	2	9.85 x 16	6.15	15	20	0.8	1.6	△	△	△		△	△			△	△			△	△		
	ADGT 0803 PER – F 56	G	2	6.26 x 8	3.35	15	20	0.4	1.2			△		△	△							△	△		
	ADGT 1204 PER – F 56	G	2	7.64 x 12	4.76	15	20	0.8	1.2			△		△	△							△	△		
	ADGT 1606 PER – F 56	G	2	9.85 x 16	6.15	15	20	0.8	1.6			△		△	△							△	△		
	ADGT 080302 R – F 56	G	2	6.26 x 8	3.35	15	20	0.2	1.2			△		△	△							△	△		
	ADGT 080308 R – F 56	G	2	6.26 x 8	3.35	15	20	0.8	1.2			△		△	△							△	△		
	ADGT 080312 R – F 56	G	2	6.26 x 8	3.35	15	20	1.2	1.0			△		△	△							△	△		
	ADGT 080316 R – F 56	G	2	6.26 x 8	3.35	15	20	1.6	1.0			△		△	△							△	△		
	ADGT 080320 R – F 56	G	2	6.26 x 8	3.35	15	20	2.0	1.0			△		△	△							△	△		
	ADGT 120404 R – F 56	G	2	7.64 x 12	4.76	15	20	0.4	1.2			△		△	△							△	△		
	ADGT 120412 R – F 56	G	2	7.64 x 12	4.76	15	20	1.2	1.2			△		△	△							△	△		
	ADGT 120416 R – F 56	G	2	7.64 x 12	4.76	15	20	1.6	1.0			△		△	△							△	△		
	ADGT 120420 R – F 56	G	2	7.64 x 12	4.76	15	20	2.0	1.0			△		△	△							△	△		
	ADGT 120425 R – F 56	G	2	7.64 x 12	4.76	15	20	2.5	0.8			△		△	△							△	△		
	ADGT 120430 R – F 56	G	2	7.64 x 12	4.76	15	20	3.0	0.8			△		△	△							△	△		
	ADGT 120432 R – F 56	G	2	7.64 x 12	4.76	15	20	3.2	0.8			△		△	△							△	△		
	ADGT 120440 R – F 56	G	2	7.64 x 12	4.76	15	20	4.0	–			△		△	△							△	△		
	ADGT 160612 R – F 56	G	2	9.85 x 16	6.15	15	20	1.2	1.6			△		△	△							△	△		
	ADGT 160616 R – F 56	G	2	9.85 x 16	6.15	15	20	1.6	1.4			△		△	△							△	△		
	ADGT 160620 R – F 56	G	2	9.85 x 16	6.15	15	20	2.0	1.4			△		△	△							△	△		
	ADGT 160625 R – F 56	G	2	9.85 x 16	6.15	15	20	2.5	1.2			△		△	△							△	△		
	ADGT 160630 R – F 56	G	2	9.85 x 16	6.15	15	20	3.0	1.2			△		△	△							△	△		
	ADGT 160632 R – F 56	G	2	9.85 x 16	6.15	15	20	3.2	1.2			△		△	△							△	△		
	ADGT 160640 R – F 56	G	2	9.85 x 16	6.15	15	20	4.0	1.0			△		△	△							△	△		
	ADGT 160650 R – F 56	G	2	9.85 x 16	6.15	15	20	5.0	–			△		△	△							△	△		
	ADGT 160660 R – F 56	G	2	9.85 x 16	6.15	15	20	6.0	–			△		△	△							△	△		

= **New addition to range**



Positive rhombic for *Xtra·tec*® milling cutters

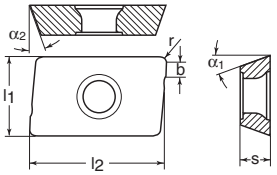


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α_1°	α_2°	r mm	b mm	P HC: WKP 25	P HC: WKP 35	P HC: WSP 45	P HC: WXP 45	M HC: WSM 35	M HC: WSP 45	M HC: WXM 35	K HC: WAK 15	K HC: WKP 25	K HC: WKP 35	N HC: WXN 15	N HW: WK 10	S HC: WSM 35	S HC: WSP 45	H HC: WXH 15	HF: WMG 40
	ADHT 120416 R – G 88	H	2	7.64 x 12	4.76	15	20	1.6	1.0											△	△				
	ADHT 120416 L – G 88	H	2	7.64 x 12	4.76	15	20	1.6	1.0											△	△				
	ADHT 120425 R – G 88	H	2	7.64 x 12	4.76	15	20	2.5	0.8											△	△				
	ADHT 120425 L – G 88	H	2	7.64 x 12	4.76	15	20	2.5	0.8											△	△				
	ADHT 120430 R – G 88	H	2	7.64 x 12	4.76	15	20	3.0	0.8											△	△				
	ADHT 120430 L – G 88	H	2	7.64 x 12	4.76	15	20	3.0	0.8											△	△				
	ADHT 120440 R – G 88	H	2	7.64 x 12	4.76	15	20	4.0	–											△	△				
	ADHT 120440 L – G 88	H	2	7.64 x 12	4.76	15	20	4.0	–											△	△				
	ADHT 160616 R – G 88	H	2	9.85 x 16	6.15	15	20	1.6	1.4											△	△				
	ADHT 160616 L – G 88	H	2	9.85 x 16	6.15	15	20	1.6	1.4											△	△				
	ADHT 160625 R – G 88	H	2	9.85 x 16	6.15	15	20	2.5	1.2											△	△				
	ADHT 160625 L – G 88	H	2	9.85 x 16	6.15	15	20	2.5	1.2											△	△				
	ADHT 160630 R – G 88	H	2	9.85 x 16	6.15	15	20	3.0	1.2											△	△				
	ADHT 160630 L – G 88	H	2	9.85 x 16	6.15	15	20	3.0	1.2											△	△				
	ADHT 160640 R – G 88	H	2	9.85 x 16	6.15	15	20	4.0	1.0											△	△				
	ADHT 160640 L – G 88	H	2	9.85 x 16	6.15	15	20	4.0	1.0											△	△				
	ADHT 0803 PER – G 88	H	2	6.26 x 8	3.35	15	20	0.4	1.2											△	△				
	ADHT 0803 PEL – G 88	H	2	6.26 x 8	3.35	15	20	0.4	1.2											△	△				
	ADHT 1204 PER – G 88	H	2	7.64 x 12	4.76	15	20	0.8	1.2											△	△				
	ADHT 1204 PEL – G 88	H	2	7.64 x 12	4.76	15	20	0.8	1.2											△	△				
	ADHT 1606 PER – G 88	H	2	9.85 x 16	6.15	15	20	0.8	1.6											△	△				
	ADHT 1606 PEL – G 88	H	2	9.85 x 16	6.15	15	20	0.8	1.6											△	△				
	ADKT 0803 PER – F 56	K	2	6.26 x 8	3.35	15	20	0.4	1.2	△	△	△			△		△	△	△				△		
	ADKT 0803 PEL – F 56	K	2	6.26 x 8	3.35	15	20	0.4	1.2		△	△			△				△				△		
	ADKT 1204 PER – F 56	K	2	7.64 x 12	4.76	15	20	0.8	1.2	△	△	△			△		△	△	△				△		
	ADKT 1204 PEL – F 56	K	2	7.64 x 12	4.76	15	20	0.8	1.2		△	△			△				△				△		
	ADKT 1606 PER – F 56	K	2	9.85 x 16	6.15	15	20	0.8	1.6	△	△	△			△		△	△	△				△		
	ADKT 1606 PEL – F 56	K	2	9.85 x 16	6.15	15	20	0.8	1.6		△	△			△				△				△		
	ADMT 080304 R – D 56	M	2	6.26 x 8	3.35	15	20	0.4	1.2	△	△	△			△		△	△	△				△		
	ADMT 120408 R – D 56	M	2	7.64 x 12	4.76	15	20	0.8	1.2	△	△	△			△		△	△	△				△		
	ADMT 160608 R – D 56	M	2	9.85 x 16	6.15	15	20	0.8	1.6	△	△	△			△		△	△	△				△		
	ADMT 180712 R – D 56	M	2	13.5 x 18	7	15	17	1.2	1.8	△	△	△			△			△	△				△		



Positive rhombic for *Xtra·tec*® milling cutters

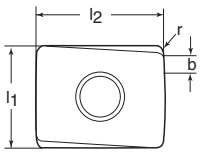


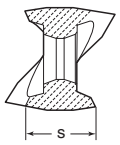
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α_1°	α_2°	r mm	b mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
										WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	ADMT 080302 R – F 56	M	2	6.26 x 8	3.35	15	20	0.2	1.2		△	△	△	△	△				△			△	△		
	ADMT 080304 R – F 56	M	2	6.26 x 8	3.35	15	20	0.4	1.2	△	△	△	△	△	△	△	△	△	△			△	△		
	ADMT 080304 L – F 56	M	2	6.26 x 8	3.35	15	20	0.4	1.2		△	△			△				△				△		
	ADMT 080308 R – F 56	M	2	6.26 x 8	3.35	15	20	0.8	1.2		△	△	△	△	△				△			△	△		
	ADMT 080308 L – F 56	M	2	6.26 x 8	3.35	15	20	0.8	1.2		△	△			△				△				△		
	ADMT 080312 R – F 56	M	2	6.26 x 8	3.35	15	20	1.2	1.0		△	△		△	△				△			△	△		
	ADMT 080316 R – F 56	M	2	6.26 x 8	3.35	15	20	1.6	1.0		△	△		△	△				△			△	△		
	ADMT 080320 R – F 56	M	2	6.26 x 8	3.35	15	20	2.0	1.0		△	△		△	△				△			△	△		
	ADMT 10T308 R – F 56	M	2	6.69 x 10	3.76	15	15	0.8	1.2		△	△		△	△				△			△	△		
	ADMT 10T316 R – F 56	M	2	6.69 x 10	3.76	15	15	1.6	1.2		△	△		△	△				△			△	△		
	ADMT 10T325 R – F 56	M	2	6.69 x 10	3.76	15	15	2.5	1.0		△	△		△	△				△			△	△		
	ADMT 10T332 R – F 56	M	2	6.69 x 10	3.76	15	15	3.2	0.8		△	△		△	△				△			△	△		
	ADMT 120404 R – F 56	M	2	7.64 x 12	4.76	15	20	0.4	1.2		△	△	△	△	△				△			△	△		
	ADMT 120408 R – F 56	M	2	7.64 x 12	4.76	15	20	0.8	1.2	△	△	△	△	△	△	△	△	△	△			△	△		
	ADMT 120408 L – F 56	M	2	7.64 x 12	4.76	15	20	0.8	1.2		△	△			△				△				△		
	ADMT 120412 R – F 56	M	2	7.64 x 12	4.76	15	20	1.2	1.2		△	△	△	△	△				△			△	△		
	ADMT 120416 R – F 56	M	2	7.64 x 12	4.76	15	20	1.6	1.0		△	△	△	△	△				△			△	△		
	ADMT 120416 L – F 56	M	2	7.64 x 12	4.76	15	20	1.6	1.0		△	△			△				△				△		
	ADMT 120420 R – F 56	M	2	7.64 x 12	4.76	15	20	2.0	1.0		△	△	△	△	△				△			△	△		
	ADMT 120425 R – F 56	M	2	7.64 x 12	4.76	15	20	2.5	0.8		△	△	△	△	△				△			△	△		
	ADMT 120425 L – F 56	M	2	7.64 x 12	4.76	15	20	2.5	0.8		△	△			△				△				△		
	ADMT 120430 R – F 56	M	2	7.64 x 12	4.76	15	20	3.0	0.8		△	△	△	△	△				△			△	△		
	ADMT 120430 L – F 56	M	2	7.64 x 12	4.76	15	20	3.0	0.8		△	△			△				△				△		
	ADMT 120432 R – F 56	M	2	7.64 x 12	4.76	15	20	3.2	0.8		△	△	△	△	△				△			△	△		
	ADMT 120440 R – F 56	M	2	7.64 x 12	4.76	15	20	4.0	–		△	△	△	△	△				△			△	△		
	ADMT 120440 L – F 56	M	2	7.64 x 12	4.76	15	20	4.0	–		△	△			△				△				△		
	ADMT 160608 R – F 56	M	2	9.85 x 16	6.15	15	20	0.8	1.6	△	△	△	△	△	△	△	△	△	△			△	△		
	ADMT 160608 L – F 56	M	2	9.85 x 16	6.15	15	20	0.8	1.6		△	△			△				△				△		
	ADMT 160612 R – F 56	M	2	9.85 x 16	6.15	15	20	1.2	1.6		△	△	△	△	△				△			△	△		
	ADMT 160616 R – F 56	M	2	9.85 x 16	6.15	15	20	1.6	1.4		△	△	△	△	△				△			△	△		
	ADMT 160616 L – F 56	M	2	9.85 x 16	6.15	15	20	1.6	1.4		△	△			△				△				△		
	ADMT 160620 R – F 56	M	2	9.85 x 16	6.15	15	20	2.0	1.4		△	△	△	△	△				△			△	△		
	ADMT 160625 R – F 56	M	2	9.85 x 16	6.15	15	20	2.5	1.2		△	△	△	△	△				△			△	△		
	ADMT 160625 L – F 56	M	2	9.85 x 16	6.15	15	20	2.5	1.2		△	△			△				△				△		
	ADMT 160630 R – F 56	M	2	9.85 x 16	6.15	15	20	3.0	1.2		△	△	△	△	△				△			△	△		
	ADMT 160630 L – F 56	M	2	9.85 x 16	6.15	15	20	3.0	1.2		△	△			△				△				△		
	ADMT 160632 R – F 56	M	2	9.85 x 16	6.15	15	20	3.2	1.2		△	△	△	△	△				△			△	△		
	ADMT 160640 R – F 56	M	2	9.85 x 16	6.15	15	20	4.0	1.0		△	△	△	△	△				△			△	△		
	ADMT 160640 L – F 56	M	2	9.85 x 16	6.15	15	20	4.0	1.0		△	△			△				△				△		
	ADMT 160650 R – F 56	M	2	9.85 x 16	6.155	15	20	5.0	–		△	△	△	△	△				△			△	△		
	ADMT 160660 R – F 56	M	2	9.85 x 16	6.15	15	20	6.0	–		△	△	△	△	△				△			△	△		
	ADMT 180712 R – F 56	M	2	13.5 x 18	7.00	15	20	1.2	1.8	△	△	△			△			△	△				△		
	ADMT 080304 R – G 56	M	2	6.26 x 8	3.35	15	20	0.4	1.2		△	△	△	△	△	△			△			△	△		
	ADMT 10T308 R – G 56	M	2	6.69 x 10	3.76	15	15	0.8	1.2		△	△		△	△				△			△	△		
	ADMT 10T316 R – G 56	M	2	6.69 x 10	3.76	15	15	1.6	1.2		△	△		△	△				△			△	△		
	ADMT 10T325 R – G 56	M	2	6.69 x 10	3.76	15	15	2.5	1.0		△	△		△	△				△			△	△		
	ADMT 10T332 R – G 56	M	2	6.69 x 10	3.76	15	15	3.2	0.8		△	△		△	△				△			△	△		
	ADMT 120408 R – G 56	M	2	7.64 x 12	4.76	15	20	0.8	1.2		△	△	△	△	△	△			△			△	△		
	ADMT 160608 R – G 56	M	2	9.85 x 16	6.15	15	20	0.8	1.6		△	△	△	△	△	△			△			△	△		

= New addition to range

Negative rhombic for *Xtra·tec*® milling cutters



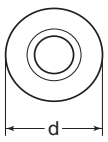


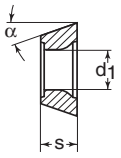
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l_1 mm	l_2 mm	s mm	α_1°	r mm	b mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
										WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	LNGX 130708 R – L 55	G	4	11	13.6	7.5	0	0.8	1.2	△	△	△		△	△		△	△	△			△	△		
	LNGX 130712 R – L 55	G	4	11	13.6	7.5	0	1.2	1.0	△	△	△		△	△			△	△			△	△		
	LNGX 130716 R – L 55	G	4	11	13.6	7.5	0	1.6	0.9	△	△	△		△	△			△	△			△	△		
	LNGX 130720 R – L 55	G	4	11	13.6	7.5	0	2.0	0.7	△	△	△		△	△			△	△			△	△		
	LNGX 130725 R – L 55	G	4	11	13.6	7.5	0	2.5	0.6	△	△	△		△	△			△	△			△	△		
	LNGX 130708 R – L 88	G	4	11	13.6	7.5	0	0.8	1.2											△	△				
	LNGX 130712 R – L 88	G	4	11	13.6	7.5	0	1.2	1.0											△	△				
	LNGX 130716 R – L 88	G	4	11	13.6	7.5	0	1.6	0.9											△	△				
	LNGX 130720 R – L 88	G	4	11	13.6	7.5	0	2.0	0.7											△	△				
	LNGX 130725 R – L 88	G	4	11	13.6	7.5	0	2.5	0.6											△	△				

= **New addition to range**

Positive round for F 2334





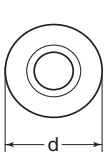
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

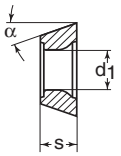
	Designation	Tolerance class	Cutting edges	d mm	d_1 mm	s mm	α°	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
								WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	ROHX 0803M0T – A 27	H	4	8	3.4	3.18	11	△	△							△	△						
	ROHX 10T3M0T – A 27	H	4	10	4.4	3.97	11	△	△							△	△						
	ROHX 1204M0T – A 27	H	4	12	4.4	4.76	11	△	△							△	△						
	ROHX 1605M0T – A 27	H	6	16	5.5	5.56	15	△	△							△	△						
	ROHX 2006M0T – A 27	H	8	20	6.5	6.35	15	△	△							△	△						
	ROHX 0803M0 – D 57	H	4	8	3.4	3.18	11	△	△	△	△	△	△	△		△	△			△	△		
	ROHX 10T3M0 – D 57	H	4	10	4.4	3.97	11	△	△	△	△	△	△	△		△	△			△	△		
	ROHX 1204M0 – D 57	H	4	12	4.4	4.76	11	△	△	△	△	△	△	△		△	△			△	△		
	ROHX 1605M0 – D 57	H	6	16	5.5	5.56	15	△	△	△		△	△			△	△			△	△		
	ROHX 2006M0 – D 57	H	8	20	6.5	6.35	15	△	△	△		△	△			△	△			△	△		
	ROMX 0803M0 – D 57	M	4	8	3.4	3.18	11		△	△	△	△	△	△			△			△	△		
	ROMX 10T3M0 – D 57	M	4	10	4.4	3.97	11		△	△	△	△	△	△			△			△	△		
	ROMX 1204M0 – D 57	M	4	12	4.4	4.76	11		△	△	△	△	△	△			△			△	△		
	ROMX 1605M0 – D 57	M	6	16	5.5	5.56	15		△	△	△	△	△	△			△			△	△		
	ROMX 2006M0 – D 57	M	8	20	6.5	6.35	15		△	△	△	△	△	△			△			△	△		

Tiger·tec®

Positive round

for Walter tools





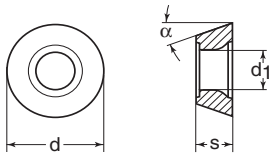
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
BH = CBN with high CBN content

	Designation	Tolerance class	Cutting edges	d mm	d_1 mm	s mm	α°	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K BH WCB 80	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HW WXH 15	H BH WCB 50	HF WMG 40
	RDGT 0803M0 – G 85	G		8	3.4	3.18	15																		△
	RDGT 10T3M0 – G 85	G		10	4.4	3.97	15																		△
	RDGT 1204M0 – G 85	G		12	4.4	4.76	15																		△
	RDGT 1505M0 – G 85	G		15	5.5	5.56	15																		△
	RDGT 1605M0 – G 85	G		16	5.5	5.56	15																		△
	RDGT 2006M0 – G 85	G		20	6.5	6.35	15																		△
	RDGT 0803M0 – G 88	G		8	3.4	3.18	15												△	△					
	RDGT 10T3M0 – G 88	G		10	4.4	3.97	15												△	△					
	RDGT 1204M0 – G 88	G		12	4.4	4.76	15												△	△					
	RDGT 1505M0 – G 88	G		15	5.5	5.56	15												△	△					
	RDGT 1605M0 – G 88	G		16	5.5	5.56	15												△	△					
	RDGT 2006M0 – G 88	G		20	6.5	6.35	15												△	△					
	RDHW 0803M0 T – A 27	H		8	3.4	3.18	15	△	△		△					△	△								
	RDHW 10T3M0 T – A 27	H		10	4.4	3.97	15	△	△		△					△	△								
	RDHW 1204M0 T – A 27	H		12	4.4	4.76	15	△	△		△					△	△								
	RDHW 1505M0 T – A 27	H		15	5.5	5.56	15		△		△						△								
	RDHW 1605M0 T – A 27	H		16	5.5	5.56	15	△	△		△					△	△								
	RDHW 2006M0 T – A 27	H		20	6.5	6.35	15	△	△		△					△	△								
	RDHW 0803M0 – A 57	H		8	3.4	3.18	15	△							△	△							△		
	RDHW 10T3M0 – A 57	H		10	4.4	3.97	15	△							△	△							△		
	RDHW 1204M0 – A 57	H		12	4.4	4.76	15	△							△	△							△		
	RDHW 1505M0 – A 57	H		15	5.5	5.56	15	△							△	△							△		
	RDHW 1605M0 – A 57	H		16	5.5	5.56	15	△							△	△							△		
	RDHW 2006M0 – A 57	H		20	6.5	6.35	15	△							△	△							△		
	RDHW 0803M0 T – A 25	H		8	3.4	3.18	15										△							△	
	RDHW 10T3M0 T – A 25	H		10	4.4	3.97	15										△							△	
	RDHW 1204M0 T – A 25	H		12	4.4	4.76	15										△							△	
	RDMT 0803M0 – D 57	M		8	3.4	3.18	15	△	△	△		△	△	△		△	△				△	△			
	RDMT 10T3M0 – D 57	M		10	4.4	3.97	15	△	△	△		△	△	△		△	△				△	△			
	RDMT 1204M0 – D 57	M		12	4.4	4.76	15	△	△	△		△	△	△		△	△				△	△			
	RDMT 1505M0 – D 57	M		15	5.5	5.56	15		△	△		△	△	△			△				△	△			
	RDMT 1605M0 – D 57	M		16	5.5	5.56	15	△	△	△		△	△	△		△	△				△	△			
	RDMT 2006M0 – D 57	M		20	6.5	6.35	15	△	△	△		△	△	△		△	△				△	△			
	RDMW 0803M0 T – A 27	M		8	3.4	3.18	15	△	△		△					△	△								
	RDMW 10T3M0 T – A 27	M		10	4.4	3.97	15	△	△		△					△	△								
	RDMW 1204M0 T – A 27	M		12	4.4	4.76	15	△	△		△					△	△								
	RDMW 1605M0 T – A 27	M		16	5.5	5.56	15	△	△		△					△	△								
	RDMW 2006M0 T – A 27	M		20	6.5	6.35	15	△	△		△					△	△								

= **New addition to range**

Positive round

for Walter and other tools

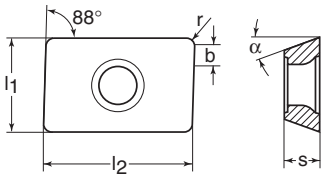


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
BH = CBN with high CBN content

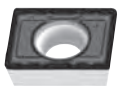
	Designation	Tolerance class	d mm	d_1 mm	s mm	α°	P					M	K					N		H			
							HC				HW	HC	HC			HW	BH	HC	HW	HW	BH	HF	
							WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WCB 80	WXN 15	WK 10	WXH 15	WCB 50	WMG 40	
	RDGX 0501M0 – G 85	G	5	2.15	1.50	15																△	
	RDGX 07T1M0 – G 85	G	7	2.8	1.98	15																△	
	RDGX 0702M0 – G 85	G	7	2.8	2.38	15																△	
	RDGX 1003M0 – G 85	G	10	4.4	3.18	15																△	
	RDGX 12T3M0 – G 85	G	12	4.4	3.97	15																△	
	RDGX 1604M0 – G 85	G	16	5.5	4.76	15																△	
	RDHX 07T1M0 T – A 27	H	7	2.8	1.98	15	△	△		△				△	△								
	RDHX 0702M0 T – A 27	H	7	2.8	2.38	15	△	△		△				△	△								
	RDHX 1003M0 T – A 27	H	10	4.4	3.18	15	△	△		△				△	△								
	RDHX 12T3M0 T – A 27	H	12	4.4	3.97	15	△	△		△				△	△								
	RDHX 1604M0 T – A 27	H	16	5.5	4.76	15	△	△		△				△	△								
	RDHX 2006M0 T – A 27	H	20	5.5	6.00	15	△	△		△				△	△								
	RDHX 0501M0 – A 57	H	5	2.15	1.50	15	△						△	△						△			
	RDHX 07T1M0 – A 57	H	7	2.8	1.98	15	△						△	△						△			
	RDHX 0702M0 – A 57	H	7	2.8	2.38	15	△						△	△						△			
	RDHX 1003M0 – A 57	H	10	4.4	3.18	15	△						△	△						△			
	RDHX 12T3M0 – A 57	H	12	4.4	3.97	15	△						△	△						△			
	RDHX 1604M0 – A 57	H	16	5.5	4.76	15	△						△	△						△			
	RDMX 0702M0 T – A 27	M	7	2.8	2.38	15	△	△		△				△	△								
	RDMX 1003M0 T – A 27	M	10	4.4	3.18	15	△	△		△				△	△								
	RDMX 12T3M0 T – A 27	M	12	4.4	3.97	15	△	△		△				△	△								
	RDMX 1604M0 T – A 27	M	16	5.5	4.76	15	△	△		△				△	△								
	RDMX 2006M0 T – A 27	M	20	5.5	6.00	15	△	△		△				△	△								

Tiger·tec®

Positive rhombic

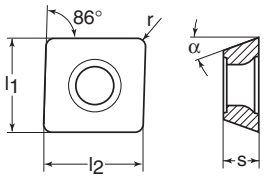


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α°	r mm	b mm	P HC					M HC			K HC			HW	S HC		HF
									WKP 25	WKP 35	WSP 45	WTP 35	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WKM	WSM 35	WSP 45	WMG 40
	LPGT 070304 R – F 55	G	2	6.35 x 7.94	3.18	11	0.4	1.2		△	△	△	△	△	△	△	△		△		△	△	
	LPGT 15T308 R – F 55	G	2	9.52 x 15.0	3.97	11	0.8	1.4		△	△	△	△	△	△	△	△		△	△	△	△	
	LPGT 150412 R – F 55	G	2	12.7 x 15.88	4.76	11	1.2	1.6		△	△	△	△	△	△	△	△		△		△	△	
	LPGW 070304 R – A 57	G	2	6.35 x 7.94	3.18	11	0.4	1.2	△	△							△	△	△				
	LPGW 15T308 R – A 57	G	2	9.52 x 15.0	3.97	11	0.8	1.4	△	△							△	△	△	△			
	LPGW 150412 R – A 57	G	2	12.7 x 15.88	4.76	11	1.2	1.6	△	△							△	△	△				
	LPMT 070304 R – D 51	M	2	6.35 x 7.94	3.18	11	0.4	1.2	△	△	△	△	△	△	△			△	△		△	△	
	LPMT 15T308 R – D 51	M	2	9.52 x 15.0	3.97	11	0.8	1.4	△	△	△	△	△	△	△			△	△		△	△	
	LPMT 150412 R – D 51	M	2	12.7 x 15.88	4.76	11	1.2	1.6	△	△	△	△	△	△	△			△	△		△	△	
	LPMW 070304 TR – A 27	M	2	6.35 x 7.94	3.18	11	0.4		△	△								△	△				
	LPMW 15T308 TR – A 27	M	2	9.52 x 15.0	3.97	11	0.8		△	△								△	△				
	LPMW 150412 TR – A 27	M	2	12.7 x 15.88	4.76	11	1.2		△	△								△	△				
	LPGT 1506 PPR – F 57	G	2	12.7 x 15.88	6.35	11	1.2	1.6		△	△			△	△	△			△		△	△	
	LPHW 150612 R – A 51	H	2	12.7 x 15.88	6.35	11	1.2			△						△			△				
	LPHW 1506 PPR – A 57	H	2	12.7 x 15.88	6.35	11	1.2	1.6		△						△	△		△				
	LPMT 150612 R – D 51	M	2	12.7 x 15.88	6.35	11	1.2			△	△			△	△	△			△		△	△	
	LPMT 150612 R – D 57	M	2	12.7 x 15.88	6.35	11	1.2		△	△	△			△	△	△	△	△	△		△	△	
	LPMW 150612 TR – A 27	M	2	12.7 x 15.88	6.35	11	1.2			△									△				

= **New addition to range**

Positive rhombic

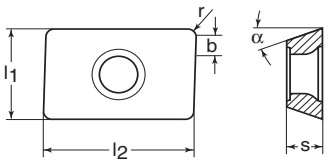


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

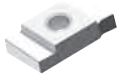
	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α°	r mm	P HC					M HC			K HC			K HW	N HC	N HW	S HC		S HF
								WKP 25	**WKP 35**	**WSP 45**	WTP 35	WXP 45	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WXN 15	WKM	**WSM 35**	**WSP 45**	WMG 40
	MPHT 120408 – G 88	H	2	12.7 x 12.7	4.76	11	0.8					△							△	△	△			
	MPHX 060304 – A 57	H	2	6.35 x 6.35	3.18	11	0.4	△	△							△	△	△						
	MPHX 080305 – A 57	H	2	8.3 x 8.3	3.18	11	0.5	△	△		△					△	△	△						
	MPHX 060304 – G 88	H	2	6.35 x 6.35	3.18	11	0.4					△							△	△	△			
	MPHX 080305 – G 88	H	2	8.3 x 8.3	3.18	11	0.5					△							△	△	△			
	MPHW 120408 – A 57	H	2	12.7 x 12.7	4.76	11	0.8	△	△							△	△	△						
	MPMT 120408 – F 57	M	2	12.7 x 12.7	4.76	11	0.8		△	△	△	△	△	△	△			△				△	△	
	MPMX 060304 – F 57	M	2	6.35 x 6.35	3.18	11	0.4		△	△	△	△	△	△	△			△				△	△	
	MPMX 080305 – F 57	M	2	8.3 x 8.3	3.18	11	0.5		△	△	△	△	△	△	△	△		△				△	△	

= **New addition to range**

Positive rhombic



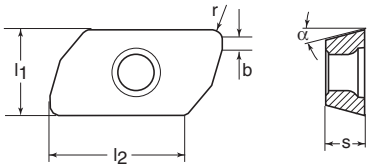
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	HF WMG 40
	P 20200 – 1.1*	H	2	5.5 x 9.0	2.35		0.1x45°			△							△						
	P 20200 – 1.2*	H	2	5.5 x 9.0	2.35		0.15x45°			△							△						
	P 20200 – 1.3*	H	2	5.5 x 9.0	2.35		0.15x45°			△							△						
	P 20200 – 1.4*	H	2	5.5 x 9.0	2.35		0.15x45°			△							△						
	P 20200 – 1.5*	H	2	5.5 x 9.0	2.35		0.15x45°			△							△						
	P 20200 – 2.1*	H	2	7.0 x 12.0	3.4		0.15x45°			△							△						
	P 20200 – 2.2*	H	2	7.0 x 12.0	3.4		0.15x45°			△							△						
	P 20200 – 2.3*	H	2	7.0 x 12.0	3.4		0.15x45°			△							△						
	P 20200 – 3.1*	H	2	9.52 x 18.5	5.4		0.15x45°			△							△						
	P 20200 – 3.2*	H	2	9.52 x 18.5	5.4		0.15x45°			△							△						
	P 20200 – 3.3*	H	2	9.52 x 18.5	5.4		0.15x45°			△							△						
	P 2792 – 1	H	2	9.52 x 9.52	4.76	30	0.3x45°	1.2			△									△	△		

* For tolerance when fitted, see general catalogue, page 536.

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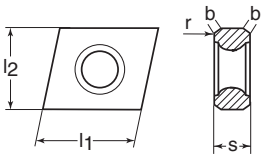
Positive rhombic F 3040



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	α°	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	HF WMG 40
	ZDGT 150404 R – K 85	G	2	10.5x16.2	4.76	15	0.4	1.2												△	△		△
	ZDGT 150408 R – K 85	G	2	10.5x16.0	4.76	15	0.8	1.2												△	△		△
	ZDGT 150412 R – K 85	G	2	10.5x15.9	4.76	15	1.2	1.2												△	△		△
	ZDGT 150416 R – K 85	G	2	10.5x15.8	4.76	15	1.6	1.2												△	△		△
	ZDGT 150420 R – K 85	G	2	10.5x15.7	4.76	15	2.0	1.2												△	△		△
	ZDGT 150425 R – K 85	G	2	10.5x15.5	4.76	15	2.5	1.2												△	△		△
	ZDGT 150430 R – K 85	G	2	10.5x15.4	4.76	15	3.0	1.2												△	△		△
	ZDGT 150440 R – K 85	G	2	10.5x15.1	4.76	15	4.0	1.2												△	△		△
	ZDGT 200508 R – K 85	G	2	14x21.3	5.56	15	0.8	1.2													△		△
	ZDGT 200512 R – K 85	G	2	14x21.2	5.56	15	1.2	1.2													△		△
	ZDGT 200516 R – K 85	G	2	14x21.0	5.56	15	1.6	1.2													△		△
	ZDGT 200520 R – K 85	G	2	14x20.9	5.56	15	2.0	1.2													△		△
	ZDGT 200530 R – K 85	G	2	14x20.6	5.56	15	3.0	1.2													△		△
	ZDGT 200540 R – K 85	G	2	14x20.3	5.56	15	4.0	1.2													△		△
	ZDGT 200550 R – K 85	G	2	14x20.0	5.56	15	5.0	1.2													△		△
	ZDGT 200560 R – K 85	G	2	14x19.8	5.56	15	6.0	1.2													△		△
	ZDGT 200564 R – K 85	G	2	14x19.7	5.56	15	6.4	1.2													△		△

Tangential rhombic

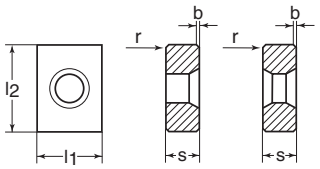


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	r mm	b mm	P					M	K					N		H	
								HC				HW	HC	HC			HW	CN	HC	HW	HC	HF
								WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WSN 10	WXN 15	WK 10	WXH 15	WMG 40
	CNHQ 0805 PPN – A 57T	H	2+2	9 x 8	5	0.8	1.2	△	△					△	△	△						
	CNHQ 1206 PPN – A 57T	H	2+2	13 x 12	6.5	0.8	1.5	△	△					△	△	△						
	CNHQ 1608 PPN – A 57T	H	2+2	15 x 16	8	1.2	1.8	△	△					△	△	△						
	CNHU 0805 PPN – D 57T	H	2+2	9 x 8	5	0.8	1.2	△	△	△					△	△						
	CNHU 1206 PPN – D 57T	H	2+2	13 x 12	6.5	0.8	1.5	△	△	△					△	△						
	CNHU 1608 PPN – D 57T	H	2+2	15 x 16	8	1.2	1.8	△	△	△					△	△						
	CNMQ 080508 T – A 27T	M	2+2	9 x 8	5	0.8			△							△						
	CNMQ 120608 T – A 27T	M	2+2	13 x 12	6.5	0.8			△							△						
	CNMQ 160812 T – A 27T	M	2+2	15 x 16	8	1.2			△							△						
	CNMQ 080508 – A 57T	M	2+2	9 x 8	5	0.8		△	△					△	△	△						
	CNMQ 120608 – A 57T	M	2+2	13 x 12	6.5	0.8		△	△					△	△	△						
	CNMQ 160812 – A 57T	M	2+2	15 x 16	8	1.2		△	△					△	△	△						
	CNMU 080508 – D 57T	M	2+2	9 x 8	5	0.8		△	△	△					△	△						
	CNMU 120608 – D 57T	M	2+2	13 x 12	6.5	0.8		△	△	△					△	△						
	CNMU 160812 – D 57T	M	2+2	15 x 16	8	1.2		△	△	△					△	△						

Note: l_2 = cut width

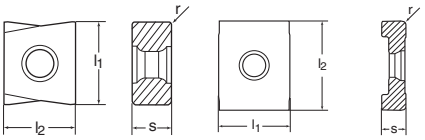
Tangential rhombic



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	$l_1 \times l_2$ mm	s mm	r mm	b mm	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K HW WKM	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	HF WMG 40
	LNKU 2010 DPTR – F 27T	K	4	15 x 20	10.5	0.6	1.2	△							△							
	LNKU 3010 DPTR – F 27T	K	4	15 x 30	10.5	0.6	1.2	△							△							
	LNKU 2010 DPR – F 57T	K	4	15 x 20	10.5	0.6	1.2	△	△						△	△						
	LNKU 3010 DPR – F 57T	K	4	15 x 30	10.5	0.6	1.2	△	△						△	△						
	LNMU 150812 T – F 27T	M	4	14 x 15	8	1.2		△	△						△	△						
	LNMU 201012 T – F 27T	M	4	16 x 20	10	1.2		△	△						△	△						
	LNMU 150812 – F 57T	M	4	14 x 15	8	1.2		△	△					△	△	△						
	LNMU 201012 – F 57T	M	4	16 x 20	10	1.2		△	△					△	△	△						
	P 4406 – 1	H	4	9.52 x 12.7	3.50		0.5 x 45°		△	△		△		△		△						
	P 4406 – 2	H	4	9.52 x 12.7	4.00		0.5 x 45°		△	△		△		△		△						
	P 4406 – 3	H	4	9.52 x 12.7	4.76		0.4 x 45°		△	△		△		△		△						
	P 4406 – 4	H	4	9.52 x 12.7	5.50		0.4 x 45°		△	△		△		△		△						
	P 4406 – 5	H	4	9.52 x 12.7	6.35		0.4 x 45°		△	△		△		△		△						
	P 44462 – 1	H	4	9.52 x 12.7	3.50		0.5 x 45°		△	△		△				△						
	P 44462 – 2	H	4	9.52 x 12.7	4.00		0.5 x 45°		△	△						△						
	P 44462 – 3	H	4	9.52 x 12.7	4.76		0.4 x 45°		△	△		△				△						
	P 44462 – 4	H	4	9.52 x 12.7	5.50		0.4 x 45°		△	△		△				△						
	P 44462 – 5	H	4	9.52 x 12.7	6.35		0.4 x 45°		△	△						△						

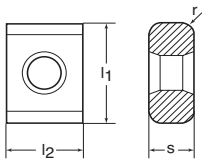
Tangential rhombic for *Xtra·tec*® side and face milling cutters



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l_1 mm	l_2 mm	s mm	r mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	HF
								WKP 25	**WKP 35**	**WSP 45**	WXP 45	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WXN 15	WK 10	**WSM 35**	**WSP 45**	WXH 15	WMG 40
	LNHU 080304 – B 57T	H	2 + 2	9.0	8.0	3.5	0.4	△	△						△	△	△						
	LNHU 080404 – B 57T	H	2 + 2	9.4	8.0	4.5	0.4	△	△						△	△	△						
	LNHU 100508 – B 57T	H	2 + 2	12.3	10.0	5.5	0.8	△	△						△	△	△						
	LNHU 120608 – B 57T	H	2 + 2	13.9	12.0	6.5	0.8	△	△						△	△	△						
	LNHU 080304 – F 57T	H	2 + 2	9.0	8.0	3.5	0.4	△	△	△		△	△			△	△			△	△		
	LNHU 080404 – F 57T	H	2 + 2	9.4	8.0	4.5	0.4	△	△	△		△	△			△	△			△	△		
	LNHU 100508 – F 57T	H	2 + 2	12.3	10.0	5.5	0.8	△	△	△		△	△			△	△			△	△		
	LNHU 120608 – F 57T	H	2 + 2	13.9	12.0	6.5	0.8	△	△	△		△	△			△	△			△	△		
	LNHX 070204 – D 57T	H	2 + 2	7.0	9.0	2.4	0.4	△	△						△	△	△						
	LNHX 070204 – F 57T	H	2 + 2	7.0	9.0	2.4	0.4	△	△	△		△	△			△	△			△	△		

Tangential rhombic

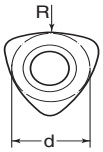


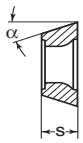
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l_1 mm	l_2 mm	s mm	r mm		P HC				M HC			K HC			N HC	N HW	S HC		H HC	HF
									WKP 25	**WKP 35**	**WSP 45**	WXP 45	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WXN 15	WK 10	**WSM 35**	**WSP 45**	WXH 15	WMG 40
	P 44280-1 R08 – D 57	H	8	12.7	9.52	5.5	0.8		△				△				△				△			
	P 44280-1 R10 – D 57	H	8	12.7	9.52	5.5	1.0		△				△				△				△			
	P 44280-1 R125 – D 57	H	8	12.7	9.52	5.5	1.25		△				△				△				△			
	P 44280-1 R15 – D 57	H	8	12.7	9.52	5.5	1.5		△				△				△				△			
	P 44280-1 R20 – D 57	H	8	12.7	9.52	5.5	2.0		△				△				△				△			
	P 44280-2 R25 – D 57	H	8	12.7	9.52	6.35	2.5		△				△				△				△			
	P 44280-2 R30 – D 57	H	8	12.7	9.52	6.35	3.0		△				△				△				△			
	P 44280-2 R40 – D 57	H	4	12.7	9.52	6.35	4.0		△				△				△				△			
	P 44290-1 R08 – D 57	M	8	12.7	9.52	5.5	0.8		△				△				△				△			
	P 44290-1 R10 – D 57	M	8	12.7	9.52	5.5	1.0		△				△				△				△			
	P 44290-1 R125 – D 57	M	8	12.7	9.52	5.5	1.25		△				△				△				△			
	P 44290-1 R15 – D 57	M	8	12.7	9.52	5.5	1.5		△				△				△				△			
	P 44290-1 R20 – D 57	M	8	12.7	9.52	5.5	2.0		△				△				△				△			
	P 44290-2 R25 – D 57	M	8	12.7	9.52	6.35	2.5		△				△				△				△			
	P 44290-2 R30 – D 57	M	8	12.7	9.52	6.35	3.0		△				△				△				△			
	P 44290-2 R40 – D 57	M	4	12.7	9.52	6.35	4.0		△				△				△				△			

= **New addition to range**

Positive triangular for profile milling cutters

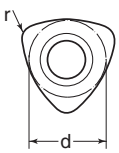


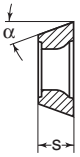


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	d mm	s mm	α°	R mm	P HC					M HC			K HC			N HC	N HW	S HC		S HF
								WKP 25	**WKP 35**	**WSP 45**	WTP 35	WXP 45	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WXN 15	WK 10	**WSM 35**	**WSP 45**	WMG 40
	P 26315 – R 10	M	3	6.75	2.78	14	10.0	△	△	△	△		△	△		△	△	△			△	△	
	P 26315 – R 12	M	3	8.50	3.18	14	12.5	△	△	△	△		△	△		△	△	△			△	△	
	P 26315 – R 15	M	3	10.5	3.97	14	15.0	△	△	△	△		△	△		△	△	△			△	△	
	P 26315 – R 16	M	3	10.5	3.97	14	16.0	△	△	△	△		△	△		△	△	△			△	△	
	P 26315 – R 20	M	3	12.7	4.76	11	20.0	△	△	△	△		△	△		△	△	△			△	△	
	P 26315 – R 25	M	3	12.7	4.76	11	25.0	△	△	△	△		△	△		△	△	△			△	△	
	P 26315 – R 31	M	3	12.7	4.76	11	31.5	△	△	△	△		△	△		△	△	△			△	△	
	P 26316 – R 10 – G 88	G	3	6.75	2.78	14	10.0					△							△	△			
	P 26316 – R 12 – G 88	G	3	8.50	3.18	14	12.5					△							△	△			
	P 26316 – R 15 – G 88	G	3	10.5	3.97	14	15.0					△							△	△			
	P 26316 – R 16 – G 88	G	3	10.5	3.97	14	16.0					△							△	△			
	P 26316 – R 20 – G 88	G	3	12.7	4.76	11	20.0					△							△	△			
	P 26316 – R 25 – G 88	G	3	12.7	4.76	11	25.0					△							△	△			
	P 26316 – R 31 – G 88	G	3	12.7	4.76	11	31.5					△							△	△			
	P 26325 – R 25	M	3	13.0	5.56	14	25.0	△	△	△		△	△	△	△	△	△	△			△	△	
	P 26325 – R 31	M	3	13.0	5.56	14	31.5	△	△	△			△	△	△	△	△	△			△	△	

Positive triangular for high performance milling cutters



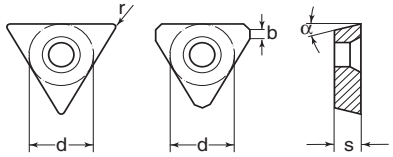


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	d mm	s mm	α°	r mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
								WKP 25	**WKP 35**	**WSP 45**	WXP 45	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WXN 15	WK 10	**WSM 35**	**WSP 45**	WXH 15	WMG 40
	P 26335 – R 10	M	3	6.75	3.18	14	0.8	△	△	△	△	△	△			△	△			△	△		
	P 26335 – R 14	M	3	9.52	3.97	14	1.2	△	△	△	△	△	△			△	△			△	△		
	P 26335 – R 25	M	3	13.0	5.56	14	2.0	△	△	△	△	△	△			△	△			△	△		
	P 26337 – R 10	M	3	6.75	3.18	14	0.8	△	△	△	△	△	△			△	△			△	△		
	P 26337 – R 14	M	3	9.52	3.97	14	1.2	△	△	△	△	△	△			△	△			△	△		
	P 26337 – R 25	M	3	13.0	5.56	14	2.0	△	△	△	△	△	△			△	△			△	△		
	P 26339 – R 10	M	3	6.75	3.18	14	0.8	△	△	△	△	△	△			△	△			△	△		
	P 26339 – R 14	M	3	9.52	3.97	14	1.2	△	△	△	△	△	△			△	△			△	△		
	P 26339 – R 25	M	3	13.0	5.56	14	2.0	△	△	△	△	△	△			△	△			△	△		

= New addition to range

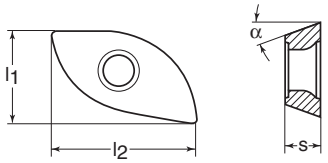
Positive triangular



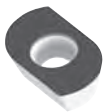
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	d mm	s mm	α°	r mm	b mm	P HC	P HC	P HC	P HC	P HW	M HC	K HC	K HC	K HC	K HW	K CN	N HC	N HW	H HC	H HF
									WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WSN 10	WXN 15	WK 10	WXH 15	WMG 40
	TPAW 1604 PPN	A	3	9.52	4.76	11		1.2	△	△	△		△		△	△	△	△					
	TPAW 2204 PPN	A	3	12.7	4.76	11		1.2		△	△						△	△					
	TPET 160412 R	E	3	9.52	4.76	11	1.2											△					
	TPJW 1604 PPN	J	3	9.52	4.76	11		1.2	△	△	△		△		△	△	△	△					
	TPJW 2204 PPN	J	3	12.7	4.76	11		1.2		△	△		△		△		△	△					

Positive form inserts for copy milling cutters



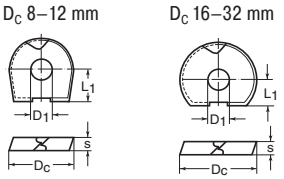
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	l_1 x l_2 mm	s mm	α°	r mm	P HC	P HC	P HC	P HC	P HC	M HC	M HC	M HC	K HC	K HC	K HC	N HC	N HW	S HC	S HC	H HC	H HF
								WKP 25	**WKP 35**	**WSP 45**	WTP 35	WXP 45	**WSM 35**	**WSP 45**	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WXN 15	WK 10	**WSM 35**	**WSP 45**	WXH 15	WMG 40
	XDGW 150460 TR – A 27	G	2	9.52 x 15.88	4.76	15	6		△									△						
	XDGW 200580 TR – A 27	G	2	12.7 x 20.5	5.56	15	8		△									△						
	XDGW 2506100 TR – A 27	G	2	15.88 x 25.4	6.35	15	10		△									△						
	XDGW 150460 R – A 57	G	2	9.52 x 15.88	4.76	15	6		△							△		△						
	XDGW 200575 R – A 57	G	2	12 x 20.5	5.56	15	7.5		△							△		△						
	XDGW 200580 R – A 57	G	2	12.7 x 20.5	5.56	15	8		△							△		△						
	XDGW 2506100 R – A 57	G	2	15.88 x 25.4	6.35	15	10		△							△		△						
	XDMT 16T3100 R – F 55	M	2	9 x 16	3.74	15	10	△	△	△		△	△	△			△	△			△	△		
	XDMT 2004125 R – F 55	M	2	11.3 x 20	4.68	15	12.5	△	△	△		△	△	△			△	△			△	△		
	XDMT 2405150 R – F 55	M	2	13.5 x 24	5.62	15	15	△	△	△		△	△	△			△	△			△	△		
	XDMT 2506160 R – F 55	M	2	14.4 x 25.5	6.0	15	16	△	△	△		△	△	△			△	△			△	△		
	XDGT 3207200 R – D 57	M	2	18 x 32	7.5	15	20	△	△	△	△		△	△	△		△	△			△	△		
	XDGT 4009250 R – D 57	M	2	22.5 x 39	9.39	15	25	△	△	△	△		△	△	△		△	△			△	△		

= New addition to range

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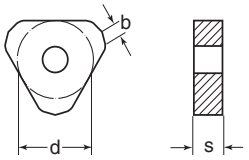
Indexable inserts for profile milling cutters



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
BH = cubic Boron nitride

	Designation	Tolerance class	Cutting edges	D_C +0.00 −0.03 mm	D_1 mm	L_1 mm	s mm	P HC				M HC			K HC			BH	S HC		HW	BH	HF
								WKP 25	**WKP 35**	WSP 46	WXP 45	WSM 36	WSP 46	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WCB 80	WSM 36	WSP 46	WXH 15	WCB 50	WMG 40
	P 3201 – D 08	H	2	8	3	4	2.0	△	△					△	△	△	△				△		
	P 3201 – D 10	H	2	10	4	5	2.5	△	△					△	△	△	△				△		
	P 3201 – D 12	H	2	12	5	6	2.5	△	△					△	△	△	△				△		
	P 3201 – D 16	H	2	16	5	6	3.0	△	△					△	△	△	△				△		
	P 3201 – D 20	H	2	20	5	6	3.0	△	△					△	△	△	△				△		
	P 3201 – D 25	H	2	25	6	9	4.0	△	△					△	△	△	△				△		
	P 3201 – D 30	H	2	30	8	10	5.0	△	△					△	△	△	△				△		
	P 3201 – D 32	H	2	32	8	10	5.0	△	△					△	△	△	△				△		
	P 3201 – D 08	H	2	8	3	4	2.0											△				△	
	P 3201 – D 10	H	2	10	4	5	2.5											△				△	
	P 3201 – D 12	H	2	12	5	6	2.5											△				△	
	P 3201 – D 16	H	2	16	5	6	3.0											△				△	
	P 3201 – D 20	H	2	20	5	6	3.0											△				△	
	P 3204 – D 08	H	2	8	3	4	2.0	△		△		△	△	△		△			△	△	△		
	P 3204 – D 10	H	2	10	4	5	2.5	△		△		△	△	△		△			△	△	△		
	P 3204 – D 12	H	2	12	5	6	2.5	△		△		△	△	△		△			△	△	△		
	P 3204 – D 16	H	2	16	5	6	3.0	△		△		△	△	△		△			△	△	△		
	P 3204 – D 20	H	2	20	5	6	3.0	△		△		△	△	△		△			△	△	△		
	P 3204 – D 25	H	2	25	6	9	4.0	△		△		△	△	△		△			△	△	△		
	P 3204 – D 30	H	2	30	8	10	5.0	△		△		△	△	△		△			△	△	△		
	P 3204 – D 32	H	2	32	8	10	5.0	△		△		△	△	△		△			△	△	△		

Negative triangular

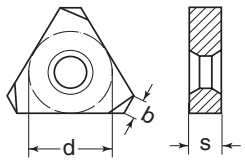


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	d mm	s mm		b mm	P HC				HW	M HC	K HC				HW	CN	N HC	HW	H HC	HF
								WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WSN 10	WXN 15	WK 10	WXH 15	WMG 40
	TNEF 1204 AN – D 57	E	6	12.7	4.76		1.8	△	△					△	△	△						

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WENDELNOVEX inserts

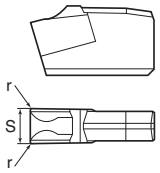


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	d mm	s mm		b mm	P					M	K					N		H		
								HC				HW	HC	HC				HW	CN	HC	HW	HC	HF
								WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WKP 25**	**WKP 35**	WKM	WSN 10	WXN 15	WK 10	WXH 15	WMG 40
	P 2352 – 1R	A	6	15	4.5		1.1	△	△	△		△		△	△	△	△					
	P 2352 – 2R	A	6	18	4.5		1.1		△	△		△				△	△					
	P 23522 – 1R	A	6	15	4.5		1.1		△	△	△	△		△		△	△					
	P 2372 – 1R	A	6	15	4.5		1.1		△							△						

Tiger·tec®

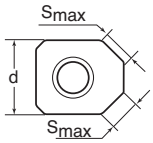
Inserts for slitting cutters



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
CN = Silicon nitride Si_3N_4

	Designation			s mm	r mm			P					M	K				N		H		
								HC				HW	HC	HC		HW	CN	HC	HW	HC	HC	HF
								WAP 25	WAP 35	WTP 35	WXP 35	WPM	WXM 35	WAK 15	WAK 25	WKM	WSN 10	WXN 15	WK 10	WXH 15	WXM 15	WMG 30
	NSM 3.90016EC–GDW			1.6	0.15																	△
	NSM 3.90022EC–GDW			2.2	0.2																	△
	NSM 3.90030EC–GDW			3.0	0.2																	△
	NSM 3.90040EC–GDW			4.0	0.2																	△
	NSM 3.90016SN–GBW			1.6	0.15					△	△				△							
	NSM 3.90022SN–GBW			2.2	0.2					△	△				△							
	NSM 3.90030SN–GBW			3.0	0.2					△	△				△							
	NSM 3.90040SN–GBW			4.0	0.2					△	△				△							
	NSM 3.90016SN–GDW			1.6	0.15					△	△				△							
	NSM 3.90022SN–GDW			2.2	0.2					△	△				△							
	NSM 3.90030SN–GDW			3.0	0.2					△	△				△							
	NSM 3.90040SN–GDW			4.0	0.2					△	△				△							

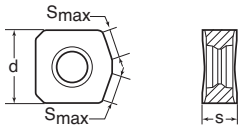
Finishing inserts for *Xtra·tec*® milling cutters F 2010+F 4033



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	d mm	s mm	$s_{max.}$ mm		P HC				M HC			K HC			N HC	N HW	S HC		H HC	HC
								WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WXM 15
	XNGX 1205 ANN – F 67	G	2	12.7	6.5	4.7									△							△	△

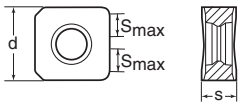
Finishing inserts for *Xtra·tec*® milling cutters F 2010+F 4047



HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

	Designation	Tolerance class	Cutting edges	d mm	s mm	$s_{max.}$ mm		P HC				M HC			K HC			N HC	N HW	S HC		H HC	HC
								WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WXM 15
	XNGX 1205 ENN – F 67	G	2	12.7	6.5	4.5									△							△	△

Finishing inserts for *Xtra·tec*® milling cutters F 2010+F 4048

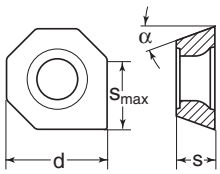


HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide

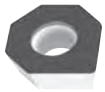
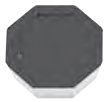
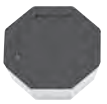
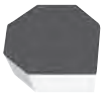
	Designation	Tolerance class	Cutting edges	d mm	s mm	$s_{max.}$ mm		P HC				M HC			K HC			N HC	N HW	S HC		H HC	HC
								WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WXM 15
	XNGX 1205 ZNN – F 67	G	2	12.7	6.5	4.0									△							△	△

= **New addition to range**

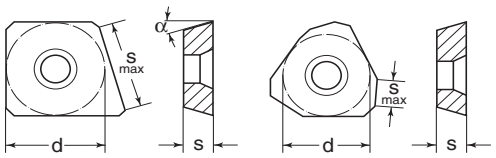
Finishing inserts



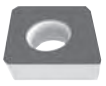
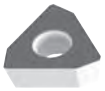
HC = Coated carbide
HW = Uncoated carbide
HF = Uncoated fine-grained carbide
BH = CBN with high CBN content
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	d mm	s mm	$s_{max.}$ mm	α°	P HC WKP 25	P HC WKP 35	P HC WTP 35	P HC WXP 45	P HW WPM	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	K BH WCB 80	K CN WSN 10	N HC WXN 15	N HW WK 10	H HC WXH 15	HC WXM 15
	ODHX 0504 ZZR – A 57	H	1	12.7	4.76	7.2	15		△					△		△						△
	ODHX 0605 ZZR – A 57	H	1	15.88	5.56	9.4	15		△					△		△						△
	ODHX 0605 ZZN – A 57	H	8	15.88	5.56	6	15							△								△
	ODHX 0605 ZZN – A 88	H	8	15.88	5.56	6	15							△								△
	OPHX 0504 ZZN – A 57	H	8	12.7	4.76	5	11							△								△
	OPHX 0504 ZZN – A 88	H	8	12.7	4.76	5	11							△								△
	OPHX 0504 ZZR – A 57	H	1	12.7	4.76	7.8	11							△								△
	OPHX 0504 ZZR – A 27	H	1	12.7	4.76	7.8	11										△					

Finishing inserts



HC = Coated carbide
HW = Uncoated carbide
DP = polycrystalline diamond
CN = Silicon nitride Si_3N_4

	Designation	Tolerance class	Cutting edges	d mm	s mm	$s_{max.}$ mm	α°	P					M	K					N				H	
								HC				HW	HC	HC		HW	CN	HC	HW	DP	HC	HC
								WKP 25	**WKP 35**	WTP 35	WXP 45	WPM	WXM 35	**WAK 15**	**WAK 25**	WKM	WSN 10	WXN 15	WK 10	WCD 10	WXH 15	WXM 15
	SPHX 1204 PDR – A 88	H	1	12.7	4.76	3.5	11													△		
	P 2553 – 1R	A	3	15.0	4.5	4.0													△			
	P 2553 – 3R	A	3	18.0	4.5	7.5						△							△			
	P 2901 – 1R	H	1	12.7	4.76	11.0	11					△		△					△			△
	P 2901 – 1L	H	1	12.7	4.76	11.0	11					△										
	P 2903 – 2R	A	3	9.52	4.76	3.5	11							△		△			△			△
	P 2905 – 0	F	4	8.0	3.18	6.0	11					△							△			
	P 2905 – 1	F	4	12.7	4.76	10.0	11					△		△					△			△
	P 25531 – 1R	A	3	15.0	4.5	4.0													△			
	P 25531 – 3R	A	3	18.0	4.5	7.5													△			
	P 35441 – 1R	H	4	12.7	4.76	3													△			
	P 45420 – G 67	G	4	9.52	4.76	7.0								△							△	△
	XPHN 1204 EDR	H	1	12.7	4.76	6	11							△								△
	XPHN 1204 ZPR	H	1	12.7	4.76	6	11							△								△

Cutting tool material application tables – milling

1. Coated carbide

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45	Coating procedure	Coating structure
WKP 25	HC – P 25	●●							CVD	TiCN + Al_2O_3 (+TiN)
	HC – K 25			●●						
WKP 35	HC – P 35	●●							CVD	TiCN + Al_2O_3 (+TiN)
	HC – K 35			●●						
WTP 35	HC – P 35	●●							CVD	TiCN +TiN
	HC – M 35		●							
	HC – S 35					●				
WXP 45	HC – P 45	●●							PVD	Multilayer TiAlN / TiN
	HC – S 35					●				
WXM 35	HC – M 35		●●						PVD	Multilayer TiAlN / TiN + ZrCN
	HC – P 35	●								
	HC – S 25					●				
WAK 15	HC – K 15			●●					CVD	TiCN + Al_2O_3 (+TiN)
WXN 15	HC – N 15				●●				PVD	TiCN*plus*
WSM 35	HC – S 35					●●			PVD	TiAlN + Al_2O_3 (ZrCN)
	HC – M 35		●●							
WSM 36	HC – S 35					●●			PVD	TiAlN + Al_2O_3
	HC – M 35		●●							
WSP 45	HC – S 45					●●			PVD	TiAlN + Al_2O_3 (ZrCN)
	HC – P 45	●●								
	HC – M 45		●●							
WSP 46	HC – S 45					●●			PVD	TiAlN + Al_2O_3
	HC – P 45	●●								
	HC – M 45		●●							
WXH 15	HC – H 15						●●		PVD	TiAlN
	HC – P 15	●								
	HC – K 15			●						
WXM 15	HC – P 15	●●							PVD	Multilayer TiAlN / TiN
	HC – M 15		●							
	HC – K 15			●						

Cutting tool material application tables – milling

2. Uncoated carbide grades, cutting ceramics, CBN and PCD

Walter grade designation	Standard designation	Workpiece material group P Steel	M Stainless Steel	K Cast iron	N NF metals	S Difficult-to-machine materials	H Hard materials	Application range 01 05 10 15 20 25 30 35 40 45
WPM	HW – P 25	●●						
WKM	HW – K 20			●●				
	HW – N 20				●			
WSN 10	CN – K 20			●●				
WCB 80	BH – K 05			●●				
	BH – H 15						●	
WK 10	HW – N 10				●●			
WCB 50	BH – H 10						●●	
	BH – K 10			●				
WMG 40	HF – N 35				●●			
WCD 10	DP – N 10				●●			

BH = CBN with high CBN content
CN = Silicon nitride Si_3N_4
DP = Polycrystalline diamond
HC = Coated fine-grained carbide
HF = Uncoated fine-grained carbide
HW = Uncoated carbide

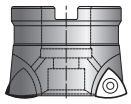
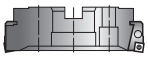
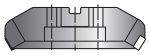
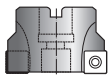
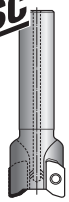
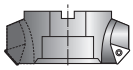
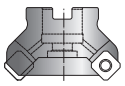
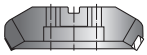
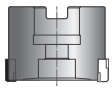
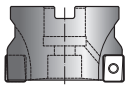
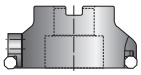
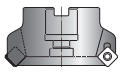
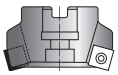
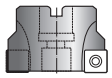
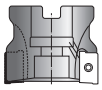
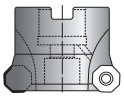
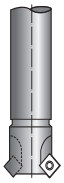
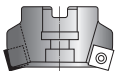
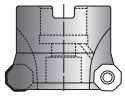
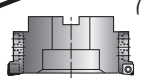
●● Primary application
● Additional application

Product range overview

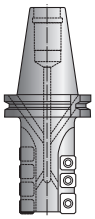
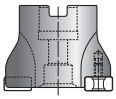
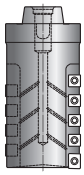
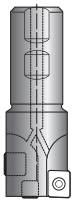
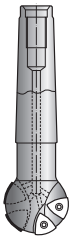
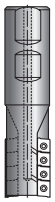
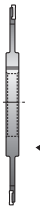
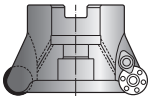
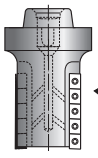
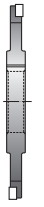
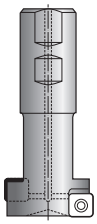
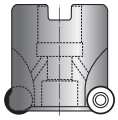
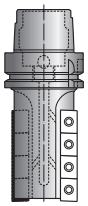
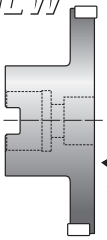
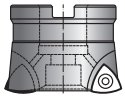
The page specified in brackets refers to the general catalogue.

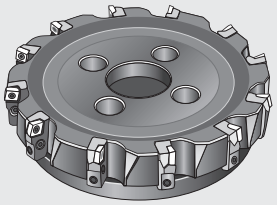
Surface milling / shoulder milling

Milling cutter can be fitted with Wiper inserts

NEW κ = 0–15° **F 2330** Page 192 	NEW κ = 0–90° **F 2010** Page 186 *(Page 452)* 	κ = 60° **F 2260** *(Page 496)* 	NEW κ = 88° **F 4048** Page 200 Xtra·tec® 	HSC κ = 90° **F 3040** *(Page 518)* 
κ = 42° **F 2244** **F 2044** *(Page 476)* 	NEW κ = 45° **F 4033** Page 194 Xtra·tec® 	κ = 60° **F 2265** *(Page 498)* 	κ = 89° **F 2254** *(Page 494)* 	κ = 90° **F 4041** *(Page 520)* Xtra·tec® 
κ = 43° **F 2146** *(Page 480)* HSC 	κ = 45° **F 2233** (Page 484) 	κ = 75° **F 2235** *(Page 488)* 	κ = 89°45' **F 2241** *(Page 516)* 	NEW κ = 90° **F 4042** Page 202 Xtra·tec® 
κ = 43° **F 2280** *(Page 500)* 	κ = 45° **F 2232** *(Page 482)* 	NEW κ = 75° **F 4047** Page 198 Xtra·tec® 	κ = 90° **F 2140** *(Page 514)* 	
κ = 43° **F 4080** *(Page 510)* Xtra·tec® 	κ = 75°+90° **F 2250** *(Page 490)* HSC 			

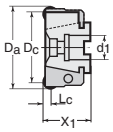
Walter milling cutters
– Milling cutters with indexable inserts –

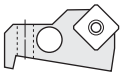
	Slot milling			Copy milling	
	κ = 90° **F 2238** *(Page 544)* 	κ = 90° **F 2252** *(Page 560)* 	κ = 90° **F 2230** *(Page 538)* 	– **F 2139** *(Page 580)* 	– **F 2231/A** *(Page 582)* 
	κ = 90° **F 2338** *(Page 550)* 	κ = 90° **F 2255** *(Page 574)* 	κ = 90° **F 2237** *(Page 540)* 	– **F 2239 B** *(Page 594)* 	– **F 2231/B** *(Page 584)* 
	NEW κ = 90° **F 4038** Page 216 Xtra·tec® 	NEW κ = 90° **F 4053** Page 218 Xtra·tec® 	κ = 90° **F 2036** *(Page 536)* 	– **F 2239 F** *(Page 596)* 	– **F 2234** *(Page 586)* 
	κ = 90° **F 4138** *(Page 556)* Xtra·tec® 	NEW κ = 90° **F 4153** Page 220 Xtra·tec® 	κ = 90° **F 2243** *(Page 542)* 	– **F 2339** *(Page 598)* 	– **F 2334** *(Page 590)* 
	κ = 90° **F 4238** *(Page 558)* Xtra·tec® 	NEW κ = 90° **F 4253** Page 222 Xtra·tec® 	NEW κ = 15° **F 2330** Page 192 		



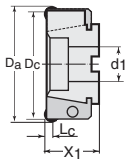
Tool

Designation	D_C mm	D_a mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
F 2010.B.080.Z06.06.R720M	80	94	27	50	6.5	6	1.2	6	SN . . 1205 . .
F 2010.B.100.Z07.06.R720M	100	114	32	50	6.5	7	1.7	7	
F 2010.B.125.Z08.06.R720M	125	139	40	63	6.5	8	3.4	8	
F 2010.B.160.Z10.06.R720M	160	174	40/40 B	63	6.5	10	5.6	10	
F 2010.B.200.Z12.06.R720M	200	214	60/50 B	63	6.5	12	8.3	12	
F 2010.B.250.Z12.06.R720M	250	264	60/50 B	63	6.5	12	14.8	12	
F 2010.B.250.Z16.06.R720M	250	264	60/50 B	63	6.5	16	14.7	16	

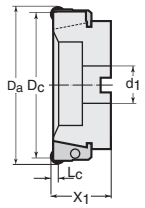




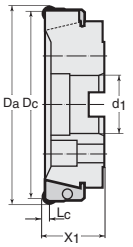
D_C 80 mm



D_C 100–125 mm



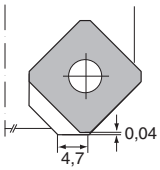
D_C 160 mm



D_C 200–250 mm

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

For roughing/finishing combinations

κ = 45°	Roughing	Finishing
F 2010 	**Indexable insert** SNGX 1205 ANN – F 57 / F 67	**Indexable insert** XNGX 1205 ANN – F 67

Finishing insert XNGX 1205 ANN – F 67 fitted
in combination with SNGX 1205 ANN – F 57 / F 67

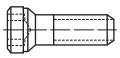
For further roughing-finishing combinations refer to the general catalogue, page 669.

Walter face milling cutters F 2010

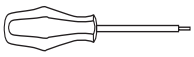
negative, $\kappa = 45°$

Microplan

Assembly parts

		SN . . 1205	
	Cartridge for tool body	FR 720 M	
	Clamping screw for insert	FS 1459 (Torx 15 IP)	*IP = Torx Plus*
	Tightening torque	4.0 Nm	
	Clamping screw for cartridge	FS 247 (SW 4)	
	Tightening torque	8.0 Nm	
	Adjusting bolt	FS 303 (Torx 20)	

Accessories

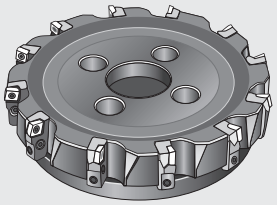
		SN . . 1205	P 2905 – 1	ODHX 0605 ZZN	XNGX 1205 ANN
	Finishing cartridge for tool body		FR 448 M	FR 681 M	FR 730 M
	Insert for finishing cartridge		P 2905 – 1	ODHX 0605 ZZN	XNGX 1205 ANN
	Screwdriver for indexable insert	FS 1485 (Torx 15 IP) *IP = Torx Plus*	FS 228 (Torx 20)	FS 228 (Torx 20)	FS 1459 (Torx 15 IP) *IP = Torx Plus*
	Screwdriver for adjusting bolt	FS 228 (Torx 20)			
	DIN 911 Allen key for cartridge	SW 4			

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WPM	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	HC WXM 15
	SNGX 1205 ANN – F 27		1.5	●	●							●	●						
	SNGX 1205 ANN – F 57		1.5	●	●	●		●	●			●	●			●	●		
	SNGX 1205 ANN – F 67		1.5	●	●	●		●	●		●	●	●			●	●		
	SNMX 1205 ANN – F 27		1.5	●	●							●	●						
	SNMX 1205 ANN – F 57		1.5	●	●							●	●						
	SNMX 1205 ANN – F 67		1.5	●	●						●	●	●						
	SNGX 120512 – F 57	1.2		●	●							●	●						
	SNMX 120512 – F 27	1.2		●	●							●	●						
	SNMX 120512 – F 57	1.2		●	●							●	●						
	SNMX 120520 – F 57	2.0		●	●							●	●						
	SNMX 120512 – F 67	1.2		●	●						●	●	●						
	Finishing inserts																		
	P 2905 – 1		10				●				●				●				●
	ODHX 0605 ZZN – A 57	1.8	5.3								●								●
	ODHX 0605 ZZN – A 88	1.8	5.3								●								●
	XNGX 1205 ANN – F 67		4.7								●							●	●

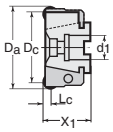
= **New addition to range**

→ 160 → 226

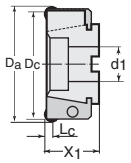


Tool

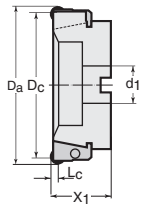
Designation	D_C mm	D_a mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
F 2010.B.080.Z06.08.R727M	80	86	27	50	8	6	1.2	6	SN . . 1205 . .
F 2010.B.100.Z07.08.R727M	100	106	32	50	8	7	1.7	7	
F 2010.B.125.Z08.08.R727M	125	131	40	63	8	8	3.4	8	
F 2010.B.160.Z10.08.R727M	160	166	40/40 B	63	8	10	5.6	10	
F 2010.B.200.Z12.08.R727M	200	206	60/50 B	63	8	12	8.3	12	
F 2010.B.250.Z12.08.R727M	250	256	60/50 B	63	8	12	14.8	12	
F 2010.B.250.Z16.08.R727M	250	256	60/50 B	63	8	16	14.7	16	



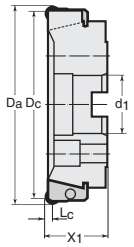
D_C 80 mm



D_C 100–125 mm



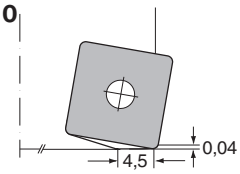
D_C 160 mm



D_C 200–250 mm

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

For roughing/finishing combinations

κ = 75°	Roughing	Finishing
F 2010 	**Indexable insert** SNGX 1205 ENN – F 57 / F 67	**Indexable insert** XNGX 1205 ENN – F 67

For further roughing-finishing combinations refer to the general catalogue, page 669

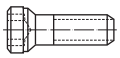
Walter face milling cutters

F 2010

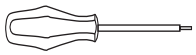
negative, $\kappa = 75°$

Microplan

Assembly parts

	Cartridge for tool body	FR 727 M
	Clamping screw for insert	FS 1459 (Torx 15 IP)
	Tightening torque	4.0 Nm
	Clamping screw for cartridge	FS 247 (SW 4)
	Tightening torque	8.0 Nm
	Adjusting bolt	FS 303 (Torx 20)

Accessories

	Screwdriver for indexable insert	FS 1485 (Torx 15 IP)
	Screwdriver for adjusting bolt	FS 228 (Torx 20)
	DIN 911 Allen key for cartridge	SW 4

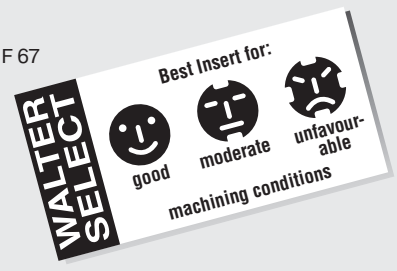
IP = Torx Plus

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WPM	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	HC WXM 15
	SNGX 1205 ENN – F 27		1.2	☺	😐							☺	😐						
	SNGX 1205 ENN – F 57		1.2	☺	😐							☺	😐						
	SNGX 1205 ENN – F 67		1.2	☺	😐						😊	☺	😐						
	SNGX 120512 – F 57	1.2		☺	😐							☺	😐						
	SNMX 120512 – F 27	1.2		☺	😐							☺	😐						
	SNMX 120512 – F 57	1.2		☺	😐							☺	😐						
	SNMX 120520 – F 57	2.0		☺	😐							☺	😐						
	SNMX 120512 – F 67	1.2		☺	😐						😊	☺	😐						
 Finishing insert	XNGX 1205 ENN – F 67		4.5								😊							☺	😐

Finishing insert XNGX 1205 ENN – F 67 fitted in combination with SNGX 1205 ENN – F 57 / F 67

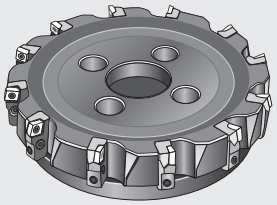
= New addition to range



Tiger·tec®

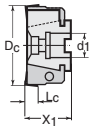


→ 161 → 226

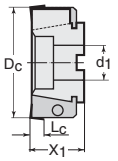


Tool

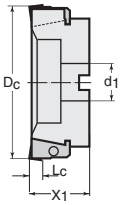
Designation	D_C mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
F 2010.B.080.Z06.10.R728M	80	27	50	10	6	1.2	6	SN . . 1205 . .
F 2010.B.100.Z07.10.R728M	100	32	50	10	7	1.7	7	
F 2010.B.125.Z08.10.R728M	125	40	63	10	8	3.4	8	
F 2010.B.160.Z10.10.R728M	160	40/40 B	63	10	10	5.6	10	
F 2010.B.200.Z12.10.R728M	200	60/50 B	63	10	12	8.3	12	
F 2010.B.250.Z12.10.R728M	250	60/50 B	63	10	12	14.8	12	
F 2010.B.250.Z16.10.R728M	250	60/50 B	63	10	16	14.7	16	



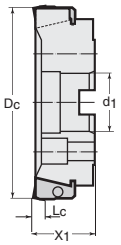
D_C 80 mm



D_C 100–125 mm



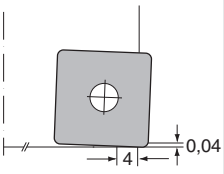
D_C 160 mm



D_C 200–250 mm

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

For roughing/finishing combinations

κ = 88°	Roughing	Finishing
F 2010 	**Indexable insert** SNGX 1205 ZNN – F 57 / F 67	**Indexable insert** XNGX 1205 ZNN – F 67

For further roughing-finishing combinations refer to the general catalogue, page 669

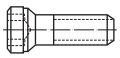
Walter face milling cutters

F 2010

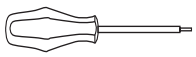
negative, $\kappa = 88°$

Microplan

Assembly parts

	Cartridge for tool body	FR 728 M
	Clamping screw for insert	FS 1459 (Torx 15 IP)
	Tightening torque	4.0 Nm
	Clamping screw for cartridge	FS 247 (SW 4)
	Tightening torque	8.0 Nm
	Adjusting bolt	FS 303 (Torx 20)

Accessories

	Screwdriver for indexable insert	FS 1485 (Torx 15 IP)
	Screwdriver for adjusting bolt	FS 228 (Torx 20)
	DIN 911 Allen key for cartridge	SW 4

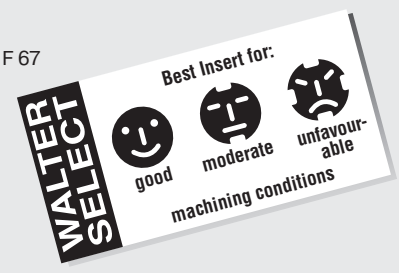
IP = Torx Plus

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WPM	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	HC WXM 15
	SNGX 1205 ZNN – F 27		1.5	☺	☹							☺	☹						
	SNGX 1205 ZNN – F 57		1.5	☺	☹							☺	☹						
	SNGX 1205 ZNN – F 67		1.5	☺	☹						☻	☺	☹						
	SNGX 120512 – F 57	1.2		☺	☹							☺	☹						
	SNMX 120512 – F 27	1.2		☺	☹							☺	☹						
	SNMX 120512 – F 57	1.2		☺	☹							☺	☹						
	SNMX 120520 – F 57	2.0		☺	☹							☺	☹						
	SNMX 120512 – F 67	1.2		☺	☹						☻	☺	☹						
 Finishing insert	XNGX 1205 ZNN – F 67		4.0								☻							☺	☺

Finishing insert XNGX 1205 ZNN – F 67 fitted in combination with SNGX 1205 ZNN – F 57 / F 67

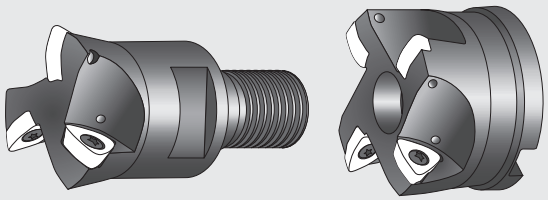
= New addition to range

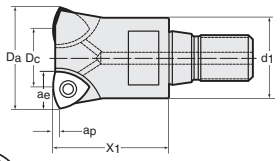
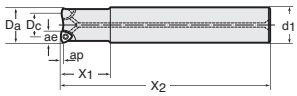
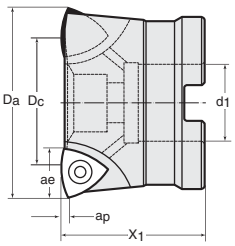


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Tool	Designation	D_a mm	D_C mm	d_1 mm	X_1 mm	X_2 mm	a_p mm	a_e mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 2330.T18.020.Z02.01	20	10	18.5	30		1	7	2	0.1	2	P 2633 . – R 10
	F 2330.T22.025.Z03.01	25	15	22	35		1	7	3	0.1	3	
	F 2330.T28.032.Z03.01,5	32	18	28	40		1.5	10	3	0.2	3	P 2633 . – R 14
	F 2330.T28.035.Z03.01,5	35	21	28	40		1.5	10	3	0.2	3	
	F 2330.T36.040.Z03.01,5	40	26	36	40		1.5	10	3	0.3	3	
	F 2330.T36.042.Z03.01,5	42	28	36	40		1.5	10	3	0.4	3	
												
Parallel shank without flat	F 2330.Z20.020.Z02.01	20	10	20		200	1	7	2	0.5	2	P 2633 . – R 10
	F 2330.Z25.025.Z03.01	25	15	25		200	1	7	3	0.7	3	
	F 2330.Z32.032.Z03.01.5	32	18	32		250	1.5	10	3	0.5	3	P 2633 . – R 14
Cyl. coolant bore DIN 138 transverse drive	F 2330.B22.050.Z04.01.5	50	36	22	40		1.5	10	4	0.3	4	
	F 2330.B.052.Z05.01.5	52	38	22	40		1.5	10	5	0.3	5	
	F 2330.B22.063.Z05.01.5	63	49	22	50		1.5	10	5	0.7	5	P 2633 . – R 14
	F 2330.B.066.Z06.01.5	66	52	27	50		1.5	10	6	0.7	6	
	F 2330.B27.080.Z06.01.5	80	66	27	50		1.5	10	6	1.0	6	
	F 2330.B.085.Z07.01.5	85	71	27	50		1.5	10	7	1.0	7	
	F 2330.B.052.Z03.02*	52	32	22	40		2	15	3	0.3	3	
	F 2330.B22.063.Z04.02*	63	43	22	50		2	15	4	0.6	4	
	F 2330.B.066.Z04.02*	66	46	27	50		2	15	4	0.7	4	P 2633 . – R 25
	F 2330.B27.080.Z05.02*	80	60	27	50		2	15	5	0.9	5	
	F 2330.B.085.Z05.02*	85	65	27	50		2	15	5	1.0	5	

* D_a measured via master insert P 26325 – R 25 with R 0.8.
Actual cut diameter at D_a 52=51.3 mm, D_a 66=65.3mm, D_a 85=84.3 mm.

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
Programming information, see general catalogue, page 654.

= **New addition to range**

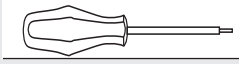
Walter High Performance milling cutters F 2330

positive, κ = 0 – 15°

Assembly parts

		P 2633 . – R 10	P 2633 . – R 14	P 2633 . – R 25
	Clamping screw for insert	FS 923 (Torx 8)	FS 359 (Torx 15)	FS 1030 (Torx 20)
	Tightening torque	0.8 Nm	2.5 Nm	5.0 Nm

Accessories

		P 2633 . – R 10	P 2633 . – R 14	P 2633 . – R 25
	Screwdriver	FS 230 (Torx 8)	FS 229 (Torx 15)	FS 228 (Torx 20)

Indexable inserts

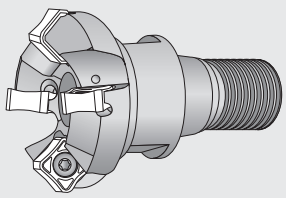


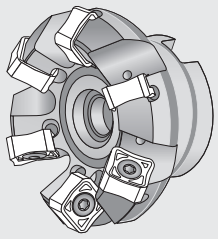
Designation	Radius mm		P				M			K			N		S		H	
			HC				HC			HC			HC	HW	HC		HC	HF
			WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
P 26335 – R 10	0.8		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26335 – R 14	1.2		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26335 – R 25	2.0		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26337 – R 10	0.8		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26337 – R 14	1.2		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26337 – R 25	2.0		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26339 – R 10	0.8		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26339 – R 14	1.2		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		
P 26339 – R 25	2.0		☺	😐	☹	☹	😐	☹			😐	☹			😐	☹		



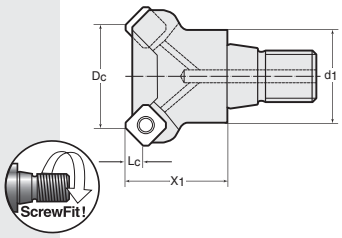
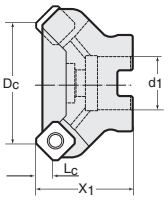
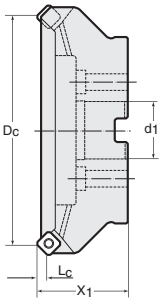
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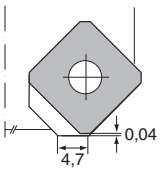


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Tool	Designation	D_C mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4033.T36.040.Z03.06	40	36	40	6.5	3	0.4	3	SN . X 1205 . .
	F 4033.T36.040.Z04.06	40	36	40	6.5	4	0.4	4	
	F 4033.T45.050.Z04.06	50	45	45	6.5	4	0.6	4	
	F 4033.T45.050.Z06.06	50	45	45	6.5	6	0.6	6	
Cyl. coolant bore DIN 138 transverse drive	F 4033.B.050.Z04.06	50	22	40	6.5	4	0.3	4	SN . X 1205 . .
	F 4033.B.050.Z06.06	50	22	40	6.5	6	0.3	6	
	F 4033.B22.050.Z03.06	50	22	40	6.5	3	0.4	3	
	F 4033.B22.063.Z04.06	63	22	40	6.5	4	0.6	4	
	F 4033.B.063.Z06.06	63	22	40	6.5	6	0.5	6	
	F 4033.B.063.Z08.06	63	22	40	6.5	8	0.5	8	
	F 4033.B27.063.Z04.06	63	27	50	6.5	4	0.8	4	
	F 4033.B27.063.Z06.06	63	27	50	6.5	6	0.5	6	
	F 4033.B27.063.Z08.06	63	27	50	6.5	8	0.5	8	
	F 4033.B27.080.Z05.06	80	27	50	6.5	5	1.3	5	
	F 4033.B.080.Z07.06	80	27	50	6.5	7	1.2	7	
	F 4033.B.080.Z10.06	80	27	50	6.5	10	1.2	10	
	F 4033.B32.100.Z06.06	100	32	50	6.5	6	1.9	6	
	F 4033.B.100.Z08.06	100	32	50	6.5	8	1.8	8	
	F 4033.B.100.Z12.06	100	32	50	6.5	12	1.7	12	
	F 4033.B40.125.Z07.06	125	40	63	6.5	7	3.2	7	
	F 4033.B.125.Z10.06	125	40	63	6.5	10	3.1	10	
	F 4033.B.125.Z16.06	125	40	63	6.5	16	3.0	16	
	F 4033.B40.160.Z08.06	160	40/40 B	63	6.5	8	5.6	8	SN . X 1205 . .
	F 4033.B.160.Z12.06	160	40/40 B	63	6.5	12	5.5	12	
	F 4033.B.160.Z20.06	160	40/40 B	63	6.5	20	5.4	20	
	F 4033.B60.200.Z10.06*	200	60/50 B	63	6.5	10	8.8	10	
	F 4033.B60.200.Z18.06*	200	60/50 B	63	6.5	18	8.6	18	
	F 4033.B60.200.Z26.06*	200	60/50 B	63	6.5	26	8.5	26	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
* without internal coolant supply.

For roughing/finishing combinations

κ = 45°	Roughing	Finishing
F 4033 	**Indexable insert** SNGX 1205 ANN – F 57 / F 67	**Indexable insert** XNGX 1205 ANN – F 67

= **New addition to range**

Walter face milling cutter

negative, $\kappa = 45°$

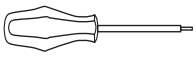
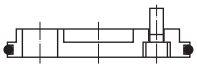
F 4033

SN . X 1205

Assembly parts

	Clamping screw for insert	FS 1459 (Torx 15 IP)
	Tightening torque	4.0 Nm

Accessories

	Torque screwdriver	FS 2003
	Interchangeable blade	FS 2014 (Torx 15 IP)
	Screwdriver	FS 1485 (Torx 15 IP)
	Sealing disc set (incl. gasket and screws)	FS 936 (only for D_C = 160 mm)
	Gasket	O–R 96 x 4

IP = Torx Plus

Indexable inserts

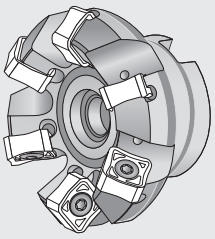
	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	HC WXM 15
	SNGX 1205 ANN – F 27		1.5	☺	☹							☺	☹						
	SNGX 1205 ANN – F 57		1.5	☺	☹	☹		☺	☹			☺	☹			☺	☹		
	SNGX 1205 ANN – F 67		1.5	☺	☹	☹		☺	☹		☻	☺	☹			☺	☹		
	SNMX 1205 ANN – F 27		1.5	☺	☹							☺	☹						
	SNMX 1205 ANN – F 57		1.5	☺	☹							☺	☹						
	SNMX 1205 ANN – F 67		1.5	☺	☹						☻	☺	☹						
	SNGX 120512 – F 57	1.2		☺	☹							☺	☹						
	SNMX 120512 – F 27	1.2		☺	☹							☺	☹						
	SNMX 120512 – F 57	1.2		☺	☹							☺	☹						
	SNMX 120520 – F 57	2.0		☺	☹							☺	☹						
	SNMX 120512 – F 67	1.2		☺	☹						☻	☺	☹						
 Finishing insert	XNGX 1205 ANN – F 67		4.7								☻							☺	☺

Finishing insert XNGX 1205 ANN – F 67 fitted in combination with SNGX 1205 ANN – F 57 / F 67



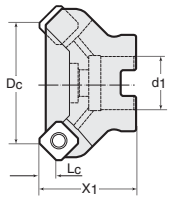
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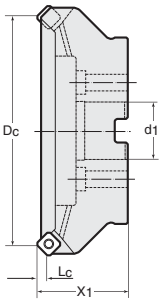
→ 160 → 226



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Tool	Designation	D_C mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
Cyl. coolant bore DIN 138 transverse drive	F 4033.B22.050.Z04.09	50	22	50	7.5	4	0.6	4	
	F 4033.B22.063.Z05.09	63	22	50	7.5	5	0.9	5	
	F 4033.B27.080.Z06.09	80	27	63	7.5	6	1.9	6	SN . X 1606 . .
	F 4033.B32.100.Z07.09	100	32	63	7.5	7	2.7	7	
	F 4033.B40.125.Z08.09	125	40	63	7.5	8	3.9	8	
	F 4033.B40.160.Z09.09	160	40/40 B	63	7.5	9	5.7	9	
	F 4033.B60.200.Z10.09*	200	60/50 B	63	7.5	10	8.8	10	SN . X 1606 . .





Bodies and assembly parts are included in the scope of delivery.
* without internal coolant supply.

Walter face milling cutter

NEW **F 4033**

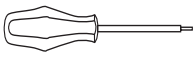
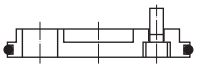
negative, $\kappa = 45°$

SN . X 1606

Assembly parts

 Clamping screw for insert	FS 1495 (Torx 20 IP)
Tightening torque	5.0 Nm

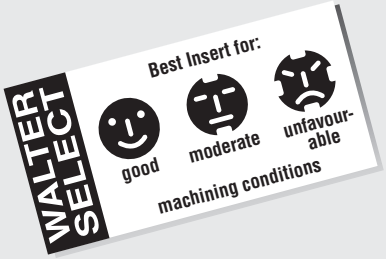
Accessories

 Torque screwdriver	FS 2003
 Interchangeable blade	FS 2015 (Torx 20 IP)
 Screwdriver	FS 1486 (Torx 20 IP)
 Sealing disc set (incl. gasket and screws)	FS 936 (only for D_C = 160 mm)
 Gasket	O–R 96 x 4

IP = Torx Plus

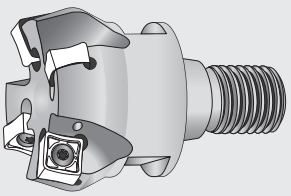
Indexable inserts

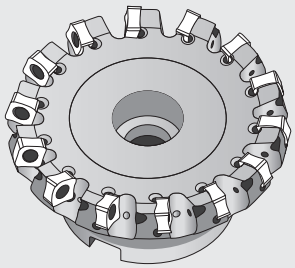
	Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
				HC				HC			HC			HC	HW	HC		HC	HC
				WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WXM 15
	SNGX 1606 ANN – F 27		1.8	☺	☹							☺	☹						
	SNGX 1606 ANN – F 57		1.8	☺	☹	☹		☺	☹			☺	☹			☺	☹		
	SNGX 1606 ANN – F 67		1.8	☺	☹	☹		☺	☹		☻	☺	☹			☺	☹		
	SNMX 160620 – F 27	2.0		☺	☹							☺	☹						
	SNMX 160640 – F 27	2.0		☺	☹							☺	☹						
	SNMX 160620 – F 57	4.0		☺	☹	☹		☺	☹			☺	☹			☺	☹		
	SNMX 160640 – F 57	4.0		☺	☹	☹		☺	☹			☺	☹			☺	☹		
	SNMX 160620 – F 67	6.0		☺	☹	☹		☺	☹		☻	☺	☹			☺	☹		
	SNMX 160640 – F 67	6.0		☺	☹	☹		☺	☹		☻	☺	☹			☺	☹		



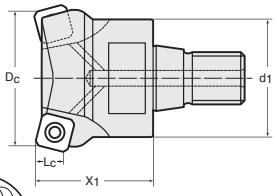
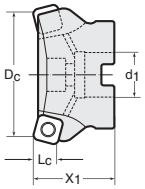
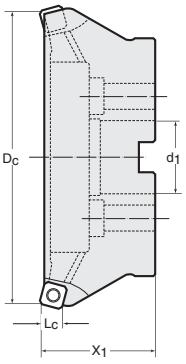


→ 160 → 226



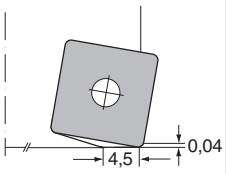


Xtra·tec®

Tool	Designation	D_C mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4047.T36.040.Z03.08	40	36	40	8	3	0.4	3	SN . X 1205 . .
	F 4047.T45.050.Z04.08	50	45	45	8	4	0.6	4	
									
Cyl. coolant bore DIN 138 transverse drive	F 4047.B22.050.Z03.08	50	22	40	8	3	0.3	3	
	F 4047.B22.050.Z04.08	50	22	40	8	4	0.6	4	
	F 4047.B22.063.Z04.08	63	22	40	8	4	0.9	4	
	F 4047.B22.063.Z06.08	63	22	40	8	6	0.9	6	
	F 4047.B22.063.Z07.08	63	22	40	8	7	0.9	7	
	F 4047.B27.063.Z04.08	63	27	50	8	4	0.9	4	
	F 4047.B27.063.Z06.08	63	27	50	8	6	0.9	6	
	F 4047.B27.063.Z07.08	63	27	50	8	7	0.9	7	SN . X 1205 . .
	F 4047.B27.080.Z05.08	80	27	50	8	5	1.1	5	
	F 4047.B27.080.Z07.08	80	27	50	8	7	1.0	7	
	F 4047.B27.080.Z09.08	80	27	50	8	9	1.0	9	
	F 4047.B32.100.Z06.08	100	32	50	8	6	1.8	6	
	F 4047.B32.100.Z08.08	100	32	50	8	8	1.7	8	
	F 4047.B32.100.Z11.08	100	32	50	8	11	1.7	11	
	F 4047.B40.125.Z07.08	125	40	63	8	7	3.1	7	
	F 4047.B40.125.Z10.08	125	40	63	8	10	2.9	10	
	F 4047.B40.125.Z14.08	125	40	63	8	14	2.9	14	
	F 4047.B40.160.Z08.08	160	40/40 B	63	8	8	5.2	8	
	F 4047.B40.160.Z12.08	160	40/40 B	63	8	12	4.9	12	
	F 4047.B40.160.Z18.08	160	40/40 B	63	8	18	4.9	18	
	F 4047.B60.200.Z10.08*	200	60/50 B	63	8	10	8.1	10	SN . X 1205 . .
	F 4047.B60.200.Z14.08*	200	60/50 B	63	8	14	7.9	14	
	F 4047.B60.200.Z22.08*	200	60/50 B	63	8	22	7.9	22	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
* without internal coolant supply.

For roughing/finishing combinations

κ = 75°	Roughing	Finishing
F 4047 	**Indexable insert** SNGX 1205 ENN – F 57 / F 67	**Indexable insert** XNGX 1205 ENN – F 67

= **New addition to range**

Walter face milling cutters

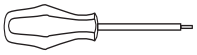
F 4047

negative, κ = 75°

Assembly parts

	Clamping screw for insert	FS 1459 (Torx 15 IP) *IP = Torx Plus*
	Tightening torque	4.0 Nm

Accessories

	Torque screwdriver	FS 2003
	Interchangeable blade	FS 2014 (Torx 15 IP)
	Screwdriver	FS 1485 (Torx 15 IP)
	Sealing disc set (incl. gasket and screws)	FS 936 (only for D_C = 160 mm)
	Gasket	O–R 96 x 4

IP = Torx Plus

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WXP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	H HC WXH 15	H HC WXM 15	H HF WMG 40
	SNGX 1205 ENN – F 27		1.2	☺	☹				☺	☹					
	SNGX 1205 ENN – F 57		1.2	☺	☹				☺	☹					
	SNGX 1205 ENN – F 67		1.2	☺	☹			☺	☺	☹					
	SNGX 120512 – F 57	1.2		☺	☹				☺	☹					
	SNMX 120512 – F 27	1.2		☺	☹				☺	☹					
	SNMX 120512 – F 57	1.2		☺	☹				☺	☹					
	SNMX 120520 – F 57	2.0		☺	☹				☺	☹					
	SNMX 120512 – F 67	1.2		☺	☹			☺	☺	☹					
 Finishing insert	XNGX 1205 ENN – F 67		4.5					☺					☺	☺	

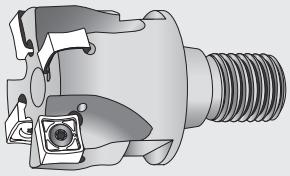
Finishing insert XNGX 1205 ENN – F 67 fitted in combination with SNGX 1205 ENN – F 57 / F 67

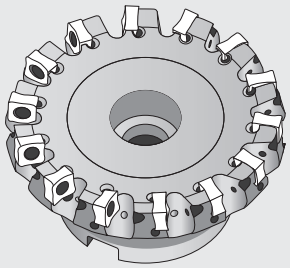
= New addition to range





→ 161 → 226

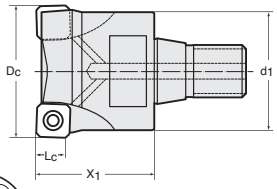
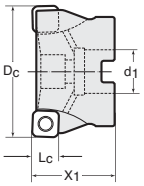
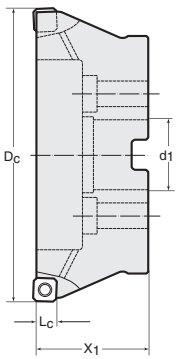




Xtra·tec®

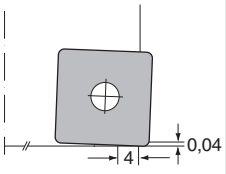




Tool	Designation	D_C mm	d_1/ISO mm	X_1 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4048.T36.040.Z03.10	40	36	40	10	3	0.4	3	SN . X 1205 . .
	F 4048.T45.050.Z04.10	50	45	45	10	4	0.6	4	
									
Cyl. coolant bore DIN 138 transverse drive	F 4048.B22.050.Z03.10	50	22	40	10	3	0.3	3	
	F 4048.B22.050.Z04.10	50	22	40	10	4	0.4	4	
	F 4048.B22.063.Z04.10	63	22	40	10	4	0.5	4	
	F 4048.B22.063.Z06.10	63	22	40	10	6	0.5	6	
	F 4048.B22.063.Z07.10	63	22	40	10	7	0.5	7	
	F 4048.B27.063.Z04.10	63	27	50	10	4	0.6	4	
	F 4048.B27.063.Z06.10	63	27	50	10	6	0.5	6	
	F 4048.B27.063.Z07.10	63	27	50	10	7	0.6	7	SN . X 1205 . .
	F 4048.B27.080.Z05.10	80	27	50	10	5	1.0	5	
	F 4048.B27.080.Z07.10	80	27	50	10	7	0.9	7	
	F 4048.B27.080.Z09.10	80	27	50	10	9	0.9	9	
	F 4048.B32.100.Z06.10	100	32	50	10	6	1.8	6	
	F 4048.B32.100.Z08.10	100	32	50	10	8	1.5	8	
	F 4048.B32.100.Z11.10	100	32	50	10	11	1.5	11	
	F 4048.B40.125.Z07.10	125	40	63	10	7	3.0	7	
	F 4048.B40.125.Z10.10	125	40	63	10	10	2.8	10	
	F 4048.B40.125.Z14.10	125	40	63	10	14	2.8	14	
	F 4048.B40.160.Z08.10	160	40/40 B	63	10	8	5.0	12	
	F 4048.B40.160.Z12.10	160	40/40 B	63	10	12	4.7	12	
	F 4048.B40.160.Z18.10	160	40/40 B	63	10	18	4.7	18	
	F 4048.B60.200.Z10.10*	200	60/50 B	63	10	10	7.9	10	SN . X 1205 . .
	F 4048.B60.200.Z14.10*	200	60/50 B	63	10	14	7.7	14	
	F 4048.B60.200.Z22.10*	200	60/50 B	63	10	22	7.7	22	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
* without internal coolant supply.

For roughing/finishing combinations

κ = 88°	Roughing	Finishing
F 4048 	**Indexable insert** SNGX 1205 ZNN – F 57 / F 67	**Indexable insert** XNGX 1205 ZNN – F 67

= **New addition to range**

Walter face milling cutters

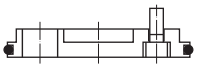
F 4048

negative, $\kappa = 88°$

Assembly parts

	Clamping screw for insert	FS 1459 (Torx 15 IP) *IP = Torx Plus*
	Tightening torque	4.0 Nm

Accessories

	Torque screwdriver	FS 2003
	Interchangeable blade	FS 2014 (Torx 15 IP)
	Screwdriver	FS 1485 (Torx 15 IP)
	Sealing disc set (incl. gasket and screws)	FS 936 (only for D_C = 160 mm)
	Gasket	O–R 96 x 4

IP = Torx Plus

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WXP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	H HC WXH 15	H HC WXM 15	H HF WMG 40
	SNGX 1205 ZNN – F 27		1.2	☺	☹				☺	☹					
	SNGX 1205 ZNN – F 57		1.2	☺	☹				☺	☹					
	SNGX 1205 ZNN – F 67		1.2	☺	☹			☻	☺	☹					
	SNGX 120512 – F 57	1.2		☺	☹				☺	☹					
	SNMX 120512 – F 27	1.2		☺	☹				☺	☹					
	SNMX 120512 – F 57	1.2		☺	☹				☺	☹					
	SNMX 120520 – F 57	2.0		☺	☹				☺	☹					
	SNMX 120512 – F 67	1.2		☺	☹			☻	☺	☹					
 Finishing insert	XNGX 1205 ZNN – F 67		4.0					☻					☻	☻	

Finishing insert XNGX 1205 ZNN – F 67 fitted in combination with SNGX 1205 ZNN – F 57 / F 67

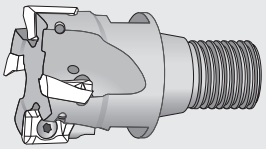
= New addition to range



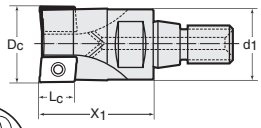
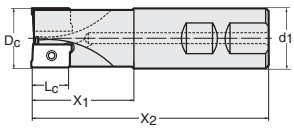
Tiger·tec®



→ 161 → 226



Xtra·tec®

Tool	Designation	D_C mm	d_1 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4042.T09.010.Z01.08*	10	9.7	20		8	1	0.1	1	
	F 4042.T09.012.Z01.08*	12	9.7	20		8	1	0.1	1	
	F 4042.T14.016.Z02.08*	16	14.5	25		8	2	0.1	2	
	F 4042.T14.018.Z02.08*	18	14.5	25		8	2	0.1	2	
	F 4042.T18.020.Z02.08*	20	18.5	30		8	2	0.1	2	
	F 4042.T18.020.Z03.08*	20	18.5	30		8	3	0.1	3	
	F 4042.T18.022.Z03.08*	22	18.5	30		8	3	0.1	3	AD . . 0803 . .
	F 4042.T22.025.Z02.08*	25	22	35		8	2	0.1	2	
	F 4042.T22.025.Z03.08*	25	22	35		8	3	0.1	3	
	F 4042.T22.025.Z04.08*	25	22	35		8	4	0.1	4	
	F 4042.T28.032.Z03.08*	32	28	40		8	3	0.2	3	
	F 4042.T28.032.Z04.08*	32	28	40		8	4	0.2	4	
	F 4042.T28.032.Z05.08*	32	28	40		8	5	0.2	5	
	F 4042.T36.040.Z03.08*	40	36	40		8	3	0.35	3	
	F 4042.T36.040.Z04.08*	40	36	40		8	4	0.35	4	
	F 4042.T36.040.Z06.08*	40	36	40		8	6	0.35	6	
	F 4042.T45.050.Z04.08*	50	45	40		8	4	0.5	4	
	F 4042.T45.050.Z05.08*	50	45	40		8	5	0.5	5	
	F 4042.T45.050.Z07.08*	50	45	40		8	7	0.5	7	
Shank DIN 1835, type B	F 4042.W16.010.Z01.08	10	16	31	80	8	1	0.1	1	
	F 4042.W16.012.Z01.08	12	16	31	80	8	1	0.1	1	
	F 4042.W16.016.Z02.08	16	16	41	90	8	2	0.1	2	
	F 4042.W20.020.Z02.08	20	20	39	90	8	2	0.2	2	
	F 4042.W20.020.Z03.08	20	20	39	90	8	3	0.2	3	
	F 4042.W25.025.Z02.08	25	25	43	100	8	2	0.35	2	AD . . 0803 . .
	F 4042.W25.025.Z03.08	25	25	43	100	8	3	0.35	3	
	F 4042.W25.025.Z04.08	25	25	43	100	8	4	0.3	4	
	F 4042.W32.032.Z03.08	32	32	49	110	8	3	0.6	3	
	F 4042.W32.032.Z04.08	32	32	49	110	8	4	0.6	4	
	F 4042.W32.032.Z05.08	32	32	49	110	8	5	0.6	5	
	F 4042.W32.040.Z03.08	40	32	49	110	8	3	0.7	3	
	F 4042.W32.040.Z04.08	40	32	49	110	8	4	0.7	4	
	F 4042.W32.040.Z06.08	40	32	49	110	8	6	0.7	6	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
*** constructively balanced to G 6.3 where n = 10000 min^{-1}**

= New addition to range

Walter shoulder milling cutter

positive, κ = 90°

HSC

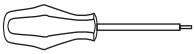
F 4042

AD . . 0803

Assembly parts

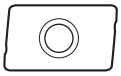
		D_C = 10–12 mm	D_C = 16–50 mm
	Clamping screw for insert	FS 1455 (Torx 8 IP)	FS 1454 (Torx 8 IP)
	Tightening torque	1.2 Nm	1.2 Nm

Accessories

	Torque screwdriver	FS 2001
	Interchangeable blade	FS 2012 (Torx 8 IP)
	Screwdriver	FS 1483 (Torx 8 IP)

IP = Torx Plus

Indexable inserts



If the corner radius is R = 1.6 mm or above, the body in the corner section must be reworked: $R_{(body)} = R_{(insert)} - 1$ mm

Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	H HF WMG 40
ADGT 0803 PER – D 51	0.4	1.2	☺	😐	☹			☹			😐	☹				☹		
ADGT 0803 PER – D 56	0.4	1.2	☺	😐	☹		😐	☹			😐	☹			😐	☹		
ADGT 0803 PER – F 56	0.4	1.2			☹		😐	☹							😐	☹		
ADGT 080302 R – F 56	0.2	1.2			☹		😐	☹							😐	☹		
ADGT 080308 R – F 56	0.8	1.2			☹		😐	☹							😐	☹		
ADGT 080312 R – F 56	1.2	1.0			☹		😐	☹							😐	☹		
ADGT 080316 R – F 56	1.6	1.0			☹		😐	☹							😐	☹		
ADGT 080320 R – F 56	2.0	1.0			☹		😐	☹							😐	☹		
ADHT 0803 PER – G 88	0.4	1.2											☺	☺				
ADKT 0803 PER – F 56	0.4	1.2	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 080304 R – D 56	0.4	1.2	☺	😐						☺	😐	☹						
ADMT 080302 R – F 56	0.2	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 080304 R – F 56	0.4	1.2	☺	😐	☹	☹	😐	☹	😐	☺	😐	☹			😐	☹		
ADMT 080308 R – F 56	0.8	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 080312 R – F 56	1.2	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080316 R – F 56	1.6	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080320 R – F 56	2.0	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080304 R – G 56	0.4	1.2		☺	😐	😐	☺	😐	☺			☺			☺	😐		

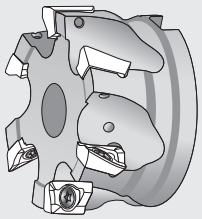
WALTER SELECT

Best Insert for:

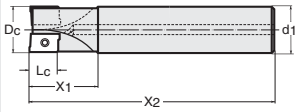
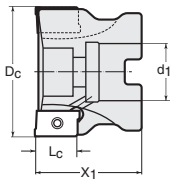
☺ good | 😐 moderate | ☹ unfavourable machining conditions

Tiger·tec®

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Xtra.tec®

Tool	Designation	D_C mm	d_1 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
Parallel shank without flat 	F 4042.Z16.010.Z01.08	10	16	31	160	8	1	0.2	1	AD . . 0803 . .
	F 4042.Z16.012.Z01.08	12	16	31	160	8	1	0.2	1	
	F 4042.Z16.016.Z02.08	16	16	41	180	8	2	0.3	2	
	F 4042.Z16.018.Z02.08	18	16	41	180	8	2	0.3	2	
	F 4042.Z20.020.Z02.08	20	20	39	200	8	2	0.5	2	
	F 4042.Z20.020.Z03.08	20	20	39	200	8	3	0.45	3	
	F 4042.Z20.022.Z03.08	22	20	39	200	8	3	0.5	3	
	F 4042.Z25.025.Z02.08	25	25	43	200	8	2	0.7	2	
	F 4042.Z25.025.Z03.08	25	25	43	200	8	3	0.7	3	
	F 4042.Z25.025.Z04.08	25	25	43	200	8	4	0.7	4	
Cyl. coolant bore DIN 138 transverse drive 	F 4042.B16.040.Z03.08	40	16	40		8	3	0.2	3	AD . . 0803 . .
	F 4042.B16.040.Z04.08	40	16	40		8	4	0.2	4	
	F 4042.B.040.Z06.08	40	16	40		8	6	0.2	6	
	F 4042.B22.050.Z04.08	50	22	40		8	4	0.35	4	
	F 4042.B22.050.Z05.08	50	22	40		8	5	0.35	5	
	F 4042.B.050.Z07.08	50	22	40		8	7	0.35	7	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.

= **New addition to range**

Walter shoulder milling cutter

positive, κ = 90°

HSC

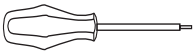
F 4042

AD . . 0803

Assembly parts

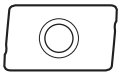
		D_C = 10–12 mm	D_C = 16–50 mm
	Clamping screw for insert	FS 1455 (Torx 8 IP)	FS 1454 (Torx 8 IP)
	Tightening torque	1.2 Nm	1.2 Nm

Accessories

	Torque screwdriver	FS 2001
	Interchangeable blade	FS 2012 (Torx 8 IP)
	Screwdriver	FS 1483 (Torx 8 IP)

IP = Torx Plus

Indexable inserts



If the corner radius is R = 1.6 mm or above, the body in the corner section must be reworked: $R_{(body)} = R_{(insert)} - 1$ mm

Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	HF WMG 40
ADGT 0803 PER – D 51	0.4	1.2	☺	😐	☹			☹			😐	☹				☹		
ADGT 0803 PER – D 56	0.4	1.2	☺	😐	☹		😐	☹			😐	☹			😐	☹		
ADGT 0803 PER – F 56	0.4	1.2			☹		😐	☹							😐	☹		
ADGT 080302 R – F 56	0.2	1.2			☹		😐	☹							😐	☹		
ADGT 080308 R – F 56	0.8	1.2			☹		😐	☹							😐	☹		
ADGT 080312 R – F 56	1.2	1.0			☹		😐	☹							😐	☹		
ADGT 080316 R – F 56	1.6	1.0			☹		😐	☹							😐	☹		
ADGT 080320 R – F 56	2.0	1.0			☹		😐	☹							😐	☹		
ADHT 0803 PER – G 88	0.4	1.2											☺	☺				
ADKT 0803 PER – F 56	0.4	1.2	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 080304 R – D 56	0.4	1.2	☺	😐						☺	😐	☹						
ADMT 080302 R – F 56	0.2	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 080304 R – F 56	0.4	1.2	☺	😐	☹	☹	😐	☹	😐	☺	😐	☹			😐	☹		
ADMT 080308 R – F 56	0.8	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 080312 R – F 56	1.2	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080316 R – F 56	1.6	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080320 R – F 56	2.0	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080304 R – G 56	0.4	1.2		☺	😐	😐	☺	😐	☺			☹			☺	😐		

WALTER SELECT

Best Insert for:

☺ good

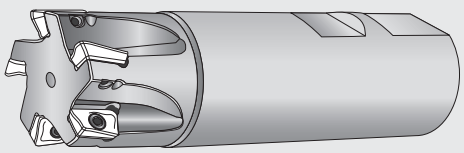
😐 moderate

☹ unfavourable

machining conditions

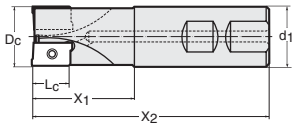
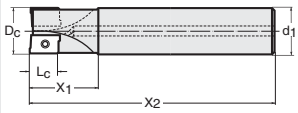
Tiger·tec®

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Xtra·tec®



Tool	Designation	D_C mm	d_1 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
Shank DIN 1835, type B	F 4042R.W16.016.Z02.10*	16	16	26	85	10	2	0.1	2	AD . . 10T3 . .
	F 4042R.W20.020.Z02.10*	20	20	30	90	10	2	0.2	2	
	F 4042R.W20.020.Z03.10*	20	20	30	90	10	3	0.2	3	
	F 4042R.W25.025.Z02.10*	25	25	30	100	10	2	0.35	2	
	F 4042R.W25.025.Z03.10*	25	25	30	100	10	3	0.35	3	
	F 4042R.W25.025.Z04.10*	25	25	30	100	10	4	0.35	4	
	F 4042R.W32.032.Z03.10*	32	32	30	110	10	3	0.6	3	
	F 4042R.W32.032.Z04.10*	32	32	30	110	10	4	0.6	4	
	F 4042R.W32.032.Z05.10*	32	32	30	110	10	5	0.6	5	
Parallel shank without flat	F 4042R.Z16.016.Z02.10*	16	16	26	180	10	2	0.3	2	AD . . 10T3 . .
	F 4042R.Z20.020.Z02.10*	20	20	30	200	10	2	0.5	2	
	F 4042R.Z20.020.Z03.10*	20	20	30	200	10	3	0.5	3	
	F 4042R.Z25.025.Z02.10*	25	25	32	200	10	2	0.7	2	
	F 4042R.Z25.025.Z03.10*	25	25	32	200	10	3	0.7	3	
	F 4042R.Z32.032.Z03.10*	32	32	40	200	10	3	1.2	3	
	F 4042R.Z32.032.Z04.10*	32	32	40	200	10	4	1.2	4	

Bodies and assembly parts are included in the scope of delivery.
*** constructively balanced to G 6.3 where n = 10000 min^{-1}**

Walter shoulder milling cutters

NEW HSC

F 4042R

positive, κ = 90°

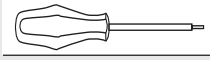
Reinforced

AD . . 10T3

Assembly parts

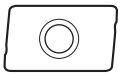
	Clamping screw for insert	FS 1454 (Torx 8 IP)
	Tightening torque	1.2 Nm

Accessories

	Torque screwdriver	FS 2001
	Interchangeable blade	FS 2012 (Torx 8 IP)
	Screwdriver	FS 1483 (Torx 8 IP)

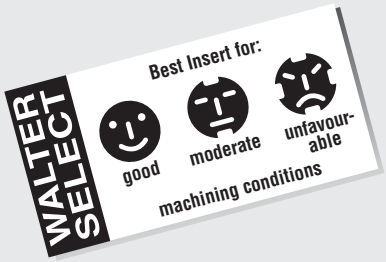
IP = Torx Plus

Indexable inserts



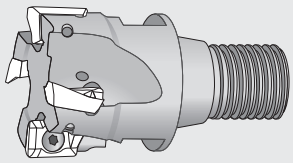
If the corner radius is R = 1.6 mm or above, the body in the corner section must be reworked:
$R_{(body)} = R_{(insert)} - 1$ mm

Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
			HC				HC			HC			HC	HW	HC		HC	HF
			WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
ADMT 10T308R – F 56	0.8	1.2		☺	☹		☺	☹				☹			☺	☹		
ADMT 10T316R – F 56	1.6	1.2		☺	☹		☺	☹				☹			☺	☹		
ADMT 10T325R – F 56	2.5	1.0		☺	☹		☺	☹				☹			☺	☹		
ADMT 10T332R – F 56	3.2	0.8		☺	☹		☺	☹				☹			☺	☹		
ADMT 10T308R – G 56	0.8	1.2		☺	😐		☺	😐				☺			☺	😐		
ADMT 10T316R – G 56	1.6	1.2		☺	😐		☺	😐				☺			☺	😐		
ADMT 10T325R – G 56	2.5	1.0		☺	😐		☺	😐				☺			☺	😐		
ADMT 10T332R – G 56	3.2	0.8		☺	😐		☺	😐				☺			☺	😐		



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Tool	Designation	D_C mm	d_1 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4042.T18.022.Z02.11*	22	18.5	30		11.7	2	0.1	2	AD . . 1204 . .
	F 4042.T22.025.Z02.11*	25	22	35		11.7	2	0.1	2	
	F 4042.T22.025.Z03.11*	25	22	35		11.7	3	0.1	3	
	F 4042.T28.032.Z02.11*	32	28	40		11.7	2	0.2	2	
	F 4042.T28.032.Z03.11*	32	28	40		11.7	3	0.2	3	
	F 4042.T28.032.Z04.11*	32	28	40		11.7	4	0.2	4	
	F 4042.T36.040.Z03.11*	40	36	40		11.7	3	0.4	3	
	F 4042.T36.040.Z04.11*	40	36	40		11.7	4	0.4	4	
	F 4042.T36.040.Z05.11*	40	36	40		11.7	5	0.4	5	
	F 4042.T45.050.Z03.11*	50	45	40		11.7	3	0.5	3	
	F 4042.T45.050.Z04.11*	50	45	40		11.7	4	0.5	4	
	F 4042.T45.050.Z06.11*	50	45	40		11.7	6	0.5	6	
Shank DIN 1835, type B	F 4042.W25.025.Z02.11	25	25	43	100	11.7	2	0.3	2	AD . . 1204 . .
	F 4042.W25.025.Z03.11	25	25	43	100	11.7	3	0.4	3	
	F 4042.W32.032.Z02.11	32	32	49	110	11.7	2	0.6	2	
	F 4042.W32.032.Z03.11	32	32	49	110	11.7	3	0.6	3	
	F 4042.W32.032.Z04.11	32	32	49	110	11.7	4	0.6	4	
	F 4042.W32.040.Z05.11	40	32	49	110	11.7	5	0.7	5	
	F 4042.W40.040.Z03.11	40	40	49	120	11.7	3	1.0	3	
	F 4042.W40.040.Z04.11	40	40	49	120	11.7	4	1.0	4	
Parallel shank without flat	F 4042.Z20.022.Z02.11	22	20	38	200	11.7	2	0.5	2	AD . . 1204 . .
	F 4042.Z25.025.Z02.11	25	25	38	200	11.7	2	0.7	2	
	F 4042.Z25.025.Z03.11	25	25	38	200	11.7	3	0.7	3	
	F 4042.Z32.032.Z02.11	32	32	39	250	11.7	2	1.5	2	
	F 4042.Z32.032.Z03.11	32	32	39	250	11.7	3	1.5	3	
	F 4042.Z32.032.Z04.11	32	32	39	250	11.7	4	1.5	4	
	F 4042.Z32.040.Z05.11	40	32	44	250	11.7	5	1.6	5	
	F 4042.Z40.040.Z03.11	40	40	44	250	11.7	3	2.3	3	
	F 4042.Z40.040.Z04.11	40	40	44	250	11.7	4	2.3	4	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
*** constructively balanced to G 6.3 where n = 10000 min^{-1}**

= New addition to range

Accessories

	Torque screwdriver	FS 2003
	Interchangeable blade	FS 2013 (Torx 9 IP)
	Screwdriver	FS 1484 (Torx 9 IP)

IP = Torx Plus

Walter shoulder milling cutter

positive, κ = 90°

HSC

F 4042

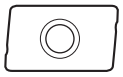
AD . . 1204

Assembly parts

		D_C = 22–25 mm	D_C = 32–50 mm
	Clamping screw for insert	FS 1456 (Torx 9 IP)	FS 1457 (Torx 9 IP)
	Tightening torque	2.0 Nm	2.0 Nm

IP = Torx Plus

Indexable inserts



If the corner radius is R = 2.0 mm or above, the body in the corner section must be reworked: $R_{(body)} = R_{(insert)} - 1$ mm

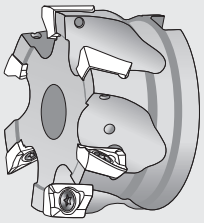
Designation	Radius mm	Face chamfer width mm	P HC				M HC			K HC			N HC	N HW	S HC		H HC	H HF
			WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
ADGT 1204 PER – D 51	0.8	1.2	☺	😐	☹			☹			😐	☹				☹		
ADGT 1204 PER – D 56	0.8	1.2	☺	😐	☹		😐	☹			😐	☹			😐	☹		
ADGT 1204 PER – F 56	0.8	1.2			☹		😐	☹							😐	☹		
ADGT 120404 R – F 56	0.4	1.2			☹		😐	☹							😐	☹		
ADGT 120412 R – F 56	1.2	1.2			☹		😐	☹							😐	☹		
ADGT 120416 R – F 56	1.6	1.0			☹		😐	☹							😐	☹		
ADGT 120420 R – F 56	2.0	1.0			☹		😐	☹							😐	☹		
ADGT 120425 R – F 56	2.5	0.8			☹		😐	☹							😐	☹		
ADGT 120430 R – F 56	3.0	0.8			☹		😐	☹							😐	☹		
ADGT 120432 R – F 56	3.2	0.8			☹		😐	☹							😐	☹		
ADGT 120440 R – F 56	4.0	—			☹		😐	☹							😐	☹		
ADHT 1204 PER – G 88	0.8	1.2											☺	☺				
ADHT 120416 R – G 88	1.6	1.0											☺	☺				
ADHT 120425 R – G 88	2.5	0.8											☺	☺				
ADHT 120430 R – G 88	3.0	0.8											☺	☺				
ADHT 120440 R – G 88	4.0	—											☺	☺				
ADKT 1204 PER – F 56	0.8	1.2	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 120408 R – D 56	0.8	1.2	☺	😐						☺	😐	☹						
ADMT 120404 R – F 56	0.4	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120408 R – F 56	0.8	1.2	☺	😐	☹	☹	😐	☹	😐	☺	😐	☹			😐	☹		
ADMT 120412 R – F 56	1.2	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120416 R – F 56	1.6	1.0		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120420 R – F 56	2.0	1.0		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120425 R – F 56	2.5	0.8		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120430 R – F 56	3.0	0.8		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120432 R – F 56	3.2	0.8		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120440 R – F 56	4.0	—		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120408 R – G 56	0.8	1.2		☺	😐	😐	☺	😐	☺			☺			☺	😐		



Tiger·tec®



→ 163 → 226

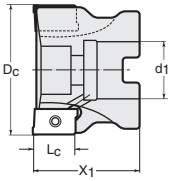


Xtra·tec®



Tool

Cyl. coolant bore
DIN 138 transverse drive

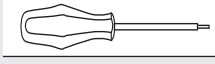


Designation	D_C mm	d_1 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
F 4042.B.040.Z03.11*	40	16	40		11.7	3	0.2	3	AD . . 1204 . .
F 4042.B16.040.Z04.11	40	16	40		11.7	4	0.2	4	
F 4042.B.040.Z05.11	40	16	40		11.7	5	0.2	5	
F 4042.B22.050.Z03.11	50	22	40		11.7	3	0.3	3	
F 4042.B.050.Z04.11*	50	22	40		11.7	4	0.3	4	
F 4042.B.050.Z06.11	50	22	40		11.7	6	0.3	6	
F 4042.B22.063.Z04.11	63	22	40		11.7	4	0.6	4	
F 4042.B.063.Z05.11*	63	22	40		11.7	5	0.6	5	
F 4042.B.063.Z07.11	63	22	40		11.7	7	0.6	7	
F 4042.B27.063.Z04.11	63	27	50		11.7	4	0.7	4	
F 4042.B27.063.Z05.11*	63	27	50		11.7	5	0.7	5	
F 4042.B27.063.Z07.11	63	27	50		11.7	7	0.7	7	
F 4042.B27.080.Z05.11	80	27	50		11.7	5	1.1	5	
F 4042.B.080.Z06.11*	80	27	50		11.7	6	1.1	6	
F 4042.B.080.Z08.11	80	27	50		11.7	8	1.1	8	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
*** constructively balanced to G 6.3 where n = 10000 min^{-1}**

= New addition to range

Accessories

	Torque screwdriver	FS 2003
	Interchangeable blade	FS 2013 (Torx 9 IP)
	Screwdriver	FS 1484 (Torx 9 IP)

IP = Torx Plus

Walter shoulder milling cutter

positive, κ = 90°

HSC

F 4042

AD . . 1204

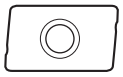
Assembly parts



Clamping screw for insert	FS 1457 (Torx 9 IP)
Tightening torque	2.0 Nm

IP = Torx Plus

Indexable inserts



Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
			HC				HC			HC			HC	HW	HC		HC	HF
			WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
ADGT 1204 PER – D 51	0.8	1.2	☺	😐	☹			☹			😐	☹				☹		
ADGT 1204 PER – D 56	0.8	1.2	☺	😐	☹		😐	☹			😐	☹			😐	☹		
ADGT 1204 PER – F 56	0.8	1.2			☹		😐	☹							😐	☹		
ADGT 120404 R – F 56	0.4	1.2			☹		😐	☹							😐	☹		
ADGT 120412 R – F 56	1.2	1.2			☹		😐	☹							😐	☹		
ADGT 120416 R – F 56	1.6	1.0			☹		😐	☹							😐	☹		
ADGT 120420 R – F 56	2.0	1.0			☹		😐	☹							😐	☹		
ADGT 120425 R – F 56	2.5	0.8			☹		😐	☹							😐	☹		
ADGT 120430 R – F 56	3.0	0.8			☹		😐	☹							😐	☹		
ADGT 120432 R – F 56	3.2	0.8			☹		😐	☹							😐	☹		
ADGT 120440 R – F 56	4.0	—			☹		😐	☹							😐	☹		
ADHT 1204 PER – G 88	0.8	1.2											☺	☺				
ADHT 120416 R – G 88	1.6	1.0											☺	☺				
ADHT 120425 R – G 88	2.5	0.8											☺	☺				
ADHT 120430 R – G 88	3.0	0.8											☺	☺				
ADHT 120440 R – G 88	4.0	—											☺	☺				
ADKT 1204 PER – F 56	0.8	1.2	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 120408 R – D 56	0.8	1.2	☺	😐						☺	😐	☹						
ADMT 120404 R – F 56	0.4	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120408 R – F 56	0.8	1.2	☺	😐	☹	☹	😐	☹	😐	☺	😐	☹			😐	☹		
ADMT 120412 R – F 56	1.2	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120416 R – F 56	1.6	1.0		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120420 R – F 56	2.0	1.0		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120425 R – F 56	2.5	0.8		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120430 R – F 56	3.0	0.8		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120432 R – F 56	3.2	0.8		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120440 R – F 56	4.0	—		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 120408 R – G 56	0.8	1.2		☺	😐	😐	☺	😐	☺			☺			☺	😐		

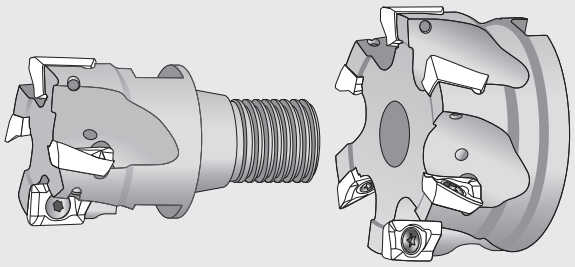
If the corner radius is R = 2.0 mm or above, the body in the corner section must be reworked: $R_{(body)} = R_{(insert)} - 1$ mm



Tiger·tec®



→ 163 → 226



Xtra·tec®



Tool	Designation	D_C mm	d_1/ISO mm	X_1 mm		L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4042.T36.040.Z03.15*	40	36	40		15	3	0.35	3	AD . . 1606 . .
	F 4042.T36.040.Z04.15*	40	36	40		15	4	0.35	4	
	F 4042.T45.050.Z03.15*	50	45	40		15	3	0.5	3	
	F 4042.T45.050.Z05.15*	50	45	40		15	5	0.5	5	
Cyl. coolant bore DIN 138 transverse drive	F 4042.B.040.Z03.15*	40	16	40		15	3	0.2	3	
	F 4042.B.040.Z04.15	40	16	40		15	4	0.2	4	
	F 4042.B.050.Z03.15*	50	22	40		15	3	0.3	3	
	F 4042.B.050.Z05.15	50	22	40		15	5	0.3	5	
	F 4042.B.063.Z04.15*	63	22	40		15	4	0.6	4	
	F 4042.B.063.Z06.15	63	22	40		15	6	0.6	6	
	F 4042.B27.063.Z04.15*	63	27	50		15	4	0.7	4	AD . . 1606 . .
	F 4042.B27.063.Z06.15	63	27	50		15	6	0.7	6	
	F 4042.B27.080.Z04.15	80	27	50		15	4	1.1	4	
	F 4042.B.080.Z05.15*	80	27	50		15	5	1.0	5	
	F 4042.B.080.Z07.15	80	27	50		15	7	1.1	7	
	F 4042.B32.100.Z04.15	100	32	50		15	4	1.7	4	
	F 4042.B.100.Z05.15*	100	32	50		15	5	1.6	5	
	F 4042.B.100.Z08.15	100	32	50		15	8	1.7	8	
	F 4042.B40.125.Z05.15	125	40	63		15	5	3.3	5	
	F 4042.B.125.Z07.15*	125	40	63		15	7	3.2	7	
	F 4042.B.125.Z10.15	125	40	63		15	10	3.4	10	
	F 4042.B40.160.Z06.15	160	40/40 B	63		15	6	4.2	6	AD . . 1606 . .
	F 4042.B.160.Z08.15*	160	40/40 B	63		15	8	4.0	8	
	F 4042.B.160.Z12.15	160	40/40 B	63		15	12	4.3	12	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
*** constructively balanced to G 6.3 where n = 10000 min^{-1}**

= New addition to range

Accessories

Torque screwdriver	FS 2003	
Interchangeable blade	FS 2014 (Torx 15 IP)	*IP = Torx Plus*
Screwdriver	FS 1485 (Torx 15 IP)	*IP = Torx Plus*
Sealing disc set (incl. gasket and screws)	FS 936 (only for D_C = 160 mm)	
Gasket	O–R 96 x 4	

Walter shoulder milling cutter

positive, κ = 90°

HSC

F 4042

AD . . 1606

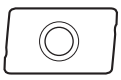
Assembly parts



Clamping screw for insert	FS 1453 (Torx 15 IP)
Tightening torque	3.5 Nm

IP = Torx Plus

Indexable inserts



Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
			HC				HC			HC			HC	HW	HC		HC	HF
			WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
ADGT 1606 PER – D 51	0.8	1.6	☺	😐	☹			☹			😐	☹				☹		
ADGT 1606 PER – D 56	0.8	1.6	☺	😐	☹		😐	☹			😐	☹			😐	☹		
ADGT 1606 PER – F 56	0.8	1.6			☹		😐	☹							😐	☹		
ADGT 160612 R – F 56	1.2	1.6			☹		😐	☹							😐	☹		
ADGT 160616 R – F 56	1.6	1.4			☹		😐	☹							😐	☹		
ADGT 160620 R – F 56	2.0	1.4			☹		😐	☹							😐	☹		
ADGT 160625 R – F 56	2.5	1.2			☹		😐	☹							😐	☹		
ADGT 160630 R – F 56	3.0	1.2			☹		😐	☹							😐	☹		
ADGT 160632 R – F 56	3.2	1.2			☹		😐	☹							😐	☹		
ADGT 160640 R – F 56	4.0	1.0			☹		😐	☹							😐	☹		
ADGT 160650 R – F 56	5.0	—			☹		😐	☹							😐	☹		
ADGT 160660 R – F 56	6.0	—			☹		😐	☹							😐	☹		
ADHT 1606 PER – G 88	0.8	1.6											☺	☺				
ADHT 160616 R – G 88	1.6	1.4											☺	☺				
ADHT 160625 R – G 88	2.5	1.2											☺	☺				
ADHT 160630 R – G 88	3.0	1.2											☺	☺				
ADHT 160640 R – G 88	4.0	1.0											☺	☺				
ADKT 1606 PER – F 56	0.8	1.6	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 160608 R – D 56	0.8	1.6	☺	😐						☺	😐	☹						
ADMT 160608 R – F 56	0.8	1.6	☺	😐	☹	☹	😐	☹	😐	☺	😐	☹			😐	☹		
ADMT 160612 R – F 56	1.2	1.6		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160616 R – F 56	1.6	1.4		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160620 R – F 56	2.0	1.4		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160625 R – F 56	2.5	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160630 R – F 56	3.0	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160632 R – F 56	3.2	1.2		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160640 R – F 56	4.0	1.0		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160650 R – F 56	5.0	—		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160660 R – F 56	6.0	—		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 160608 R – G 56	0.8	1.6		☺	😐	😐	☺	😐	☺			☺			☺	😐		

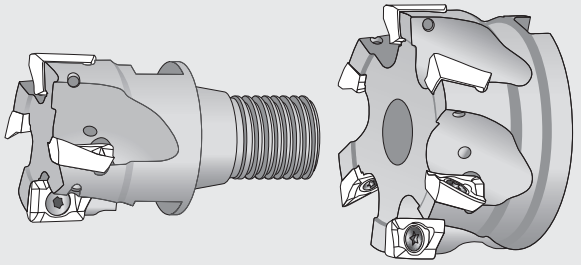
If the corner radius is R = 2.0 mm or above, the body in the corner section must be reworked: $R_{(body)} = R_{(insert)} - 1$ mm



Tiger·tec®

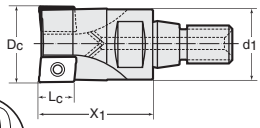
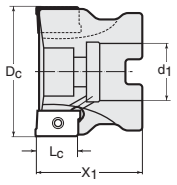
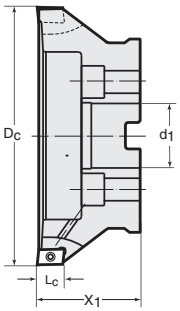


→ 163 → 226



Xtra·tec®



Tool	Designation	D_C mm	d_1/ISO mm	X_1 mm		L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4042.T45.050.Z03.16	50	45	40		16.7	3	0.5	3	AD . . 1807 . .
	F 4042.T45.050.Z04.16*	50	45	40		16.7	4	0.4	4	
										
Cyl. coolant bore DIN 138 transverse drive	F 4042.B27.063.Z04.16	63	27	50		16.7	4	0.7	4	AD . . 1807 . .
	F 4042.B27.063.Z05.16*	63	27	50		16.7	5	0.5	5	
	F 4042.B27.080.Z05.16	80	27	50		16.7	5	1.1	5	
	F 4042.B27.080.Z06.16*	80	27	50		16.7	6	0.9	6	
	F 4042.B32.100.Z06.16	100	32	50		16.7	6	1.8	6	
	F 4042.B32.100.Z07.16*	100	32	50		16.7	7	1.6	7	
	F 4042.B40.125.Z06.16	125	40	63		16.7	6	3.5	6	
	F 4042.B40.125.Z08.16*	125	40	63		16.7	8	3.2	8	
	F 4042.B40.160.Z08.16	160	40/40 B	63		16.7	8	4.3	8	AD . . 1807 . .
	F 4042.B40.160.Z10.16*	160	40/40 B	63		16.7	10	4.0	10	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.
*** constructively balanced to G 6.3 where n = 10000 min^{-1}**

= New addition to range

Walter shoulder milling cutter

positive, κ = 90°

HSC

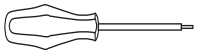
F 4042

AD . . 1807

Assembly parts

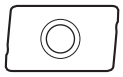
	Clamping screw for insert	FS 1495 (Torx 20 IP)
	Tightening torque	5.0 Nm

Accessories

	Torque screwdriver	FS 2003
	Interchangeable blade	FS 2015 (Torx 20 IP)
	Screwdriver	FS 1486 (Torx 20 IP)
	Sealing disc set (incl. gasket and screws)	FS 936 (only for D_C = 160 mm)
	Gasket	O–R 96 x 4

IP = Torx Plus

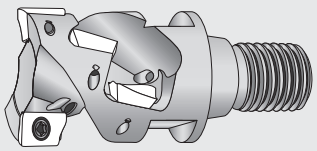
Indexable inserts

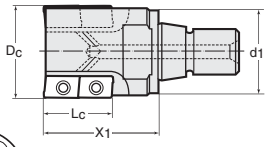
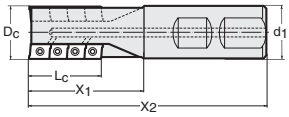
	Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
				HC				HC			HC			HC	HW	HC		HC	HF
				WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	ADMT 180712 R – D 56	1.2	1.8	☺	😐	☹			☹			😐	☹				☹		
	ADMT 180712 R – F 56	1.2	1.8	☺	😐	☹			☹			😐	☹				☹		





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Tool	Designation	D_C mm	d_1 mm	X_1 mm	X_2 mm	L_C mm	Z	kg	No. of inserts	Type
NCT ScrewFit	F 4038.T18.020.Z01.15	20	18.5	30		15	1	0.1	3	AD . . 0803 . .
	F 4038.T22.025.Z02.22	25	22	40		22	2	0.1	6	
	F 4038.T28.032.Z03.30	32	28	50		30	3	0.2	12	
Shank DIN 1835, type B	F 4038.W20.020.Z01.30	20	20	45	96	30	1	0.2	5	AD . . 0803 . .
	F 4038.W25.025.Z02.30	25	25	43	100	30	2	0.3	8	
	F 4038.W32.032.Z03.30	32	32	43	105	30	3	0.6	12	
	F 4038.W32.032.Z03.37	32	32	50	111	37	3	0.6	15	

Bodies and assembly parts are included in the scope of delivery.
For open-ended spanners for screw heads, see general catalogue, page 783.

= **New addition to range**

Walter Porcupine milling cutters

positive, κ = 90°

HSC

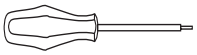
F 4038

AD . . 0803

Assembly parts

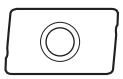
		D_C = 20 mm	D_C = 25+32 mm
	Clamping screw for insert	FS 1455 (Torx 8 IP)	FS 1454 (Torx 8 IP)
	Tightening torque	1.2 Nm	1.2 Nm

Accessories

	Torque screwdriver	FS 2001
	Interchangeable blade	FS 2012 (Torx 8 IP)
	Screwdriver	FS 1483 (Torx 8 IP)

IP = Torx Plus

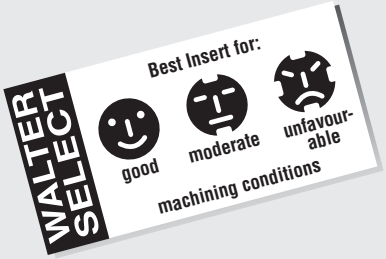
Indexable inserts



These indexable inserts can only be used as front inserts.

If the corner radius is R = 1.6 mm or above, the body in the corner section must be reworked: $R_{(body)} = R_{(insert)} - 1$ mm

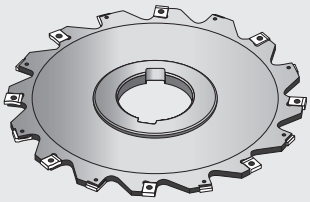
Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	H HF WMG 40
ADGT 0803 PER – D 51	0.4	1.2	☺	😐	☹			☹			😐	☹				☹		
ADGT 0803 PER – D 56	0.4	1.2	☺	😐			😐	☹			😐	☹			😐	☹		
ADGT 0803 PER – F 56	0.4	1.2			☹		😐	☹							😐	☹		
ADHT 0803 PER – G 88	0.4	1.2											☺	☺				
ADKT 0803 PER – F 56	0.4	1.2	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 080304 R – D 56	0.4	1.2	☺	😐	☹			☹		☺	😐	☹				☹		
ADMT 080304 R – F 56	0.4	1.2	☺	😐	☹	☹	😐	☹	😐	☺	😐	☹			😐	☹		
ADMT 080304 R – G 56	0.4	1.2		☺	☹	😐	☺	😐	☺			☹			☺	😐		
ADGT 080308 R – F 56	1.2	1.0			☹		😐	☹							😐	☹		
ADGT 080312 R – F 56	1.2	1.0			☹		😐	☹							😐	☹		
ADGT 080316 R – F 56	1.6	1.0			☹		😐	☹							😐	☹		
ADGT 080320 R – F 56	2.0	1.0			☹		😐	☹							😐	☹		
ADMT 080308 R – F 56	1.2	1.0		😐	☹	☹	😐	☹				☹			😐	☹		
ADMT 080312 R – F 56	1.2	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080316 R – F 56	1.6	1.0		😐	☹		😐	☹				☹			😐	☹		
ADMT 080320 R – F 56	2.0	1.0		😐	☹		😐	☹				☹			😐	☹		



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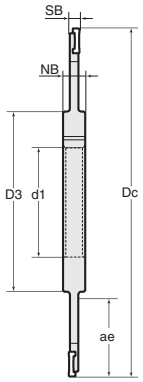


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Xtra·tec®

Tool	Designation	D_C mm	d_1 mm	D_3 mm	Z	SB mm	NB mm	a_e max	kg	No. of inserts	Type
cyl. bore longitudinal keyway DIN 138	F 4053.B27.080.Z04.04	80	27	42	2 x 4	4	8	18	0.1	8	LN . . 0702 . .
	F 4053.B32.100.Z05.04	100	32	50	2 x 5	4	8	24	0.2	10	
	F 4053.B40.125.Z06.04	125	40	65	2 x 6	4	8	29	0.3	12	
	F 4053.B40.160.Z08.04	160	40	65	2 x 8	4	8	46	0.5	16	



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

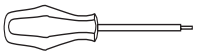
Walter side and face milling cutters F 4053

negative, $\kappa = 90°$
cross-toothed – three-sided cutting

Assembly parts

	Clamping screw for insert	FS 2076 (Torx 6 IP)
	Tightening torque	0.6 Nm

Accessories

	Torque screwdriver	FS 2001
	Interchangeable blade	FS 2085 (Torx 6 IP)
	Screwdriver	FS 2086 (Torx 6 IP)

IP = Torx Plus

Indexable inserts

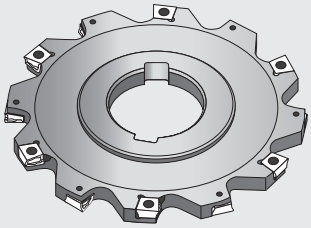
	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	H HF WMG 40
	LNHX 070204 – D 57T	0.4		☺	😐						☺	😐	😐						
	LNHX 070204 – F 57T	0.4		☺	😐	😐		😐	😐			☺	😐			😐	😐		

= **New addition to range**



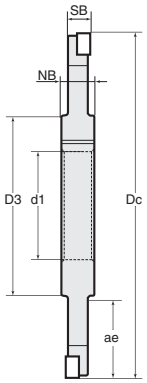


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Xtra·tec®

Tool	Designation	D_C mm	d_1 mm	D_3 mm	Z	SB mm	NB mm	a_e max	kg	No. of inserts	Type
cyl. bore longitudinal keyway DIN 138	F 4153.B27.080.Z04.06	80	27	42	2 x 4	6	12	18	0.2	8	
	F 4153.B32.100.Z05.06	100	32	50	2 x 5	6	12	24	0.3	10	
	F 4153.B40.125.Z06.06	125	40	65	2 x 6	6	12	29	0.5	12	LN . . 0803 . .
	F 4153.B40.160.Z08.06	160	40	65	2 x 8	6	12	46	0.8	16	
	F 4153.B50.200.Z09.06	200	50	75	2 x 9	6	12	61	1.2	18	
	F 4153.B27.080.Z04.08	80	27	42	2 x 4	8	12	18	0.2	8	
	F 4153.B32.100.Z05.08	100	32	50	2 x 5	8	12	24	0.4	10	
	F 4153.B40.125.Z06.08	125	40	65	2 x 6	8	12	29	0.6	12	LN . . 0804 . .
	F 4153.B40.160.Z08.08	160	40	65	2 x 8	8	12	46	1.0	16	
	F 4153.B50.200.Z09.08	200	50	75	2 x 9	8	12	61	1.5	18	
	F 4153.B27.080.Z04.10	80	27	42	2 x 4	10	12	18	0.2	8	
	F 4153.B32.100.Z05.10	100	32	50	2 x 5	10	12	24	0.4	10	
	F 4153.B40.125.Z06.10	125	40	65	2 x 6	10	12	29	0.6	12	LN . . 1005 . .
	F 4153.B40.160.Z07.10	160	40	65	2 x 7	10	12	46	1.1	14	
	F 4153.B50.200.Z08.10	200	50	75	2 x 8	10	12	61	1.6	16	



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

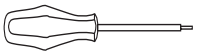
Walter side and face milling cutters F 4153

negative, $\kappa = 90°$
cross-toothed – three-sided cutting

Assembly parts

		SB = 6 mm	SB = 8 mm	SB = 10 mm
	Clamping screw for insert	FS 2077 (Torx 9 IP)	FS 2078 (Torx 9 IP)	FS 2080 (Torx 15 IP)
	Tightening torque	1.5 Nm	1.5 Nm	2.5 Nm

Accessories

		SB = 6 mm	SB = 8 mm	SB = 10 mm
	Torque screwdriver	FS 2003	FS 2003	FS 2003
	Interchangeable blade	FS 2013 (Torx 9 IP)	FS 2013 (Torx 9 IP)	FS 2014 (Torx 15 IP)
	Screwdriver	FS 1484 (Torx 9 IP)	FS 1484 (Torx 9 IP)	FS 1485 (Torx 15 IP)

IP = Torx Plus

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
				HC				HC			HC			HC	HW	HC		HC	HF
				WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
	LNHU 080304 – B 57T	0.4		☺	☹						☺	☺	☹						
	LNHU 080304 – F 57T	0.4		☺	☺	☹		☺	☹			☺	☺			☺	☹		
	LNHU 080404 – B 57T	0.4		☺	☹						☺	☺	☹						
	LNHU 080404 – F 57T	0.4		☺	☺	☹		☺	☹			☺	☺			☺	☹		
	LNHU 100508 – B 57T	0.8		☺	☹						☺	☺	☹						
	LNHU 100508 – F 57T	0.8		☺	☺	☹		☺	☹			☺	☺			☺	☹		

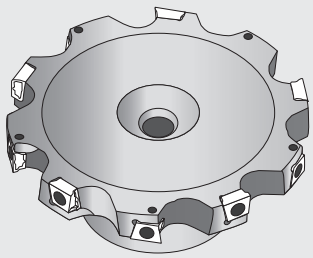
= New addition to range



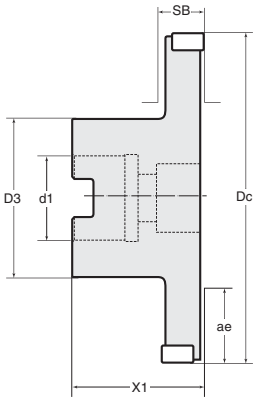
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Xtra·tec®

Tool	Designation	D_C mm	d_1/ISO mm	D_3 mm	Z	SB mm	X_1 mm	a_e max	kg	No. of inserts	Type
cyl. bore DIN 138 transverse drive 	F 4253.BN27.100.Z05.12R	100	27	48	2 x 5	12	50	24	0.9	10	LN . . 0804 . .
	F 4253.BN32.125.Z06.12R	125	32	60	2 x 6	12	50	30	1.5	12	
	F 4253.BN40.160.Z07.12R	160	40	75	2 x 7	12	50	40	2.2	14	
	F 4253.BN40.200.Z08.12R	200	40/40 B	90	2 x 8	12	50	50	3.7	16	
	F 4253.BN27.100.Z05.14R	100	27	48	2 x 5	14	50	24	1.1	10	LN . . 0804 . .
	F 4253.BN32.125.Z06.14R	125	32	60	2 x 6	14	50	30	1.6	12	
	F 4253.BN40.160.Z07.14R	160	40	75	2 x 7	14	50	40	2.4	14	
	F 4253.BN40.200.Z08.14R	200	40/40 B	90	2 x 8	14	50	50	3.7	16	
	F 4253.BN32.125.Z05.16R	125	32	60	2 x 5	16	50	30	1.8	10	LN . . 1005 . .
	F 4253.BN40.160.Z06.16R	160	40	75	2 x 6	16	50	40	2.6	12	
	F 4253.BN40.200.Z07.16R	200	40/40 B	90	2 x 7	16	50	50	3.8	14	
	F 4253.BN40.160.Z06.20R	160	40	75	2 x 6	20	50	40	2.9	12	LN . . 1206 . .
	F 4253.BN40.200.Z07.20R	200	40/40 B	90	2 x 7	20	50	50	4.4	14	
	F 4253.BN60.250.Z08.20R	250	60/50 B	135	2 x 8	20	50	55	7.6	16	

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

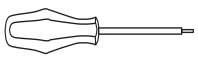
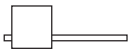
Walter side and face milling cutters F 4253.BN

negative, $\kappa = 90°$
cross-toothed – three-sided cutting

Assembly parts

		SB = 12 mm	SB = 14 mm	SB = 16 mm	SB = 20 mm
	Clamping screw for insert	FS 2079 (Torx 9 IP)	FS 2079 (Torx 9 IP)	FS 1453 (Torx 15 IP)	FS 2081 (Torx 15 IP)
	Tightening torque	2.0 Nm	2.0 Nm	3.0 Nm	3.0 Nm
	Adjusting screw for axial runout	FS 2082 (Torx 6 IP)	FS 2082 (Torx 6 IP)	FS 2083 (Torx 7 IP)	FS 2083 (Torx 7 IP)

Accessories

		SB = 12 mm	SB = 14 mm	SB = 16 mm	SB = 20 mm
	Torque screwdriver	FS 2003	FS 2003	FS 2003	FS 2003
	Interchangeable blade	FS 2013 (Torx 9 IP)	FS 2013 (Torx 9 IP)	FS 2014 (Torx 15 IP)	FS 2014 (Torx 15 IP)
	Screwdriver for clamping screw	FS 1484 (Torx 9 IP)	FS 1484 (Torx 9 IP)	FS 1485 (Torx 15 IP)	FS 1485 (Torx 15 IP)
	Wrench for adjusting screw	FS 2087 (Torx 6 IP)	FS 2087 (Torx 6 IP)	FS 1490 (Torx 7 IP)	FS 1490 (Torx 7 IP)

IP = Torx Plus

Indexable inserts



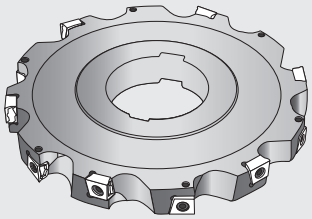
Designation	Radius mm	Face chamfer width mm	P				M			K			N		S		H	
			HC				HC			HC			HC	HW	HC		HC	HF
			WKP 25	WKP 35	WSP 45	WXP 45	WSM 35	WSP 45	WXM 35	WAK 15	WKP 25	WKP 35	WXN 15	WK 10	WSM 35	WSP 45	WXH 15	WMG 40
LNHU 080404 – B 57T	0.4		●	●						●	●	●						
LNHU 080404 – F 57T	0.4		●	●	●		●	●			●	●			●	●		
LNHU 100508 – B 57T	0.8		●	●						●	●	●						
LNHU 100508 – F 57T	0.8		●	●	●		●	●			●	●			●	●		
LNHU 120608 – B 57T	0.8		●	●						●	●	●						
LNHU 120608 – F 57T	0.8		●	●	●		●	●			●	●			●	●		

= New addition to range





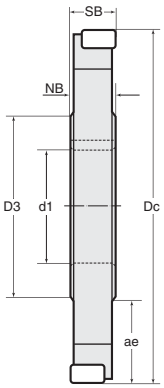
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Xtra·tec®

Tool

cyl. bore
DIN 138 transverse drive



Designation	D_C mm	d_1 mm	D_3 mm	Z	SB mm	NB mm	kg	No. of inserts	Type
F 4253.B32.100.Z05.12	100	32	50	2 x 5	12	12	0.5	10	LN . . 0804 . .
F 4253.B40.125.Z06.12	125	40	65	2 x 6	12	12	0.8	12	
F 4253.B40.160.Z07.12	160	40	65	2 x 7	12	12	1.3	14	
F 4253.B50.200.Z08.12	200	50	75	2 x 8	12	12	2.2	16	
F 4253.B32.100.Z05.14	100	32	50	2 x 5	14	14	0.6	10	LN . . 0804 . .
F 4253.B40.125.Z06.14	125	40	65	2 x 6	14	14	0.9	12	
F 4253.B40.160.Z07.14	160	40	65	2 x 7	14	14	1.6	14	
F 4253.B50.200.Z08.14	200	50	75	2 x 8	14	14	2.6	16	
F 4253.B40.125.Z05.16	125	40	65	2 x 5	16	16	1.0	10	LN . . 1005 . .
F 4253.B40.160.Z06.16	160	40	65	2 x 6	16	16	1.8	12	
F 4253.B50.200.Z07.16	200	50	75	2 x 7	16	16	2.8	14	
F 4253.B40.160.Z06.20	160	40	65	2 x 6	20	20	2.2	12	LN . . 1206 . .
F 4253.B50.200.Z07.20	200	50	75	2 x 7	20	20	3.5	14	
F 4253.B60.250.Z08.20	250	60	90	2 x 8	20	20	5.6	16	

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

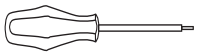
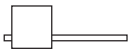
Walter side and face milling cutters NEW F 4253.B

negative, κ = 90°
cross-toothed – three-sided cutting

Assembly parts

		SB = 12 mm	SB = 14 mm	SB = 16 mm	SB = 20 mm
	Clamping screw for insert	FS 2079 (Torx 9 IP)	FS 2079 (Torx 9 IP)	FS 1453 (Torx 15 IP)	FS 2081 (Torx 15 IP)
	Tightening torque	2.0 Nm	2.0 Nm	3.0 Nm	3.0 Nm
	Adjusting screw for axial runout	FS 2082 (Torx 6 IP)	FS 2082 (Torx 6 IP)	FS 2083 (Torx 7 IP)	FS 2083 (Torx 7 IP)

Accessories

		SB = 12 mm	SB = 14 mm	SB = 16 mm	SB = 20 mm
	Torque screwdriver	FS 2003	FS 2003	FS 2003	FS 2003
	Interchangeable blade	FS 2013 (Torx 9 IP)	FS 2013 (Torx 9 IP)	FS 2014 (Torx 15 IP)	FS 2014 (Torx 15 IP)
	Screwdriver for clamping screw	FS 1484 (Torx 9 IP)	FS 1484 (Torx 9 IP)	FS 1485 (Torx 15 IP)	FS 1485 (Torx 15 IP)
	Key for adjusting screw	FS 2087 (Torx 6 IP)	FS 2087 (Torx 6 IP)	FS 1490 (Torx 7 IP)	FS 1490 (Torx 7 IP)

IP = Torx Plus

Indexable inserts

	Designation	Radius mm	Face chamfer width mm	P HC WKP 25	P HC WKP 35	P HC WSP 45	P HC WXP 45	M HC WSM 35	M HC WSP 45	M HC WXM 35	K HC WAK 15	K HC WKP 25	K HC WKP 35	N HC WXN 15	N HW WK 10	S HC WSM 35	S HC WSP 45	H HC WXH 15	H HF WMG 40
	LNHU 080404 – B 57T	0.4		☺	😐	☹					☺	😐	☹						
	LNHU 080404 – F 57T	0.4		☺	😐	☹		😐	☹			☺	😐			😐	☹		
	LNHU 100508 – B 57T	0.8		☺	😐	☹					☺	😐	☹						
	LNHU 100508 – F 57T	0.8		☺	😐	☹		😐	☹			☺	😐			😐	☹		
	LNHU 120608 – B 57T	0.8		☺	😐	☹					☺	😐	☹						
	LNHU 120608 – F 57T	0.8		☺	😐	☹		😐	☹			☺	😐			😐	☹		

= **New addition to range**





→ 174 → 228

Cutting data for roughing
Surface and shoulder milling cutters

Tiger·tec®

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_c [m/min] HC = Coated grades: WKP 25 a_e/D_c* 1/1	WKP 25 1/2	WKP 25 1/5	WKP 35 1/1	WKP 35 1/2	WKP 35 1/5	WSM 35 1/1	WSM 35 1/2	WSM 35 1/5	WSP 45 1/1	WSP 45 1/2	WSP 45 1/5
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	290	370		250	300					230	290	
		Approx. 0.45% C annealed		190	2	260	330		220	260					190	250	
		Approx. 0.45% C tempered		250	3	240	300		195	220					155	200	
		Approx. 0.75% C annealed		270	4	230	300		180	200					145	170	
		Approx. 0.75% C tempered		300	5	220	260		160	180					130	145	
	Low-alloy steel[1]	annealed		180	6	260	320		220	270					190	240	
		tempered		275	7	220	270		180	210					145	170	
		tempered		300	8	210	250		170	190					130	145	
		tempered		350	9	170	190		130	150					100	110	
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	140	170		130	160					115	140	
		hardened and tempered		325	11	110	130		80	90					75	90	
	Stainless steel[1]	annealed ferritic/martensitic		200	12				140	160		120	150		115	140	
		martensitic. quenched and tempered		240	13				100	120		95	120		90	110	
M	Stainless steel[1]	austenitic[2], quench hardened		180	14							130	155		110	130	
K	Grey cast iron	pearlitic/ferritic		180	15	320	350		300	330							
		pearlitic (martensitic)		260	16	180	210		170	200							
	Cast iron with spheroidal graphite	ferritic		160	17	220	240		200	220							
		pearlitic		250	18	150	180		140	160							
	Malleable cast iron	ferritic		130	19	250	280		210	240							
		pearlitic		230	20	170	200		150	180							
N	Aluminium wrought alloys	cannot be hardened		60	21												
		precipitation hardenable, precipitation hardened		100	22												
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23												
		≤ 12% Si, precipitation hardenable, hardened		90	24												
		> 12% Si, not precipitation hardenable		130	25												
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26												
		Brass, red brass		90	27												
		Bronze, lead-free copper and electrolytic copper		100	28												
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29												
		Hard rubber			30												
S	Heat-resistant alloys	Fe based	annealed	200	31							80	90		65	70	
			hardened	280	32							60	65		45	50	
		Ni or Co based	annealed	250	33					65		60	70		50	55	
			hardened	350	34					35		40	45		30	35	
			cast	320	35					45		50	55		40	45	
	Titanium alloys	Pure titanium		400[3]	36							80	100		65	80	
		Alpha + Beta alloys, hardened		1050[3]	37							50	55		40	45	
H	Hardened steel	hardened and tempered		55[4]	38												
		hardened and tempered		60[4]	39												
	Chilled cast iron	cast		400	40												
	Hardened cast iron	hardened and tempered		55[4]	41												

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Roughing with surface/shoulder milling cutters

Starting figure for cutting speed v_C [m/min]																						
HC = Coated grades											HF		HW = uncoated grades						CN = Si_3N_4		DP	
WAK 15		WTP 35		WXP 45		WXM 35		WXN 15		WMG 40		WK 10		WKM		WPM		WSN 10		WCD 10	
a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*	
1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/1	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5
		170	220	190	240	210	240									110	140				
		145	190	160	210	190	220									100	130				
		120	150	130	165	160	180									90	105				
		110	130	120	140	140	160									80	90				
		100	110	110	120	120	140									70	80				
		145	185	160	200	190	230									90	120				
		110	130	120	140	140	170									80	100				
		100	110	110	120	120	140									70	80				
		70	80	80	90	100	110									60	75				
		85	105	95	115	100	120									70	80				
		50	60	55	70	70	80									50	55				
		120	140	130	155	110	130														
		80	100	90	110	80	100														
		130	150			120	140														
380	410	100	130											80	90			1100	1210		
220	250	80	90											70	70			660	730		
260	280	100	135											70	70			660	730		
180	210	80	110											60	60			400	440		
300	330	130	165											80	80			830	910		
200	220	100	130											70	70			500	550		
		700	825					2640	2640	1500	1500	2200	2200	2000	2000					3000	4000
		450	560					1980	1980	1000	1000	1650	1650	1500	1500					2000	2000
		550	650					660	730			550	605	500	550					1500	1500
		400	400					530	530			440	440	400	400					1000	1000
		250	295					265	310			220	260	200	235					500	500
		400	400					460	460			385	385	350	350						
		250	295					265	310			220	260	200	235						
								200	220			165	180	150	165						
						80	90			75	80										
						60	65			45	50										
			50		50	60	70			55	60										
			50		50	40	45			25	30										
			35		35	50	55			35	40										
						80	100			70	80			80	90						
		45	50			50	55			45	50										
															30						

*a_e/D_c = 1/10, v_C = 10 % higher than 1/5

Cutting data for roughing
Slot milling with Porcupine cutters

Tiger·tec®

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_c [m/min] HC = Coated grades: WKP 25 a_e/D_c* 1/1	WKP 25 1/2	WKP 25 1/5	WKP 35 1/1	WKP 35 1/2	WKP 35 1/5	WSM 35 1/1	WSM 35 1/2	WSM 35 1/5	WSP 45 1/1	WSP 45 1/2	WSP 45 1/5
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1	210	275		195	250					185	230	
		Approx. 0.45% C	annealed	190	2	200	255		170	215					150	200	
		Approx. 0.45% C	tempered	250	3	175	220		150	185					125	160	
		Approx. 0.75% C	annealed	270	4	165	210		140	170					115	135	
		Approx. 0.75% C	tempered	300	5	165	200		130	145					105	115	
	Low-alloy steel[1]		annealed	180	6	200	255		170	215					150	190	
			tempered	275	7	165	210		135	155					115	135	
			tempered	300	8	155	200		130	145					105	115	
			tempered	350	9	130	145		90	105					80	90	
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10	110	130		100	120					90	110	
			hardened and tempered	325	11	75	90		60	70					60	70	
	Stainless steel[1]		annealed ferritic/martensitic	200	12				105	120		95	120		90	110	
			martensitic. quenched and tempered	240	13				70	95		75	95		70	90	
M	Stainless steel[1]		austenitic[2], quench hardened	180	14							105	125		90	105	
K	Grey cast iron		pearlitic/ferritic	180	15	180	230		160	180							
			pearlitic (martensitic)	260	16	130	150		120	140							
	Cast iron with spheroidal graphite		ferritic	160	17	150	160		140	150							
			pearlitic	250	18	125	130		110	120							
	Malleable cast iron		ferritic	130	19	170	190		150	170							
			pearlitic	230	20	140	150		130	140							
N	Aluminium wrought alloys		cannot be hardened	60	21												
			precipitation hardenable, precipitation hardened	100	22												
	Cast aluminium alloys		≤ 12% Si, not precipitation hardenable	75	23												
			≤ 12% Si, precipitation hardenable, hardened	90	24												
			> 12% Si, not precipitation hardenable	130	25												
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26												
			Brass, red brass	90	27												
			Bronze, lead-free copper and electrolytic copper	100	28												
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29												
			Hard rubber		30												
S	Heat-resistant alloys	Fe based	annealed	200	31							65	70		50	55	
			hardened	280	32							50	50		35	40	
		Ni or Co based	annealed	250	33							50	55		40	45	
			hardened	350	34							30	35		25	30	
			cast	320	35							40	45		30	35	
	Titanium alloys	Pure titanium		400[3]	36							65	80		50	65	
		Alpha + Beta alloys, hardened		1050[3]	37							40	45		30	35	
H	Hardened steel		hardened and tempered	55[4]	38												
			hardened and tempered	60[4]	39												
	Chilled cast iron	cast		400	40												
	Hardened cast iron	hardened and tempered		55[4]	41												

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Roughing with slot milling cutters – Porcupine milling cutters –

Starting figure for cutting speed v_C [m/min]																		
HC = Coated grades											HF		HW = uncoated grades					
WAK 15		WTP 35		WXP 45		WXM 35		WXN 15		WMG 40		WK 10		WKM		WPM	
a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*		a_e/D_c*	
1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5	1/1 1/2	1/5
		140	175	155	190	155	190									110	110
		120	150	130	165	130	165									95	95
		100	125	110	140	110	140									85	85
		90	115	100	130	100	130									75	75
		80	95	90	105	90	105									70	70
		120	150	130	165	130	165									95	95
		90	110	100	120	100	120									75	75
		80	95	90	105	90	105									70	70
		55	65	60	70	60	70									60	60
		70	90	80	100	80	100									70	70
		40	50	45	55	45	55									45	50
		95	120	105	130	105	130										
		65	85	70	90	70	90										
		100	120			100	120										
220	280	80	100									75	85	75	85		
160	180	65	80									65	65	65	65		
180	190	80	110									65	65	65	65		
150	160	65	90									55	55	55	55		
200	230	105	135									75	75	75	75		
170	180	80	100									65	65	65	65		
		560	710					1800	1800	1200	1200	1500	1500	1500	1500		
		360	460					1440	1440	900	900	1200	1200	1200	1200		
		440	515					540	640	360	425	450	530	450	530		
		320	375					430	430	290	290	360	360	360	360		
		200	235					220	260	145	170	180	215	180	215		
		320	375					385	385	260	260	320	320	320	320		
		200	235					280	280	185	185	230	230	230	230		
								170	210	140	175	140	175	140	175		
										60	70						
										40	45						
		45	50	45	50	45	50			45	50						
		25	30	25	30	25	30			25	30						
		35	40	35	40	35	40			35	40						
										60	80						
			50							40	45						
											30		35		35		

*a_e/D_c = 1/10, v_C = 10 % higher than 1/5

Cutting data for roughing
Slot milling with side and face milling cutters

Tiger·tec®

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_c [m/min] HC = Coated grades: WKP 25 a_e/D_c cen-tral	WKP 25 1/5	WKP 25 1/10	WKP 35 cen-tral	WKP 35 1/5	WKP 35 1/10	WSM 35 cen-tral	WSM 35 1/5	WSM 35 1/10
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	210	285	320	195	250	275			
		Approx. 0.45% C annealed		190	2	200	255	275	170	215	230			
		Approx. 0.45% C tempered		250	3	175	220	240	150	185	285			
		Approx. 0.75% C annealed		270	4	165	210	220	140	170	170			
		Approx. 0.75% C tempered		300	5	165	200	210	130	145	150			
	Low-alloy steel[1]	annealed		180	6	200	255	275	170	215	235			
		tempered		275	7	165	210	220	130	165	165			
		tempered		300	8	155	200	200	125	145	150			
		tempered		350	9	130	145	145	90	100	105			
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	110	145	155	100	120	130			
		hardened and tempered		325	11	75	100	100	60	75	75			
	Stainless steel[1]	annealed ferritic/martensitic		200	12				105	130	130	95	120	130
		martensitic. quenched and tempered		240	13				70	95	105	75	95	105
M	Stainless steel[1]	austenitic[2], quench hardened		180	14							105	125	135
K	Grey cast iron	pearlitic/ferritic		180	15	180	230	240	160	180	190			
		pearlitic (martensitic)		260	16	130	150	160	120	140	150			
	Cast iron with spheroidal graphite	ferritic		160	17	150	160	165	140	150	160			
		pearlitic		250	18	125	130	140	110	120	130			
	Malleable cast iron	ferritic		130	19	170	190	200	150	170	180			
		pearlitic		230	20	110	150	160	130	140	150			
N	Aluminium wrought alloys	cannot be hardened		60	21									
		precipitation hardenable, precipitation hardened		100	22									
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23									
		≤ 12% Si, precipitation hardenable, hardened		90	24									
		> 12% Si, not precipitation hardenable		130	25									
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26									
		Brass, red brass		90	27									
		Bronze, lead-free copper and electrolytic copper		100	28									
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29									
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31								70	80
			hardened	280	32								50	55
		Ni or Co based	annealed	250	33								55	60
			hardened	350	34								35	40
			cast	320	35								45	50
	Titanium alloys	Pure titanium		400[3]	36								80	90
		Alpha + Beta alloys, hardened		1050[3]	37								45	50
H	Hardened steel	hardened and tempered		55[4]	38									
		hardened and tempered		60[4]	39									
	Chilled cast iron	cast		400	40									
	Hardened cast iron	hardened and tempered		55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Roughing with slot milling cutters – side and face milling cutter –

Starting figure for cutting speed v_C [m/min]																								
	HC = Coated grades															HF			HW = uncoated grades					
	WSP 45			WAK 15			WTP 35			WXP 45			WXN 15			WMG 40			WK 10			WPM		
	a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c		
	central	1/5	1/10	central	1/5	1/10	central	1/5	1/10	central	1/5	1/10	central	1/5	1/10	central	1/5	1/10	central	1/5	1/10	central	1/5	1/10
	185	230	255				140	175	195	140	190	260										110	110	120
	150	200	220				120	150	160	130	170	230										95	95	105
	125	160	175				100	125	125	100	140	185										85	85	95
	115	135	150				90	115	115	90	120	160										75	75	85
	105	115	125				80	95	95	70	90	120										70	70	75
	150	190	210				120	150	165	120	160	210										95	95	105
	115	135	150				90	110	110	100	140	185										75	75	85
	105	115	125				80	90	95	95	130	170										70	70	75
	80	90	95				55	70	70	90	120	160										60	60	65
	90	110	125				70	90	100	90	120	160										70	70	75
	60	70	80				40	50	50	80	110	150										45	50	60
	90	110	125				95	120	120	100	140	185												
	70	90	95				65	85	95	80	110	150												
	90	105	125					120	120															
				220	280	290	80	100	110															
				160	180	190	65	80	80															
				180	190	200	80	110	125															
				150	160	170	65	85	95															
				200	230	240	105	135	150															
				130	180	190	80	100	110															
													1800	1800	2040	960	960	1120	1500	1500	1700			
													1440	1440	1680	720	720	960	1200	1200	1400			
													540	640	700	360	425	470	450	530	585			
													430	430	475	290	290	320	360	360	395			
													220	280	310	145	185	205	180	230	255			
													385	385	430	260	260	285	320	320	355			
													280	280	310	185	185	205	230	230	255			
													170	210	235	110	140	160	140	175	195			
		55	60																					
		40	45																					
		45	50					50	55		50	55												
		30	35					30	35		30	35												
		35	40					35	35		35	35												
		65	70					60	65		60	65												
		35	40					50	50		50	55												
																				35	35			

Cutting data for roughing for coated grades when copy milling

Tiger·tec®

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_c [m/min] HC = Coated grades: WKP 25 a_e/D_c 1/1	WKP 25 a_e/D_c 1/5	WKP 25 a_e/D_c 1/10	WKP 35 a_e/D_c 1/1	WKP 35 a_e/D_c 1/5	WKP 35 a_e/D_c 1/10	WSM 35 / WSM 36 a_e/D_c 1/1	WSM 35 / WSM 36 a_e/D_c 1/5	WSM 35 / WSM 36 a_e/D_c 1/10
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1	285	375	365	240	300	300			
		Approx. 0.45% C annealed		190	2	240	310	330	200	255	275			
		Approx. 0.45% C tempered		250	3	230	285	285	185	240	240			
		Approx. 0.75% C annealed		270	4	200	255	255	155	195	210			
		Approx. 0.75% C tempered		300	5	185	230	230	145	180	185			
	Low-alloy steel[1]	annealed		180	6	210	265	300	165	210	230			
		tempered		275	7	200	255	275	155	195	215			
		tempered		300	8	185	230	255	145	180	200			
		tempered		350	9	155	200	220	120	155	170			
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10	145	185	200	110	145	160			
		hardened and tempered		325	11	100	120	120	75	100	100			
	Stainless steel[1]	annealed ferritic/martensitic		200	12	155	200	220	120	155	170	120	150	190
		martensitic. quenched and tempered		240	13	130	165	165	110	145	155	95	120	150
M	Stainless steel[1]	austenitic[2], quench hardened		180	14							130	155	195
K	Grey cast iron	pearlitic/ferritic		180	15	300	350	370	240	280	300			
		pearlitic (martensitic)		260	16	250	300	320	190	230	250			
	Cast iron with spheroidal graphite	ferritic		160	17	300	350	370	240	280	300			
		pearlitic		250	18	250	300	320	190	230	250			
	Malleable cast iron	ferritic		130	19	320	370	400	250	290	310			
		pearlitic		230	20	270	320	350	200	240	260			
N	Aluminium wrought alloys	cannot be hardened		60	21									
		precipitation hardenable, precipitation hardened		100	22									
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23									
		≤ 12% Si, precipitation hardenable, hardened		90	24									
		> 12% Si, not precipitation hardenable		130	25									
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26									
		Brass, red brass		90	27									
		Bronze, lead-free copper and electrolytic copper		100	28									
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29									
		Hard rubber			30									
S	Heat-resistant alloys	Fe based	annealed	200	31							80	90	115
			hardened	280	32							60	54	70
		Ni or Co based	annealed	250	33							60	70	90
			hardened	350	34							40	45	55
			cast	320	35							50	55	70
	Titanium alloys	Pure titanium		400[3]	36							80	100	125
		Alpha + Beta alloys, hardened		1050[3]	37							50	55	70
H	Hardened steel	hardened and tempered		55[4]	38									
		hardened and tempered		60[4]	39									
	Chilled cast iron	cast		400	40									
	Hardened cast iron	hardened and tempered		55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Roughing with copy milling cutters

Starting figure for cutting speed v_C [m/min]																					
HC = Coated grades																					
	WSP 45 / WSP 46			**WAK 15**			**WTP 35**			**WXP 45**			**WXM 35**			**WXN 15**			**WXH 15**		
	a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c			a_e/D_c		
	1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10
	230	290	365				190	220	220	140	190	260	140	190	260				170	225	305
	190	250	315				170	200	200	130	170	230	130	170	230				150	200	270
	155	200	250				150	180	180	100	140	185	100	140	185				120	160	220
	145	170	215				130	165	170	90	120	160	90	120	160				105	140	190
	130	145	180				110	140	150	70	90	120	70	90	120				80	105	145
	190	240	300				130	165	180	120	160	210	120	160	210				140	185	250
	145	170	215				120	150	165	100	140	185	100	140	185				120	160	220
	130	145	180				110	140	155	95	130	170	95	130	170				110	150	200
	100	110	140				100	130	145	90	120	160	90	120	160				105	140	190
	115	140	175				90	110	120	90	120	160	90	120	160				105	140	190
	75	90	115				60	75	80	80	110	150	80	110	150				100	130	180
	115	140	175				100	130	145	100	140	185	100	140	185				120	160	220
	90	110	140				90	110	110	80	110	150	80	110	150				100	130	180
	110	130	165				80	100	110	60	85	120	75	100	140						
				350	400	420	110	140	150										110	150	200
				300	350	370	80	100	110										90	120	160
				350	400	420	100	140	155										110	150	200
				300	350	370	90	110	120										90	130	180
				370	420	450	120	150	165										105	140	190
				320	370	400	100	130	140										90	120	160
																1920	1920	2110			
																1440	1440	1630			
																480	530	580			
																385	385	420			
																190	225	250			
																365	465	515			
																260	325	360			
																240	310	340			
																580	735	810			
																190	245	270			
	65	70	90																		
	45	50	65																		
	50	55	70							60	65	70	60	65	70						
	30	35	45							50	55	60	50	55	60						
	40	45	55							40	45	50	40	45	50						
	65	80	100				60	80	90	60	80	90	60	80	90						
	40	45	55				45	50	55	45	50	55	45	50	55						

Cutting data for roughing for coated grades when copy milling

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_C [m/min] HF = Fine-grained carbide WMG 40 a_e/D_c 1/1	1/5	1/10
P	Unalloyed steel[1]	Approx. 0.15% C annealed		125	1			
		Approx. 0.45% C annealed		190	2			
		Approx. 0.45% C tempered		250	3			
		Approx. 0.75% C annealed		270	4			
		Approx. 0.75% C tempered		300	5			
	Low-alloy steel[1]	annealed		180	6			
		tempered		275	7			
		tempered		300	8			
		tempered		350	9			
	High-alloyed steel and high-alloyed tool steel[1]	annealed		200	10			
		hardened and tempered		325	11			
	Stainless steel[1]	annealed ferritic/martensitic		200	12			
		martensitic. quenched and tempered		240	13			
M	Stainless steel[1]	austenitic[2], quench hardened		180	14			
K	Grey cast iron	pearlitic/ferritic		180	15			
		pearlitic (martensitic)		260	16			
	Cast iron with spheroidal graphite	ferritic		160	17			
		pearlitic		250	18			
	Malleable cast iron	ferritic		130	19			
		pearlitic		230	20			
N	Aluminium wrought alloys	cannot be hardened		60	21	1600	1600	1760
		precipitation hardenable, precipitation hardened		100	22	1200	1200	1360
	Cast aluminium alloys	≤ 12% Si, not precipitation hardenable		75	23	400	440	480
		≤ 12% Si, precipitation hardenable, hardened		90	24	320	320	350
		> 12% Si, not precipitation hardenable		130	25	160	190	210
	Copper and copper alloys (bronze/brass)	Machining alloys, Pb > 1%		110	26	305	390	430
		Brass, red brass		90	27	220	270	300
		Bronze, lead-free copper and electrolytic copper		100	28	200	260	280
	Non-metallic materials	Curable plastics, fibre-reinforced plastics			29	600	765	840
		Hard rubber			30	200	255	280
S	Heat-resistant alloys	Fe based	annealed	200	31			
			hardened	280	32			
		Ni or Co based	annealed	250	33	50	55	60
			hardened	350	34	40	45	50
			cast	320	35	30	35	40
	Titanium alloys	Pure titanium		400[3]	36	70	90	100
		Alpha + Beta alloys, hardened		1050[3]	37	30	40	45
H	Hardened steel	hardened and tempered		55[4]	38			
		hardened and tempered		60[4]	39			
	Chilled cast iron	cast		400	40			
	Hardened cast iron	hardened and tempered		55[4]	41			

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Roughing with copy milling cutters

Starting figure for cutting speed v_C [m/min]									
HW = uncoated grades									
WK 10			WKM			WPM			
a_e/D_c			a_e/D_c			a_e/D_c			
1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10
						160	180	180
						140	160	160
						120	140	140
						100	115	120
						80	90	100
						120	155	170
						100	130	145
						90	110	120
						80	90	100
						80	110	125
						60	75	85
						80	100	110
			90	110	120			
			70	90	100			
			90	110	120	80	100	110
						70	90	100
			95	120	130			
2000	2000	2200	2000	2000	2200			
1500	1500	1700	1500	1500	1700			
500	550	600	500	550	600			
400	400	440	400	400	440			
200	235	260	200	235	260			
380	485	535	380	485	535			
270	340	375	270	340	375			
250	320	355	250	320	350			
600	765	840	600	765	840			
200	255	280	200	255	280			

Cutting data for semi-finishing and finishing for coated grades when copy milling

Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_c [m/min] HC = Coated grades: WKP 25 a_e/D_c* 1/1	WKP 25 a_e/D_c* 1/5	WKP 25 a_e/D_c* 1/20	WKP 35 a_e/D_c* 1/1	WKP 35 a_e/D_c* 1/5	WKP 35 a_e/D_c* 1/20	WSM 35 / WSM 36 a_e/D_c* 1/1	WSM 35 / WSM 36 a_e/D_c* 1/5	WSM 35 / WSM 36 a_e/D_c* 1/20
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1	255	340	460	210	275	375			
		Approx. 0.45% C	annealed	190	2	230	310	405	185	255	340			
		Approx. 0.45% C	tempered	250	3	185	240	330	145	185	260			
		Approx. 0.75% C	annealed	270	4	155	210	285	120	165	220			
		Approx. 0.75% C	tempered	300	5	120	155	220	90	120	160			
	Low-alloy steel[1]		annealed	180	6	210	275	375	165	220	295			
			tempered	275	7	185	240	330	145	185	260			
			tempered	300	8	165	230	310	130	175	240			
			tempered	350	9	155	210	285	120	165	220			
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10	155	210	285	130	175	240			
			hardened and tempered	325	11	145	200	265	120	165	220			
	Stainless steel[1]		annealed ferritic/martensitic	200	12	185	240	330	145	185	260	180	225	280
			martensitic. quenched and tempered	240	13	145	200	265	110	145	200	145	180	225
M	Stainless steel[1]		austenitic[2], quench hardened	180	14							195	235	290
K	Grey cast iron		pearlitic/ferritic	180	15	250	350	450	190	250	300			
			pearlitic (martensitic)	260	16	200	270	370	140	200	250			
	Cast iron with spheroidal graphite		ferritic	160	17	250	350	450	190	250	300			
			pearlitic	250	18	210	290	410	150	210	260			
	Malleable cast iron		ferritic	130	19	230	330	430	170	230	290			
			pearlitic	230	20	200	270	370	140	200	250			
N	Aluminium wrought alloys		cannot be hardened	60	21									
			precipitation hardenable, precipitation hardened	100	22									
	Cast aluminium alloys		≤ 12% Si, not precipitation hardenable	75	23									
			≤ 12% Si, precipitation hardenable, hardened	90	24									
			> 12% Si, not precipitation hardenable	130	25									
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26									
			Brass, red brass	90	27									
			Bronze, lead-free copper and electrolytic copper	100	28									
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29									
			Hard rubber		30									
S	Heat-resistant alloys	Fe based	annealed	200	31							120	135	170
			hardened	280	32							90	100	125
		Ni or Co based	annealed	250	33							90	105	130
			hardened	350	34							60	70	90
			cast	320	35							75	85	105
	Titanium alloys	Pure titanium		400[3]	36							120	150	190
		Alpha + Beta alloys, hardened		1050[3]	37							75	85	105
H	Hardened steel		hardened and tempered	55[4]	38									
			hardened and tempered	60[4]	39									
	Chilled cast iron		cast	400	40									
	Hardened cast iron		hardened and tempered	55[4]	41									

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Semi-finishing / finishing with copy milling cutters

Starting figure for cutting speed v_C [m/min]

HC = Coated grades

WSP 45 / WSP 46 a_e/D_c*			WAK 15 a_e/D_c*			WTP 35 a_e/D_c*			WXP 45 a_e/D_c*			WXM 35 a_e/D_c*			WXN 15 a_e/D_c*			WXH 15 a_e/D_c*		
			1/1	1/5	1/20	1/1	1/5	1/20	1/1	1/5	1/20	1/1	1/5	1/20	1/1	1/5	1/20	1/1	1/5	1/20
345	435	545				170	230	310	180	240	320	180	240	320				210	280	380
285	375	470				150	200	270	160	210	290	160	210	290				190	250	340
235	300	375				110	150	200	130	170	230	130	170	230				150	200	270
220	255	320				90	120	160	110	145	200	110	145	200				130	170	235
195	220	270				70	90	130	85	110	150	85	110	150				100	130	180
285	360	450				135	180	240	145	195	260	145	195	260				170	230	310
220	255	320				120	160	220	130	170	230	130	170	230				150	200	270
195	220	270				110	150	200	120	160	210	120	160	210				140	190	250
150	165	205				100	130	180	110	145	200	110	145	200				130	170	235
175	210	265				110	150	200	110	145	200	110	145	200				130	170	235
115	135	170				100	130	180	100	140	190	100	140	190				120	160	220
175	210	260				130	170	235	130	170	230	130	170	230				150	200	270
135	160	205				100	130	180	100	140	190	100	140	190				120	160	220
165	195	245				80	110	145				95	130	170						
			300	400	500	110	150	200										140	190	250
			250	320	420	80	110	145										110	150	200
			300	400	500	110	150	200										140	190	250
			260	340	460	90	120	160										120	160	220
			280	380	480	100	130	180										130	170	235
			250	320	420	80	110	145										110	150	200
															2400	2400	2640			
															1800	1800	2040			
															600	660	720			
															480	480	530			
															240	280	310			
															460	580	640			
															320	410	450			
															300	380	430			
															720	920	1010			
															240	310	340			
100	105	130																		
70	75	95																		
75	85	105							70	70	80	70	70	80						
45	55	70							55	60	70	55	60	70						
60	70	90							45	50	55	45	50	55						
100	120	150							70	90	100	70	90	100						
60	70	90	40	50	70	40	50	70	50	55	60	50	55	60						
																		60	80	110
																		40	50	70
																		60	80	110
																		50	70	90

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

Cutting data for semi-finishing and finishing for uncoated grades and CBN when copy milling

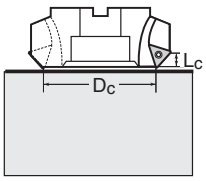
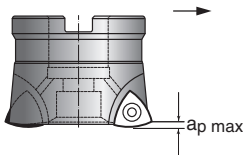
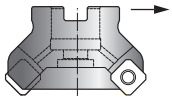
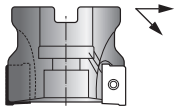
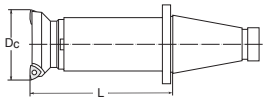
Material group	Classification of the main material groups and code letters: Workpiece material			Brinell hardness HB	Machining group[5]	Starting figure for v_C [m/min] HF = Fine-grained carbide WMG 40 a_e/D_c 1/1	1/5	1/10
P	Unalloyed steel[1]	Approx. 0.15% C	annealed	125	1			
		Approx. 0.45% C	annealed	190	2			
		Approx. 0.45% C	tempered	250	3			
		Approx. 0.75% C	annealed	270	4			
		Approx. 0.75% C	tempered	300	5			
	Low-alloy steel[1]		annealed	180	6			
			tempered	275	7			
			tempered	300	8			
			tempered	350	9			
	High-alloyed steel and high-alloyed tool steel[1]		annealed	200	10			
			hardened and tempered	325	11			
	Stainless steel[1]		annealed ferritic/martensitic	200	12			
			martensitic. quenched and tempered	240	13			
M	Stainless steel[1]		austenitic[2], quench hardened	180	14			
K	Grey cast iron		pearlitic/ferritic	180	15			
			pearlitic (martensitic)	260	16			
	Cast iron with spheroidal graphite		ferritic	160	17			
			pearlitic	250	18			
	Malleable cast iron		ferritic	130	19			
			pearlitic	230	20			
N	Aluminium wrought alloys		cannot be hardened	60	21	1600	1600	1760
			precipitation hardenable, precipitation hardened	100	22	1200	1200	1360
	Cast aluminium alloys		≤ 12% Si, not precipitation hardenable	75	23	400	440	480
			≤ 12% Si, precipitation hardenable, hardened	90	24	320	320	350
			> 12% Si, not precipitation hardenable	130	25	160	190	210
	Copper and copper alloys (bronze/brass)		Machining alloys, Pb > 1%	110	26	305	390	430
			Brass, red brass	90	27	220	270	300
			Bronze, lead-free copper and electrolytic copper	100	28	200	260	280
	Non-metallic materials		Curable plastics, fibre-reinforced plastics		29	480	610	670
			Hard rubber		30	160	205	225
S	Heat-resistant alloys	Fe based	annealed	200	31			
			hardened	280	32			
		Ni or Co based	annealed	250	33	55	60	65
			hardened	350	34	45	50	55
			cast	320	35	30	40	45
	Titanium alloys		Pure titanium	400[3]	36	80	100	110
			Alpha + Beta alloys, hardened	1050[3]	37	30	45	50
H	Hardened steel		hardened and tempered	55[4]	38			
			hardened and tempered	60[4]	39			
	Chilled cast iron		cast	400	40			
	Hardened cast iron		hardened and tempered	55[4]	41			

[1] and cast steel [2] and austenitic/ferritic [3] Rm: tensile strength in MPa = N/mm^2 [4] HRC: Rockwell C hardness
[5] The machining group categories can be found in the general catalogue starting on page 798.

Semi-finishing / finishing with copy milling cutters

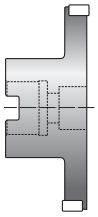
Starting figure for cutting speed v_C [m/min]										
	HW = uncoated grades			BH = CBN						
	WK 10			WCB 50			WCB 80			
	a_e/D_c			a_e/D_c			a_e/D_c			
	1/1	1/5	1/10	1/1	1/5	1/10	1/1	1/5	1/10	
				1000	1330	1810	1000	1330	1810	
				800	1060	1450	800	1060	1450	
				600	800	1090	600	800	1090	
				400	530	720	400	530	720	
	2000	2000	2200							
	1500	1500	1700							
	500	550	600							
	400	400	440							
	200	235	260							
	380	485	535							
	270	340	375							
	250	320	355							
	600	765	840							
	200	255	280							
				220	290	400	220	290	400	
				140	190	250	140	190	250	
				100	130	180	100	130	180	

Feed rate specification (starting values)

Cutter type			F 2010 / F 2330			F 2010 / F 4033	F 2010 / F 4042 / F4042R				
Feed per tooth f_{z0} for $a_e = D_c$ $a_p = a_{p\,max} = L_c$											
Approach angle κ			15°			45°	90°				
Page			192			196	202–215				
			f_{z0} [mm]			f_{z0} [mm]	f_{z0} [mm]				
Tool dia. or dia. range [mm]			20–25	32–80	52–250	50–200	10-50	16-32	25-250	40-250	50-160
max. cut depth $a_{p\,max} = L_c$ [mm]			a_{pmax}=1	a_{pmax}=1.5	a_{pmax}=2	9	7	10	11	15	16.9
P	Unalloyed steel[1]		1.2	1.6	2.0	0.40	0.15	0.18	0.20	0.25	0.30
	Low-alloy steel[1]		1.0	1.4	1.8	0.35	0.10	0.12	0.15	0.18	0.22
	High-alloy steel and tool steel[1]		0.7	1.0	1.2	0.30	0.10	0.12	0.15	0.18	0.22
	Stainless steel[1], martensitic		0.5	0.6	0.8	0.20	0.08	0.10	0.12	0.15	0.18
M	Stainless steel[1], austenitic[2]		0.5	0.6	0.8	0.15	0.08	0.10	0.10	0.12	0.14
K	Grey cast iron		1.2	1.6	2.0	0.50	0.15	0.20	0.25	0.30	0.40
	Cast iron with spheroidal		1.0	1.4	1.8	0.40	0.12	0.15	0.20	0.25	0.30
	Malleable cast iron		1.0	1.4	1.8	0.30	0.12	0.15	0.20	0.25	0.30
N	Aluminium		—	—	—	0.30	0.12	—	0.15	0.15	—
	Copper and copper alloys		—	—	—	0.25	0.10	—	0.12	0.15	—
	Non-metallic materials		—	—	—	0.25	0.10	—	0.12	0.15	—
S	Heat-resistant alloys		0.5	0.6	0.8	—	0.08	0.10	0.12	0.15	0.18
	Titanium alloys		0.5	0.6	0.8	—	0.08	0.10	0.12	0.15	0.18
H	Hardened steel		—	—	—	—	—	—	—	—	—
Indexable insert types			P 2633 . – R 10	P 2633 . – R 14	P 2633 . – R 25	SN . X 1606	AD . . 0803	AD . . 10T3	AD . . 1204	AD . . 1606	AD . . 1807
Correction factor Ka_e for the feed per tooth dependant on the ratio: cut width a_e / cutter diameter D_c	a_e / D_c =	1/1–1/2	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0
		1/5	1.4	1.4	1.3		1.1	1.1	1.1	1.1	1.1
		1/10	1.8	1.8	1.6		1.2	1.2	1.2	1.2	1.2
		1/20					1.3	1.3	1.3	1.3	1.3
		1/50									
Correction factor Ka_p for the feed per tooth dependant on the cut depth a_p	a_p =	0.5	1.3	1.4	1.5						
		1.0	1.0	1.2	1.4						
		1.5		1.0	1.2						
		2.0			1.0						
Correction factor **K** 		1<(L : D_c)≤2	1.4	1.4	1.4						
		2<(L : D_c)≤4	1.0	1.0	1.0						
		4<(L : D_c)≤6	0.7	0.7	0.7						
$f_z = f_{z0} \cdot Ka_e \cdot Ka_p \cdot K$											

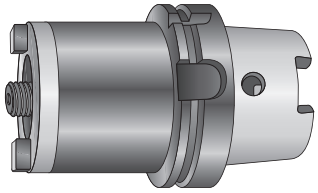
[1] and cast steel
[2] and austenitic / ferritic

Feed rate specifications (starting figures), side and face milling cutters

Cutter type		Side and face milling cutters cross-toothed Xtra·tec®							
		F 4053	F 4153			F 4253			
									
Tooth feed f_{z0} for plunging central positioning									
Approach angle κ		90°	90°			90°			
Page		218	220			222–225			
		f_{z0} [mm]	f_{z0} [mm]			f_{z0} [mm]			
Tool dia. or dia. range [mm]		80–160	80–200	80–200	80–200	100–200	100–200	125–200	160–250
Cut width SB [mm]		4	6	8	10	12	14	16	20
P	Unalloyed steel[1]	0.11	0.12	0.13	0.14	0.15	0.15	0.20	0.20
	Low-alloy steel[1]	0.09	0.10	0.12	0.12	0.13	0.13	0.17	0.17
	High-alloy steel and tool steel[1]	0.09	0.10	0.12	0.12	0.13	0.13	0.17	0.17
	Stainless steel[1], martensitic	0.05	0.05	0.07	0.07	0.08	0.08	0.10	0.10
M	Stainless steel[1], austenitic[2]	0.05	0.05	0.07	0.07	0.08	0.08	0.10	0.10
K	Grey cast iron	0.12	0.13	0.15	0.15	0.18	0.18	0.23	0.23
	Cast iron with spheroidal	0.11	0.12	0.13	0.13	0.15	0.15	0.20	0.20
	Malleable cast iron	0.11	0.12	0.13	0.13	0.15	0.15	0.20	0.20
N	Aluminium	—	—	—	—	—	—	—	—
	Copper and copper alloys	—	—	—	—	—	—	—	—
	Non-metallic materials	—	—	—	—	—	—	—	—
S	Heat-resistant alloys	0.05	0.05	0.07	0.07	0.08	0.08	0.10	0.10
	Titanium alloys	0.05	0.05	0.07	0.07	0.08	0.08	0.10	0.10
H	Hardened steel	—	—	—	—	—	—	—	—
Indexable insert types		LN . . 0702	LN . . 0803	LN . . 0804	LN . . 1005	LN . . 0804	LN . . 0804	LN . . 1005	LN . . 1206
Correction factor Ka_e for the feed per tooth dependant on the ratio: groove depth to a_e / cutter diameter D_c	a_e / D_c = central	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	1/3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
	1/5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	1/10	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
	1/20	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
	1/50	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8

[1] and cast steel
[2] and austenitic / ferritic

Please note: The feed per tooth f_z should not exceed 0.6 mm!



Master

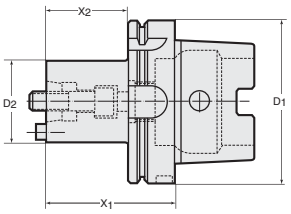
DIN 69893/1 type A

A 100 M ... HSK

D_1 = 63+100 mm



Tool



Version A



Version B

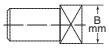


C

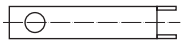
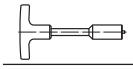
Designation	D_1 mm	D_2 mm	X_1 mm	X_2 mm	Version	kg
A 100 M.7.063.055.25.HSK	63	25	55	29	C	0.8
A 100 M.7.063.080.25.HSK	63	25	80	54	C	0.9
A 100 M.7.063.055.32.HSK	63	32	55	29	C	0.8
A 100 M.7.063.080.32.HSK	63	32	80	54	C	1.0
A 100 M.7.063.065.40.HSK	63	40	65	39	C	0.9
A 100 M.7.063.080.40.HSK	63	40	80	54	C	1.1
A 100 M.7.063.065.50.HSK	63	50	65	39	A	1.0
A 100 M.7.063.080.50.HSK	63	50	80	54	A	1.4
A 100 M.7.063.075.63.HSK	63	63	75	49	B	2.1
A 100 M.7.063.080.80.HSK	63	80	80	54	B	2.3
A 100 M.7.063.100.63.HSK	63	63	100	74	B	2.2
A 100 M.7.100.060.25.HSK	100	25	60	31	C	2.2
A 100 M.7.100.080.25.HSK	100	25	80	51	C	3.0
A 100 M.7.100.060.32.HSK	100	32	60	31	C	2.2
A 100 M.7.100.080.32.HSK	100	32	80	51	C	2.5
A 100 M.7.100.080.40.HSK	100	40	80	51	C	2.6
A 100 M.7.100.080.50.HSK	100	50	80	51	A	2.8
A 100 M.7.100.080.63.HSK	100	63	80	51	B	3.4
A 100 M.7.100.100.63.HSK	100	63	100	71	B	3.6
A 100 M.7.100.100.80.HSK	100	80	100	71	B	4.1

Bodies and assembly parts are included in the scope of delivery.
The transfer units FS 1210 (HSK 50) and FS 1064 (HSK 63) should only be used with these adaptors.

Assembly parts

	D_2 = 25 mm	D_2 = 32 mm	D_2 = 40 mm	D_2 = 50 mm	D_2 = 63 mm	D_2 = 80 mm
 Driving lug				FS 554	FS 555 (B = 12) FS 557 (B = 14)	FS 556 (B = 14) FS 558 (B = 16)
Cap screw	FS 414	FS 414	FS 415	FS 415	FS 416	FS 417
 Ring nut	FS 410	FS 410	FS 411	FS 411	FS 412	FS 413
 DIN 914 grub screw	M 4 x 6	M 4 x 8	M 5 x 10	M 5 x 10	M 6 x 12	M 6 x 16

Accessories

	D_2 = 25 mm	D_2 = 32 mm	D_2 = 40 mm	D_2 = 50 mm	D_2 = 63 mm	D_2 = 80 mm
 Pipe spanner for ring nut	FS 738	FS 738	FS 739	FS 739	FS 740	FS 741
 Transfer unit	for D_1 = 63 mm FS 1064 for D_1 = 100 mm FS 1065					
 Socket key	for D_1 = 63 mm FS 952 for D_1 = 100 mm FS 953					

Torque screwdriver with interchangeable blades





Designation	Size	⬡	Scale range
FS 2001	1	4	0.4–1.2 Nm
FS 2003	3	4	1.5–5.5 Nm
FS 2002	1	4	3.5–10.6 in lbs
FS 2004	3	4	13.3–48.7 in lbs

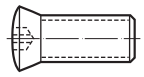
Designation	⬡	Scale range
FS 2041	6	4.5–14 Nm
FS 2042	6	40–123 in lbs

Interchangeable blades	Designation	Torx	⬡ ↕
Torx interchangeable blades Blade length 175 mm	FS 2005	6	4
	FS 2006	7	
	FS 2007	8	
	FS 2008	10	
	FS 2009	15	
	FS 2010	20	
Torx Plus inter-changeable blades Blade length 175 mm	FS 2085	6 IP	4
	FS 2011	7 IP	
	FS 2012	8 IP	
	FS 2013	9 IP	
	FS 2014	15 IP	
	FS 2015	20 IP	
	FS 2016	25 IP	
Complete blade set (FS 2005–FS 2016) Blade length 175 mm	FS 2017		4

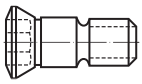
Interchangeable blades	Designation	Torx / SW	⬡ ↕
Torx interchangeable blades Blade length 130 mm	FS 2043	15	6
	FS 2044	20	
	FS 2045	25	
	FS 2046	30	
Torx Plus inter-changeable blades Blade length 130 mm	FS 2047	15 IP	6
	FS 2048	20 IP	
	FS 2049	25 IP	
Hexagonal inter-changeable blades Blade length 130 mm	FS 2050	SW 3	6
	FS 2051	SW 4	
	FS 2052	SW 5	
Complete blade set (FS 2043–FS 2052) Blade length 130 mm	FS 2053		6

IP = Torx Plus

Clamping screws for indexable inserts

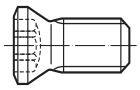


Clamping screws with head angle 43° for indexable inserts with countersink



Fitting bolt

Screw types	Designation	Dimensions	Torx	Tightening torque Nm
	FS 322	M 2.5 x 5.7	7	0.8
	FS 258	M 3 x 5.7	8	1.5
	FS 246	M 3 x 7	8	1.5
	FS 1163	M 3.5 x 10	15	3.0
	FS 320	M 4 x 5	15	3.0
	FS 318	M 4 x 6	15	3.0
	FS 245	M 4 x 6.5	15	3.0
	FS 321	M 4 x 7	15	3.0
	FS 319	M 4 x 8	15	3.0
	FS 244	M 4 x 9	15	3.0
	FS 749	M 4 x 10.5	15	3.0
	FS 326	M 4 x 12	15	3.0
	FS 1458	M 4 x 12	15 IP	2.5
	FS 954	M 4.5 x 11	20	4.5
	FS 260	M 5 x 9.5	20	5.0
	FS 243	M 5 x 11	20	5.0
	FS 242	M 5 x 13	20	5.0
	FS 1165	M 5 x 12	20	6.0
	FS 1010	M 6 x 14	20	5.0
	FS 1164	M 6 x 15	25	10.0
	FS 925	M 2.5 x 6.5	8	0.8
	FS 397	M 3 x 6.9	8	1.0
	FS 1015	M 3 x 12	8	1.0
	FS 1396	M 2.5 x 10.9	7 IP	1.2
	FS 1397	M 3 x 12.8	8 IP	2.0
	FS 2070	M 3 x 6.5	8 IP	2.0
	FS 1398	M 3 x 14.7	8 IP	2.0
	FS 922	M 3.5 x 9.5	15	2.5
	FS 390	M 4 x 0.5 x 8.4	15	4.0
	FS 2071	M 4 x 8.4	15 IP	4.0
	FS 1399	M 4 x 16.7	15 IP	4.0
	FS 1028	M 4.5 x 12.8	20	4.0
	FS 1153	M 4.5 x 14	20	4.0
	FS 391	M 5 x 0.5 x 9.1	20	5.0
	FS 392	M 5 x 0.5 x 12.75	20	5.0
	FS 393	M 5 x 0.5 x 15.45	20	5.0
	FS 2072	M 5 x 9.55	20 IP	5.0
	FS 2073	M 5 x 12.75	20 IP	5.0
	FS 2074	M 5 x 15.45	20 IP	5.0
	FS 1400	M 5 x 18.7	20 IP	5.0
	FS 1401	M 5 x 20.6	20 IP	5.0
	FS 1402	M 5 x 22.6	20 IP	5.0
	FS 2075	M 6 x 20.35	20 IP	5.0
	FS 394	M 6 x 0.75 x 20.35	20	5.0
	FS 1403	M 6 x 24.6	25 IP	5.5
	FS 1404	M 6 x 26.6	25 IP	5.5
	FS 395	M 8 x 0.75 x 24.7	30	6.0



Clamping screws with head angle 60° for indexable insert with ellipsoidal head reduction as per ISO

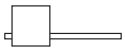
Screw types	Designation	Dimensions	Torx	Tightening torque Nm
	FS 1358	M 1.8 x 3.5	6	0.4
	FS 1012	M 1.8 x 4.3	6	0.4
	FS 2076	M 2 x 3.2	6 IP	0.6
	FS 1003	M 2 x 3.25	6	0.4
	FS 1151	M 2 x 3.45	6	0.4
	FS 1004	M 2.2 x 4.6	7	0.6
	FS 2084	M 2.2 x 4.6	7 IP	0.9
	FS 1020	M 2.2 x 5.5	7	0.6
	FS 2066	M 2.5 x 5.2	7 IP	0.9
	FS 924	M 2.5 x 4.5	8	0.8
	FS 1455	M 2.5 x 4.5	8 IP	0.8 / 1.2
	FS 1129	M 2.5 x 5.2	8	0.8
	FS 1021	M 2.5 x 5.5	8	0.8
	FS 2067	M 2.5 x 5.7	7 IP	0.9
	FS 375	M 2.5 x 5.8	7	0.8
	FS 923	M 2.5 x 6	8	0.8 / 1.2
	FS 1454	M 2.5 x 6	8 IP	0.8 / 1.2
	FS 2061	M 2.5 x 6.5	7 IP	0.9
	FS 2077	M 3 x 5.3	9 IP	1.5
	FS 1005	M 3 x 6	8	1.0
	FS 1456	M 3 x 6.2	9 IP	1.5 / 2.0
	FS 2078	M 3 x 7.2	9 IP	1.5
	FS 1013	M 3 x 7.5	8	1.0
	FS 1457	M 3 x 7.7	9 IP	1.5 / 2.0
	FS 379	M 3 x 8.5	8	1.0
	FS 2079	M 3 x 8.7	9 IP	2.0
	FS 920	M 3.5 x 7.3	15	2.5
	FS 2062	M 3.5 x 8.1	15 IP	3.0
	FS 359	M 3.5 x 9	15	2.5
	FS 2063	M 3.5 x 10.1	15 IP	3.0
	FS 1006	M 3.5 x 12	15	2.5
	FS 2060	M 3.5 x 12.1	15 IP	3.0
	FS 2064	M 4 x 0.5 x 11	15 IP	3.0
	FS 2065	M 4 x 0.5 x 14	15 IP	3.0
	FS 1011	M 4 x 7.8	15	3.0
	FS 2080	M 4 x 8.5	15 IP	2.5
	FS 378	M 4 x 9.5	15	3.0
	FS 1453	M 4 x 9.7	15 IP	2.5 / 3.5
	FS 1459*	M 4 x 10	15 IP	4.0
	FS 2081	M 4 x 12	15 IP	3.0
	FS 1007	M 4 x 12	15	3.0
	FS 1029	M 5 x 9	20	5.0
	FS 1030	M 5 x 11	20	5.0
	FS 1495	M 5 x 13	20 IP	5.0
	FS 1031	M 5 x 13	20	5.0
	FS 1009	M 5 x 16	20	5.0
	FS 1036	M 6 x 14	20	5.0
	FS 1008	M 6 x 18	20	5.0
	FS 1152	M 8 x 1 x 18.5	30	10.0

* Screw head with radius

IP = Torx Plus

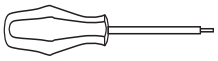
Keys for clamping screws

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Handle key, small 	FS 1047	15	
	FS 1048	20	
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Handle key, large 	FS 1172	15	
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Screwdriver types	Designation	Torx	SW
Torx key 	FS 2087	6 IP	—
	FS 325	7	
	FS 1490	7 IP	—
	FS 257	8	—
	FS 1466	9 IP	—
	FS 1050	10	—
	FS 255	15	—
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	FS 1496	15 IP	4.0

IP* = *Torx Plus

Screwdriver

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Screwdriver 	FS 1063	6	
	FS 2086	6 IP	
	FS 309	7	
	FS 2088	7 IP	
	FS 230	8	
	FS 1483	8 IP	
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IP* = *Torx Plus

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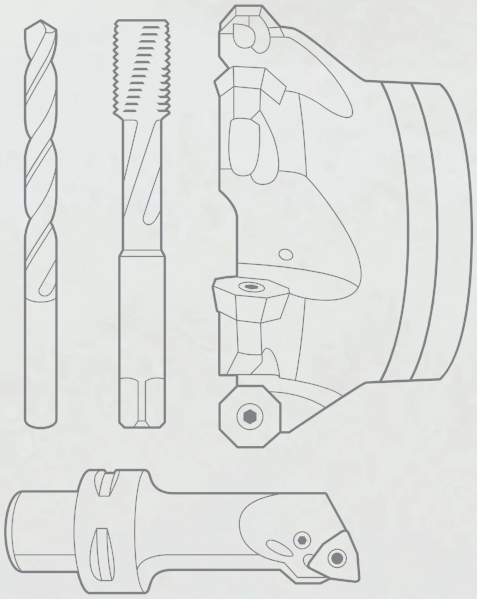
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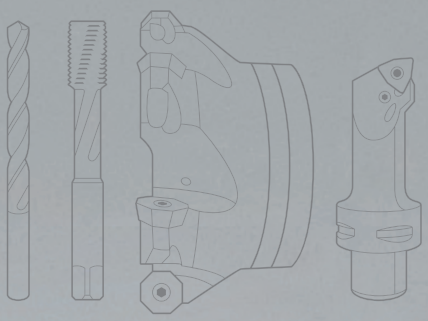


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